

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 3536-CSMQ75
Issue Date: October 25, 2023

Lotus Funeral and Cremation Centre Inc.
321 Deerhurst Drive
Brampton, Ontario
L6T 5K3

Site Location: 121 City View Drive
Toronto City

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

a crematorium, operating up to 15 hours per day, consisting of:

- one (1) new natural gas fired multi-chamber cremation unit (Source CR02, Pyrox model X-3000-OS), equipped with CEM System, a primary burner rated at 1,055,000 kilojoules per hour and a secondary burner rated at 2,110,000 kilojoules per hour, discharging into the atmosphere at a nominal volumetric flow rate of 1.85 actual cubic metres per second at the minimum temperature of 480 degrees Celsius through a stack, having an exit diameter of 0.5 metre, extending 3.8 meters above the roof and 8.5 metres above grade;
- one (1) exhaust system (source EF05), serving a preparation lab, discharging into the atmosphere at a nominal volumetric flow rate of 0.25 actual cubic metre per second through a stack, having an exit diameter of 0.25 metre, extending 0.60 metre above the roof and 5.3 metres above grade;
- one (1) exhaust system (source EF06), serving a work station, discharging into the atmosphere at a nominal volumetric flow rate of 0.25 actual cubic metre per second through a stack, having an exit diameter of 0.20 metre, extending 0.60 metre above the roof and 5.3 metres above grade;

all in accordance with the Application for Approval (Air & Noise) submitted by Lotus Funeral and Cremation Centre Inc. dated October 16, 2023 and signed by Kamal Bhardwaj, Owner; the Primary Noise Screening Method Form prepared by WSP Canada Inc., dated October 6, 2023 and signed by Joe Tomaselli; the email from Kirby Butler (Operations Manager, Southwest Crematoriums Ltd.) dated October 6, 2023 (including Southwest Crematorium-Etobicoke/Lotus Proposal with Timeline); the email from Aaron L. McDonald (CAO-Southwest Crematoriums Ltd.) dated October 19, 2023; the email from Duong Tu (Beaulier Inc.) dated October 23, 2023; and all supporting information associated with the application.

For the purpose of this environmental compliance approval, the following definitions apply:

1. "Approval" means this entire Environmental Compliance Approval, including the application and all supporting documentation listed above;
2. "ACB list" means the document entitled "Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants" (v.3.0-April 2021), as amended from time to time and published by the Ministry and available on a Government website;
3. "Company" means Lotus Funeral and Cremation Centre Inc. operating as Lotus Funeral and Cremation Centre Inc. that is responsible for the construction or operation of the Facility and includes any successors and assigns in accordance with section 19 of the EPA;
4. "Continuous Monitoring System" means the continuous monitoring system consisting of continuous monitors and recording devices;
5. "Director" means a person appointed for the purpose of section 20.3 of the EPA by the Minister pursuant to section 5 of the EPA;
6. "District Manager" means the District Manager of the appropriate local district office of the Ministry, where the Facility is geographically located;
7. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19;
8. "Equipment" means the cremation unit CR02, described in the Company's application, this Approval and in the supporting documentation submitted with the application, to the extent approved by this Approval;
9. "ESDM Report" means the Emission Summary and Dispersion Modelling Report which was prepared in accordance with section 26 of O. Reg. 419/05 and the Procedure Document by Nghiep Tu Duong (Beaulier Inc.) and dated October 16, submitted in support of the application, and includes any changes to the report made up to the date of issuance of this Approval;
10. "Facility" means the entire operation located on the property where the Equipment is located;
11. "Manager" means the Manager, Technology Standards Section, Technical Assessment and Standards Development Branch, or any other person who represents and carries out the duties of the Manager, Technology Standards Section, Technical Assessment and Standards Development Branch, as those duties relate to the conditions of this Approval;
12. "Manual" means a document or a set of documents that provide written instructions to staff of the Company;
13. "Minister" means the Minister of the Environment, Conservation and Parks or such other member of the Executive Council as may be assigned the administration of the EPA under the Executive Council Act;
14. "Ministry" means the ministry of the Minister;
15. "O. Reg. 419/05" means Ontario Regulation 419/05: Air Pollution – Local Air Quality, made

under the EPA;

