STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Afterlife Affections LLC
Aroostook County
Washburn, Maine
A-1081-71-A-N

Departmental
Findings of Fact and Order
Air Emission License
Initial License

FINDINGS OF FACT

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 of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

1. Afterlife Affections LLC (Afterlife) has applied for an Air Emission License, permitting the operation of a Class IV-A veterinary incinerator, to dispose of animal remains.

2. The equipment addressed in this license is located at 235 Perham Road, Washburn, ME.

B. Licensed Equipment

The incinerator is a Mathews Cremation model IEB-16 with the following specifications:

Class Incinerator	IV-A
No. of Chambers	2
Type of Waste	Type 4
Max. Design (Combustion/Feed) Rate	300 lb/100 lb/hr
Auxiliary Fuel Input: **Primary Chamber (MMBtu/hr)** **Secondary Chamber (MMBtu/hr)**	 0.6 1.2
Emission Control	Afterburner

The incinerator combustion gases vent to a 17 (estimated) foot, AGL (Above Ground Level) stack

C. Application Classification

The new source is considered a major source based on whether or not expected emissions exceed the "Significant Emission Levels" as given in Chapter 100 of the Department's regulations. The emissions for the new source are determined by the maximum future license allowed emissions, as follows:

Pollutant	Max. Future License (TPY)	Sig. Level
PM	2.7	100
PM_{10}	2.7	100
SO_2	0.5	100
NO_x	1.9	100
CO	1.3	100
VOC	0.2	50
CO_2e	1,079	100,000

This source is determined to be a minor new source 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 06-096 CMR 100.

BPT for existing 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. Veterinary Incinerator

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available 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. BACT for the Class IV-A (veterinary) incinerator includes the following:

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.

To ensure an efficient burn and to 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 1600°F prior to commencing the burn cycle.

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.

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

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 of 1600°F.

The owner/operator shall maintain a log detailing and quantifying the hours of operation on a daily basis for each Class IV-A Veterinary Incinerator. The log shall record the weight of each charge to the incinerator, preheat temperature, preheating time, charging time, 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.

The owner/operator shall maintain a log 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.

A maximum particulate emission rate of 0.10 gr/dscf corrected to 12% CO_2 shall be met. Emissions information is based on the particulate matter emission limit above, the burning of propane fuel 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 Tables 1.5-1 for firing propane (dated 07/08).

PM - 0.10 gr/dscf corrected to 12% CO_2, based on BACT, and emissions of 0.60 lb/hr for biomedical waste, and propane factors of 0.004 lb/hr and 0.2 lb/10^3 gallons.

SO_2 - 0.11 lb/hr based on the AP-42 factors of 2.17 lb/ton for biomedical waste; propane emissions are assumed to be negligible.

NO_X - 0.18 lb/hr based on the AP-42 factors of 3.56 lb/ton for biomedical waste and propane factors of 0.25 lb/hr and 13 lb/10^3 gallons.

CO - 0.15 lb/hr based on the AP-42 factor of 2.95 lb/ton for biomedical waste and propane factors of 0.14 lb/hr and 7.5 lb/10^3 gallons.

VOC - 0.02 lb/hr based on the AP-42 factor of 0.299 lb/ton for biomedical waste, and propane factors of 0.02 lb/hr and 1.0 lb/10^3 gallons

BPT emission limits for the incinerator are the following:

Equipment	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Veterinary Incinerator.	0.61	0.61	0.11	0.43	0.29	0.15

Visible emissions from the incinerator shall not exceed 10% opacity based on a six (6) minute block average basis.

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

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. Afterlife shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on a maximum combustion rate of 100 pounds per hour plus propane usage for 8760 hours per year:

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

	PM	PM_{10}	SO_2	NO_x	CO	VOC
Incinerator	2.7	2.7	0.5	1.9	1.3	0.2
Total TPY	**2.7**	**2.7**	**0.5**	**1.9**	**1.3**	**0.2**

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) 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 (CO_2e).

