



DEPARTMENT ORDER

**Michael Merrill
Somerset County
Embden, Maine
A-1123-71-B-A**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #1**

FINDINGS OF FACT

After review of the air emission license amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

Michael Merrill (Merrill) was issued Air Emission License A-1123-71-A-N on March 20, 2017, for the operation of emission sources associated with their portable crushed stone and gravel facility located on Kennebec River Road in Embden, Maine.

Merrill has requested an amendment to their license in order to add a crusher and its associated generator to the license.

The main office is located at 208 Eaton Mountain Road, Skowhegan, Maine.

B. Emission Equipment

The following equipment is addressed in this Air Emission License Amendment:

Rock Crusher

<u>Designation</u>	<u>Powered</u>	<u>Process Rate (tons/hour)</u>	<u>Date of Manufacture</u>	<u>Control Device</u>
Crusher #2	Generator #2	67	1985	Spray Nozzles

Engine

<u>Unit</u>	<u>Max. Heat Input Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>
Generator #2	1.64	12.0	Distillate fuel, 0.0015%	1978

Merrill may operate small stationary engines smaller than 0.5 MMBtu/hr. These engines are considered insignificant activities and are not required to be included in this license. However, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website at the link below.

<http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf>

C. Definitions

Distillate Fuel. For the purposes of this license, *distillate fuel* means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

Nonmetallic mineral processing plant. For the purposes of this license, *nonmetallic mineral processing plant* means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants (not including concrete batch plants), or any other facility processing nonmetallic minerals.

Portable Engine. For the purposes of this license, *portable engine* means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

This amendment will not increase licensed emissions of any pollutant, but will include the installation of new equipment; therefore, this modification is determined to be a minor modification as defined in the Department's *Definitions Regulation*, 06-096 C.M.R. ch. 100 and has been processed as such.

E. Facility Classification

The facility is licensed as follows:

- As a natural minor source of air emissions, because facility emissions cannot exceed major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

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 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

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

B. Nonmetallic Mineral Processing Plants

Crusher #2 is a portable unit which was manufactured in 1985 with a rated capacity of 67 tons/hr. The nonmetallic mineral processing plant also consists of other equipment associated with Crusher #2, such as screens and belt conveyors.

1. BACT/BPT Findings

The regulated pollutant from nonmetallic mineral processing plants is particulate matter. To meet the requirements of BACT for control of particulate matter emissions, Merrill shall maintain water sprays on the nonmetallic mineral processing plant and operate as needed to control visible emissions.

Merrill shall maintain records detailing and quantifying the hours of operation on a daily basis for Crusher #2. The operation records shall be kept on-site at the rock crushing location.

Additionally, Merrill shall maintain records detailing the maintenance on particulate matter control equipment (including spray nozzles). Merrill shall perform monthly inspections of the control equipment. If water sprays are used, the monthly inspection shall consist of ensuring water is flowing to the current locations and, if it is not, Merrill shall initiate corrective action within 24 hours. Records of the date of each inspection and any corrective action required shall be included in the maintenance records. The maintenance records shall be kept on-site at the rock crushing location.

Visible emissions from Crusher #2 shall be limited to no greater than 10% opacity on a six-minute block average basis.

Visible emissions from nonmetallic mineral processing plant equipment other than crushers (transfer points on belt conveyors, screening operations, etc.) shall not exceed 20% opacity on a six-minute block average basis.

2. New Source Performance Standards

The federal regulation *Standards of Performance for Nonmetallic Mineral Processing Plants*, 40 C.F.R. Part 60, Subpart OOO, applies to equipment at nonmetallic mineral processing plants with capacities greater than 25 ton/hr for fixed plants and 150 ton/hr for portable plants. The requirements of Subpart OOO apply to any crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, or enclosed truck or railcar loading station at a nonmetallic mineral processing plant greater than the sizes listed above which commenced construction, modification, or reconstruction after August 31, 1983.