16. "Performance Requirements" means the performance requirements and emission limits specified in the sections of this Approval titled "Operating Parameters", "Emission Concentration Limits", and "Noise";
17. "Point of Impingement" has the same meaning as in section 2 of O. Reg. 419/05;
18. "Pre-Test Plan" means a plan for the Source Testing including the information required in Section 5 of the Source Testing Code;
19. "Procedure Document" means Ministry guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated March 2018, as amended;
20. "Publication NPC-300" means the Ministry Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013, as amended;
21. "Report EPS 1/PG/7" means the document titled "Protocols and Performance Specifications for Continuous Monitoring of Gaseous Emissions from Thermal Power Generation - Report EPS 1/PG/7" published by Environment Canada in December 2005, as amended;
22. "Schedules" means the following schedules attached to this Approval and forming part of this Approval namely:
 - Schedule A - Source Testing Procedures;
 - Schedule B - Test Contaminants;
 - Schedule C - Continuous Temperature Monitoring System;
 - Schedule D - Continuous Oxygen Monitoring System; and
 - Schedule E - Continuous Carbon Monoxide Monitoring System;
23. "Source Testing" means site-specific sampling and testing to measure emissions resulting from operating the Equipment under operating conditions that will derive an emission rate that, for the relevant averaging period of the contaminant, is at least as high as the maximum emission rate that the source of contaminant is reasonably capable of, or a rate approved by the Manager within the approved operating range of the Equipment which satisfies paragraph 1 of subsection 11(1) of O. Reg. 419/05;
24. "Source Testing Code" means the Ontario Source Testing Code, dated June 2010, prepared by the Ministry, as amended; and
25. "Test Contaminants" means the contaminants listed in Schedule B.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. OPERATING PARAMETERS

1. The Company shall ensure that the Equipment is designed and operated to comply, when the

Equipment is operating, with the following performance requirements:

- a. the temperature at the outlet of the primary combustion chamber, as recorded by the Continuous Monitoring System, shall be at least 800 degrees Celsius for at least 30 minutes during the last part of each cremation;
- b. the temperature in the secondary combustion chamber, as recorded by the Continuous Monitoring System, shall be at least 1,000 degrees Celsius before the primary combustion chamber is loaded and thereafter throughout each cremation; and
- c. the residence time of the combustion gases in the secondary combustion chamber shall be at a minimum one second at a temperature of at least 1,000 degrees Celsius.

2. EMISSION CONCENTRATION LIMITS

1. The Company shall ensure that the Equipment is designed and operated to comply, when the Equipment is operating, with the following performance requirements:
 - a. the concentration of oxygen in the undiluted flue gas leaving the secondary chamber, as recorded by the Continuous Monitoring System, shall not be less than 6 percent by volume on a dry basis, calculated as a 10-minute average;
 - b. the half-hour average concentration of carbon monoxide in the undiluted flue gases leaving the secondary combustion chamber, as recorded by the Continuous Monitoring System, shall not exceed 100 parts per million by volume, on a dry basis normalized to 11 percent oxygen; and
 - c. the concentration of organic matter having a carbon content, expressed as equivalent methane (Total Hydrocarbon Compounds), being an average of ten measurements taken at approximately one minute intervals, shall not be greater than 100 parts per million by volume, measured on an undiluted basis.

3. NOISE

1. The Company shall, at all times, ensure that the noise emissions from the Facility comply with the limits set out in Ministry Publication NPC-300.

4. OPERATION AND MAINTENANCE

1. The Company shall ensure that the Facility/Equipment is properly operated and maintained at all times. The Company shall:
 - a. prepare, before commencement of operation of the Equipment, and update, as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment, including:
 - i. routine and emergency operating and maintenance procedures in accordance with good engineering practices, including annual inspection procedures as recommended by the Equipment and Continuous Monitoring System suppliers;
 - ii. emergency procedures;
 - iii. procedures to control all discharges from the Equipment in the event of loss or failure of

