

## INTRODUCTION:

In Vermont, a crematory is defined as, "an incinerator used solely to reduce the volume and weight of human or animal remains, limited amounts of associated surgical wastes, including but not limited to disposable sharps, gloves, gowns, and dressings, and associated combustible waste containers which have been approved by the Air Pollution Control Officer."

This brochure is intended to simplify the application process for facilities with less than three crematory units on a contiguous piece of property and no other air contaminant sources. For larger facilities, or "multi-use" property, please contact the Air Quality & Climate Division ("AQCD").

## APPLICATION FEES:

Applications must be accompanied with a base fee. If an application requires supplemental fees, the applicant will be contacted prior to permit issuance.

Base Fee:

\$2,000

Supplemental Fees :

- public participation : \$500  
(if over ten tons emissions)
- review of stack test : \$2,000  
(if no valid test data available)
- engineering review: \$2,000  
(if unknown vendor; non-typical design,  
or stack height analysis required, etc.)

## Payable to:

State of Vermont - Air Quality & Climate Division.

## REQUIRED APPLICATION INFORMATION:

The following is a brief outline of the required information. There is no fill-in-the-blank form. Please provide the following information submitted in bound fashion:

### 1. Facility Profile:

Applications should address the following:

- installation type: new, modification or replacement
- number of proposed units
- number of existing units on-site
- other air pollution sources at the facility

### 2. Administrative Information:

Please provide the following:

- name of the proposed project or source
- owner or parent corporation
- operator, if different from owner
- name, telephone and fax numbers of contact(s)
- physical location and mailing address, if different

### 3. Sketch, drawing, and maps:

- source layout, including building dimensions
- location of equipment and exhaust stacks
- building side profiles in relation to stack(s)
- plot plan of the entire contiguous property
- identify all significant buildings and uses on-site
- identify public access areas and roads
- estimate distances to property lines from stack
- description of adjacent land uses
- topographical, town, or highway map

### 4. Operation and Maintenance Plan:

Please provide an O&M Plan that includes provisions for proper operation of the unit, conducting daily and routine maintenance inspections, findings of those inspections, and any corrective actions taken, and

provisions for identifying and preventing PVC type plastics from being burned in the unit such as from surgical wastes or containers . The O&M Plan should also contain provisions for maintaining an operator's log book to record the following information: operators' name, date, number of charges per day, start and stop time of each charge, approximate weight of each charge including casket if present, casket description if present (wood, cardboard, crematory friendly casket designed for crematory use, approximate weight) and initial temperature of last combustion zone before charging.

### 5. Equipment Specifications & Design:

- crematory manufacturer, model no., serial no.
- maximum charging rate (lbs/hr)
- method of loading: batch, continuous, other
- cycle time for full charge (minutes)
- type and characteristics of waste to be incinerated
- number of combustion chambers
- type of auxiliary fuel
- burner maximum heat inputs (MMBtu/hr)
- min. and max. operating temperatures (°F)
- minimum residence time (seconds @ °F)
- exhaust air flow rate: (acfm and dscfm)
- stack outlet height
- stack internal diameter
- stack exhaust temperature at outlet
- static pressure (if known)
- description of other design features (see 7. below)
- attach copies of all manufacturer's literature
- attach copies of valid stack emission test results

### 6. Design Requirements:

Each proposed unit should have the following minimum design requirements:

- multi-chambered design
- half-second minimum retention time at 1600 °F

## 7. Design Considerations:

Each proposed unit should consider the following criteria to ensure safe and efficient operation.

- insulated or refractory lined stack
- self locking and self sealing charge door
- modulated temperature control system
- automated opacity indicators
- safety feedback mechanism to prevent overheating

## 8. Signed Certification of Accuracy Form and Certification of Notification of Adjoining Landowners Form:

These forms are available from the AQCD at (802) 828-1288. A copy can be faxed or mailed to you upon request. A copy is also available at the AQCD web site at <http://dec.vermont.gov/air-quality/permits/>

### STACK TESTING:

All applications must contain valid stack emission testing data for the proposed unit that demonstrates the unit complies with the particulate matter emission limit of the Vermont Air Pollution Control Regulations (“VAPCR”). If valid stack test data are not available, the applicant will be required by the permit to perform a test on the unit at their own expense once the unit is installed and operational. Compliance stack tests can cost as much as \$6,000 per crematory unit. If the unit fails to comply with the emission limit during testing, the unit must be repaired and retested to demonstrate compliance. To be considered valid, stack emission tests must:

- be performed on the same make and model as the proposed unit
- have been observed by a qualified representative of the AQCD or another state or local air program
- have been performed during a cremation cycle that includes a standard wooden casket if the facility wishes to be approved for cremations with caskets
- contain sufficient information to demonstrate compliance with the VAPCR including detailed stack test data and results, approximate charge

weight, casket description and operational parameters of the unit during the test

The final decision to approve or reject test data rests with the AQCD. The AQCD may also require a stack retest at any time, at the owner’s expense, if excessive visible emissions are observed and documented by the AQCD.

### Things To Keep In Mind

The owner or operator is responsible for complying with all Vermont Air Pollution Control Regulations.

An Air Pollution Control Permit must be obtained prior to installation or modification of a unit.

The particulate matter standard in Vermont is 0.06 grains per dry standard cubic foot adjusted to 7% O<sub>2</sub>.

No odors or nuisance allowed beyond property line.

The stack must extend at least four feet above any roof top, peak, or near-by structure which may affect the plume.

Only natural gas or propane fuels are recommended. Fuel oil units tend to smoke.

Only human or animal remains can be cremated (other waste streams by written authorization only).

No caskets may be burned unless valid emission test data demonstrates unit can comply while burning a casket

Operators must receive first-hand training from a qualified instructor or representative.

Annual inspection and maintenance required.



# Permit Application Guidance for Crematories

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