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

DEPARTMENT ORDER

Laurel Hill Cemetery Association **York County** **Saco, Maine** **A-491-71-I-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 M.R.S. § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Laurel Hill Cemetery Association (Laurel Hill) has applied for an Air Emission License amendment, permitting the operation of a Class IV-A crematory.

The equipment addressed in this license is located at 293 Beach Street, Saco, Maine.

B. Emission Equipment

Laurel Hill plans to add a crematory incinerator, Crematory Incinerator #3, which is a Model Power-Pak I (IE43-PPI) with the following specifications:

Class Incinerator	IV-A
No. of Chambers	2
Type of Waste	Type 4
Max. Design Combustion Rate (lb/hr)	150
Auxiliary Fuel Input: **Primary Chamber (MMBtu/hr)** **Secondary Chamber (MMBtu/hr)**	Propane 1.0 1.2
Emission Control	Afterburner

The cremator combustion gases vent to a 16.5 foot above ground level (AGL) stack.

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 Emissions" 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 Emissions Levels
PM	2.2	4.0	+1.8	100
PM_{10}	2.2	4.0	+1.8	100
$PM_{2.5}$	2.2	4.0	+1.8	100
SO_2	1.4	2.0	+0.6	100
NO_x	4.8	7.1	+2.3	100
CO	3.4	5.0	+1.6	100
VOC	0.4	0.6	+0.2	50*

* Laurel Hill is located in an area of the state included in the Ozone Transport Region. Therefore, the significant emission level for VOC is 50 tpy.

This license amendment is determined to be a minor modification and has been processed as such.

D. Facility Classification

The facility is licensed as follows:

- As a natural minor source of criteria pollutants, because no license restrictions are necessary to keep facility emissions below major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

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 C.M.R. ch. 100.

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. Crematory Incinerator #3

Laurel Hill is adding a third crematory incinerator, Crematory Incinerator #3. The new incinerator is a Matthews Environmental Solutions IE43-PPI. The primary chamber has a

maximum firing rate of 1.0 MMBtu/hr, and the secondary chamber has a maximum firing rate of 1.2 MMBtu/hr. The design combustion rate is 150 lb/hr, and it will exhaust through its own stack, Stack #3.

BACT for Crematory Incinerator #3 is the following:

1. Emission Limits

Emissions information is based on the burning of propane as auxiliary fuel and the use of the following factors:

The BACT emissions from the **propane** burner portion of the total exhaust were based on the following:

$PM/PM_{10}/PM_{2.5}$	0.05 lb/MMBtu, 06-096 C.M.R. ch. 115, BACT
SO_2	0.054 lb/1,000 gallons, AP-42 Table 1.5-1 dated 5/25
NO_X	13.0 lb/1,000 gallons, AP-42 Table 1.5-1 dated 5/25
CO	7.5 lb/1,000 gallons, AP-42 Table 1.5-1 dated 5/25
VOC	1.0 lb/1,000 gallons, AP-42 Table 1.5-1 dated 5/25

The BACT emissions from the **biomedical** portion of the total exhaust were based on the following:

$PM/PM_{10}/PM_{2.5}$	4.67 lb/ton, AP-42 Table 2.3-2 dated 7/93
SO_2	2.17 lb/ton, AP-42 Table 2.3-1 dated 7/93
NO_X	3.56 lb/ton, AP-42 Table 2.3-1 dated 7/93
CO	2.95 lb/ton, AP-42 Table 2.3-1 dated 7/93
VOC	0.299 lb/ton, AP-42 Table 2.3-2 dated 7/93

The BACT emission limits for Crematory Incinerator #3 are as follows:

	PM (lb/hr)	**PM_{10} (lb/hr)**	**$PM_{2.5}$ (lb/hr)**	**SO_2 (lb/hr)**	**NO_X (lb/hr)**	**CO (lb/hr)**	**VOC (lb/hr)**
Fuel Combustion	0.11	0.11	0.11	0.0013	0.31	0.18	0.02
Biomedical Portion	0.35	0.35	0.35	0.16	0.27	0.22	0.02
Total Emission Limit	**0.46**	**0.46**	**0.46**	**0.16**	**0.58**	**0.40**	**0.04**

Visible emissions from Crematory Incinerator #3 stack shall not exceed 10% opacity on a six-minute block average basis.