- power source to the Equipment;
 - iv. procedures for any record keeping activities relating to operation and maintenance of the Equipment;
 - v. procedures for operator training which is to be provided by an individual experienced with the Equipment;
 - vi. procedures for optimizing the operation of the Equipment to minimize the emissions from the Equipment; and
 - vii. procedures for recording and responding to complaints regarding the operation of the Equipment;
- b. implement the recommendations of the Manual.
2. The Company shall ensure that the primary combustion chamber is not loaded unless the associated Continuous Monitoring System is fully operational.
 3. The Company shall make all reasonable efforts to ensure that all metallic handles and any foreign materials are removed from the caskets before they are loaded into the Equipment.
 4. The Company shall install and maintain visual and audible alarm systems to alert the Equipment operators of any potential deviation from the above Performance Requirements for parameters that are continuously monitored by the applicable Continuous Monitoring System and shall forthwith take all reasonable actions to bring the Equipment into compliance with all Performance Requirements.
 5. The Company shall take out of service the existing cremator (source CR01) immediately after commencement of operation of the CR02 unit.

5. COMPLAINTS RESPONSE PROCEDURE

1. If, at any time, the Company receives an environmental complaint from the public regarding the operation of the Equipment approved by this Approval, the Company shall take the following steps:
 - a. Record and number each complaint, either electronically or in a log book. The record shall include the following information: the time and date of the complaint and incident to which the complaint relates, the nature of the complaint, wind direction at the time and date of the incident to which the complaint relates and, if known, the address of the complainant.
 - b. Notify the District Manager of the complaint within two (2) business days after the complaint is received, or in a manner acceptable to the District Manager.
 - c. Initiate appropriate steps to determine all possible causes of the complaint and take the necessary actions to appropriately deal with the cause of the subject matter of the complaint.
 - d. Complete and retain on-site a report written within five (5) business days of the complaint date. The report shall list the actions taken to appropriately deal with the cause of the complaint and set out steps to be taken to avoid the recurrence of similar incidents.

6. SOURCE TESTING

1. The Company shall perform Source Testing in accordance with the procedures in Schedule A to determine the rates of emissions of the Test Contaminants from the Equipment.

7. CONTINUOUS MONITORING

1. The Company shall, prior to the commencement of operation of the Equipment, install and subsequently conduct and maintain a program to continuously monitor:
 - a. the temperature at the outlet of the primary chamber of the Equipment;
 - b. the temperature at the location in the secondary chamber of the cremator where the minimum retention time of the combustion gases at a minimum temperature of 1,000 degrees Celsius for at least one second is achieved; and
 - c. the concentration of carbon monoxide and the concentration of oxygen in the undiluted gases leaving the secondary chamber of the Equipment.
2. The Continuous Monitoring System shall be equipped with continuous recording devices and shall comply with the requirements outlined in the attached Schedules C, D, and E.

8. RECORD RETENTION

1. The Company shall maintain and retain for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the operation of the Equipment, and monitoring and recording activities required by this Approval. These records shall be made available to staff of the Ministry upon request in a timely manner. The Company shall retain:
 - a. number of daily cremations and operation hours;
 - b. records of each load processed by the Equipment including:
 - i. a description of the material of construction of the casket;
 - ii. type of finish on the casket;
 - iii. description of any hardware and foreign materials not removed from the casket;
 - iv. estimated weight of the body and casket; and
 - v. start and finish time of the cremation;
 - c. all original records produced by the Source Testing and the recording devices associated with the Continuous Monitoring System;
 - d. records of all excursions from the applicable Performance Requirements as measured by the Continuous Monitoring System, duration of the excursions, reasons for the excursions and corrective measures taken to eliminate the excursions;
 - e. all records on maintenance, repair and inspection of the Equipment and the Continuous Monitoring System;
 - f. description of any upset conditions associated with the operation of the Equipment and remedial action taken;
 - g. all records on operator training, including:

- i. date of training;
 - ii. name and signature of person who has been trained; and
 - iii. description of the training provided; and
- h. all records related to environmental complaints made by the public as required by Condition 5 of this Approval.

