NEW YORK STATE | Department of Environmental Conservation | Environmental Facilities Corporation

Crematory Operator Training Program

Subpart 219-4

To be integrated into all NYSDEC approved crematory operator training programs

Prepared and Presented by:

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Table of Contents

Section 1 – Air Pollution Control Requirements

Overview of Air Pollution Control in New York

Historically, the control of air pollutants released from combustion processes that are integral to our society has focused on the knowledge that soot and particulate emissions are a human health hazard causing damage to the lungs. While combustion processes at large power generating and industrial plants can impact air quality on a regional and national scale, smaller sources such as cremation units can have significant impacts on local air quality. As a result, New York State regulates crematory operations to provide for a reasonable degree of control of air emissions and protection of local air quality. The New York State Department of Environmental Conservation (NYSDEC) is responsible for regulating air emissions from human and animal crematories. The NYSDEC has nine regional offices across the state that monitor these facilities and enforce the emission control requirements.

Regulation of Crematory Operations

Crematories in New York State are regulated by the NYSDEC to ensure that the air emissions from these facilities meet state and federal air pollution control requirements. Regulated pollutants from cremation units include particulates, oxides of nitrogen and carbon monoxide. It is very important for crematory operators to understand the air pollution control requirements and their obligations in operating the cremation unit. Essentially, these requirements consist of obtaining a registration or permit from the NYSDEC and meeting established equipment design and operating requirements. Non-compliance with these requirements can cause local air quality problems and possibly result in fines or other enforcement action by the NYSDEC.

Cremation units are subject to a series of NYSDEC air pollution control regulations in Chapter 6 of the New York Code of Rules and Regulations (6 NYCRR). The first is 6 NYCRR Part 200 of the air regulations that contains essential terms and definitions that are used in many different regulations. 6 NYCRR Part 201 contains the permitting and registration requirements for stationary sources of air pollution like cremation units, as opposed to mobile sources such as automobiles. 6 NYCRR Part 202 covers emissions or stack testing requirements and 6 NYCRR Part 211 contains the general nuisance provision that prohibits emissions of air contaminants to the outdoor atmosphere in either quantity, characteristic or duration that would unreasonably interfere with the comfortable enjoyment of life or property. Finally, 6 NYCRR Subpart 219-4 of the incineration regulation establishes the specific emission control and operating requirements for human and animal crematories.

Are crematory operators required to receive training and certification?

NYSDEC requires that all cremation units subject to the requirements of Subpart 219-4 must be operated by a certified operator or under the onsite supervision of a person certified through *NYSDEC's Crematory Operator Training Program*.

Please Note: The New York State Non-for-Profit Corporation Law [Chapter 579 section 1517(j) enacted in 2006] requires **all operators be certified in crematory operations.** The Crematory Regulations added the requirement for Cremation Certification Courses [19 NYCRR Part 204 promulgated under emergency rule making in 2007] to include 6 NYCRR Subpart 219-4.
The NYSDEC Crematory Operator Training Program – Subpart 219-4 meets this requirement.

Operator certifications will be issued by NYSDEC after the successful completion of the *NYSDEC's Crematory Operator Training Program*. Certifications must be renewed every five years.

When you are inspected by NYSDEC staff, upon request, you are required to provide Crematory Operator Certificate(s) issued by the NYSDEC.

Crematory Emission Standards

Emission control requirements for crematories are contained in Subpart 219-4 of the NYSDEC air regulations. The following discussion should provide most operators with adequate information and a good understanding of the key requirements of this emission control regulation.

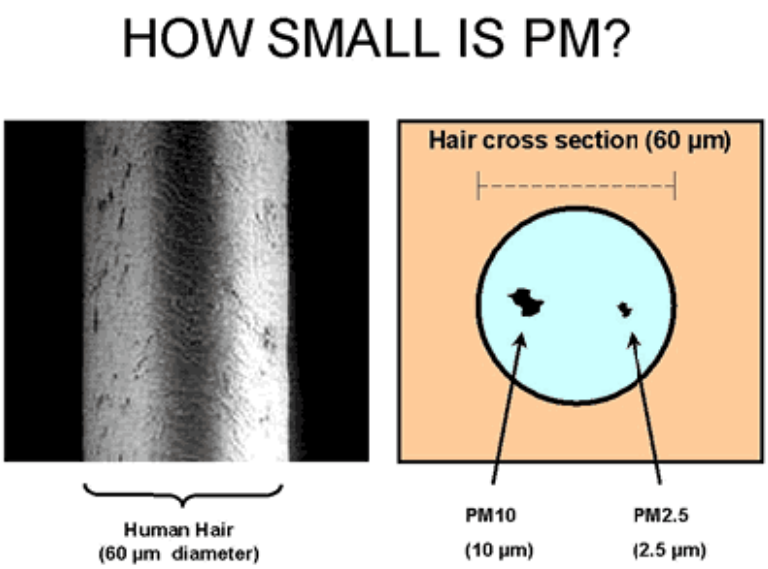
Who does this regulation apply to?

