STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

Veterinary Support Services **Androscoggin County** **Turner, Maine** **A-887-71-K-A**	**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

Veterinary Support Services (VSS) was issued Air Emission License A-887-71-J-R on October 20, 2014, for the operation of several Class IV-A (veterinary) incinerators used for disposal of animal remains.

VSS has requested an amendment to their license in order to install a new Class IV-A incinerator (Unit #12) to replace Unit #9.

The equipment addressed in this license amendment is located at 54 Pit Road in Turner, Maine.

B. Emission Equipment

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

Equipment ID	Unit #12
Class Incinerator	IV-A
No. of Chambers	2
Type of Waste	Type 4
Maximum Initial Charge	600 lb per load
Maximum Design Combustion Rate	250 lb/hour
Auxiliary Fuel: **Primary Chamber (Btu/hr)** **Secondary Chamber (Btu/hr)**	LPG or natural gas 2.0 MMBtu/hour 1.0 MMBtu/hour
Emission Control	Afterburner

The incinerator combustion gases vent to a 20 foot AGL (Above Ground Level) stack, Stack #12.

C. 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 emission increases exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. 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	11.3	13.7	+2.4	100
PM_{10}	11.3	13.7	+2.4	100
SO_2	4.8	6.0	+1.2	100
NO_x	16.4	20.1	+3.7	100
CO	11.4	14.1	+2.7	100
VOC	1.7	2.0	+0.3	50

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 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.

B. Unit #12

Unit #12 is a new Class IV-A (veterinary) incinerator. It is a B&L Cremation Model BLP-1000 M4 manufactured and installed in 2017. Unit #12 will replace Unit #9 which will be removed from the site once Unit #12 is installed and operational.

BACT for Unit #12 includes the following:

1. Operating temperature in the secondary chamber or refractory lined stack shall be maintained at or above 1600°F with a stack gas retention time of at least 1.0 second at or above 1600°F.

2. To ensure an efficient burn, prevent odors, and minimize visible emissions, the secondary chamber shall be preheated, as specified by the manufacturer, until the pyrometer temperature measures a minimum of 1200°F prior to commencing the burn cycle.

3. Once the burn cycle has commenced by introduction of primary chamber combustion, the incinerator shall be operated in an efficient manner and as specified by the manufacturer for the period of time between preheat and reaching the set operational temperature to be a minimum of 1600°F in the secondary chamber.

4. The temperature in the secondary chamber or refractory lined stack shall then be maintained at or above 1600°F for the duration of the burn cycle.

5. A pyrometer and ¼-inch test port shall be installed and maintained at the location of the incinerator or refractory lined stack which provides sufficient volume to insure a flue gas retention time of not less than 1.0 second at the minimum temperature of 1600°F.

6. An operation log shall be maintained detailing and quantifying the hours of operation on a daily basis for Unit #12. The log shall include the weight of each charge to the incinerator, preheat temperature, preheating time, charging time, and the afterburner temperature directly after charging and every 60 minutes after startup until and including final shutdown time. For facilities operating a chart recorder, the start time, date, and weight charged may be logged on the chart. The operation log shall be kept on-site at the incinerator location.

7. A maintenance log shall be maintained detailing the maintenance of emission control equipment. Records of the date of each inspection and any corrective action required will be included in the maintenance log. The maintenance log shall be kept on-site at the incinerator location.

8. A maximum particulate emission rate of 0.08 gr/dscf corrected to 12% CO_2 shall be met. Emissions information is based on its particulate matter emission limit, the burning of propane as an auxiliary fuel, and the use of AP-42 factors: Tables 2.3-1 and 2.3-2 for biomedical waste incineration (dated 7/93) and Table 1.5-1 (dated 7/08) for burning of LPG (propane), as follows:

Pollutant		Emission Factors
PM, PM_{10}	–	0.08 gr/dscf @ 12% CO_2; BACT
SO_2	–	2.17 lb/ton of waste and 0.018 lb/1000 gal of propane
NO_x	–	3.56 lb/ton of waste and 13 lb/1000 gal of propane
CO	–	2.95 lb/ton of waste and 7.5 lb/1000 gal of propane
VOC	–	0.299 lb/ton of waste and 1.0 lb/1000 gal of propane
Opacity	–	06-096 C.M.R. 115; BACT

9. BACT emission limits for Unit #12 are the following:

	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Unit #12	0.55	0.55	0.27	0.85	0.61	0.07

10. Visible emissions from Unit #12 shall not exceed 5% opacity based on a six-minute block average basis.

11. The ash shall be disposed of in accordance with the requirements of the Department's Bureau of Remediation and Waste Management.

