



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

Shaw Brothers Construction, Inc.)
Cumberland County)
Gorham, Maine)
A-425-71-K-R/A (SM))
Departmental
Findings of Fact and Order
Air Emission License

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

1. Shaw Brothers Construction, Inc. (Shaw Brothers) has applied to renew their Air Emission License permitting the operation of emission sources associated with their Gorham, Maine crushed stone and gravel facility.
2. Shaw Brothers has requested to include an amendment of their Air Emissions License to this renewal to allow for the addition of a Nordberg LT300 crushing unit, designated Crusher LT 300, and an associated diesel engine.

B. Emission Equipment

Shaw Brothers is authorized to operate the following equipment:

Rock Crushers:

<u>Designation</u>	<u>Power Source</u>	<u>Process Rate</u>	<u>Control Device</u>
Jaw Crusher L100	Diesel	100 tons/hr	Spray Nozzles
Jaw Crusher L105	Diesel	100 tons/hr	Spray Nozzles
Jaw Crusher L125	Diesel	470 tons/hr	Spray Nozzles
Cone Crusher L125	Diesel	300 tons/hr	Spray Nozzles
Jaw Crusher L416	Diesel	100 tons/hr	Spray Nozzles
Cone Crusher L416	Diesel	100 tons/hr	Spray Nozzles
Cone Crusher LT 300	Diesel	300 tons/hr	Spray Nozzles

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

Shaw Brothers Construction, Inc.)
Cumberland County)
Gorham, Maine)
A-425-71-K-R/A (SM) 2

Departmental
Findings of Fact and Order
Air Emission License

Electrical Generation Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Fuel Type</u>	<u>Maximum Firing Rate (gal/hr)</u>
Diesel #1 (Cat 3306)	2.2	Diesel Fuel	15.9
Diesel #3 (Cat 3406)	3.6	Diesel Fuel	26.0
Diesel #4 (Cat 3406)	3.6	Diesel Fuel	26.0
Diesel #5 (Cat 3306)	2.2	Diesel Fuel	15.9
Diesel #6 (Cat 3456)	4.9	Diesel Fuel	35.0
Diesel #7 (Cat C-12)	3.6	Diesel Fuel	26.0

C. Application Classification

Shaw Brothers is a licensed source with ongoing equipment changes that have not been addressed in the facility's previous air emissions licenses. The license renewal shall include the operation of the new and previously unlisted equipment. Therefore, the application for Shaw Brothers is considered to be a renewal and amendment.

This Air Emission License establishes a fuel limit for the facility's diesels. The fuel limit results in the facility's criteria pollutant emissions being maintained below major source thresholds, therefore, this facility is considered a synthetic minor.

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 CMR 100 (last amended December 1, 2005). 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 emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

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.

B. Rock Crushers

Shaw Brothers operates six rock crushing units, including Jaw Crusher L100, Jaw Crusher 105, Jaw Crusher L125, Cone Crusher L125, Jaw Crusher 416 and Cone Crusher 416, at their Gorham facility. Shaw Brothers has requested that this Air Emission License include an amendment to include the operation of a new crusher, designated Cone Crusher LT 300.

Jaw Crusher 416 and Cone Crusher 416 are portable crushers, manufactured in 1986, installed in 1987 and have design production rates of 100 tons per hour (tons/hr) each. Jaw Crusher 416 and Cone Crusher 416 have production rates below the EPA New Source Performance Standard (NSPS) applicability threshold. These crushers are therefore not subject to EPA's 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.

Jaw Crusher L100 is a portable crusher, manufactured in 1996, installed in 1996 and has a design production rate of 100 tons per hour (tons/hr). Jaw Crusher L100 has a production rate below the EPA NSPS applicability threshold and is therefore not subject to EPA's NSPS Subpart OOO.

Jaw Crusher 105 is a portable crusher, manufactured in 1999 and has a production capacity of 100 tons/hr. Jaw Crusher 105 has a production rate below the EPA NSPS applicability threshold and is therefore not subject to EPA's NSPS Subpart OOO.

Jaw Crusher L125 and Cone Crusher L125 are portable crushers, manufactured in 1996 and 1997, respectively, installed in 2003 and have design production rates of 470 tons/hr and 300 tons/hr, respectively. Jaw Crusher L125 and Cone Crusher L125 were manufactured after the EPA NSPS applicability date of 1983 and the crushers have production capacities above the EPA NSPS applicability threshold for portable crushers of 150 tons/hr, therefore, Jaw Crusher L125 and Cone Crusher L125 are subject to EPA's NSPS Subpart OOO.

Cone Crusher LT 300 is a portable crusher, manufactured in 2002, installed in 2009 and has design production rates of 300 tons/hr. Cone Crusher LT 300 was manufactured after the EPA NSPS applicability date of 1983 and has a production capacity above the EPA NSPS applicability threshold for portable crushers of 150 tons/hr, therefore, Cone Crusher LT 300 is subject to EPA's NSPS Subpart OOO. Shaw Brothers shall be required to perform an initial performance test on Cone Crusher LT 300 per the applicable sections of 40 CFR Part 60, Subpart OOO, §60.675.