2. Operating Parameters

   a. Operating temperature in the secondary chamber shall be maintained at or above 1,600 ºF for the duration of the burn cycle, with a stack gas retention time, at or above 1,600 ºF, of at least 1.0 second.
   b. To ensure an efficient burn, and to prevent odors and visible emissions, the secondary chamber shall be preheated, as specified by the manufacturer, until the pyrometer temperature measures at least 1,600 ºF.
   c. No remains shall be introduced into the primary chamber until the temperature in the secondary chamber has reached 1,600 °F.
   d. Once the burn cycle has commenced by introduction of primary chamber combustion, the crematory 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 1,600 °F in the secondary chamber.
   e. A pyrometer and ¼-inch test port shall be installed and maintained at that location of the crematory incinerator or refractory-lined stack which provides sufficient volume to insure a flue gas retention time of not less than 1.0 second at a minimum of 1,600 ºF.
   f. A log shall be maintained recording the weight of the remains, preheat time, charging time, and the temperature of the secondary chamber every 60 minutes after start-up 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.
   g. The crematory incinerator operator(s) shall receive adequate training to operate the unit in accordance with the manufacturer's specifications and shall be familiar with the terms of the Air Emission License.

C. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the operating each of the incinerators for 8,760 hours per year.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

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

	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC
Crematory Incinerator #1	1.1	1.1	1.1	0.7	2.4	1.7	0.2
Crematory Incinerator #2	1.1	1.1	1.1	0.7	2.4	1.7	0.2
Crematory Incinerator #3	1.8	1.8	1.8	0.6	2.3	1.6	0.2
Total TPY	**4.0**	**4.0**	**4.0**	**2.0**	**7.1**	**5.0**	**0.6**

III. AIR QUALITY ANALYSIS

According to 06-096 C.M.R. ch. 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.

This determination is based on information provided by the applicant regarding the expected construction and operation of the proposed and currently licensed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require Laurel Hill to submit additional information and may require an ambient air quality impact analysis at that 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 Amendment A-491-71-I-A subject to the conditions found in Air Emission License A-491-71-H-R 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.

The following shall replace Conditions (17)(C) and (J) of Air Emission License A-491-71-H-R:

(17) **Crematory Incinerators**

C. Each crematory incinerator shall not exceed a particulate matter emission limit of 0.10 gr/dscf, corrected to 12% CO_2. License-allowed emissions for the crematory incinerators shall not exceed the following:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Crematory Incinerator #1	0.25	0.25	0.25	0.16	0.55	0.38	0.04
Crematory Incinerator #2	0.25	0.25	0.25	0.16	0.55	0.38	0.04
Crematory Incinerator #3	0.46	0.46	0.46	0.16	0.58	0.40	0.04

Compliance shall be demonstrated through stack testing by request of the Department, in accordance with the appropriate method found in 40 C.F.R. Part 60, Appendix A. [06-096 C.M.R. ch. 115, BPT/BACT]

J. A log shall be maintained recording the weight of the remains, preheat time, charging time, and the temperature of the secondary chamber 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. [06-096 C.M.R. ch. 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 10th DAY OF NOVEMBER, 2025.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for _____
MELANIE LOYZIM, COMMISSIONER

The term of this license amendment shall be ten (10) years from the issuance of Air Emission License A-491-71-H-R (issued 07/07/2023).

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 2, 2025
Date of application acceptance: September 5, 2025

This Order prepared by Zac Hicks, Bureau of Air Quality.