



DEPARTMENT ORDER

**Pike Industries, Inc.
 York County
 Wells, Maine
 A-265-71-O-M (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 (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Pike Industries, Inc. (Pike) was issued Air Emission License A-265-71-N-R/A on March 28, 2016, for the operation of emission sources associated with their stationary hot mix asphalt batch plant and rock crushing facility.

Pike has requested an amendment to their license in order to document an after-the-fact replacement of a baghouse, and to make provision for the future to fire liquefied petroleum gas (LPG) as a fuel for their stationary hot mix asphalt batch plant and hot oil heater.

The equipment addressed in this license amendment is located at 81 Boyd Road, Wells, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Asphalt Plant

Equipment	Process Rate (tons/hr)	Design Capacity (MMBtu/hr)	Fuel Type, % sulfur	Maximum Firing Rate	Control Device	Date of Manuf.
Stationary Hot Mix Asphalt Batch Plant (P806)	365	120.0	Distillate Fuel, 0.5%	857 gal/hr	Baghouse	1986
			#4 Fuel Oil, 0.5%			
			Specification Waste Oil, 0.7%	117,647 scfh		
			Natural Gas, negl.	1277 gal/hr		
			Liquefied Petroleum Gas, negl.			

Heating Equipment

Equipment	Max. Input Capacity (MMBtu/hr)	Fuel Type, % sulfur	Firing Rate	Date of Manuf.
Hot Oil Heater	1.7	Distillate Fuel, 0.5%	12.0 gal/hr	2005
		#4 Fuel Oil, 0.5%		
		Specification Waste Oil, 0.7%		
		Natural Gas, negl.	1600 scfh	
		LPG, negl.	18.1 gal/hr	

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.

This amendment will increase emissions by less than 4 ton/year for each single pollutant not including greenhouse gases (GHG) and less than 8 ton/year for all pollutants combined not including GHG. Therefore, this modification is determined to be a minor revision and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

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

Definitions Regulation, 06-096 C.M.R. ch. 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. Stationary Hot Mix Asphalt Batch Plant (P806)

Asphalt Batch Plant (P806) is currently licensed to fire distillate fuel with a maximum sulfur content of 0.5% by weight, #4 fuel oil with a maximum sulfur content of 0.5% by weight, specification waste oil with a maximum sulfur content of 0.7% by weight, and natural gas. Pike has requested to add LPG as a fuel for Stationary Hot Mix Asphalt Batch Plant (P806) in their air emission license. The Department has determined that no additional controls or restrictions are appropriate when firing LPG and that the following emission limits constitute BACT when firing LPG in Stationary Hot Mix Asphalt Batch Plant (P806).

BACT Findings

The BACT emission limits for Stationary Hot Mix Asphalt Batch Plant (P806) when firing LPG were based on the following:

LPG

- PM/PM₁₀ – 0.03 gr/dscf and the use of a baghouse
 - SO₂ – 0.0046 lb/ton, based on AP-42 Table 11.1-5 dated 3/04
 - NO_x – 0.025 lb/ton, based on AP-42 Table 11.1-5 dated 3/04
 - CO – 0.40 lb/ton, based on AP-42 Table 11.1-5 dated 3/04
 - VOC – 0.0082 lb/ton, based on AP-42 Table 11.1-6 dated 3/04
 - Visible – 06-096 C.M.R. ch. 115, BACT
- Emissions

The BACT emission limits for Asphalt Batch Plant (P806) when firing LPG are the following:

<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>
Stationary Hot Mix Asphalt Batch Plant (P806) LPG	5.68	5.68	1.68	9.13	146.00	2.99

Visible emissions from the Asphalt Batch Plant (P806) baghouse shall 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, during which time visible emissions shall not exceed 60% opacity. This is consistent with the PM limit of 20% opacity that is contained in *Standards of Performance for Hot Mix Asphalt Facilities*, 40 C.F.R. Part 60, Subpart I.

C. Baghouse Replacement

Pike has also requested that the minor revision to their air emission license include the recent replacement of their old baghouse with a new one to control Particulate Matter (PM) emissions from Stationary Hot Mix Asphalt Batch Plant (P806). The old baghouse had been requiring increasingly significant maintenance, and its structural integrity had been compromised. Pike sized and selected the new baghouse to support the batch plant's maximum production rate, and with a PM removal efficiency of equal to or greater than that of the old baghouse. The new baghouse was manufactured in 2016 and was installed to replace the old one in 2017.

Baghouses are commonly used for PM emission control on batch asphalt plants that are of comparable size, age and design to Stationary Hot Mix Asphalt Batch Plant P806. Therefore, the Department finds that BPT for PM emission control from Stationary Hot Mix Asphalt Batch Plant P806 shall be the continued use of their new baghouse.