Subpart 219-4 applies to all new, modified, and existing cremation units used for the cremation of human and animal remains. **An existing unit is one that was constructed on or before March 14, 2020.**

What Pollutant is regulated?

Particulate matter (PM) is a term used for very small solid and/or liquid particles found in the atmosphere that range in size from 0.005 to 500 micrometers or microns (µm). Particles 2.5 microns or less in diameter are known as "fine" particles; those larger than 2.5 microns are known as "coarse" particles.

The size of the particle mainly determines where in the respiratory tract the particle will come to rest when inhaled. Larger particles are generally filtered in the nose and throat and do not cause problems, but particulate matter smaller than about 10 microns, referred to as PM-10, can settle in the bronchi and lungs. If small enough, some particles will be absorbed into the blood stream.



The effects of inhaling particulate matter have been widely studied in humans and include:

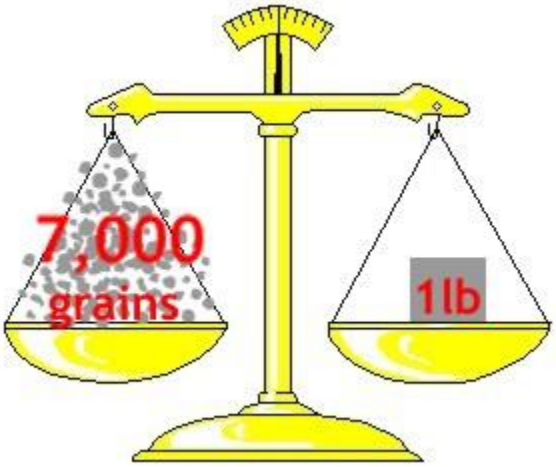
- increased respiratory distress such as coughing and difficulty breathing;
- decreased lung function which may cause aggravated asthma and chronic bronchitis;
- cardiovascular problems; and
- premature death in people with heart or lung disease

People most affected by exposure to PM pollution are children, older adults, or those with heart or lung diseases. More information about PM pollution and its effect on human health can be found on EPA's website: http://epa.gov/pm/health.html.

While many natural phenomena such as volcanic eruptions, forest fires, and soil erosion caused by wind emit particulate matter directly into the atmosphere, particulate emissions generated by the cremation process are the focus of this regulation.

Particulates are generated during the cremation process from the incomplete combustion of the fuel and the charged remains, meaning that the exhaust gases contain some solids and liquids that did not finish burning. Combustion is improved by keeping temperature, air input and burn rate at optimum levels.

Particulate matter emitted in the exhaust flow is measured as a concentration, the weight of particulates emitted in a given volume of air (cubic feet) exhausted. Because particulate matter is so small, it is not typically measured in pounds, but instead is measured in grains.



One pound equals 7,000 grains.

The NYSDEC limits particulate emissions to the outdoor atmosphere from any **existing** cremation unit to **0.08 grains per dry standard cubic foot** of flue gas (corrected to seven percent oxygen). So you can see that the limit is a very low number. **An existing unit is one that was constructed on or before March 14, 2020.**

OR

The NYSDEC limits particulate emissions to the outdoor atmosphere from any **new or modified** cremation unit to **0.05 grains per dry standard cubic foot** of flue gas (corrected to seven percent oxygen). A new cremation unit is one that was constructed after March 14, 2020.

Particulate emissions generated by combustion processes are effectively controlled by proper design and operation of the process equipment resulting in complete combustion of the charged material with minimal emissions.

What are the operating requirements?