SCHEDULE A

SOURCE TESTING PROCEDURES

1. The Company shall submit, not later than three (3) months after commencement of operation of the Equipment, to the Manager a Pre-Test Plan for the Source Testing required under this Approval.
2. The Company shall finalize the Pre-Test Plan in consultation with the Manager.
3. The Company shall not commence the Source Testing required under this Approval until the Manager has accepted the Pre-Test Plan.
4. The Company shall complete the Source Testing, no later than three (3) months after the Manager has approved the Pre-Test Plan or a date agreed upon in consultation with the District Manager.
5. The Company shall notify the Manager, the District Manager and the Director in writing of the location, date and time of any impending Source Testing required by this Approval, at least fifteen (15) days prior to the Source Testing.
6. The Company shall submit a report (electronic format) on the Source Testing to the Manager, the District Manager and the Director not later than three (3) months after completing the Source Testing. The report shall be in the format described in the Source Testing Code, and shall also include, but not be limited to:
 1. an executive summary;
 2. all records of the operating conditions at the time of Source Testing, including but not limited to the following:
 - a. description of the material of construction and estimated weight of the casket;
 - b. type of finish on the casket including t;
 - c. description of any hardware not removed from the casket;
 - d. estimated weight of the body as per the information obtained from the funeral home; and
 - e. start and finish time of each cremation;
 3. all records produced by the Continuous Monitoring System;
 4. all records of the cremator settings during the cremation;
 5. the results of Source Testing, including the emission rate and emission concentration of the Test Contaminants;

6. a tabular comparison of calculated emission rates based on Source Testing results for the Test Contaminants to relevant estimates described in the ESDM Report;
 7. results of the calculation of the residence time of the combustion gases in the secondary combustion chamber at a minimum temperature of 1,000 degrees Celsius; and
 8. recommendations for optimizing the operation of the Equipment to minimize the emissions from the Equipment.
7. The Director may not accept the results of the Source Testing if:
 1. the Source Testing Code or the requirements of the Manager were not followed; or
 2. the Company did not notify the Manager, the District Manager and the Director of the Source Testing; or
 3. the Company failed to provide a complete report on the Source Testing.
 8. If the Director does not accept the results of the Source Testing, the Director may require re-testing. If re-testing is required, the Pre-Test Plan strategies need to be revised and submitted to the Manager for approval. The actions taken to minimize the possibility of the Source Testing results not being accepted by the Director must be noted in the revision.
 9. The Company shall update their ESDM Report in accordance with Section 26 of O. Reg. 419/05 and the Procedure Document with the results from the Source Testing if any of the calculated emission factors or calculated emission rates are higher than the predicted rates in the ESDM Report, not later than three (3) months after the submission of the Source Testing report and make these records available for review by staff of the Ministry upon request.

SCHEDULE B
TEST CONTAMINANTS

- Total Suspended Particulate Matter
- Total Hydrocarbon Compounds
- Hydrogen Chloride
- Benzo(a)pyrene
- Naphthalene

List of Metals

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Copper
- Lead
- Mercury
- Molybdenum

- Nickel
- Selenium
- Silver
- Thallium
- Vanadium
- Zinc

List of Dioxins, Furans and Dioxin-like PCBs

- As per ACB List Table 1: Dioxins

**SCHEDULE C
CONTINUOUS TEMPERATURE MONITORING SYSTEM**

PARAMETER:

Temperature

LOCATION:

The sample points of the Continuous Temperature Monitor shall be located in:

1. the outlet of the primary chamber; and
2. the secondary chamber where the minimum retention time of the combustion gases at a minimum temperature of 1,000 degrees Celsius for at least one second is achieved.

PERFORMANCE:

The Continuous Temperature Monitor shall meet the following minimum performance specifications for the following parameters:

PARAMETERS	SPECIFICATION
Type	shielded "K" type thermocouple, or equivalent
Accuracy	± 1.5 percent of the minimum gas temperature

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor without a significant loss of accuracy and with a time resolution of 1 minute or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 95 percent of the time for each calendar quarter.

**SCHEDULE D
CONTINUOUS OXYGEN MONITORING SYSTEM**

PARAMETER:

Oxygen

INSTALLATION:

The Continuous Oxygen Monitor shall be installed at an accessible location where the measurements are

representative of the actual concentration of oxygen in the undiluted gases leaving the secondary chamber of the Equipment and shall meet the following installation specifications:

PARAMETERS	SPECIFICATION
Range (percentage)	0 to 20 or 0 to 25
Calibration Gas Ports	close to the sample point

PERFORMANCE:

The Continuous Oxygen Monitor shall meet the following minimum performance specifications for the following parameters:

