



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

**Sargent Corporation
Penobscot County
Plymouth, Maine
A-677-71-F-A (SM)**

**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 Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Sargent Corporation (Sargent) was issued Air Emission License A-677-71-E-R on June 25, 2012, permitting the operation of emission sources associated with their portable crushed stone and gravel facility. The equipment addressed in this license was originally located at 101 Bennoch Road in Stillwater, Maine, but has since been moved to 2363 Moosehead Trail in Plymouth, Maine.

Sargent has requested an amendment to their license in order to remove Primary Jaw Unit - #81006, Diesel Unit #1 – Unit #81006, and Diesel Unit #4 – Screen from this license, add Primary Jaw Crusher #81040, Cone Crusher #81036, and Diesel Units #1-3 to this license, and change the name of existing Diesel Unit #3 – Unit #99210 to Diesel Unit #4.

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 Manuf.</u>	<u>Control Device</u>
Primary Jaw Crusher #81040	Generators	528	2016	Spray Nozzles
Cone Crusher #81036	Generators	460	2014	Spray Nozzles

Primary Jaw Unit - #81006 is being replaced by Primary Jaw Crusher #81040 and is hereby removed from this air emission license.

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

BANGOR
106 HOGAN ROAD, SUITE 6
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
(207) 764-0477 FAX: (207) 760-3143

Generator Units

Unit ID	Power Output (kW)	Max. Capacity (MMBtu/hr)	Max. Firing Rate (gal/hr)	Fuel Type, %S	Date of Manuf.
Diesel Unit #1 (#99225)	725	7.3	53.5	distillate fuel, 0.0015% S	2007
Diesel Unit #2 (#99226)					1966
Diesel Unit #3 (#99203)	350	6.2	45		Pre-2006
Diesel Unit #4 (#99210)*	285	2.8	20.5		

*Previously designated as Diesel Unit #3 – Unit #99210 in Air Emission License A-677-71-E-R.

Existing Diesel Unit #1 – Unit #81006 has been sold, and Existing Diesel Unit #4 – Screen has been moved to another facility; therefore, they are hereby removed from this air emission license.

C. Definitions

Distillate Fuel means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials 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.

D. Application Classification

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emission” levels as defined in the Department’s *Definitions Regulation*, 06-096 CMR 100 (as amended). The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Significant Emission Levels
PM	0.3	0.5	+0.2	100
PM ₁₀	0.3	0.5	+0.2	100
SO ₂	0.1	0.1	0.0	100
NO _x	9.3	18.1	+8.8	100
CO	2.0	3.9	+1.9	100
VOC	0.8	1.4	+0.6	50
CO ₂ e	<100,000	<100,000	<100,000	100,000

This modification is determined to be a minor modification and has been processed as such. With the annual fuel limit on Diesel Units #1-4, the facility is licensed below the major source thresholds for criteria pollutants and is considered a synthetic minor. With the annual fuel limit on Diesel Units #1-4, the facility is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of 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 CMR 100 (as amended). 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 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

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.

B. Rock Crushers

Stationary unit Primary Jaw Crusher #81040, manufactured in 2016, and portable unit Cone Crusher #81036, manufactured in 2014, have rated capacities of 528 tons per hour and 460 tons per hour, respectively.

1. BACT Findings

The regulated pollutant from the rock crushers is particulate matter emissions. To meet the requirements of BACT for control of particulate matter emissions from the rock crushers, Sargent 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-minute block average basis.

2. New Source Performance Standards

Both rock crushers are subject to EPA New Source Performance Standards (NSPS) 40 CFR Part 60, 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 based on the size and manufactured date of the crushers.