All cremation units must maintain a one-hour average temperature of at least 1600 degrees Fahrenheit in the secondary combustion chamber, with a minimum residence time for combustion gases of at least one second, at all times remains are being cremated. This means that the secondary chamber must be preheated to 1600

degrees Fahrenheit prior to conducting a cremation. The residence time refers to how long the gases take to travel through the final combustion zone. This chamber or zone must be large enough to provide for good mixing of gases, air and heat for thorough combustion. Thorough combustion will reduce the amount of particulates (ash and unburned gases) in the exhaust.

Controlling the temperature and exhaust gas flow rate within the combustion chamber is the primary means of effectively processing the cremation or charge and achieving low emissions during the processing. The cremation unit must be properly designed to accomplish this. Units that are no longer operating within their design specifications may need to be overhauled and tested to confirm that they are complying with the applicable emission limits.

The cremation unit operator is required to monitor the exhaust stack during processing to determine that exhaust gases/smoke does not exceed visible emissions limits. Exhaust smoke is an indication of improper combustion and excessive particulate emissions. Because particles in the atmosphere absorb and scatter light, they obscure line of sight and reduce visibility. Smaller particles have more exposed surface area which contributes to visibility problems, or haziness. These visible emissions are measured in percent opacity.

Opacity is frequently used to estimate the effect of air pollution on visibility and is defined as “the degree to which the transmission of light is reduced or the degree to which visibility of a background as viewed through the diameter of a plume is reduced”.

Simply stated, **opacity** is defined as the degree to which emissions, other than water, reduce the transmission of light and obscure the view of an object in the background.

0% opacity means that 100% of the background is transmitted & you see all of the background through the exhaust.
100% opacity means that 0% of the background is transmitted & you cannot see anything through the exhaust.

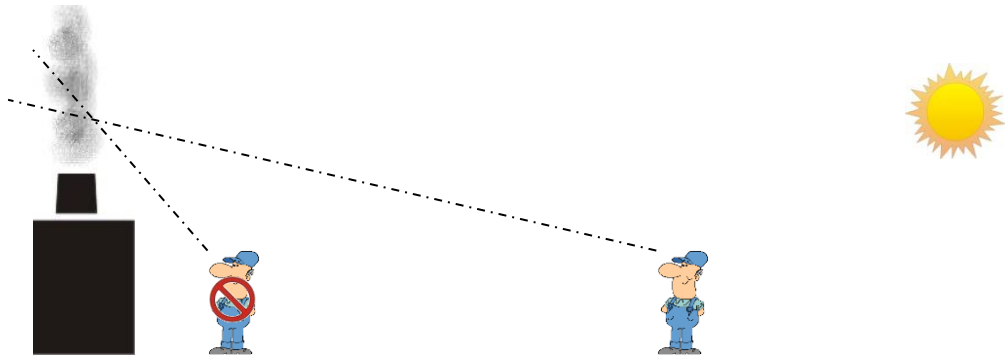
Subpart 219-4 states that no person may cause or allow emissions to the outdoor atmosphere having a **six-minute average opacity of 10 percent** or greater from any cremation unit.

NYSDEC emphasizes that the opacity limit is based on a six-minute average, giving the operator time to adjust the combustion controls if needed to stop excess smoke. If the cremation unit is equipped with an opacity monitoring device, it will certainly be beneficial to the operator in their efforts to consistently comply with this requirement. Many cremation units are equipped with an opacity monitor on the stack, affording the operator the ability to respond quickly to minor upsets during the processing of a difficult case without having to do a visual check outside of the facility. Periodic

calibration and maintenance of the opacity monitor should be part of routine inspection and maintenance programs.

There are several technologies that are used to determine opacity by detecting particulates in the exhaust air flow. It is important to know what type of opacity monitor is installed on your cremation unit(s). The most common opacity monitors are transmissometers that measure the transmission of light through a medium such as dust or smoke. The components mount on either side of the stack or duct. A beam of light is projected from one side through the exhaust flow and detected by a sensor. If the projected light is obstructed, due to the presence of smoke/particulates, the energy of the light will be reduced. Opacity is determined by comparing the energy levels of the detected light to that of the projected light, expressed as percent.