All conditions relative to the operation, maintenance, monitoring, documentation and recordkeeping requirements of the baghouse that are contained in Pike's current air emission license A-265-71-N-R/A, dated March 28, 2016 shall apply to the new baghouse, unless said conditions and/or requirements are specifically altered by this air emission license amendment.

D. Hot Oil Heater

The Hot Oil Heater is currently licensed to fire distillate fuel and #4 fuel, each with a maximum sulfur content of 0.5% by weight. Additionally, it is licensed to fire specification waste oil with a maximum sulfur content of 0.7%, and natural gas. Pike has requested to add LPG as a fuel for the Hot Oil Heater. The Department has determined firing LPG in the Hot Oil Heater will not require any additional controls or restrictions. The following emission limits constitute BACT when firing LPG in the Hot Oil Heater.

BACT Findings

The BACT emission limits for the Hot Oil Heater when firing LPG were based on the following:

LPG

- PM, PM₁₀ - 0.05 lb/MMBtu, 06-096 C.M.R. ch. 115, BACT
- SO₂ - 0.018 lb/10³ gal, AP-42 Table 1.5-1 dated 07/08, using 0.18 gr/100 ft³ as sulfur content for LPG
- NO_x - 13 lb/10³ gal, based on AP-42 Table 1.5-1 dated 07/08
- CO - 7.5 lb/10³ gal, based on AP-42 Table 1.5-1 dated 07/08
- VOC - 1.0 lb/10³ gal, based on AP-42 Table 1.5-1 dated 07/08
- Visible Emissions - 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for the Hot Oil Heater when firing LPG are the following:

<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>
Hot Oil Heater	0.09	0.09	0.01	0.24	0.14	0.02

While firing LPG, visible emissions from the Hot Oil Heater shall not exceed 10% opacity on a six-minute block average basis.

E. Annual Emissions

This amendment does not affect the facility's licensed total annual emissions because there will be no increase in emission limits or asphalt throughput.

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, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License Amendment A-265-71-O-M subject to the conditions found in Air Emission License A-265-71-N-R/A 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 condition shall replace Condition (16)(A)(1) of Air Emission License A-265-71 N-R/A (dated March 28, 2016):

(16) Asphalt Batch Plant (P806)

A. Fuel Use

1. P806 is licensed to fire distillate fuel and #4 fuel oil with a maximum sulfur content of 0.5% by weight, specification waste oil with a maximum sulfur content of 0.7% by weight, natural gas and LPG. [06-096 C.M.R. ch. 115, BPT and BACT]

The following condition shall replace Condition (16)(F) of Air Emission License A-265-71 N-R/A (dated March 28, 2016):

(16) Asphalt Batch Plant (P806)

F. Emissions from the P806 Baghouse shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

<u>Equipment</u>	<u>Fuel</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>
Stationary Hot Mix Asphalt Batch Plant (P806)	Fuel Oil	5.68	5.68	32.12	43.80	146.00	2.99
	Natural Gas	5.68	5.68	1.68	9.13	146.00	2.99
	LPG	5.68	5.68	1.68	9.13	146.00	2.99

The following condition shall replace Condition (18)A)(1) of Air Emission License A-265-71-N-R/A (dated March 28, 2016):

(18) Hot Oil Heater

A. Fuel

1. The hot oil heater is licensed to fire distillate fuel and #4 fuel oil, each with a maximum sulfur content of 0.5% by weight. It is also licensed to fire specification waste oil with a sulfur content not to exceed 0.7% by weight, natural gas and LPG. [06-096 C.M.R. ch. 115, BPT]

The following condition shall replace Condition (18)(B) of Air Emission License A-265-71-N-R/A (dated March 28, 2016):

(18) Hot Oil Heater

- B. Emissions from the hot oil heater shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Equipment	Fuel	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Hot Oil Heater	Fuel Oil	0.24	0.24	1.41	0.29	0.07	0.01
	Natural Gas	0.10	0.10	0.01	0.20	0.16	0.01
	LPG	0.09	0.09	0.01	0.24	0.14	0.02

The following condition shall replace Condition (18)(D) of Air Emission License A-265-71-N-R/A (dated March 28, 2016):

(18) **Hot Oil Heater**

D. When firing natural gas or LPG, visible emissions from the hot oil heater shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 16 DAY OF March, 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cove for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-265-71-N-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 24, 2017

Date of application acceptance: May 3, 2017

Date filed with the Board of Environmental Protection:

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