Crusher #2 is part of a portable nonmetallic mineral processing plant which is physically limited to a maximum capacity of 150 ton/hr or less. Therefore, this equipment is not subject to 40 C.F.R. Part 60, Subpart OOO. [40 C.F.R. § 60.670(c)]

To ensure classification as a portable plant, Crusher #2 shall not be attached or clamped via cable, chain, turnbuckle, bolt, or other means (except electrical connections) to any anchor, slab, or structure (including bedrock) that must be moved prior to transportation.

C. Generator #2

Generator #2 is an engine used to power Crusher #2. Generator #2 has a maximum capacity of 1.64 MMBtu/hr (150 HP), and is licensed to fire distillate fuel with a maximum sulfur content not to exceed 0.0015% sulfur, by weight (15 ppm). The fuel fired in Generators #1 and #2 combined shall not exceed a limit of 65,000 gallons per year of distillate fuel, based on a calendar year total.

1. BACT/BPT Findings

The BACT/BPT emission limits for Generator #2 were based on the following:

- PM, PM₁₀ - 0.12 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT/BPT
- SO₂ - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x - 4.41 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
- CO - 0.95 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
- VOC - 0.35 lb/MMBtu based on AP-42, Table 3.3-1, dated 10/96
- Visible Emissions - 06-096 C.M.R. ch. 115, BACT/BPT

The BACT/BPT emission limits for Generator #2 are the following:

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #2	0.20	0.20	0.01	7.25	1.56	0.58

Visible emissions from Generator #2 shall not exceed 20% opacity on a six-minute block average basis.

2. New Source Performance Standards

Generator #2 was manufactured prior to April 1, 2006. Therefore, Generator #2 is not subject to *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, 40 C.F.R. Part 60, Subpart IIII. [40 C.F.R. § 60.4200]

3. National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ is applicable to Generator #2. Generator #2 is considered an existing, non-emergency stationary reciprocating internal combustion engine at an area HAP source and is not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt this unit from the federal requirements. [40 C.F.R. § 63.6585]

A summary of the currently applicable federal 40 C.F.R. Part 63, Subpart ZZZZ requirements for Generator #2 is listed below.

a. General Compliance Requirements

- (1) Merrill shall be in compliance with the operating limitations and other requirements in this subpart that apply to Generator #2 at all times. [40 C.F.R. § 63.6605(a)]
- (2) Merrill shall at all times operate and maintain Generator #2 in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require Merrill to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 C.F.R. § 63.6605(b)]

b. Operation and Maintenance Requirements

	<u>Operating Limitations</u>
Compression ignition (distillate fuel) units:	<ul style="list-style-type: none">- Change oil and filter every 1,000 hours of operation or annually, whichever comes first;- Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or Merrill shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 C.F.R. §§ 66.6603(a), 63.6625(e), and 40 C.F.R. Part 63, Subpart ZZZZ, Table 2d and Table 6]

c. Optional Oil Analysis Program

Merrill has the option of utilizing an oil analysis program which complies with the requirements of § 63.6625(i) in order to extend the specified oil change requirement. If this option is used, Merrill must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 C.F.R. § 63.6625(i)]

d. Startup Idle and Startup Time Minimization Requirements

During periods of startup the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 C.F.R. § 63.6625(h) and 40 C.F.R. Part 63, Subpart ZZZZ Table 2d]

e. Reports and Recordkeeping

Merrill shall keep records of the maintenance conducted on the engine in order to demonstrate compliance with all applicable operation and maintenance requirements. Records shall be kept in a form suitable and readily available for expeditious review. Records shall be kept for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 C.F.R. §§ 63.6655(d) through (e) and 63.6660(a) through (c)]

D. Annual Emissions

This amendment does not change the facility's licensed annual emissions.

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 Amendment A-1123-71-B-A, subject to the conditions found in Air Emission License A-1123-71-A-N and the following conditions.

