

**BUREAU OF AIR MANAGEMENT  
NEW SOURCE REVIEW PERMIT  
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE**

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

<b>Owner/Operator</b>	Coastal Animal Cremations, LLC
<b>Address</b>	706 Horse Hill Road, Westbrook, CT 06498
<b>Equipment Location</b>	706 Horse Hill Road, Westbrook, CT 06498
<b>Equipment Description</b>	US Cremation Equipment 75 lb/hr model Sierra 300 aka US 75/300 Gen II small animal crematory
<b>Town-Permit Numbers</b>	201-0013
<b>Premises Number</b>	26
<b>Stack Number</b>	2
<b>Permit Issue Date</b>	
<b>Expiration Date</b>	None

\_\_\_\_\_  
Emma Cimino  
Deputy Commissioner

\_\_\_\_\_  
Date

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

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## **PART I. DESIGN SPECIFICATIONS**

### **A. General Description**

Coastal Animal Cremations, LLC owns and operates a 75 pound per hour (lb/hr) Sierra 300 aka US 75/300 Gen II Cremation Retort for the purposes of cremating small animal remains.

### **B. Definitions**

The definitions below shall apply to the use of terms in this permit, any term not defined here shall have the same meaning as found in RCSA Section 22a-174-1 or the Clean Air Act and its implementing regulations.

1. **Medical or Infectious Waste**-Any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals that are listed in paragraphs (a) through (g) of this definition. The definition of medical or infectious waste does not include hazardous waste identified or listed under the regulations in 40 CFR Part 261; household waste, as defined in 40 CFR §261.4(b)(1); ash from incineration of medical or infectious waste, once the incineration process has been completed; human corpses, remains, and anatomical parts that are intended for interment or cremation; and domestic sewage materials identified in 40 CFR §261.4(a)(1).
  - a. Cultures and stocks of infectious agents and associated biologicals, including: Cultures from medical laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.
  - b. Human tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.
  - c. Human blood and blood products including:
    - i. Liquid waste human blood;
    - ii. Products of blood;
    - iii. Items saturated and/or dripping with human blood; or
    - iv. Items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals. Intravenous bags are also included in this category.
  - d. Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.

- e. Animal waste including contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals or testing of pharmaceuticals.
  - f. Isolation wastes including biological waste and discarded materials contaminated with blood, excretions, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.
  - g. Unused sharps including the following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.
- 2. Charge Loaded -The actual weight of the charge being introduced at the beginning of the cremation cycle determined in pounds, including the deceased, the cremation container and all materials inside the cremation container.
  - 3. Maximum Single Load Charge-The maximum weight of the deceased, the cremation container and all materials inside the cremation container that can be loaded at one time into the cremation retort, as specified in the manufacturer’s documentation for the specific cremator.
  - 4. Charge Rate or Processing Rate-The actual amount of material cremated per hour as determined by dividing the weight of each charge loaded by the duration of the cremation cycle (not including cooling or other pre-or post-cremation preparation of the deceased).
  - 5. Maximum Charge Rate or Maximum Processing Rate-The maximum amount of material cremated per hour as specified in the manufacturer’s documentation of the specific cremator.
  - 6. Small Animal means animals typically kept as pets and not considered “livestock” as defined in CGS §8-2n.

**C. Equipment Design Specifications**

- 1. Cremator
  - a. Make and Model: Sierra 300 aka US 75/300 Gen II Small Animal Cremator
  - b. Maximum Single Load Charge: 300 lb
  - c. Maximum Charge Rate or Maximum Processing Rate: 75 lb/hr
- 2. Burner System
  - a. Primary Combustion Chamber
    - i. Burner Manufacturer, Model No.: Eclipse or North American
    - ii. Fuel Type: LPG
    - iii. Number of Burners: 1
    - iv. Maximum Design Fuel Firing Rate: 5.46 gal/hr
    - v. Maximum Design Heat Capacity of Burner: 0.5 MMBtu/hr
  - b. Secondary Chamber
    - i. Burner Manufacturer, Model No.: Eclipse or North American
    - ii. Fuel Type: LPG
    - iii. Number of Burners: 1
    - iv. Maximum Design Fuel Firing Rate: 16.39 gal/hr
    - v. Maximum Design Heat Capacity of Burner: 1.5 MMBtu/hr
    - vi. Minimum Operating Temperature: 1400°F
    - vi. Combustion Gas Residence or Retention Time: 1 sec

## D. Stack Parameters

1. Minimum Stack Height Above Grade: 32.8 ft
2. Exhaust Gas Flow Rate Range: 1400-1700 acfm
3. Minimum Stack Exit Temperature: 900°F
4. Minimum Distance from Stack to Nearest Property Line: 276 ft

