

# Regulation 61-107.12

## Solid Waste Management:

# Solid Waste Incineration and Solid Waste Pyrolysis Facilities

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SC DEPARTMENT of  
**ENVIRONMENTAL  
SERVICES**

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## **PART I. Applicability, Definitions, and General Provisions.**

### **A. Applicability.**

1. This regulation establishes the procedures, documentation, and other requirements which must be met for the proper operation and management of all solid waste incineration facilities, including all solid waste pyrolysis facilities, and waste-to-energy facilities burning solid waste used for energy recovery.

2. Facilities incinerating solid waste generated in the course of normal operations on property under the same ownership or control as the solid waste incineration facility are exempt from the requirements of this regulation. This exemption includes industrial boilers and furnaces that burn industrial by-products generated on-site, or on properties under the same ownership or control. Air curtain incinerators burning only yard-trimmings and land-clearing debris generated on-site, or generated on properties under the same ownership or control, are exempt from the requirements of this regulation. Air curtain incinerators used for emergency storm debris management at sites designated by state, county and municipal government are exempt from the requirements of this regulation.

3. Industrial boilers and industrial furnaces that burn Refuse-Derived Fuel (RDF) only, or burn RDF with a fossil fuel or wood are exempt from the requirements of this regulation.

4. Facilities that treat contaminated soils pursuant to other regulations are exempt from the requirements of this regulation.

5. Disposal of hazardous waste from conditionally exempt small quantity generators at solid waste incinerators is prohibited unless the incinerator is permitted under the South Carolina Hazardous Waste Management Regulations.

6. Government owned and operated incineration facilities that are used by an agency such as police, customs, agricultural inspection or a similar law enforcement agency to destroy illegal or prohibited goods, are exempt from the requirements of this regulation, but must comply with other applicable federal, state and local requirements.

7. Facilities using air curtain incinerators that never store more than four hundred cubic yards of clean wood, yard and land-clearing debris consisting of only untreated natural wood debris, untreated or unfinished wood waste, or a mixture of these specific waste stream on site at any given time, are conditionally exempt from the permitting requirements of this regulation when the conditions of subsections Part II.B., C., E., and F. of this regulation are maintained by the facility.

### **B. Definitions.**

1. “Air curtain incinerator” means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which burning occurs. Incinerators of this type can be constructed above or below ground and require a refractory lined chamber or pit.

2. “Applicant” means an individual, corporation, partnership, business association, or government entity that applies for the issuance, transfer, or modification of a permit under this article.

3. “Ash” means the solid residue from the incineration of solid waste.

4. “Closure” means the discontinuance of operation by ceasing to accept, treat, store, or dispose of solid waste in a manner which minimizes the need for further maintenance and protects human health and the environment.

5. “Commercial solid waste” means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial solid wastes.

6. “Department” means the South Carolina Department of Health and Environmental Control.

7. “Disclosure Statement” means a sworn statement or affirmation, the form and content of which shall be determined by the Department and as required by Code Section 44-96-300.

8. “Financial assurance mechanism” means a mechanism designed to demonstrate that sufficient funds will be available to meet specific environmental protection needs of solid waste management facilities. Available financial assurance mechanisms include, but are not limited to, insurance, trust funds, surety bonds, letters of credit, certificates of deposit, and financial tests as determined by the Department by regulation.

9. “Incineration” means the use of controlled flame combustion to thermally break down solid, liquid, or gaseous combustible wastes, producing residue that contains little or no combustible materials.

10. “Incinerator” means any engineered device used in the process of controlled combustion of waste for the purpose of reducing the volume, and/or reducing or removing the hazardous potential of the waste charged by destroying combustible matter leaving the noncombustible ashes, material and/or residue.

11. “Industrial boiler” means a boiler that produces steam, heated air, or other heated fluids for use in a manufacturing process.

12. “Industrial furnace” means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy:

a. Cement kilns;

b. Lime kilns;

c. Aggregate kilns;

d. Phosphate kilns;

e. Coke ovens;

f. Blast furnaces;

g. Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces);

h. Titanium dioxide chloride process oxidation reactors;

i. Methane reforming furnaces;

j. Pulping liquor recovery furnaces;

k. Combustion devices used in the recovery of sulfur values from spent sulfuric acid; and,

l. Such other devices as the Department may determine on a case-by-case basis using one or more of the following factors:

(1) The design and use of the device primarily to accomplish recovery of material products;

(2) The use of the device to burn or reduce raw materials to make a material product;

(3) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;

(4) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;

(5) The use of the device in common industrial practice to produce a material product; and,

(6) Other factors, as appropriate.