If the cremation unit is not equipped with an opacity monitoring device, visual observations are required to monitor the exhaust for opacity. The operator will need to become more familiar with the methods of checking opacity by eye. In order to get a reliable and consistent opacity reading on stack emissions, the observer should stand with the sun to their back and observe the stack from an angle such that the smoke plume is seen rising against a contrasting background. This will help the observer better estimate how the smoke is obscuring the background and interfering with light transmission.



Look through the smoke as it exhausts from the stack at a distance and with the sun behind you. If you're too close, you will look through more smoke and erroneously read the opacity too high.

The most important operating parameters to monitor in hopes of avoiding and/or responding to excess smoke are opacity and combustion temperature. Typically, excessive smoke can be attributed to the cremation unit operating at too high a temperature causing the exhaust gases to pass through the combustion zone too quickly and unevenly. This can happen with charges having a high fuel or BTU value (i.e. coated highly polished wooden caskets or deceased human bodies with a high

fat content) that tend to burn very hot once ignited. Lastly, no person may cause or allow remains to be charged at a crematory facility in excess of the manufacturer's rated hourly capacity of the cremation unit. For example, a unit rated for 100 pounds per hour can proceed with a 300 pound case (includes casket weight) by allowing at least 3 hours to complete the cremation.

How do I know if my emissions are meeting standards on a regular basis?

All cremation units must install, operate, calibrate, and maintain, in accordance with manufacturer's instructions, instruments for continuously monitoring and recording the temperature of the secondary (or last) combustion chamber.

Modern cremation units are equipped with sophisticated temperature monitoring devices and chart recorders to ensure that good combustion conditions are maintained during the processing cycle. Recording equipment must be operated whenever the unit is in operation and show the secondary chamber temperature during the cremation cycle. Operators must keep a file of printouts/chart recordings on site and make sure the printouts/charts are dated.

> When you are inspected by NYSDEC staff, upon request, you are required to provide access to chart recordings and monitoring documentation.

Such monitoring is essential for continuous control of combustion conditions and help to ensure that excess emissions are avoided to the maximum extent practicable.

Crematory operators should be very familiar with error messages and process indicator gauges/displays that need to be monitored to confirm proper performance of the equipment. For example, a faulty thermocouple will most likely be indicated by an error message on the control board display panel. Operators should also periodically check to see that the combustion chamber temperature readouts displayed on the gauges /display panel agrees with the reading being recorded by the chart recorder pen. If not, adjust the chart recorder pen to align with the temperature readout as needed.

What can be cremated?

Only human and animal remains, their associated containers, pathological waste, and incidental animal bedding is allowed to be cremated unless prior written authorization has been obtained from the department. For the purposes of Subpart 219-4 incidental animal bedding is bedding material that cannot be easily separated from the remains prior to cremation.

What is a Cremation Certificate?

A Cremation Certificate Form must be completed for each cremation and must contain all of the following information:

1. The name, title, and affiliation of the person providing the remains for cremation (e.g. a licensed funeral director);
2. An attestation signed by the person providing the remains for cremation attesting that the remains and their container do not contain materials prohibited from being combusted by Subpart 219-4;
3. The name and signature of the person accepting the remains for cremation (e.g. the crematory operator);
4. The date the remains were accepted for cremation.

Emissions testing and modeling

All cremation units are required to demonstrate compliance with Subpart 219-4 either through:

- Onsite stack testing conducted pursuant to a Department approved testing protocol. The facility owner or operator must submit a testing protocol to the Department at least thirty days prior to the commencement of testing pursuant to Part 202 or
- A Representative stack test that must include the following information:
  1. A letter signed by the facility owner or operator certifying that the test report being submitted is for an identical cremation unit;
  2. A copy of the testing protocol that was used;
  3. A description of the testing methods used, including any deviations from established reference test methods;
  4. A description of all quality assurance, data reduction, and any other operating practices followed; and
  5. Testing results demonstrating compliance with the standards of this subpart in units of measurement identical to those described in this Subpart

Cremation unit manufacturers and vendors should be able to provide such test data to avoid each unit having to be tested individually. This is the typical practice in New York and many other states in the nation.

NYSDEC may require stack testing on a new or existing cremation unit when the representative stack test does not meet NYSDEC standards or where other circumstances warrant testing to determine if emission standards are being met. Such circumstances might include, frequent violations of opacity limits even though the designed retention time and combustion temperatures appear to be in compliance with requirements, or where there is reason to suspect that the particulate emission limits are not being met due to the age of the cremation unit.

