



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

**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).

Owner/Operator	Nutmeg State Crematorium, LLC
Address	511 Brook Street, Rocky Hill, CT 06067
Equipment Location	35 Commerce Drive, Cromwell, CT 06416
Equipment Description	Matthews Cremation IE43- PPII Plus Human Crematory
Town-Permit Numbers	043-0033
Premises Number	67
Stack Number	1
Collateral Conditions	This permit contains collateral conditions including a combined operational and emissions limitations for two Matthews Cremation IE43-PPII Plus Human Crematories (this unit and the unit associated with NSR Permit 043-0034).
Permit Issue Date	
Expiration Date	None

Michael Sullivan
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.

PART I. DESIGN SPECIFICATIONS

A. General Description

Nutmeg State Crematorium, LLC owns and operates a 175 lb/hr Matthews Cremation Model IE43-PPII Plus crematory for the purposes of cremating human remains.

B. Equipment Design Specifications

1. Incinerator
 - a. Material(s) Charged: human remains
 - b. Maximum Hourly Charge Rate: 175 lb/hr
 - c. Single Load Capacity: 750 lb
 - d. Effective Grate Area (sq.ft): 24.7

2. Burner System
 - a. Primary Chamber
 - i. Burner Manufacturer/Model No: Eclipse TJ150
 - ii. Fuel Type(s): Natural Gas
 - iii. Number of Burners: 1
 - iv. Maximum Design Fuel Firing Rate(s) (cf/hr): 2000
 - v. Maximum Design Heat Capacity of Chamber (MMBtu/hr): 0.6

 - b. Secondary Chamber
 - i. Burner Manufacturer/Model No: Eclipse TJ150
 - ii. Fuel Type(s): Natural Gas
 - iii. Number of Burners: 1
 - iv. Maximum Design Fuel Firing Rate(s) (cf/hr): 2000
 - v. Maximum Design Heat Capacity of Chamber (MMBtu/hr): 1.2
 - vi. Combustion Gas Residence/Retention Time (sec): >1

C. Stack Parameters

1. Minimum Stack Height (ft): 33
2. Minimum Exhaust Gas Flow Rate (acfm): 2,500
3. Minimum Stack Exit Temperature (°F): 1100
4. Minimum Distance from Stack to Property Line (ft): 72

PART II. OPERATIONAL CONDITIONS

A. Equipment

1. Incinerator
 - a. Aggregate Maximum Annual Charge Rate over any consecutive 12 month period for the two crematories (NSR Permit Nos. 043-0033 and 043-0034): 285 tons
 - b. Minimum Operating Temperature of Secondary Chamber: 1400°F
 - i. The Permittee shall not introduce human remains into the primary chamber until the secondary chamber reaches a minimum operating temperature of 1400°F.
2. Burner System
 - a. Maximum Fuel Consumption over any consecutive 12 month period: 7.5 mmcf

PART III. ALLOWABLE EMISSION LIMITS

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 ₂	tpy*
PM	0.613	0.08	1.0
PM ₁₀	0.613		1.0
PM _{2.5}	0.613		1.0
SO ₂	0.219		0.36
NO _x	0.262		0.43
VOC	0.262		0.43
CO	0.875		1.43

* TPY emissions limitations are for the two Matthews Cremation IE43-PPII Plus Crematories (NSR Permits 043-0033 and 043-0034) in aggregate.

B. Hazardous Air Pollutants

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

C. Opacity

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.

D. Demonstration of compliance with the above emission limits shall be met by calculating the emission rates using emission factors from the following sources:

- AP-42, Fifth Edition, Table 2.1-12

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 continuously monitor the primary and secondary combustion chamber temperatures.
3. The unit shall be equipped with an electronic exhaust scanner system which suspends the operation of the primary chamber if the opacity of the exhaust gas reaches 5%, as measured by the scanner system.

B. Record Keeping

1. The Permittee shall keep records of the daily, monthly and consecutive 12 month quantity of the materials combusted. The consecutive 12 month quantity of materials combusted 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.
2. The Permittee shall make and keep records of length of time and quantity of materials combusted (in lbs) per cremation. The cremation shall begin when the charge is introduced into the cremation chamber and shall end when combustion of the charge has completed.
3. The Permittee shall keep records of the monthly and consecutive 12 month fuel consumption. The consecutive 12 month fuel consumption shall be determined by adding (for each fuel) 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.
4. The Permittee shall make and keep records of opacity as measured by the electronic exhaust scanner system.
5. The Permittee shall continuously record the primary and secondary combustion chamber temperatures.
6. The Permittee shall calculate and record the monthly and consecutive 12 month PM, PM₁₀, PM_{2.5}, SO₂, NO_x, 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.
7. The Permittee shall make and keep records of all maintenance activities performed on the Matthews Cremation IE43-PPII Plus Crematory.
8. 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.

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 incinerator to operate the incinerator.

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]

PART VII. ADDITIONAL TERMS AND CONDITIONS

- 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.
- 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; Engineering & Enforcement Division; Bureau of Air Management; Department of Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.