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

SPECIFIC CONDITIONS

The following Conditions shall replace Conditions (16) and (17) of Air Emission License A-1123-71-A-N (March 20, 2017):

(16) Nonmetallic Mineral Processing Plants

- A. Merrill shall install and maintain spray nozzles or other equally effective controls for control of particulate matter on Crusher #1 and Crusher #2. [06-096 C.M.R. ch. 115, BACT/BPT]
- B. Merrill shall maintain records detailing and quantifying the hours of operation on a daily basis for each of the crushers. The operation records shall be kept on-site at the rock crushing location. [06-096 C.M.R. ch. 115, BACT/BPT]
- C. Merrill shall maintain records detailing the maintenance on particulate matter control equipment (including spray nozzles). Merrill shall perform monthly inspections of the control equipment. If water sprays are used, the monthly inspection shall consist of ensuring water is flowing to the correct locations and, if it is not, Merrill shall initiate corrective action with 24 hours. Records of the date of each inspection and any corrective action required shall be included in the maintenance records. The maintenance records shall be kept on-site at the rock crushing location. [06-096 C.M.R. ch. 115, BACT/BPT]
- D. Visible emissions from Crushers #1 and #2 shall each be limited to no greater than 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101]
- E. Visible emissions from each piece of nonmetallic mineral processing plant equipment other than crushers (transfer points on belt conveyors, screening operations, etc.) shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT/BPT]
- F. Crushers #1 and #2 shall not be attached or clamped via cable, chain, turnbuckle, bolt, or other means (except electrical connections) to any anchor, slab, or structure (including bedrock) that must be removed prior to transportation. [06-096 C.M.R. ch. 115, BACT/BPT and 40 C.F.R. § 60.670(c)(2)]

(17) **Generators #1 and #2**

A. Fuel Use

1. Generators #1 and #2 are licensed to fire distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight). [06-096 C.M.R. ch. 115, BACT/BPT]
2. Total fuel use for Generators #1 and #2 combined shall not exceed 65,000 gal/yr of distillate fuel. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and percent sulfur of fuel delivered. Records of annual fuel use shall be kept on a monthly and calendar year total basis. [06-096 C.M.R. ch. 115, BACT/BPT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT/BPT]:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.34	0.34	0.01	12.52	2.70	1.02
Generator #2	0.20	0.20	0.01	7.25	1.56	0.58

C. Visible emissions from each generator shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT/BPT]

D. Generator #2 shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ, including the following [incorporated under 06-096 C.M.R. ch. 115, BPT]:

1. General Compliance Requirements

- a. Merrill shall be in compliance with the operating limitations and other requirements in this subpart that apply to Generator #2 at all times. [40 C.F.R. § 63.6605(a)]
- b. Merrill shall at all times operate and maintain Generator #2 in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require Merrill to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 C.F.R. § 63.6605(b)]

2. Operation and Maintenance Requirements

a. Merrill shall meet the following operational limitations for Generator #2:

- (1) Change the oil and filter every 1,000 hours of operation or annually, whichever comes first;
- (2) Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
- (3) Inspect the hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Records shall be maintained documenting compliance with the operational limitations.

b. The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or Merrill shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 C.F.R. §§ 66.6603(a), 63.6625(e), and 40 C.F.R. Part 63, Subpart ZZZZ, Table 2d and Table 6]

3. Optional Oil Analysis Program

Merrill has the option of utilizing an oil analysis program which complies with the requirements of § 63.6625(i) in order to extend the specified oil change requirement. If this option is used, Merrill must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 C.F.R. § 63.6625(i)]

4. Startup Idle and Startup Time Minimization Requirements

During periods of startup the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 C.F.R. § 63.6625(h) and 40 C.F.R. Part 63, Subpart ZZZZ Table 2d]

5. Reports and Recordkeeping

Merrill shall keep records of the maintenance conducted on the engine in order to demonstrate compliance with all applicable operation and maintenance requirements. Records shall be kept in a form suitable and readily available for expeditious review. Records shall be kept for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 C.F.R. §§ 63.6655(d) through (e) and 63.6660(a) through (c)]

DONE AND DATED IN AUGUSTA, MAINE THIS 27 DAY OF September, 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Paul Mercer for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-1123-71-A-N.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: July 23, 2018
Date of application acceptance: August 1, 2018

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan E. Rice, Bureau of Air Quality.