The crematory operator must allow NYSDEC staff to witness all stack tests. Results of any stack test done in the absence of an approved protocol will not be accepted.

Inspection and Maintenance

All cremation units must be inspected at least once per calendar year. The facility owner or operator shall perform all necessary repairs and routine maintenance in order to ensure that each cremation unit, monitoring device, and control device is operated and maintained in accordance with manufacturer's instructions.

Routine inspection and maintenance is essential for the proper performance of any complex machinery. Cremation units must perform consistently under extreme operating conditions in order to process each charge effectively and efficiently while complying with air emission standards. This can only be accomplished with adequate attention to inspection and maintenance of the cremation system controls on a regular schedule. While some of this work may be performed by facility personnel, professional technicians will need to be relied upon for the more complex inspection and repair needs involving specialized training and instrumentation.

Except for transmissometers, most crematory equipment instrumentation does not require regular calibration. Rather, the manufacturers typically equip the cremation unit with instrumentation, electronics and mechanisms that do not require periodic calibration or adjustments by field technicians. Visual observations and part replacement is more typically the main focus of the annual inspection of equipment.

The NYSDEC recommends that crematory facility owners develop an inspection and maintenance program. An effective, site-specific program should include input from manufacturers, vendors and industry training professionals. Such a program should comprise of periodic inspection and maintenance of the following equipment and systems at a minimum:

- Burners
- Ignition transformers
- Combustion controls
- Temperature controller
- Spare thermocouple(s) available and date they were replaced last
- Combustion air and draft fan
- Emissions monitoring (i.e. opacity monitor)
- Secondary chamber and cremation (primary) chamber Controls
- Chart recorder
- Exhaust stack
- Refractory condition

Record Keeping Requirements

The owner or operator of a crematory facility must maintain the following records at the facility for a period of **at least five years**:

1. Continuous temperature monitoring records indicating the date and time of each cremation performed;
2. Operator training and certification records for all operators at the facility;
3. A record of the date, time, and cause of all malfunctions and any corrective action taken to resolve them;
4. A record of any maintenance performed on each cremation unit, including the annual inspection, and the routine replacement of parts and components; *An annual inspection report to NYSDEC is no longer required.
5. A copy of each cremation certification form.

The owner or operator of a crematory facility must maintain the following records at the facility for the lifetime of each cremation unit installed at the facility:
Manufacturer's operating instructions for each cremation unit and any associated monitoring equipment or emissions controls
A copy of the most recent stack test submitted to NYSDEC.

Compliance Schedule For All Existing Cremation Units

(An existing unit is one that was constructed on or before March 14, 2020)

a) All existing cremation units shall:

1) Obtain the necessary operator certifications, **before March 14, 2021**.

2) Demonstrate compliance with the requirements of this Subpart **no later than March 14, 2025**. A demonstration of final compliance shall include the following information for each existing cremation unit:

i) An emissions testing report, indicating that each existing cremation unit meets the particulate matter limitation of 0.08 grains per dry standard cubic foot of flue gas, corrected to seven percent oxygen;

ii) Documentation indicating that each existing cremation unit is capable of meeting the requirements of this Subpart; and

iii) Documentation of the certification status of each operator at the facility.

3) The owner or operator of an existing cremation unit may submit a written request for a single extension to the deadline described in Paragraph (2) above. The request shall describe in detail the circumstances necessitating the extension and shall propose a projected final compliance date. The Department, in its sole discretion, shall approve or deny the request on a case by case basis.

b) For existing cremation units that cannot meet the requirements of this Subpart, the owner or operator shall submit a written plan to the Department that describes the proposed schedule for the replacement or removal of the affected cremation

unit within 60 days of becoming aware that it cannot meet the requirements of this Subpart.

In summary, all cremation units constructed on or before March 14, 2020 needs to demonstrate compliance with **0.08 grains per dry standard cubic foot** of flue gas (corrected to seven percent oxygen) operating at 1600°F with a residence time of at least one second. Demonstration of compliance is done via a stack test.

NYSDEC Air Registration and Permit Program

The NYSDEC requires that all crematories have either an Air Facility Registration (Registration) or State Facility Permit (Permit) to install and operate a cremation unit. Registrations and Permits help the NYSDEC to ensure that air quality regulations are being properly followed and that the applicant has become familiar with the appropriate requirements. Registrations and permits are issued by each of the nine NYSDEC Regional Offices located around the state.