12. The incinerator operator(s) shall receive adequate training to operate the incinerator in accordance with the manufacturer's specifications and shall be familiar with the terms of the Air Emission License.

C. Annual Emissions

1. Total Annual Emissions

VSS shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on the continuous operation of each incinerator at the maximum capacity.

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

	PM	PM_{10}	SO_2	NO_x	CO	VOC
Unit #1	1.46	1.46	0.72	2.08	1.49	0.17
Unit #3	1.46	1.46	0.72	2.08	1.49	0.17
Unit #5	1.46	1.46	0.72	2.08	1.49	0.17
Unit #8	1.22	1.22	0.37	1.34	0.92	0.11
Unit #10	2.15	2.15	0.72	3.60	2.37	0.29
Unit #11	2.41	2.41	1.18	3.72	2.67	0.31
Unit #12	2.41	2.41	1.18	3.72	2.67	0.31
Total TPY*	**12.6**	**12.6**	**5.6**	**18.6**	**13.1**	**1.5**

* rounded to the nearest tenth of a ton

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 C.F.R. Part 52, Subpart A, § 52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. ch. 100, 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_2e).

The quantity of CO_2e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and *Mandatory Greenhouse Gas Reporting,* 40 C.F.R. Part 98; and
- global warming potentials contained in 40 C.F.R. 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 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, 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-887-71-K-A subject to the conditions found in Air Emission License A-887-71-J-R 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.

The following shall replace Condition (17) of Air Emission License A-887-71-J-R:

(17) The incinerators shall not exceed the maximum design charging rates outlined below. Auxiliary fuel in put to the primary and secondary chambers shall be LPG or natural gas. [06-096 C.M.R. ch. 115, BPT/BACT]

Unit	Maximum Charging Rate
Unit #1	500 lb (processing 150 lb/hr)
Unit #3	500 lb (processing 150 lb/hr)
Unit #5	500 lb (processing 150 lb/hr)
Unit #8	400 lb (processing 75 lb/hr)
Unit #10	800 lb (processing 150 lb/hr)
Unit #11	600 lb (processing 250 lb/hr)
Unit #12	600 lb (processing 250 lb/hr)

The following shall replace Condition (22) of Air Emission License A-887-71-J-R:

(22) VSS shall not exceed a particulate matter emission limit of 0.08 gr/dscf corrected to 12% CO_2 from the firing of auxiliary fuel. Therefore, based on the maximum design combustion rate and continuous operation of each Class IV-A incinerator, emissions shall be limited to the following [06-096 C.M.R. ch. 115, BPT/BACT]:

Pollutant	gr/dscf All Units	lb/hr						
		Unit #1	Unit #3	Unit #5	Unit #8	Unit #10	Unit #11	Unit #12
PM	0.08	0.33	0.33	0.33	0.28	0.49	0.55	0.55
PM_{10}	n/a	0.33	0.33	0.33	0.28	0.49	0.55	0.55
SO_2	n/a	0.17	0.17	0.17	0.09	0.16	0.27	0.27
NO_x	n/a	0.48	0.48	0.48	0.30	0.82	0.85	0.85
CO	n/a	0.34	0.34	0.34	0.21	0.54	0.61	0.61
VOC	n/a	0.04	0.04	0.04	0.02	0.06	0.07	0.07

The following are New Conditions:

(28) VSS is licensed to install and operate Unit #12. Unit #12 shall be subject to Conditions (16), (18) through (21), and (23) through (27) of Air Emission License A-887-71-J-R. [06-096 C.M.R. ch. 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 20 DAY OF June , 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cose for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-887-71-J-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 5/3/17
Date of application acceptance: 5/3/17

Date filed with the Board of Environmental Protection:

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

Filed
JUN 20 2017
State of Maine
Board of Environmental Protection