PARAMETERS	SPECIFICATION
Span Value (percentage)	80 to 100 percent of full scale
Relative Accuracy	the greater of less than or equal to 10 percent of the mean value of the reference method test data or 0.5 percent O2 average absolute difference
Calibration Error	0.5 percent O2
System Bias	the greater of less than or equal to 4 percent of the mean value of the reference method test data or 0.5 percent O2 average absolute difference
Procedure for Zero and Span Calibration Check	all system components checked
Zero Calibration Drift (24-hour)	less than or equal to 0.5 percent O2
Span Calibration Drift (24-hour)	less than or equal to 0.5 percent O2
Response Time (90 percent response to a step change)	less than or equal to 180 seconds
Operational Test Period	at least 168 hours without corrective maintenance

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent

of the time for each calendar quarter during the first full year of operation, and 95 percent, thereafter.

SCHEDULE E
CONTINUOUS CARBON MONOXIDE MONITORING SYSTEM

PARAMETER:
 Carbon Monoxide

INSTALLATION:
 The Continuous Carbon Monoxide Monitor shall be installed at an accessible location where the measurements are representative of the actual concentration of carbon monoxide in the undiluted gases leaving the secondary chamber of the Equipment and shall meet the following installation specifications:

PARAMETERS	SPECIFICATION
Range (parts per million, ppm)	0 to highest concentration anticipated from the source
Calibration Gas Ports	close to the sample point

PERFORMANCE:
 The Continuous Carbon Monoxide Monitor shall meet the following minimum performance specifications for the following parameters:

PARAMETERS	SPECIFICATION
Span Value (nearest ppm equivalent)	80 to 100 percent of full scale
Relative Accuracy	the greater of less than or equal to 10 percent of the mean value of the reference method test data or 5 ppm average absolute difference
Calibration Error	less than or equal to 2 percent of the actual concentration
System Bias	the greater of less than or equal to 4 percent of the mean value of the reference method test data or 5 ppm average absolute difference
Procedure for Zero and Span Calibration Check	all system components checked
Zero Calibration Drift (24-hour)	less than or equal to 5 percent of span value
Span Calibration Drift (24-hour)	less than or equal to 5 percent of span value
Response Time (90 percent response to a step change)	less than or equal to 180 seconds
Operational Test Period	at least 168 hours without corrective maintenance

CALIBRATION:

Daily calibration drift checks on the monitor shall be performed and recorded in accordance with the requirements of Report EPS 1/PG/7.

DATA RECORDER:

The data recorder must be capable of registering continuously the measurement of the monitor with an accuracy of 0.5 percent of a full scale reading or better and with a time resolution of 2 minutes or better.

RELIABILITY:

The monitor shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent, thereafter.

The reasons for the imposition of these terms and conditions are as follows:

1. Conditions No. 1, 2 and 3 are included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility/Equipment.
2. Condition No. 4 is included to emphasize that the Equipment must be operated and maintained according to a procedure that will result in compliance with the EPA, the regulations and this Approval.
3. Condition No. 5 is included to require the Company to respond to any environmental complaints regarding the operation of the Equipment, according to a procedure that includes methods for preventing recurrence of similar incidents.
4. Conditions No. 6 and 7 are included to require the Company to gather accurate information so that the environmental impact and subsequent compliance with the EPA, the regulations and this Approval can be verified.
5. Condition No. 8 is included to require the Company to keep records and provide information to the Ministry so that the environmental impact and subsequent compliance with the EPA, the regulations and this Approval can be verified.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 8760-ABYLGIC issued on July 25, 2016.

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land Tribunal and in accordance with Section 47 of the *Environmental Bill of Rights*, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the *Environmental Protection Act* provides that the notice requiring the hearing ("the Notice") shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance

- approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the *Environmental Protection Act*, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

and

The Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7A 2J3

and

The Director appointed for the purposes of
Part II.1 of the *Environmental Protection Act*
Ministry of the Environment,
Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca**

This instrument is subject to Section 38 of the *Environmental Bill of Rights*, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at <https://ero.ontario.ca/>, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the *Environmental Protection Act*.

DATED AT TORONTO this 25th day of October, 2023



Nancy E Orpana, P.Eng.

Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

JK/

c: District Manager, MECP Toronto - District
Duong Nghiep Tu, Beaulier Inc.