



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**Lohmann Animal Health
International, Inc.
Kennebec County
Winslow, Maine
A-859-71-F-A**

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

After review of the air emission license application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Lohmann Animal Health International, Inc. (LAH) was issued Air Emission License A-859-71-D-A/R on March 7, 2008, permitting the operation of two Class IV-A (veterinary) incinerators to dispose of poultry remains. LAH amended their License on September 22, 2010 (A-859-71-E-M) in order to remove Incinerator #1 from the facility.

LAH has requested to amend their License in order to add two boilers and three emergency generators that have previously gone unlicensed.

The equipment addressed in this license is located at 375 China Road, Winslow, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type</u>	<u>Stack #</u>
Boiler #1	2.6	27.3	LP Gas	1
Boiler #2	2.6	27.3	LP Gas	2

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 04679-2094
(207) 764-0477 FAX: (207) 760-3143

Generators

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Installation Date</u>	<u>Fuel Type</u>
Generator 1	6.0	44.0	Pre 2005	Diesel
Generator 2	1.5	10.7	2008	Diesel
Generator 3	2.4	17.8	2012	Diesel

C. 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 regulations. This modification is determined to be a minor modification 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 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

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 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Boilers

LAH operates two LP Gas fired boilers used primarily for building heating purposes. Both Boilers are rated at 2.6 MMBtu/hr and are therefore not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989. The boilers meet the definition of a Gas Fired Boiler in the National Emission Standards for Hazardous Air Pollutants 40 CFR Part 63, Subpart JJJJJ, and as such are exempt from Subpart JJJJJ requirements.

BACT for the Boilers shall consist of the following:

1. The boilers shall be limited to firing a total of 150,000 gallons of LP Gas on a calendar year basis.
2. A PM emission factor of 0.05 lb/MMBtu shall be considered BACT.
3. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content. However, the use of LP Gas as a fuel is more stringent and shall be considered BACT.
4. SO₂, NO_x, CO and VOC emission factors are based on AP-42 data dated 7/2008.
5. Visible emissions from each boiler shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a 3-hour period.

C. Generator 1

Generator 1 is a Caterpillar 3412 rated at 6.0 MMBtu/hr and was installed prior to 2005. The generator is considered an existing, emergency stationary reciprocating internal combustion engine at an area HAP source, however such units are considered exempt from the requirements of 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* since it is categorized as a residential, commercial, or institutional emergency engine.

The generator is considered an existing emergency unit and is therefore not subject to the requirements of 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines(CI ICE)*.

Emergency generators are only to be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency generators are not to be used for prime power when reliable offsite power is available; nor used to supply power to an electric grid as part of a financial arrangement with an independent system operator (ISO) or another entity.

A summary of the BACT analysis for Generator 1 is as follows:

1. Generator 1 shall be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.

2. 06-096 CMR 106 regulates fuel sulfur content, however in this case a BACT analysis for SO₂ determined a more stringent limit of 15 ppm (on-road diesel) was appropriate and shall be used.
3. 06-096 CMR 103 regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
4. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
5. Visible emissions from Generator 1 shall 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.

D. Generators 2 and 3

Generator 2 is an Onsite Energy 200JPC6DT3 rated at 1.5 MMBtu/hr and was installed in 2008. Generator 3 is a Kohler model 250REOZJE rated at 2.4 MMBtu/hr and installed in 2012. Generators 2 and 3 are considered new, emergency stationary reciprocating internal combustion engines at an area HAP source, and are therefore subject to the requirements of 40 CFR Part 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* and 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines*. However, by complying with the requirements in Subpart III, the requirements in Subpart ZZZZ are also satisfied.

Emergency stationary internal combustion engine is defined in 40 CFR Part 60, Subpart III as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary CI ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary CI ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

A summary of the BACT analysis for Generators 2 and 3 is as follows:

1. Generators 2 and 3 shall each be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
2. Generators 2 and 3 shall each be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

3. The diesel fuel fired in Generators 2 and 3 shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 CFR §60.4207(b)]
4. A non-resettable hour meter shall be installed and operated on Generators 2 and 3. [40 CFR §60.4209(a)]
5. Generators 2 and 3 shall each be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by LAH that are approved by the engine manufacturer. LAH may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]
6. Generators 2 and 3 shall each be limited to 100 hours/year for maintenance and testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). [40 CFR §60.4211(f)]
7. No initial notification is required for emergency engines. [40 CFR §60.4214(b)]
8. 06-096 CMR 106 regulates fuel sulfur content, however in this case a BACT analysis for SO₂ determined a more stringent limit of 15 ppm (on-road diesel) was appropriate and shall be used.
9. A PM emission limit of 0.12 lb/MMBtu shall be considered BACT for Generators 2 and 3. The PM₁₀ limits are derived from the PM limits.
10. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
11. Visible emissions from Generators 2 and 3 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.

