



DEPARTMENT ORDER

Gorham Sand & Gravel, Inc.
York County
Buxton, Maine
A-858-71-F-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

Gorham Sand & Gravel, Inc. (GSG) was issued Air Emission License A-858-71-E-R on November 12, 2015, for the operation of emission sources associated with their portable crushed stone and gravel facility.

GSG has requested an amendment to their license in order to add two new rock crushers to their existing air emission license.

The main office is located at 939 Packer Farm Road in Buxton, Maine.

B. Emission Equipment

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

Rock Crushers

<u>Designation</u>	<u>Powered</u>	<u>Process Rate (tons/hour)</u>	<u>Date of Manufacture</u>	<u>Control Device</u>
RC-3 Metso Jaw Crusher	Diesel Engine	150	2018	See Note 1
RC-4 Allis Chalmers Cone Crusher	Diesel Engine	150	1981	Spray Nozzles

Note 1: Water sprays, or other control equipment equally effective to water sprays, or work practices equally effective to water sprays shall be implemented for particulate matter control on RC-3.

Engines

Unit ID	Max. Capacity (MMBtu/hr)	Max. Firing Rate (gal/hr)	Fuel Type, % sulfur	Date of Manuf.
RC-3 Drive	1.3	9.3	Distillate Fuel, 0.0015%	2018
RC-4 Drive	1.5	10.9	Distillate Fuel, 0.0015%	1981

GSG 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>

Additionally, GSG may operate portable engines used for maintenance or emergency-only purposes. These engines are considered insignificant activities and are not required to be included in this license. However, they may still be subject to applicable State and Federal regulations.

C. Definitions

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 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 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.

A new emission unit at an existing minor source is considered a major or minor modification based on whether or not expected emissions increases exceed the "Significant Emissions" levels as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. The emissions increases for a new emission unit are determined by the maximum future licensed annual emissions for the new emission unit, as follows:

Pollutant	Max. Future License for New Units (TPY)	Future Total License Allowed (TPY)	Significant Emission Levels
PM	0.1	0.5	100
PM ₁₀	0.1	0.5	100
SO ₂	negl.	0.1	100
NO _x	7.5	19.6	100
CO	3.4	6.0	100
VOC	0.6	1.6	50
CO _{2e}	< 100,000	< 100,000	100,000

This modification is determined to be a minor modification and has been processed as such.

E. Facility Classification

The facility is licensed as follows:

- As a natural minor source of air emissions, because no license restrictions are necessary to keep facility emissions below 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

Rock crushers RC-3 and RC-4 are portable units which were manufactured in 2018 and 1981, respectively. RC-3 and RC-4 each have a rated capacity of 150 tons/hr and have other equipment associated with them, 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 BPT for control of particulate matter emissions, GSG shall maintain water sprays or other equally effective control equipment or implement work practices on the nonmetallic mineral processing plant and operate them as needed to control visible emissions.

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.

Rock crushers RC-3 and RC-4 are portable nonmetallic mineral processing plants that are each physically limited to a maximum capacity of 150 ton/hr or less. Therefore, these rock crushers are not subject to 40 C.F.R. Part 60, Subpart OOO. [40 C.F.R. § 60.670(c)]

3. Visible Emissions

Visible emissions from Rock crushers RC-3 and RC-4 shall each be limited to no greater than 10% opacity on a six-minute block average basis.

Visible emissions from nonmetallic mineral processing plant equipment associated with RC-3 and RC-4 other than crushers themselves (transfer points on belt conveyors, screening operations, etc.) shall not exceed 20% opacity on a six-minute block average basis.

C. Generators (RC-3 Drive and RC-4 Drive)

Generators RC-3 Drive and RC-4 Drive are engines used to power RC-3 and RC-4 rock crushers, respectively. RC-3 Drive was manufactured in 2018 and has a maximum heat input capacity of 1.3 MMBtu/hr. RC-4 Drive was manufactured in 1981 and has a maximum heat input capacity of 1.5 MMBtu/hr. Both RC-3 Drive and RC-4 Drive fire distillate fuel.

1. BACT Findings

The BACT emission limits for RC-3 Drive were based on the following:

PM / PM10	- 0.02 g/kW-hr, from 40 C.F.R. §1039.101, Table 1, dated 10/2016
SO2	- 0.00151 lb/MMBtu, based on firing distillate fuel with a maximum sulfur content of 0.0015% by weight
NOx	- 0.40 g/kW-hr, from 40 C.F.R. §1039.101, Table 1, dated 10/2016
CO	- 3.5 g/kW-hr, from 40 C.F.R. §1039.101, Table 1, dated 10/2016
VOC	- 0.19 g/kW-hr, from 40 C.F.R. §1039.101, Table 1, dated 10/2016
Visible Emissions	- 06-096 C.M.R. ch. 101

The BACT emission limits for RC-4 Drive were based on the following:

PM / PM10	- 0.12 lb/MMBtu, 06-096 C.M.R. ch. 103
SO2	- 0.00151 lb/MMBtu, based on firing distillate fuel with a maximum sulfur content of 0.0015% by weight
NOx	- 4.41 lb/MMBtu, from AP-42, Table 3.3-1, dated 10/96
CO	- 0.95 lb/MMBtu, from AP-42, Table 3.3-1, dated 10/96
VOC	- 0.36 lb/MMBtu, from AP-42, Table 3.3-1, dated 10/96
Visible Emissions	- 06-096 C.M.R. ch. 101

The BACT emission limits for RC-3 Drive and RC-4 Drive are the following:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
RC-3 Drive	0.01	0.01	0.01	0.20	1.73	0.09
RC-4 Drive	0.18	0.18	0.01	6.62	1.43	0.54

2. Federal Regulations

Generators RC-3 Drive and RC-4 Drive are considered non-road engines as opposed to stationary engines, since the units are portable and will be moved to various sites with the rock crushing equipment.

