



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

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COMMISSIONER

**Sargent Corporation  
Penobscot County  
Stillwater, Maine  
A-942-71-F-M**

**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) based in Stillwater, Maine was issued Air Emission License A-942-71-E-R on February 3, 2012 permitting the operation of emission sources associated with their portable crushed stone and gravel facility.

Sargent has requested a minor revision to their license in order to address the removal and replacement of crushers and their associated engines.

B. Emission Equipment

The following equipment is addressed in this air emission license:

**Rock Crushers**

<u>Designation</u>	<u>Powered</u>	<u>Process Rate (tons/hour)</u>	<u>Date of Manufacture</u>	<u>Control Device</u>
#81031* JCI FT2650 (Jaw)	Engine #6	300	2014	Spray Nozzles
#81017 JCI K300 (Cone)	Engine #4	300	2007	Spray Nozzles

\*Denotes new equipment

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**Engines**

<u>Source ID</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate (gal/hr)</u>	<u>Date of Manufacture</u>	<u>Fuel Type, % sulfur</u>
Engine #6*	2.2	16.0	2014	distillate fuel, 0.0015% sulfur
Engine #4	3.6	26.0	2007	distillate fuel, 0.0015% sulfur

\*Denotes new equipment

The following equipment has been sold and is no longer operated by Sargent:

**Rock Crushers (Removed)**

<u>Designation</u>	<u>Powered</u>	<u>Process Rate (tons/hour)</u>	<u>Date of Manufacture</u>	<u>Control Device</u>
#81013 Komatsu 550 (Jaw)	Engine #1	300	2005	Spray Nozzles
#81021 Komatsu 580 (Jaw)	Engine #5	300	2007	Spray Nozzles

**Engines (Removed)**

<u>Source ID</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate (gal/hr)</u>	<u>Date of Manufacture</u>	<u>Fuel Type, % sulfur</u>
Engine #1	2.2	16.0	2005	distillate fuel, 0.0015% sulfur
Engine #5	2.6	18.7	2007	distillate fuel, 0.0015% sulfur

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

This amendment addresses the removal and replacement of licensed equipment. This amendment will not increase emissions of any pollutant. Therefore, this amendment is determined to be a minor revision and has been processed as such.

**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

Crushers #81031 and #81017 are portable units which were manufactured in 2014 and 2007, respectively. Each crusher has a rated capacity of 300 ton/hour.

1. BACT/BPT Findings

The regulated pollutant from the rock crushers is particulate matter emissions. To meet the requirements of BPT 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 (6) minute block average basis.

2. New Source Performance Standards

Crushers #81031 and #81017 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 their size and date of manufacture.

C. Engines

Engines #6 and #4 are portable units used to power Crushers #81031 and #81017, respectively. Engine #6 has a maximum capacity of 2.2 MMBtu/hr (300 HP). Engine #4 has a maximum capacity of 3.6 MMBtu/hr (400kW). Both engines fire distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% by weight). The engines shall be limited to 30,000 gallons/year of distillate fuel combined based on a calendar year total.

1. BPT/BACT Findings

The BACT/BPT emission limits for Engines #4 and #6 were based on the following:

- PM/PM<sub>10</sub> - 0.12 lb/MMBtu from 06-096 CMR 103
- SO<sub>2</sub> - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight)
- NO<sub>x</sub> - 4.41 lb/MMBtu from AP-42 dated 10/96
- CO - 0.95 lb/MMBtu from AP-42 dated 10/96
- VOC - 0.35 lb/MMBtu from AP-42 dated 10/96
- Opacity - 06-096 CMR 101

The BACT/BPT emission limits for Engines #4 and #6 are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Engine #4	PM	0.12

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM<sub>10</sub></u> <u>(lb/hr)</u>	<u>SO<sub>2</sub></u> <u>(lb/hr)</u>	<u>NO<sub>x</sub></u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Engine #4	0.43	0.43	neg	15.70	3.38	1.25
Engine #6	0.26	0.26	neg	9.70	2.09	0.77

Visible emissions from Engines #4 and #6 shall each not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

2. New Source Performance Standards

Engines #4 and #6 are considered non-road engines, as opposed to stationary engines, since Engines #4 and #6 are portable and will be moved to various

sites with their associated crushers. Therefore, Engines #4 and #6 are not subject to New Source Performance Standards 40 CFR Part 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.