The regulated pollutant from the rock crushers is particulate emissions. To meet the requirements of Best Practical Treatment (BPT) for control of particulate matter (PM) emissions from the rock crushers, Shaw Brothers shall maintain and operate water sprays on the rock crushers at the Gorham facility in such a manner as to control visible emissions to no greater than 10% opacity on a 6-minute block average basis.

C. Diesel Generator Units

Shaw Brothers utilizes several portable diesel generator sets to power the rock crushing units. Diesel #1 (Cat 3306) has a maximum design capacity of 2.2 MMBtu/hr and is utilized as a power source for Crusher L100, Diesel #3 (Cat 3406) and Diesel #4 (Cat 3406) each have maximum design capacities of 3.3 MMBtu/hr and are utilized as a power source for Jaw Crusher L125 and Cone Crusher L125, Diesel #5 (Cat 3306) has a maximum design capacity of 2.2 MMBtu/hr and is utilized as a power source for Crusher L105, Diesel #6 (Cat 3456) has a maximum design capacity of 4.9 MMBtu/hr and is utilized as a power source for Jaw Crusher 416 and Cone Crusher 416, finally, Diesel #7 has a maximum design capacity of 3.6 MMBtu/hr and is utilized as a power source for the new Crusher LT 300. Diesels #1, #3, #4 #5, #6 and Diesel #7 were all manufactured prior to the applicability date of EPA New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. These engines are therefore not subject to NSPS 40 CFR Part 60, Subpart III.

Shaw Brothers previous Air Emission License (A-425-71-H-R) established an annual facility fuel use limit of no greater than 75,000 gallons per year (gal/yr) of #2 fuel oil. Shaw Brothers has not requested a change in that limit, however, the Department has determined that BPT/BACT for diesel engines is the use of diesel fuel. Shaw Brothers shall fire only diesel fuel with a sulfur content of no greater than 500 ppm in the facility's diesels. Beginning October 1, 2010, Shaw Brothers shall fire only diesel fuel with a sulfur content of no greater than 15 ppm. Shaw Brothers shall continue to be subject to facility's currently licensed total annual facility fuel use limit of 75,000 gal/yr.

Shaw Brothers Construction, Inc.)
Cumberland County)
Gorham, Maine)
A-425-71-K-R/A (SM) 5

Departmental
Findings of Fact and Order
Air Emission License

A summary of the BPT/BACT analysis for the diesels, including the NSPS subject Diesel #6 and the new Diesel #7, is as follows:

1. Shaw Brothers shall fire only diesel fuel with a maximum sulfur content not to exceed 500 ppm in the facility's diesels.
2. Beginning October 1, 2010, Shaw Brothers shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm in the facility's diesels.
3. Shaw Brothers shall continue to be restricted to an annual fuel restriction of no greater than 75,000 gal/yr of on-road diesel fuel based on a twelve-month rolling total.
4. *Fuel Burning Equipment Particulate Emission Standard* 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
5. SO₂, NO_x, CO, and VOC emission limits for Diesels #1, #3, #4, #5 and #7 are based upon AP-42 data dated 10/96 for *Gasoline and Diesel Industrial Engines*.
6. SO₂, NO_x, CO, and VOC emission limits for Diesel #6 are based upon AP-42 data dated 10/96 for *Large Stationary Diesel Engines*.
7. Shaw Brothers shall operate and maintain the facility's diesels in accordance with the manufacturer's written instructions. Facility shall not change settings that are not approved in writing by the manufacturer.
8. Visible emissions from each stack are subject to *Visible Emissions Regulation*, 06-096 CMR 101 (last amended May 18, 2003). Visible emissions from each diesel stack shall not exceed 30% opacity on a 6-minute block average, except for no more than two 6-minute block averages in a continuous 3-hour period.

F. Annual Emission Restrictions

Shaw Brothers shall be assessed fees based on the following annual emissions, based on a twelve-month rolling total:

- Total annual facility fuel use shall be limited to 75,000 gallons per year diesel fuel.

Pollutant	Tons/Year
PM	0.6
PM ₁₀	0.6
SO ₂	0.3
NO _x	23.2
CO	5.0
VOC	1.8

Shaw Brothers Construction, Inc.)
Cumberland County)
Gorham, Maine)
A-425-71-K-R/A (SM) 6

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

G. Fugitive Emissions

Visible emissions from potential sources of fugitive particulate matter emissions, including material stockpiles and unpaved roadways, shall not exceed an opacity of 20 percent, except for no more than 5-minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual 15-second opacity observations which exceed 20 percent in any 1-hour.

III. AMBIENT AIR QUALITY ANALYSIS

According to *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 1, 2005), 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. Based on the total facility emissions, Shaw Brothers 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-425-71-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 (Title 38 MRSA §347-C).