Requirements of 40 CFR Part 60, Subpart OOO:

a. Monitoring Requirements:

Sargent shall maintain records detailing the maintenance on particulate matter control equipment including spray nozzles. Sargent shall perform monthly inspections of any water sprays to ensure water is flowing to the correct locations and initiate corrective action within 24 hours if water is found to not be flowing properly. 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. [40 CFR §60.674(b)]

b. Testing Requirements:

- (1) An initial performance test must 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. If the initial performance test for a facility falls within a seasonal shutdown, then with approval from the Department, the initial performance test may be postponed until no later than 60 calendar days after resuming operation of the affected equipment. [40 CFR §60.672(b)]
- (2) Each performance test shall be done using the methods set forth in 40 CFR Part 60, Subpart OOO, §60.675. [40 CFR §60.675(c) and 06-096 CMR 115, BACT]
- (3) Sargent shall submit a test notice to the Department and the EPA at least seven days prior to conducting a performance test. [40 CFR §60.675(g) and 06-096 CMR 115, BACT]

c. Reporting and Recordkeeping Requirements:

The rock crushers are both subject to 40 CFR Part 60, Subparts A and OOO, and Sargent shall comply with the notification and recordkeeping requirements of 40 CFR §60.676 and §60.7, except for Section (a)(2) of §60.7 per Subpart OOO, §60.676(h). [40 CFR §§60.676(b), (f), and (i)]

C. Diesel Units #1-4

Diesel Units #1-4 are portable engines used to power the rock crushers. Diesel Units #1-4 will occasionally be moved off-site for use at other Sargent facilities. Diesel Units #1-4 have maximum capacities of 7.3 MMBtu/hr (725 kW), 7.3 MMBtu/hr (725 kW), 6.2 MMBtu/hr (350 kW), and 2.8 MMBtu/hr (285 kW), respectively, and fire distillate fuel. Diesel Units #1-4 were manufactured in 2007, 2007, 1966, and pre-2006, respectively. The fuel fired in Diesel Units #1-4 combined shall be limited to 60,000 gallons/year of distillate fuel on a calendar year total basis, with a maximum sulfur content not to exceed 15 ppm (0.0015% by weight).

1. BACT/BPT Findings

The BACT emission limits for Diesel Units #1-2 and the BPT emission limits for Diesel Unit #3 were based on the following:

- PM/PM₁₀ - 0.12 lb/MMBtu from 06-096 CMR 103
- SO₂ - 0.0015 lb/MMBtu based on combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO_x - 3.2 lb/MMBtu from AP-42, Table 3.4-1, dated 10/96
- CO - 0.85 lb/MMBtu from AP-42, Table 3.4-1, dated 10/96
- VOC - 0.09 lb/MMBtu from AP-42, Table 3.4-1, dated 10/96
- Opacity - 06-096 CMR 115, BACT (Diesel Units #1-2) and 06-096 CMR 101 (Diesel Unit #3)

The BPT emission limits for Diesel Unit #4 were based on the following:

- PM/PM₁₀ - 0.12 lb/MMBtu from 06-096 CMR 115, BPT
- SO₂ - 0.0015 lb/MMBtu based on 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 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 - 0.35 lb/MMBtu from AP-42, Table 3.3-1, dated 10/96
- Opacity - 06-096 CMR 101

The BACT/BPT emission limits for Diesel Units #1-4 are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Diesel Units #1-3 [each]	PM	0.12

<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>
Diesel Units #1-2 [each]	0.88	0.88	0.01	23.46	6.23	0.66
Diesel Unit #3	0.74	0.74	0.01	19.74	5.24	0.56
Diesel Unit #4	0.34	0.34	0.01	12.35	2.66	0.98

Visible emissions from Diesel Units #1-2 shall each not exceed 20% opacity on a six-minute block average basis.

Visible emissions from Diesel Units #3-4 shall each not exceed 20% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period.

2. New Source Performance Standards

Diesel Units #1-4 are considered non-road engines, as opposed to stationary engines, since Diesel Units #1-4 are portable and will be moved to various sites with the rock crushers. Therefore, Diesel Units #1-4 are not subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. [40 CFR §60.4200]

3. National Emission Standards for Hazardous Air Pollutants

Diesel Units #1-4 are considered non-road engines, as opposed to stationary engines, since Diesel Units #1-4 are portable and will be moved to various sites with the rock crushers. Therefore, Diesel Units #1-4 are not subject to 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. The definition in 40 CFR Part 1068.30 states that a non-road engine is 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." 40 CFR Part 1068.30 further states that an engine is not a non-road engine if it remains or will remain at a 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 (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) is an engine that remains at a seasonal source during the full annual operating period of the seasonal source.