3. National Emission Standards for Hazardous Air Pollutants

Engines #4 and #6 are considered non-road engines, as opposed to stationary engines, since Engines #4 and #6 are portable and will be moved to various sites with their associated crushers. Therefore, Engines #4 and #6 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 63, §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 63, §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. 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 any general process (including conveyor belts, transfer points, etc.) associated with Crushers #81031 and #81017 shall not exceed an opacity of 7% on a six (6) minute block average basis.

Visible emissions from any other general process (non-NSPS crusher conveyor belts, bucket elevators, bagging operations, truck loading operations, etc.) shall not exceed an opacity 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.

F. Annual Emissions

1. Total Annual Emissions

Sargent shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on firing 30,000 gallons/year of distillate fuel in the engines.

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

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Engine #4 & #6	0.2	0.2	neg	9.0	2.0	0.8
<b>Total TPY</b>	<b>0.2</b>	<b>0.2</b>	<b>neg</b>	<b>9.0</b>	<b>2.0</b>	<b>0.8</b>

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 (CO<sub>2</sub>e).

The quantity of CO<sub>2</sub>e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use limits;
- 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:

<b>Pollutant</b>	<b>Tons/Year</b>
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	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-942-71-F-M, subject to the conditions found in Air Emission A-942-71-E-R and in 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.

**The following shall replace Condition (16) of Air Emission License A-942-71-E-R:**

**(16) Rock Crushers**

- A. Sargent shall install and maintain spray nozzles for particulate control on Crushers #81031 and #81017 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. Sargent shall maintain a log detailing and quantifying the hours of operation on a daily basis for Crushers #81031 and #81017. The operation log shall be kept on-site at the rock crushing location. [06-096 CMR 115, BPT]
- C. Sargent shall maintain a log 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 log. The maintenance log shall be kept on-site at the rock crushing location. [06-096 CMR 115, BPT]
- D. Sargent shall either have an initial performance test performed on Crusher #81031 per the applicable sections of 40 CFR Part 60, Subpart OOO, §60.675 or provide documentation to the Department that the initial performance test was previously performed. (Documentation that a successful initial performance test was performed outside of Maine may be accepted.) [06-096 CMR 115, BPT]
- 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, BPT]
- F. Sargent shall submit a test notice to the regional inspector at least 7 days prior to conducting a performance test. [06-096 CMR 115, BPT]
- G. Crushers #81031 and #81017 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 CMR 115, BPT]

H. Crushers #81031 and #81017 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).

**The following shall replace Condition (17) of Air Emission License A-942-71-E-R:**

**(17) Engines #4 & #6**

A. Fuel Use

- Engines #4 and #6 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, BPT/BACT]
- Total fuel use for both engines (Engines #4 and #6) combined shall not exceed 30,000 gal/yr of distillate fuel. 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 total basis. [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>
Engine #4	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

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

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM<sub>10</sub></u> <u>(lb/hr)</u>	<u>SO<sub>2</sub></u> <u>(lb/hr)</u>	<u>NO<sub>x</sub></u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Engine #4	0.43	0.43	neg	15.70	3.38	1.25
Engine #6	0.26	0.26	neg	9.70	2.09	0.77

D. Visible emissions from Engines #4 and #6 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. [06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS 25 DAY OF February, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Maia Allen Robert Come for  
PATRICIA W. AHO, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-942-71-E-R.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 2/2/15

Date of application acceptance: 2/3/15

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