NYSDEC Regional Office staff administer and enforce the air pollution regulations for specific counties as shown below.

NYSDEC Regional Map

Region 1: Nassau & Suffolk counties
Region 2: Brooklyn, Bronx, Manhattan, Queens & Staten Island counties
Region 3: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster & Westchester counties
Region 4: Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schoharie & Schenectady counties
Region 5: Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren & Washington counties
Region 6: Herkimer, Jefferson, Lewis, Oneida & St. Lawrence counties
Region 7: Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga & Tompkins counties
Region 8: Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne & Yates counties
Region 9: Allegany, Cattaraugus, Chautauqua, Erie, Niagara & Wyoming counties

Part 201 of the NYSDEC air regulations requires facility owners to apply for and obtain a Permit or Registration before installing and operating a new emission

source, such as a cremation unit. Air Facility Registration applications must be sent to the NYSDEC Regional Air Pollution Control Engineer (RAPCE) while State Facility Permit applications must be submitted to the NYSDEC Regional Permit Administrator. Contact information for each of the Regional Offices can be found in Section 2.

Existing facilities operating without a Permit or Registration should submit an application and pursue the necessary approval as soon as possible after becoming aware of this requirement. If an existing facility already has a Permit/Registration and is planning to add or replace a cremation unit, the Permit/Registration will need to be amended to reflect the new equipment.

Crematory facility owners and operators should contact the Small Business Environmental Assistance Program (SBEAP), located at the New York State Environmental Facilities Corporation, for free and confidential help if they need to apply for a registration or permit. In addition to preparing the necessary forms, SBEAP staff will explain the state emission standards for crematories and help you understand how to stay in compliance with these requirements.

> If you have a Permit or Registration issued by the NYSDEC make sure that you keep it on site and are complying with any conditions of the permit and Subpart 219-4 requirements.
> When you are inspected by NYSDEC staff, upon request, you are required to provide a copy of your Permit or Registration.
> If you are not sure about your status, call the SBEAP toll-free at 1-800-780-7227 and let us help you determine if you have a permit or registration, or need to apply for one.

The registration application will require, at minimum, the following basic information:

- the manufacturer and model number of the cremator unit(s)
- manufacturer's specifications for the cremation unit to demonstrate that it is designed to meet NYSDEC emission control standards (i.e., temperature and exhaust gas retention time)
- stack information
- the location of the unit within the facility
- a location map
- stack test data, if necessary

Whether you choose to have the SBEAP prepare the application or choose to have a consultant or engineer prepare it for you is your choice. Remember, the SBEAP will do it free of charge. The application forms are available on the NYSDEC (www.dec.ny.gov) and SBEAP (www.efc.ny.gov, under *Programs*) websites, as well as from the NYSDEC Regional Office.

Annual Regulatory Fees

The NYSDEC requires that facilities with air emission sources pay an annual regulatory fee to cover a portion of the costs of the department's regulatory functions.

NYSDEC charges a fee of $160.00 for a process air contamination sources having an annual emission rate less than twenty-five tons per year of any one of the following: total particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide, total volatile organic compounds or other specific air contaminants. It would be quite rare for any modern cremation unit to have particulate emissions exceeding twenty five tons per year.

Each cremation unit at a facility is considered an air contamination source, therefore a typical crematory facility will be charged a fee of $160.00 times the number of cremation units in operation. The NYSDEC typically mails out the annual fee bills during the late summer months for the previous year of operation.

Section 2 – NYSDEC Regional Contact Information

Region 1 – Nassau & Suffolk counties
SUNY @ Stony Brook, 50 Circle Road,
Stony Brook, New York 11790-3409
Permit Administrator: (631) 444-0365
RAPCE: (631) 444-0205

Region 2 – Brooklyn, Bronx, Manhattan, Queens & Staten Island counties
47-40 21st Street,
Long Island City, NY 11101-5407
Permit Administrator: (718) 482-4997
RAPCE: (718) 482-4900

Region 3 – Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, & Westchester counties
21 South Putt Corners Road, New Paltz, New York 12561-1696
Permit Administrator: (845) 256-3054
RAPCE: (845) 256-3045