D. Annual Emissions

1. Total Annual Emissions

Sargent shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on a fuel limit of 60,000 gallons per year of distillate fuel for all four diesel units combined:

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Diesel Units*	0.5	0.5	0.1	18.1	3.9	1.4
Total TPY	0.5	0.5	0.1	18.1	3.9	1.4

*Based on firing all 60,000 gallons in the highest emitting unit (Diesel Unit #4)

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), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO₂e).

The quantity of CO₂e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use limit;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 CFR Part 98.

No additional licensing actions to address GHG emissions are required at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 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 Amendment A-677-71-F-A, subject to the conditions found in Air Emission A-677-71-E-R and 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.

SPECIFIC CONDITIONS

The following Conditions shall replace Conditions (16) and (17) of Air Emission License A-677-71-E-R:

(16) Rock Crushers

- A. Sargent shall install and maintain spray nozzles for particulate control on Primary Jaw Crusher #81040 and Cone Crusher #81036 and operate them as necessary to limit visible emissions to no greater than 10% opacity on a six-minute block average basis. [06-096 CMR 115, BACT and 06-096 CMR 101]
- B. Sargent shall maintain records detailing and quantifying the hours of operation on a daily basis for the rock crushers. The operation records shall be kept on-site at the rock crushing location. [06-096 CMR 115, BACT]
- C. Sargent shall maintain records detailing the maintenance on particulate matter control equipment (including spray nozzles). Sargent shall perform monthly inspections of any water sprays to ensure water is flowing to the correct locations and initiate corrective action within 24 hours if water is found to not be flowing properly. 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 CMR 115, BACT and 40 CFR Part 60, Subpart OOO §60.674(b)]
- D. Sargent shall have an initial performance test performed on both rock crushers per the applicable sections of 40 CFR Part 60, Subpart OOO, §60.675. [06-096 CMR 115, BACT and 40 CFR Part 60, Subpart OOO §60.675(c)]
- E. An initial performance test must 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. If the initial performance test for a facility falls within a seasonal shutdown, then with approval from the Department, the initial performance test may be postponed until no later than 60 calendar days after resuming operation of the affected equipment. [06-096 CMR 115, BACT and 40 CFR Part 60, Subpart OOO §60.672(b)]
- F. Sargent shall submit a test notice to the Department and EPA at least 7 days prior to conducting a performance test. [06-096 CMR 115, BACT and 40 CFR Part 60, Subpart OOO §60.675(g)]
- G. Both rock crushers are subject to 40 CFR Part 60 Subparts A and OOO and Sargent 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 Part 60, Subpart OOO §§60.676(b), (f), and (i)]

(17) **Diesel Units #1-4**

A. Fuel Use

1. Diesel Units #1-4 are licensed to fire distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight). [06-096 CMR 115, BACT and 06-096 CMR 115, BPT]
2. Total fuel use for Diesel Units #1-4 combined shall not exceed 60,000 gal/yr of distillate fuel. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and sulfur content of the fuel delivered. Records of annual fuel use shall be kept on a monthly and calendar year total basis. [06-096 CMR 115, BACT, and 06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Diesel Units #1-3 [each]	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Diesel Units #1-2 [each]	0.88	0.88	0.01	23.46	6.23	0.66
Diesel Unit #3	0.74	0.74	0.01	19.74	5.24	0.56
Diesel Unit #4	0.34	0.34	0.01	12.35	2.66	0.98

D. Visible Emissions

1. Visible emissions from Diesel Units #1-2 shall each not exceed 20% opacity on a six-minute block average basis. [06-096 CMR 115, BACT]
2. Visible emissions from Diesel Units #3-4 shall each not exceed 20% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a continuous three-hour period. [06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS 3 DAY OF May, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Paul Allen Robert Case for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-677-71-E-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 3/25/2016

Date of application acceptance: 3/28/2016

Date filed with the Board of Environmental Protection:

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