## PART II. OPERATIONAL CONDITIONS

### A. Equipment

1. Cremator
  - a. The Permittee shall only allow the following materials to be charged into this unit:
    - i. remains of deceased small animals, not otherwise determined to be medical or infectious waste;
    - ii. cremation containers made out of cardboard, medium density fiberboard, plywood, or pressboard;
    - iii. wooden caskets designed and marketed for cremation, which shall not contain plastics, flame retardant or resistant materials, metallic laminate or metallic ornaments;
    - iv. plastic film, containing no more than 5% polyvinyl chloride (PVC), and that meets the Connecticut Department of Public Health specifications;
    - v. post mortem bags and pouches that contain no more than 5% PVC; and
    - vi. bedding and personal effects that are required to be included with the decedent in accordance with state or federal public health standards.
  - b. The Permittee shall not cause or allow the charging of medical or infectious waste, fiberglass caskets or coffins, metal caskets or coffins, or lacquer/varnish/shellac covered caskets or coffins.
  - c. Maximum Single Load Charge: 300 lb
  - d. Charge Rate or Processing Rate Shall Not Exceed: 75 lb/hr
  - e. Maximum Total Materials Charged Over Any Consecutive 12 Month Period: 328.5 tons
  - f. The Permittee shall not load a charge, or allow the cremation of a charge to commence, if the operating temperature of the secondary chamber is less than 1,600 °F.
2. Burner System
  - a. Maximum Fuel Consumption Over Any Consecutive 12 Month Period: 191,000 gal
  - b. Allowable Fuel: LPG
3. The Permittee shall install and operate an electronic exhaust scanner system capable of activating an audible and visible alarm when the opacity of the exhaust gas downstream of the secondary chamber exceeds 5%.

### PART III. ALLOWABLE EMISSION LIMITS

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The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

#### A. Criteria Pollutants

Pollutant	lb/hr	gr/dscf @ 12% CO <sub>2</sub>	TPY
PM/ PM <sub>10</sub> /PM <sub>2.5</sub>	0.18	0.08	0.79
SO <sub>2</sub>	0.081		0.36
NO <sub>x</sub>	0.13		0.58
VOC	0.011		0.049
CO	0.043		0.19

#### B. Non-Criteria Pollutants

Pollutant	lb/hr
Lead (Pb)	0.00335

#### C. Hazardous Air Pollutants

This equipment shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any applicable hazardous air pollutant (HAP) emitted and listed in RCSA Section 22a-174-29. [STATE ONLY REQUIREMENT]

#### D. Opacity

1. This equipment shall not exceed 10% opacity during any six minute block average as measured by 40 CFR Part 60, Appendix A, Reference Method 9.
2. The Permittee shall not cause or allow unburned waste or ash particulate emissions that are individually discernible by the human eye measured using 40 CFR Part 60, Appendix A, Reference Method 9 and 40 CFR Part 60, Appendix A, Reference Method 22. [RCSA §22a-174-18(d)(3)]

#### E. Demonstration of compliance with the above emission limits may be met by calculating the emission rates using emission factors approved by the commissioner or from the following sources:

- Criteria Pollutants: [New Source Review Permit Application Guidance for Crematory Units](#), DEEP-NSR-GUID-203A, Rev. March 27, 2024
  - NO<sub>x</sub>: 3.56 lb/ton
  - SO<sub>x</sub> (SO<sub>2</sub>): 2.17 lb/ton
  - VOC: 0.299 lb/ton
- PM/PM<sub>10</sub>/PM<sub>2.5</sub>: 4.8 lb/ton; Beatty Environmental Services December 2015 source test; Lakeland, FL; U.S. Cremation Equipment Model 75/Gen II; Report 15025-ST
- CO: 1.15 lb/ton; Beatty Environmental Services December 2015 source test; Lakeland, FL; U.S. Cremation Equipment Model 75/Gen II; Report 15025-ST

- Hazardous Air Pollutants: [New Source Review Permit Application Guidance for Crematory Units](#), DEEP-NSR-GUID-203A, Rev. March 27, 2024

The commissioner may require other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.

## **PART IV. MONITORING AND RECORD KEEPING REQUIREMENTS**

### **A. Monitoring**

1. The Permittee shall continuously monitor fuel consumption using a non-resettable totalizing fuel meter.
2. The Permittee shall monitor the weight of each charge loaded into the crematory.
3. The Permittee shall continuously monitor the secondary combustion chamber temperature.
4. The unit shall be equipped with an electronic exhaust scanner system which initiates audible and visible alarms if the opacity of the exhaust gas downstream of the secondary chamber reaches 5% as measured by the scanner system.
5. The Permittee shall perform inspections of the crematory and associated monitoring devices as recommended by the manufacturer.

### **B. Record Keeping**

1. The Permittee shall make and keep records of each charge loaded into the crematory. Such records shall include:
  - a. Date;
  - b. Identification or Tag number;
  - c. Cremator operator's name;
  - d. Charge loaded (in lb);
  - e. Type and material composition of the cremation container;
  - f. Cremation cycle start time for each charge loaded;
  - g. Cremation cycle end time for each charge loaded;
  - h. Total time of cremation (in minutes); and
  - i. Charge rate or processing rate (in lb/hr) (calculated by dividing the charge loaded by the total time of cremation).
2. The Permittee shall continuously record the secondary combustion chamber temperature.
3. The Permittee shall make and keep records of the daily, monthly and consecutive 12 month quantity of the materials charged. The consecutive 12 month quantity of materials charged shall be determined by adding the current month's quantity to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.