Region 4 – Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady & Schoharie counties
1130 North Westcott Road, Schenectady, New York 12306-2014
Permit Administrator: (518) 357-2069
RAPCE: (518) 357-2045

Region 5 – Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren & Washington counties
1115 State Route 86, P.O. Box 296, Raybrook, New York 12977-0296
Permit Administrator: (518) 897-1234
RAPCE: (518) 623-1200

Region 6 – Herkimer, Jefferson, Lewis, Oneida & St. Lawrence counties
317 Washington Street, Watertown, New York
13601 Permit Administrator: (315) 785-2245
RAPCE: (315) 785-2239

Region 7 – Oswego, Onondaga, Madison, Cayuga, Cortland, Chenango, Tompkins, Tioga & Broome counties
615 Erie Boulevard West, Syracuse, New York 13204-2400
Permit Administrator: (315) 426-7440
RAPCE: (315) 426-7403

Region 8 – Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne & Yates counties
6274 East Avon-Lima Road, Avon, New York 14414-9519
Permit Administrator: (585) 226-5400
RAPCE: (585) 226-2466

Region 9 – Allegany, Cattaraugus, Chautauqua, Erie, Niagara & Wyoming counties
270 Michigan Avenue, Buffalo, New York 14203-2915
Permit Administrator: (716) 851-7165
RAPCE: (716) 851-7130

Section 3 – Subpart 219-4: Human and Animal Crematories

Section 219-4.1 Definitions

a) For the purpose of this Subpart, the definitions of Subpart 219-1, Part 200, and Part 201 of this Title apply.

b) For the purpose of this Subpart, the following definitions also apply:

1) *Existing Cremation Unit*. An emission source used for the cremation of human or animal remains at a crematory facility that was constructed on or before the effective date of this Subpart.

2) *Modified Cremation Unit*. An emission source used for the cremation of human or animal remains at a crematory facility that has been modified, as defined in Subdivision 200.1(aq) of this Chapter, after the effective date of this Subpart.

3) *New Cremation Unit*. An emission source used for the cremation of human or animal remains at a crematory facility for which an application for an air permit or registration, as described in Part 201 of this Chapter, was received by the Department after the effective date of this Subpart.

Section 219-4.2 Applicability

This Subpart applies to all new, modified, and existing cremation units used for the cremation of human and animal remains.

Section 219-4.3 Particulate emissions

a) No person may cause or allow emissions of particulates into the outdoor atmosphere from an existing cremation unit in excess of 0.08 grains per dry standard cubic foot of flue gas, corrected to seven percent oxygen.

b) No person may cause or allow emissions of particulates into the outdoor atmosphere from a new or modified cremation unit in excess of 0.05 grains per dry standard cubic foot of flue gas, corrected to seven percent oxygen.

Section 219-4.4 Operating requirements

a) No person may cause or allow emissions to the outdoor atmosphere having a six-minute average opacity of 10 percent or greater from any cremation unit.

b) The owner or operator of a cremation unit must maintain a one-hour average temperature of at least 1600 degrees Fahrenheit in the secondary combustion chamber, with a minimum residence time for combustion gases of at least one second, at all times remains are being cremated.

c) The owner or operator of a cremation unit subject to the requirements of this subpart must install, operate, calibrate, and maintain, in accordance with manufacturer's instructions, instruments for continuously monitoring and recording the temperature of the secondary (or last) combustion chamber.

d) No person may combust materials other than human and animal remains, their associated containers, pathological waste, and incidental animal bedding in any cremation unit subject to the requirements of this Subpart unless prior written authorization has been obtained from the department.

e) No person may cause or allow the combustion of human and animal remains in any cremation unit subject to the requirements of this Subpart unless a cremation certification form has been completed. Each cremation certification form shall contain the following information at a minimum:

   1) The name, title, and affiliation of the person providing the remains for cremation;

   2) An attestation signed by the person providing the remains for cremation attesting that the remains and their container do not contain materials prohibited from being combusted by this subpart;

   3) The name and signature of the person accepting the remains for cremation; and

   4) The date the remains were accepted for cremation.

f) No person may cause or allow remains to be charged at a crematory facility in excess of the manufacturer’s rated hourly capacity of the cremation unit.

