



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

**Vaughn Thibodeau & Sons, Inc.
Hancock County
Hancock, Maine
A-294-71-K-R/A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emission 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

Vaughn Thibodeau & Sons, Inc. (Vaughn Thibodeau) located in Hancock, Maine has applied to renew and amend their Air Emission License, permitting the operation of their ready-mix concrete plant. Vaughn Thibodeau has requested to amend its air license to include two diesel generators and rock crushing equipment. Vaughn Thibodeau has also moved several of their portable units between their three base locations of Hancock, Prospect, and Bangor, Maine. All three facilities are up for renewal this year and each facility's air license will be updated to reflect current equipment and operations.

B. The following is a list of equipment that will now be based at the Hancock facility:

Rock Crushers

Designation	Date of Manufacture	Process Rate (tons/hour)	Control Device
Portable Pioneer Jaw #3 *	2008	200	spray nozzles
Portable Pioneer Cone #2 *	2008	200	spray nozzles

* Designates units not previously licensed

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

Concrete Batch Plant

Equipment	Process Rate	Manufacturer	Control Device
Batch Plant	80 cubic yards/hour	Erie	baghouse
Portable Batch Plant	50 cubic yards/hour	Erie	baghouse

Fuel Burning

Source ID	Max. Capacity	Max. Firing Rate	Fuel Type, %S
Boiler #1	1.4 MMBtu/hr	9.7 gal/hr	ASTM #2 fuel oil
Diesel Generator #1 *	0.7 MMBtu/hr	5.0 gal/hr	Diesel fuel, 0.05%
Diesel Generator #2 *	0.7 MMBtu/hr	5.0 gal/hr	Diesel fuel, 0.05%

* Designates units not previously licensed

C. Application Classification

Vaughn Thibodeau has requested to install two portable rock crushers along with two diesel generators later this year. New emission units at a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. The emission increases for new sources are determined by the maximum future license allowed emissions, as follows:

Pollutant	Max. Future License (TPY)	Sig. Level
PM	0.8	100
PM ₁₀	0.8	100
SO ₂	1.1	100
NO _x	18.9	100
CO	4.0	100
VOC	1.5	50

Therefore, the modification is minor for all pollutants. All emissions associated with the new equipment will be subject to Best Available Control Technology (BACT) requirements. With the fuel limit on diesel generators, the facility is licensed below the major source thresholds and is considered a synthetic minor.

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 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

B. New Equipment

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

Portable Rock Crushers

In 2009, Vaughn Thibodeau plans to install a Portable Pioneer Jaw #3 rock crushing unit and Portable Pioneer Cone #2 rock crushing unit. The rock crushers were manufactured in 2008 and have a process rate of 200 tons per hour each. These rock crushers are subject to EPA New Source Performance Standards (NSPS) Subpart OOO for Nonmetallic Mineral Processing Plants manufactured after August 31, 1983, with capacities greater than 150 tons/hr for portable plants and greater than 25 tons/hr for non-portable plants.

The regulated pollutant from the rock crushers is particulate emissions. To meet the requirements of BACT for control of particulate matter (PM) emissions from the rock crusher, Vaughn Thibodeau shall maintain water sprays on the rock crushers and operate as needed to control visible emissions. Visible emissions from the rock crushers shall be limited to no greater than 10% opacity on a six (6) minute block average basis.

Diesel Units

The new diesel units (Diesel Generator #1 and #2) provide the power for the tracked portable crushers. The new diesel generators were manufactured in 2003 and are therefore not subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines for diesel generators manufactured after April 1, 2006.

A summary of the BACT analysis for the generators, each rated at maximum design capacity of 0.7 MMBtu/hr, is the following:

1. The total fuel use for the new generators shall not exceed 60,000 gallons per calendar year of diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.
2. Low Sulfur Fuel, 06-096 CMR 106 (last amended July 4, 1999) regulates fuel sulfur content, however in this case a BACT analysis for SO₂ determined a more stringent limit of 0.05% was appropriate and shall be used.
3. Fuel Burning Equipment Particulate Emission Standard, BACT will require these units to each meet a PM limit of 0.12 lb/MMBtu. The PM₁₀ limits are derived from the PM limits.
4. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
5. Visible emissions from each generator shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

C. Existing Equipment

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.

Concrete Batch Plant

Vaughn Thibodeau & Sons operates two concrete batch plants at the Hancock site. Both of the concrete plants are controlled with baghouses, one is used for backup to the primary plant. The two concrete batch plants have a date of construction prior to 1975. 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.

Boiler #1

Boiler #1 is a batch water boiler used for the concrete batching operations. The boiler has a maximum heat design capacity of 1.4 MMBtu/hr and was manufactured and installed in 1998. The unit is therefore 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.