4. The Permittee shall make and keep records of the monthly and consecutive 12 month fuel consumption. The consecutive 12 month fuel consumption shall be determined by adding the current month's fuel consumption to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.
5. The Permittee shall calculate and record the monthly and consecutive 12 month PM, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month.
6. The Permittee shall make and keep records documenting the activation of the audible and visible alarm. Such records shall include:
  - a. Date and time;
  - b. Operator's name; and
  - c. Action taken to resolve the activation of the audible and visible alarm.
7. The Permittee shall make and keep records of any malfunction of the crematory or associated monitoring devices. Such records shall include:
  - a. Date and duration of malfunction;
  - b. A description of the malfunction and a description of the circumstances surrounding the cause or likely cause of such malfunction;
  - c. A description of all corrective actions and preventative measures taken and/or planned with respect to such malfunction; and
  - d. Date of such actions and measures.
8. The Permittee shall make and keep records of maintenance, cleaning and inspections activities conducted on the crematory and associated monitoring devices. Such records shall include the date and nature of all services performed.
9. The Permittee shall make and keep records of operator training.
10. The Permittee shall make and keep records of manufacturer's specifications and written recommendations for the operation, inspection, calibration, cleaning and maintenance of the crematory and associated monitoring devices on site at all times.
11. The Permittee shall make and keep records of opacity as measured by the electronic exhaust scanner system.
12. The Permittee shall make and keep calibration records for temperature and opacity monitoring devices.
13. The Permittee shall keep all records required by this permit for a period of no less than five years and shall submit such records to the commissioner upon request.

## C. Reporting

The Permittee shall notify the commissioner, in writing, of the date of initial startup of this equipment/process.

Any required written notification(s) above shall be submitted to [DEEP.CACU@ct.gov](mailto:DEEP.CACU@ct.gov), [DEEP.SEM@ct.gov](mailto:DEEP.SEM@ct.gov) and [DEEP.BAM.AirPermits@ct.gov](mailto:DEEP.BAM.AirPermits@ct.gov) no later than 30 days after the subject event.

## PART V. OPERATION AND MAINTENANCE REQUIREMENTS

- A. The Permittee shall operate and maintain this equipment in accordance with the manufacturer's specifications and written recommendations.
- B. The Permittee shall only allow personnel who have been trained in the proper operation of the cremator to operate the cremator.
- C. The Permittee shall annually calibrate the temperature and opacity monitoring devices.

## PART VI. SPECIAL REQUIREMENTS

- A. The Permittee shall not cause or permit the emission of any substance or combination of substances which creates or contributes to an odor beyond the property boundary of the premises that constitutes a nuisance as set forth in RCSA Section 22a-174-23.  
[STATE ONLY REQUIREMENT]

- B. The Permittee shall operate this facility at all times in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations, as set forth in RCSA Sections 22a-69-1 through 22a-69-7.4. [STATE ONLY REQUIREMENT]

### C. Premises Emissions Summary

- 1. On January 1<sup>st</sup> of each calendar year, if the potential emissions of NO<sub>x</sub> or VOC from the premises are equal to or greater than 25 tons per year per pollutant, then for such pollutant(s), the Permittee shall:
  - a. Monitor NO<sub>x</sub> and/or VOC emissions, as applicable, from the premises for such calendar year.
  - b. Calculate and record annual NO<sub>x</sub> and/or VOC emissions, as applicable, from the premises for such calendar year, in units of tons. The Permittee shall make these calculations on or before February 1<sup>st</sup> of the following year with respect to the previous calendar year. Such records shall include a sample calculation(s).
  - c. If actual NO<sub>x</sub> and/or VOC emissions, as applicable, from the premises are equal to or greater than 25 tons for such calendar year, the Permittee shall submit to the commissioner, on or before March 1<sup>st</sup> of the following year, an annual emissions summary with respect to the premises for the previous calendar year. Such summary shall be submitted on forms prescribed or provided by the commissioner.
- 2. A Permittee is exempt from Part VI.C.1 requirements of this permit if, on January 1<sup>st</sup> of the subject year, the premises was operating in accordance with any of the following:
  - a. A valid Title V permit issued pursuant to RCSA section 22a-174-33;
  - b. RCSA section 22a-174-33a; or
  - c. RCSA section 22a-174-33b.



## PART VII. ADDITIONAL TERMS AND CONDITIONS

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- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- B. Any representative of the DEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D. This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons or municipalities who are not parties to this permit.
- E. Any document, including any notice, which is required to be submitted to the commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."
- F. Nothing in this permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.
- G. Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.
- H. The date of submission to the commissioner of any document required by this permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.

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- I. Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Enforcement Division; Bureau of Air Management; Department of Environmental Protection; 77 Elm Street, 5th Floor, Hartford, Connecticut 06106-5127.