A non-road engine is defined in 40 C.F.R. §1068.30 as an internal combustion engine that meets certain criteria, including: "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." The regulation further states that an engine is not a non-road engine if it remains or will remain at one location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (*i.e.*, at least two years) and that operates at that single location approximately three months (or more) each year.

As non-road engines, generators RC-3 Drive and RC-4 Drive are not subject to New Source Performance Standards 40 C.F.R. Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* or National Emission Standards for Hazardous Air Pollutants 40 C.F.R. Part 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*.

3. Distillate Fuel Limits

The quantity of distillate fuel fired in RC-1 Drive, RC-2 Drive, RC-3 Drive and RC-4 Drive shall be limited to a combined total of 65,000 gallons per year on a calendar year basis and shall have a maximum sulfur content not to exceed 0.0015% by weight (15 ppm).

D. Annual Emissions

Total Annual Emissions

GSG shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on the four rock crusher drives firing a combined total of 65,000 gallons of distillate fuel per year.

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Rock Crusher Drives RC-1 and RC-2	0.4	0.4	0.1	12.1	2.6	1.0
Rock Crusher Drives RC-3 and RC-4	0.1	0.1	negl.	7.5	3.4	0.6
Total TPY	0.5	0.5	0.1	19.6	6.0	1.6

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

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

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

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-858-71-F-A, subject to the conditions found in Air Emission A-858-71-E-R and the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof 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.

SPECIFIC CONDITIONS

The following replaces Specific Condition (16)(A) in Air Emission License A-858-71-E-R (November 12, 2015):

(16) Rock Crushers

A. General Requirements

1. GSG shall install and maintain spray nozzles for particulate control on rock crushers RC-1, RC-2 and RC-4. [06-096 C.M.R. ch. 115, BPT and BACT]
2. GSG shall install and maintain water sprays for particulate control on rock crusher RC-3, or shall utilize other equally effective control equipment, or shall implement equally effective work practices for particulate control on rock crusher RC-3. [06-096 C.M.R. ch. 115, BACT]
3. If work practices are used to control the particulate emissions from rock crusher RC-3, those work practices shall be documented in writing and kept on-site at the rock-crushing station and made available to the Department upon request. [06-096 C.M.R. ch. 115, BACT]

4. Visible emissions from rock crushers RC-1, RC-2, RC-3, and RC-4 shall be limited to no greater than 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101(2)(B)(2)]
5. Visible emissions from nonmetallic mineral processing plant equipment associated with rock crushers RC-1 and RC-2 (transfer points on belt conveyors, screening operations, etc.) shall not exceed 10% on a six (6) minute block average basis. [40 C.F.R. Part 60, Subpart OOO, Table 3]
6. Visible emissions from nonmetallic mineral processing plant equipment associated with rock crushers RC-3 and RC-4 (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]
7. Rock crushers RC-1, RC-2, RC-3 and RC-4 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, BPT and 40 C.F.R. § 60.670(c)(2)]

The following replaces Specific Condition (17) in Air Emission License A-858-71-E-R (November 12, 2015):

(17) Portable Generators (RC-1 Drive, RC-2 Drive, RC-3 Drive, and RC-4 Drive)

A. Fuel Use

1. Generators RC-1 Drive, RC-2 Drive, RC-3 Drive, and RC-4 Drive 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, BPT and BACT]
2. Total fuel use for these units combined shall not exceed 65,000 gal/yr of distillate fuel, regardless of where the units are operated. Compliance shall be demonstrated by fuel records from the supplier showing the quantity and type of fuel delivered. Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 C.M.R. ch. 115, BPT and BACT]

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

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
RC-1 Drive 1.8 MMBtu/hr Distillate Fuel	0.22	0.22	0.01	7.94	1.71	0.63
RC-2 Drive 0.8 MMBtu/hr Distillate Fuel	0.10	0.10	0.01	3.53	0.76	0.28
RC-3 Drive 1.3 MMBtu/hr Distillate Fuel	0.01	0.01	0.01	0.20	1.73	0.09
RC-4 Drive 1.5 MMBtu/hr Distillate Fuel	0.18	0.18	0.01	6.62	1.43	0.54

C. Visible Emissions

Visible emissions from each of the engines shall not exceed 20% opacity on a six-minute block average basis except for periods of startup during which time GSG may elect to comply with the following work practice standards in lieu of the numerical opacity limit. [06-096 C.M.R. ch. 115, BPT for RC-1 Drive and RC-2 Drive, and BACT for RC-3 Drive and RC-4 Drive]

1. Maintain a log (written or electronic) of the date, time, and duration of all generator startups.
2. Operate generators in accordance with the manufacturer's emission-related operating instructions.
3. Minimize the engine's time spent at idle during startup, and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.

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A-858-71-F-A

11

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

4. Operate engines, including any associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that 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 unit.

DONE AND DATED IN AUGUSTA, MAINE THIS 9th DAY OF March, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  For

GERALD D. REID, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-858-71-E-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: October 29, 2018

Date of application acceptance: October 30, 2018

Date filed with the Board of Environmental Protection:

This Order prepared by Patric J. Sherman, Bureau of Air Quality.

FILED

MAR 9 2020

State of Maine
Board of Environmental Protection