A summary of the BPT analysis for Boiler #1 (1.4 MMBtu/hr) is the following:

1. The total fuel use for the boiler shall not exceed 25,000 gal/year of #2 fuel oil on a calendar year basis.
2. The SO₂ emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil.
3. Fuel Burning Equipment Particulate Emission Standard, BPT will require these units to each meet a PM limit of 0.12 lb/MMBtu. The PM₁₀ limits are derived from the PM limits.
4. NO_x emission limits are based on data from similar #2 oil fired boilers of this size and age.
5. CO and VOC emission limits are based upon AP-42 data dated 9/98.
6. Visible emissions from the boilers shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.

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 a general process (including conveyor belts) 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 1-hour period.

F. Facility Emissions

Vaughn Thibodeau & Sons shall be restricted to the following annual emissions, based on the firing of 25,000 gallons per year of ASTM D396 #2 fuel oil and 60,000 gallons of diesel fuel with a sulfur content not to exceed 0.05% on a calendar year basis:

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

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boiler #1	0.3	0.3	0.9	0.7	0.1	0.1
Diesel Generators	0.5	0.5	0.2	18.2	3.9	1.4
Total TPY	0.8	0.8	1.1	18.9	4.0	1.5

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 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	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the total facility licensed emissions, Vaughn Thibodeau 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-294-71-K-R/A, 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. [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 Plants**

- A. Particulate emissions from the cement silos shall be vented through baghouses 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 baghouses, Vaughn Thibodeau 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 baghouses 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. Vaughn Thibodeau shall take corrective

action if visible emissions from the baghouses 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. Total fuel use for Boiler #1 shall not exceed 25,000 gal/yr of #2 fuel oil. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered (ASTM D396 compliant). Records of annual fuel use shall be kept on a calendar year basis. [06-096 CMR 115, BPT]

- B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.12	06-096 CMR 115, BPT

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

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.2	0.2	0.7	0.5	0.1	0.1

- D. Visible emissions from Boiler #1 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(18) **Rock Crushers**

- A. Vaughn Thibodeau shall install and maintain spray nozzles for particulate control on all rock crushing units and operate them as necessary to limit visible emissions to no greater than 10% opacity on a six (6) minute block average basis. [06-096 CMR 115 (BPT) and 06-096 CMR 101]
- B. Vaughn Thibodeau shall maintain a log detailing the maintenance on the water spray nozzles. The maintenance log shall be kept on-site at the rock crushing location. [06-096 CMR 115, BPT]

C. Vaughn Thibodeau shall maintain a log detailing and quantifying the hours of operation on a daily basis for all rock crushers. The operation log shall be kept on-site at the rock crushing location.
[06-096 CMR 115, BPT]

(19) **New Source Performance Standards for rock crushers**

A. Vaughn Thibodeau's Portable Pioneer Jaw #3 rock crushing unit and Portable Pioneer Cone #2 rock crushing units are subject to 40 CFR Part 60 Subparts A and OOO and the facility shall comply with the notification and record keeping requirements of 40 CFR Part 60.676 and Part 60.7, except for Section (a)(2) of 60.7 per Subpart OOO, §60.676(h).

B. Vaughn Thibodeau shall have an initial performance test performed on each rock crusher per the applicable sections of 40 CFR Part 60, Subpart OOO, §60.675. This consists of a certified Method 9 observation. The performance test shall be completed within 60 days after achieving the maximum production rate at which each unit will be operated, but no later than 180 days after initial startup of the unit. Vaughn Thibodeau shall submit a test notice to the regional inspector at least 30 days prior to the performance test. Any rescheduled test requires a 7 day notice to the regional inspector.

(20) **Diesel Units**

A. Total fuel use for Generator #1 and #2 shall not exceed 60,000 gallons per calendar year of diesel fuel with a maximum sulfur content not to exceed 0.05% by weight. Compliance shall be based on fuel receipts from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of fuel use shall be kept on a calendar year basis.
[06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 CMR 115, BACT
Generator #2	PM	0.12	06-096 CMR 115, BACT

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

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.1	0.1	0.1	3.1	0.7	0.2
Generator #2	0.1	0.1	0.1	3.1	0.7	0.2

D. Visible emissions from each generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(21) **Stockpiles 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. [06-096 CMR 101]

(22) **General Process Sources**

Visible emissions from any general process source shall (including conveyor belts) 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 1-hour period. [06-096 CMR 101 and 06-096 CMR 115, BPT]

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

A. Vaughn Thibodeau shall notify the Bureau of Air Quality, by a written notification at least 48 hours 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 done on-line with 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.
- (24) Vaughn Thibodeau 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]
- (25) Vaughn Thibodeau 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-C].

DONE AND DATED IN AUGUSTA, MAINE THIS 27th DAY OF July, 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Little
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 17, 2009

Date of application acceptance: March 3, 2009

Date filed with the Board of Environmental Protection:

This Order prepared by Edwin Cousins, Bureau of Air Quality