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, Afterlife is below the major source threshold of 100,000 tons of CO_2e 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, 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-1081-71-A-N, subject to 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.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time which any emission units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions. [06-096 CMR 115]

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in 06-096 CMR 115. [06-096 CMR 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 MRSA §353-A. [06-096 CMR 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]

(7) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practices for minimizing emissions. [06-096 CMR 115]

(8) The licensee shall maintain sufficient records, to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]

(10) The licensee may not use as a defense is an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; <u>or</u>
2. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. submit a written report to the Department within thirty (30) days from the date of test completion.

[06-096 CMR 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess and operating conditions indicate emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

(13) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions when such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitations. [06-096 CMR 115]

(15) Upon the written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance data. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) The incinerator shall be used for the disposal of Type 4 (veterinary) waste and shall not be used for the disposal of plastics, cytotoxic (antineoplastic) drugs or any radioactive wastes and shall not be used to dispose of any medical waste classified as Type 7 waste, as defined in 06-096 CMR 100. However, the incidental use of plastics used in wrapping animal carcasses for handling and storage purposes is allowed. [06-096 CMR 115, BPT]

(17) The incinerator shall not exceed the maximum design charging rate of 300 lbs. Auxiliary fuel input to the primary and secondary chamber shall be propane. [06-096 CMR 115, BPT]

(18) The owner/operator shall maintain a log detailing and quantifying the hours of operation on a daily basis for the Class IV-A Veterinary Incinerator. The log shall record the weight of each charge to the incinerator, preheat temperature, preheating time, charging time, 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. [06-096 CMR 115, BPT]

(19) The owner/operator shall maintain a log 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. [06-096 CMR 115, BPT]

(20) The secondary chamber shall be preheated as specified by the manufacturer to a minimum of 1600°F prior to combusting any waste and shall be maintained at a minimum of 1600°F during the duration of the burn. [06-096 CMR 115, BPT]

(21) 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. [06-096 CMR 115, BPT]

(22) A pyrometer and ¼ inch test port shall be operated and maintained at that 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 of 1600°F. [06-096 CMR 115, BPT]

(23) Afterlife shall not exceed a particulate matter emission limit of 0.10 gr/dscf corrected to 12% CO_2 from the auxiliary fuel. Therefore, based on the maximum design combustion rate and continuous operation of the Class IV-A incinerator, emissions shall be limited to the following [06-096 CMR 115, BPT]:

Pollutant	gr/dscf	lb/hr
PM	0.10	0.61
PM_{10}	n/a	0.61
SO_2	n/a	0.11
NO_x	n/a	0.43
CO	n/a	0.29
VOC	n/a	0.03

(24) Visible emissions from the incinerator shall not exceed 10% opacity based on a six (6) minute block average basis. [06-096 CMR 115, BPT]

(25) The incinerator combustion gases shall vent to a stack which is at least 17 feet above ground level or which is at least 60 percent of Good Engineering Practice (GEP), based upon the facility building dimensions. [06-096 CMR 115, BPT]

(26) The ash shall be disposed of in accordance with the requirements of the Department's Bureau of Remediation and Waste Management. [06-096 CMR 115, BPT]

(27) 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 this Air Emission License as it pertains to the operation of the incinerator. [06-096 CMR 115, BPT]

(28) Although not required at this time, the installation and operation of continuous chart recording devices may become necessary to document compliance with the temperature requirements of this license. Should the Bureau of Air Quality determine that continuous recording devices are necessary, the licensee shall, within 120 days, demonstrate that continuous recorders have been installed and are operational. [06-096 CMR 115, BPT]

DONE AND DATED IN AUGUSTA, MAINE THIS 29 DAY OF May, 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 04/02/2013
Date of application acceptance: 04/02/2013

Date filed with the Board of Environmental Protection:

This Order prepared by N. Lynn Cornfield, Bureau of Air Quality.

Filed
MAY 29 2013
State of Maine
Board of Environmental Protection