Section 219-4.5 Emissions testing and modeling

a) Upon request by the Department, the owner or operator of a crematory facility must demonstrate compliance with the requirements of this subpart by either conducting onsite testing or submitting a representative stack test for an identical unit.

b) Onsite stack testing conducted to demonstrate compliance with subdivision (a) of this section must be conducted pursuant to a Department approved testing protocol. The facility owner or operator must submit a testing protocol to the Department at least thirty days prior to the commencement of testing pursuant to Part 202 of this Chapter.

c) Representative stack tests submitted to demonstrate compliance with subdivision (a) of this section must include the following information:

1) A letter signed by the facility owner or operator certifying that the test report being submitted is for an identical cremation unit;

2) A copy of the testing protocol that was used;

3) A description of the testing methods used, including any deviations from established reference test methods;

4) A description of all quality assurance, data reduction, and any other operating practices followed; and

5) Testing results demonstrating compliance with the standards of this subpart in units of measurement identical to those described in this Subpart.

d) The department may require the owner or operator of a crematory facility submitting a representative stack test to perform a stack test if the submitted test protocol or report does not meet the department's standards for approval.

e) The department may require the owner or operator of a crematory facility to perform an air dispersion modeling analysis using procedures acceptable to the department to evaluate the impacts of the facility on the surrounding community.

Section 219-4.6 Operator training and certification

a) No cremation unit subject to the requirements of this subpart is permitted to operate unless it is operated under the onsite supervision of a person possessing a valid crematory operator certification issued by the department.

b) Crematory operator certifications issued pursuant to this Section shall be valid for a period of five years from the date of issuance.

Section 219-4.7 Inspection and Maintenance

a) The owner or operator of a crematory facility must inspect each cremation unit at that facility at least once per calendar year. The facility owner or operator shall perform all necessary repairs and routine maintenance in order to ensure that each cremation unit, monitoring device, and control device is operated and maintained in accordance with manufacturer's instructions.

Section 219-4.8 Record keeping requirements

a) The owner or operator of a crematory facility must maintain the following records at the facility for a period of at least five years:

1) Continuous temperature monitoring records indicating the date and time of each cremation performed;

2) Operator training and certification records for all operators at the facility;

3) A record of the date, time, and cause of all malfunctions and any corrective action taken to resolve them;

4) A record of any maintenance performed on each cremation unit, including the annual inspection required by Section 219-4.7 of this Subpart, and the routine replacement of parts and components; and

5) A copy of each cremation certification form created pursuant to Subdivision 219-4.4(e) of this Subpart.

b) The owner or operator of a crematory facility must maintain the following records at the facility for the lifetime of each cremation unit installed at the facility:

1) Manufacturer's operating instructions for each cremation unit and any associated monitoring equipment or emissions controls; and

2) A copy of the most recent stack test submitted to the department in order to demonstrate compliance with this subpart.

c) he owner or operator of a crematory facility must make all records kept pursuant to this Section available to the department upon request.

Section 219-4.9 Compliance schedule

a) The owner or operator of an existing cremation unit shall:

1) Obtain appropriate operator certifications, as described in Section 219-4.6 of this Subpart, within 12 months of the effective date of this Subpart for each uncertified operator at the facility;

2) Demonstrate compliance with the requirements of this Subpart no later than 60 months from the effective date of this Subpart. A demonstration of final compliance shall include the following information for each existing cremation unit:

i) An emissions testing report, as described in Section 219-4.5 of this Subpart, indicating that each existing cremation unit meets the particulate matter limitation specified in Subdivision 219-4.3(a) of this Subpart;

ii) Documentation indicating that each existing cremation unit is capable of meeting the requirements of this Subpart; and

iii) Documentation of the certification status of each operator at the facility.

3) The owner or operator of an existing cremation unit may submit a written request for a single extension to the deadline described in Paragraph (2) above. The request shall describe in detail the circumstances necessitating the extension and shall propose a projected final compliance date. The Department, in its sole discretion, shall approve or deny the request on a case by case basis.

b) For existing cremation units that cannot meet the requirements of this Subpart, the owner or operator shall submit a written plan to the Department that describes the proposed schedule for the replacement or removal of the affected cremation unit within 60 days of becoming aware that it cannot meet the requirements of this Subpart.

Section 219-4.10 Severability

Each provision of this Subpart shall be deemed severable, and in the event that any portion of this Subpart is held to be invalid, the remainder of this Subpart shall continue in full force and effect.