- (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 Title 38 M.R.S.A. §353.
- (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]

Shaw Brothers Construction, Inc.)
Cumberland County)
Gorham, Maine)
A-425-71-K-R/A (SM) 8

Departmental
Findings of Fact and Order
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.
[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:

(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.

[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) Rock Crushers

A. Visible emissions from the crushers shall be limited to no greater than 10% opacity on a 6-minute block average basis. [MEDEP Chapter 101]

B. Shaw Brothers shall maintain spray nozzles on the rock crushers and operate the spray nozzles in such a manner so as not to exceed visible emissions limits. [06-096 CMR 115, BACT/BPT]

C. Shaw Brothers 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, BACT/BPT]

Shaw Brothers Construction, Inc.)
Cumberland County)
Gorham, Maine)
A-425-71-K-R/A (SM) 10

Departmental
Findings of Fact and Order
Air Emission License

- D. Shaw Brothers shall maintain a log detailing and quantifying the hours of operation on a daily basis for all the Crushers. The operation log shall be kept on-site at the rock crushing location. [06-096 CMR 115, BACT/BPT]
- (17) New Source Performance Standards for rock crushers
- A. Jaw Crusher L125, Cone Crusher L125 and Jaw Crusher LT 300 are subject to 40 CFR Part 60 Subparts A and OOO and Shaw Brothers 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). [40 CFR 60, Subpart OOO]
- B. Shaw Brothers shall have an initial performance test performed on the new Cone Crusher LT 300 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 the unit will be operated, but no later than 180 days after initial startup of the unit. Shaw Brothers 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. [40 CFR 60, Subpart OOO]
- (18) Diesel Generator Units
- A. Total annual facility fuel use for the licensed diesels shall not exceed 75,000 gal/year combined of diesel fuel. [06-096 CMR 115, BACT/BPT]
- B. Shaw Brothers shall fire only diesel fuel with a maximum sulfur content not to exceed 500 ppm in the facility's diesels. Beginning October 1, 2010, Shaw Brothers shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm in the facility's diesels. [40 CFR 60.4207(a), 40 CFR 60.4207(b), 06-096 CMR 115, BACT/BPT]
- C. To demonstrate compliance with the fuel use and sulfur content restrictions, Shaw Brothers shall keep a record of fuel use which shall include fuel receipts from the supplier showing the quantity of fuel delivered and the sulfur content of the delivered diesel fuel. Fuel use records shall be maintained on a monthly basis, in addition to the 12-month rolling total. [06-096 CMR 115, BACT/BPT]

D. Emissions from the diesel units shall be limited to the following:

Equipment		PM	PM ₁₀	SO ₂ (Before 10/1/2010)	SO ₂ (After 10/1/2010)	NO _x	CO	VOC
Diesel #1 (Cat 3306)	lb/hr	0.3	0.3	0.1	0.003	9.7	2.1	0.8
Diesel #3 (Cat 3406)	lb/MMBtu	0.12	-	-	-	-	-	-
	lb/hr	0.4	0.4	0.2	0.005	15.9	3.4	1.3
Diesel #4 (Cat 3406)	lb/MMBtu	0.12	-	-	-	-	-	-
	lb/hr	0.4	0.4	0.2	0.005	15.9	3.4	1.3
Diesel #5 (Cat 3306)	lb/hr	0.3	0.3	0.1	0.003	9.7	2.1	0.8
Diesel #6 (Cat 3456)	lb/MMBtu	0.12	-	-	-	-	-	-
	lb/hr	0.6	0.6	0.3	0.007	16.2	4.2	0.4
Diesel #7 (Cat C-12)	lb/MMBtu	0.12	-	-	-	-	-	-
	lb/hr	0.4	0.4	0.2	0.005	15.9	3.4	1.3

[06-096 CMR 115, BACT/BPT]

E. Visible emissions from each of the diesel units shall not exceed 30% opacity on a 6-minute block average, except for no more than 2 six-minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(19) Fugitive Emissions

Visible emissions from potential sources of fugitive particulate matter emissions, including material stockpiles and unpaved roadways, shall not exceed an opacity of 20 percent, except for no more than 5-minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual 15-second opacity observations which exceed 20 percent in any 1-hour. [06-096 CMR101]

(20) Shaw Brothers 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]

(21) Equipment Relocation [06-096 CMR 115, BACT/BPT]

A. Shaw Brothers 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. The notification 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

Shaw Brothers Construction, Inc.)
Cumberland County)
Gorham, Maine)
A-425-71-K-R/A (SM) 12

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

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. Written notice may be sent by mail, facsimile (fax), or e-mail.

- 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.
- (22) Shaw Brothers 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 MRSA §605-C).

DONE AND DATED IN AUGUSTA, MAINE THIS *11th* DAY OF *June* 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *James P. Brody*

DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

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

Date of initial receipt of application: April 17, 2009

Date of application acceptance: April 17, 2009

Date filed with the Board of Environmental Protection: _____

This Order prepared by, Peter G. Carleton, Bureau of Air Quality

