



DEPARTMENT ORDER

Pike Industries, Inc.
Knox County
Washington, Maine
A-239-71-P-A (SM)

Departmental
Findings of Fact and Order
Air Emission License
Amendment #3

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

Pike Industries, Inc. (Pike) was issued Air Emission License A-239-71-M-T/R on October 24, 2014, for the operation of emission sources associated with their hot mix asphalt plant located at 73 Jefferson Road, Washington, Maine. The license was subsequently amended on October 13, 2015 (A-239-71-N-A), and on June 9, 2016 (A-239-71-O-M).

Pike has requested an amendment to their license in order to add a portable generator to their license, reduce the asphalt throughput limit for Asphalt Batch Plant (P818) from 300,000 tons/year to 250,000 tons/year, and add liquefied petroleum gas (LPG) as a licensed fuel for Asphalt Batch Plant (P818).

The main office is located at 95 Warren Avenue, Westbrook, Maine.

B. Emission Equipment

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

Asphalt Plant

| Equipment | Process Rate (tons/hour) | Design Capacity (MMBtu/hr) | Fuel Type, % sulfur | Firing Rate | Control Device | Date of Manuf. |
|----------------------------------|-------------------------------------|---------------------------------------|----------------------------|--------------------|---------------------------|---------------------------|
| Asphalt Batch Plant (P818) | 240 | 68.8 | Distillate fuel, 0.5% | 491 gal/hr | Baghouse | 1988 |
| | | | Spec. waste oil, 0.7% | 66,345 scf/hr | | |
| | | | Natural gas, negl. | 760 gal/hr | | |
| | | | LPG, negl. | | | |

Generator Unit

| <u>Unit ID</u> | <u>Max. Capacity (MMBtu/hr)</u> | <u>Max. Firing Rate (gal/hr)</u> | <u>Fuel Type, % sulfur</u> | <u>Date of Manuf.</u> |
|----------------|---------------------------------|----------------------------------|----------------------------|-----------------------|
| Generator #1 | 3.56 | 26.0 | Distillate fuel, 0.0015% | 1994 |

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.

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.

The modification of a 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 the Department’s *Definitions Regulation*, 06-096 C.M.R. ch. 100. The emissions increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

| <u>Pollutant</u> | <u>Current License (TPY)</u> | <u>Future License (TPY)</u> | <u>Net Change (TPY)</u> | <u>Significant Emissions Levels</u> |
|-------------------|------------------------------|-----------------------------|-------------------------|-------------------------------------|
| PM | 8.7 | 7.6 | -1.1 | 100 |
| PM ₁₀ | 8.7 | 7.6 | -1.1 | 100 |
| SO ₂ | 18.1 | 16.0 | -2.1 | 100 |
| NO _x | 21.9 | 24.9 | +3.0 | 100 |
| CO | 60.8 | 52.1 | -8.7 | 100 |
| VOC | 1.4 | 1.6 | +0.2 | 50 |
| CO ₂ e | <100,000 | <100,000 | - | 100,000 |

This modification is determined to be a minor modification 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 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. Asphalt Batch Plant P818

Asphalt Batch Plant P818 is currently licensed to fire natural gas, distillate fuel with a maximum sulfur content of 0.5% by weight, and specification waste oil. Pike has requested to add LPG as a fuel for Asphalt Batch Plant P818. BACT for the firing of LPG in Asphalt Batch Plant P818 shall be meeting the currently licensed emission limits for Asphalt Batch Plant P818, which are based on firing the fuel with the highest emissions (distillate fuel).

Additionally, Pike has requested to decrease the asphalt throughput limit for Asphalt Batch Plant P818 from 300,000 tons of asphalt per year to 250,000 tons of asphalt per year on a 12-month rolling total basis in order to reduce the environmental impact of adding Generator #1 to their license. The facility's licensed annual emissions have been revised to reflect this change as part of this license amendment.

C. Generator #1

Generator #1 is a portable engine used to power a screening plant. Generator #1 has a maximum capacity of 3.56 MMBtu/hr (365 kW), firing distillate fuel. The generator was manufactured in 1994. The fuel fired in Generator #1 shall be limited to 20,000 gallons/year on a 12-month rolling total basis of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight).