E. Annual Emissions

1. Emissions from Incinerator #3 are based on the firing of 20,000 gallons of LP gas fuel per year.
2. Emissions from the boilers are based on the firing of a combined total of 150,000 gallons of LP gas fuel per year.
3. Emissions from the generators are based on 500 hours of operation each per year.
4. LAH shall be restricted to the following annual emissions, based on a 12 month rolling total.

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Incinerator #3	0.23	0.23	0.01	0.14	0.02	0.02
Boilers	0.35	0.35	0.01	0.98	0.56	0.08
Generator 1	0.18	0.18	0.01	4.83	1.28	0.14
Generator 2	0.04	0.04	0.01	1.62	0.35	0.13
Generator 3	0.07	0.07	0.01	2.69	0.58	0.21
Total TPY	0.87	0.87	0.05	10.26	2.79	0.58

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

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, LAH is below the major source threshold of 100,000 tons of CO₂e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AIR QUALITY ANALYSIS

According to 06-096 CMR 115 of the Maine Bureau of Air Quality Regulations, the level of air quality analysis and monitoring are determined on a case-by-case basis. Based on analysis for similar sources, the size of the source, the allowable emissions, the location, and the stack height, ambient air quality standards, including increments, are not expected to be violated. Therefore, an ambient air impact analysis will not be required for this source at this time.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this above 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-859-71-F-A, subject to the conditions found in A-859-71-D-A/R, amendment A-859-71-E-M, 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

(31) Boilers #1 and #2

- A. Boilers #1 and #2 shall be limited to firing a combined total of 150,000 gallons of LP Gas on a calendar year basis. Records from the supplier documenting quantity of fuel delivered shall be kept for compliance purposes. [06-096 CMR 115, BACT]
- B. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.13	0.13	0.01	0.35	0.20	0.03
Boiler #2	0.13	0.13	0.01	0.35	0.20	0.03

- C. Visible emissions from the stack serving each boiler, shall not exceed 10% opacity on a 6-minute block average, except for no more than one 6-minute block average in a 3-hour period. [06-096 CMR 101]

(32) Generator 1

- A. LAH shall fire only diesel fuel oil with a maximum sulfur content of 15 ppm in Emergency Generator 1. Compliance shall be based on fuel receipts from

the supplier documenting the type of fuel delivered. [06-096 CMR 115, BACT]

- B. LAH shall limit Generator #1 to 500 hr/yr of operation on a calendar year basis. A non-resettable hour meter shall be maintained and operated on Generator 1. [06-096 CMR 115, BACT]
- C. Generator 1 shall only be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. Emergency generators are not to be used for prime power when reliable offsite power is available; nor used to supply power to an electric grid as part of a financial arrangement with an independent system operator (ISO) or another entity. A log shall be maintained documenting the date, time, and reason for operation. [06-096 CMR 115, BACT]
- D. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit		PM	PM₁₀	SO₂	NO_x	CO	VOC
Generator 1	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.72	0.72	0.01	19.33	5.13	0.54

- E. Visible emissions from Generator 1 shall not exceed 20% opacity on a six-minute block average, except for no more than two 6-minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(33) Generators 2 and 3

- A. Generators 2 and 3 are each limited to 500 hours per year total operation, based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115, BACT]
- B. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator 2	0.18	0.18	0.01	6.48	1.40	0.51
Generator 3	0.29	0.29	0.01	10.75	2.32	0.85

- C. Visible emissions from Generators 2 and 3 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]
- D. Generators 2 and 3 shall each meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:
 - 1. Generators 2 and 3 shall each be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 CFR §60.4205(b)]

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2. The diesel fuel fired in Generators 2 and 3 shall not exceed 15 ppm sulfur (0.0015% sulfur). Compliance with the fuel sulfur content limit shall be based on fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [40 CFR §60.4207(b) and 06-096 CMR 115]
3. A non-resettable hour meter shall be installed and operated on Generators 2 and 3. [40 CFR §60.4209(a)]
4. Generators 2 and 3 shall each be limited to 100 hours/year for maintenance and testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). These limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]
5. Generators 2 and 3 shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by LAH that are approved by the engine manufacturer. LAH may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(34) LAH shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 19th DAY OF April, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie L. Lister
PATRICIA W. AHO, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-859-71-D-A/R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 8/29/11

Date of application acceptance: 9/16/11

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan Voisine, Bureau of Air Quality.