1. BACT Findings

The BACT emission limits for Generator #1 were based on the following:

| | |
|----------------------|---|
| PM, PM ₁₀ | - 0.12 lb/MMBtu from 06-096 C.M.R. ch. 103 |
| SO ₂ | - 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 | - 0.36 lb/MMBtu from AP-42, Table 3.3-1, dated 10/96 |
| Visible Emissions | - 06-096 C.M.R. ch. 115, BACT |

The BACT emission limits for Generator #1 are the following:

| <u>Unit</u> | <u>Pollutant</u> | <u>lb/MMBtu</u> |
|--------------|------------------|-----------------|
| Generator #1 | PM | 0.12 |

| <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> |
|--------------|-------------------|--------------------------------|-------------------------------|-------------------------------|-------------------|--------------------|
| Generator #1 | 0.43 | 0.43 | 0.01 | 15.70 | 3.38 | 1.28 |

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

2. New Source Performance Standards

Generator #1 was manufactured prior to April 1, 2006 and is considered a non-road engine, as opposed to a stationary engine, since it is portable and will be moved to various sites with the screen plant. Therefore, Generator #1 is not subject to *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, 40 C.F.R. Part 60, Subpart III. [40 C.F.R. § 60.4200]

3. National Emission Standards for Hazardous Air Pollutants

Generator #1 is considered a non-road engine, as opposed to a stationary engine, since Generator #1 is portable and will be moved to various sites with the asphalt plant. Therefore, Generator #1 is not subject to *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. The definition in 40 C.F.R. § 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 C.F.R. § 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. [40 C.F.R. § 63.6585]

D. Annual Emissions

Pike shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on a maximum throughput of 250,000 tons per year of asphalt for Asphalt Batch Plant (P818), the operation of Hot Oil Heater #1 for 8,760 hours per year, and a fuel limit of 20,000 gallons per year of distillate fuel for Generator #1:

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

| | PM | PM₁₀ | SO₂ | NO_x | CO | VOC |
|----------------------------|------------|------------------------|-----------------------|-----------------------|-------------|------------|
| Asphalt Batch Plant (P818) | 6.2 | 6.2 | 11.0 | 15.0 | 50.0 | 1.0 |
| Hot Oil Heater #1 | 1.2 | 1.2 | 4.9 | 3.9 | 0.8 | 0.1 |
| Generator #1 | 0.2 | 0.2 | 0.1 | 6.0 | 1.3 | 0.5 |
| Total TPY | 7.6 | 7.6 | 16.0 | 24.9 | 52.1 | 1.6 |

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 Amendment A-239-71-P-A, subject to the conditions found in Air Emission License A-239-71-M-T/R, in amendments A-239-71-N-A and A-239-71-O-M, 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 shall replace Condition (16)(A.) and (B.) of Air Emission License Amendment A-239-71-N-A (dated October 13, 2015):

(16) Asphalt Batch Plant P818

A. Fuel Use

1. Asphalt Batch Plant P818 is licensed to fire distillate fuel, specification waste oil, natural gas, and LPG. [06-096 C.M.R. ch. 115 BACT/BPT]
2. Prior to July 1, 2018, distillate fuel fired at the facility shall not exceed a maximum sulfur content of 0.5% by weight. [06-096 C.M.R. ch. 115, BPT]
3. Beginning July 1, 2018, Pike shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT]

B. The annual throughput of Asphalt Batch Plant P818 shall not exceed 250,000 tons of asphalt per year on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

The following is a new Condition to Air Emission License A-239-71-M-T/R (dated October 24, 2014):

(23) Generator #1

A. Fuel Use

1. Generator #1 is 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]
2. Total fuel use for Generator #1 shall not exceed 20,000 gal/yr of distillate fuel on a 12-month rolling total basis. 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 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

| <u>Unit</u> | <u>Pollutant</u> | <u>lb/MMBtu</u> | <u>Origin and Authority</u> |
|--------------|------------------|-----------------|--------------------------------------|
| Generator #1 | PM | 0.12 | 06-096 C.M.R. ch. 103 § (2)(B)(1)(a) |

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

| <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> |
|--------------|-----------------------|------------------------------------|-----------------------------------|-----------------------------------|-----------------------|------------------------|
| Generator #1 | 0.43 | 0.43 | 0.01 | 15.70 | 3.38 | 1.28 |

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8

Departmental
Findings of Fact and Order
Air Emission License
Amendment #2

D. Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 30 DAY OF June, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Mark Allen Robert Cone for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-239-71-M-T/R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 3/30/2017

Date of application acceptance: 4/3/2017

Date filed with the Board of Environmental Protection:

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