13. “Industrial solid waste” means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing, leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

14. “Local government” means a county, any municipality located wholly or partly within the county, and any other political subdivision located wholly or partly within the county when such political subdivision provides solid waste management services.

15. “Medical waste,” for the purposes of this regulations, means infectious waste as defined in South Carolina Infectious Waste Management Regulation 61–105.E.

16. “Permit” means the process by which the Department can ensure cognizance of, as well as control over, the management of solid wastes.

17. “Putrescible wastes” means solid waste that will rapidly decompose with the potential to cause odor and attract vectors.

18. “Pyrolysis” means the chemical decomposition of a material by heat in the absence of oxygen.

19. “Recovered materials” mean those materials which have known use, reuse, or recycling potential; can be feasibly used, reused, or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing. At least seventy-five percent (75%) by weight of the materials received during the previous calendar year must be used, reused, recycled, or transferred to a different site for use, reuse, or recycling in order to qualify as a recovered material.

20. “Refuse Derived Fuel (RDF),” for the purpose of this regulation, means a type of fuel produced from solid waste by separating some, or all, of the noncombustible from the combustible portions, shredding and classifying the waste by size. This includes all classes of RDF including low-density fluff RDF through densified RDF and pelletized RDF.

21. “Region” means a group of counties in South Carolina which is planning to or has prepared, approved, and submitted a regional solid waste management plan to the Department pursuant to Section 44-96-80.

22. “Residential solid waste” means solid waste (including garbage, trash, and sanitary waste from septic tanks) derived from households (including single and multiple residences.)

23. “Solid waste” means any garbage, refuse, or sludge from a waste treatment facility, water supply plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. This term does not include solid or dissolved material in domestic sewage, recovered materials, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to NPDES permits under the Federal Water Pollution Control Act, as amended, or the Pollution Control Act of South Carolina, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1964, as amended. Also excluded from this definition are application of fertilizer and animal manure during normal agricultural operations or refuse as defined and regulated pursuant to the South Carolina Mining Act, including processed mineral waste, which will not have a significant adverse impact on the environment.

24. “Solid waste management” means the systematic control of the generation, collection, source separation, storage, transportation, treatment, recovery, and disposal of solid waste.

25. “Solid waste management facility” means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is the storage, collection, transportation, treatment, utilization, processing, recycling, or disposal, or any combination thereof, of solid waste. The term does not include a recovered materials processing facility or facilities which use or ship recovered materials, except that portion of the facilities which is managing solid waste.

26. “Special waste” means nonresidential and commercial solid wastes, other than regulated hazardous wastes, that are either difficult or dangerous to handle and require unusual management, including, but not limited to, those waste contained in Code Section 44-96-390(A).

27. “Vector” means a carrier that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.

28. “Waste-to-energy facility,” for the purposes of this regulation, means a facility that uses an enclosed device using controlled combustion to thermally break down solid, liquid, or gaseous combustible solid waste to an ash residue that contains little or no combustible material and that produces electricity, steam, or other energy as a result. The term does not include facilities that primarily burn fuels other than solid waste even if such facilities also burn some solid waste as a fuel supplement. The term also does not include facilities that burn vegetative, agricultural, or silvicultural wastes, clean dry wood, methane or other landfill gas, wood fuel derived from construction or demolition debris, or waste tires, alone or in combination with fossil fuels.”

29. “Waters of the United States” means:

a. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

b. All interstate waters, including interstate wetlands;

c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;

or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

d. All impoundments of waters otherwise defined as Waters of the United States under this definition;

e. Tributaries of waters identified in paragraph a through paragraph f of this definition;

f. The territorial sea;

g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph a through paragraph f of this definition; and,

h. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act, are not waters of the United States.

### **C. General Provisions.**

1. No permit to construct a new solid waste incineration facility may be issued by the Department unless the proposed facility is consistent with the local or regional solid waste management plan and the state solid waste management plan. Consistency determinations shall be made in accordance with the state and county or regional solid waste management plans in effect on the date that a complete application is received by the Department. This subsection must not apply to industrial facilities managing solid waste generated in the course of normal operations on property under the same ownership or control as the waste management facility. However, these facilities shall be consistent with the applicable local zoning and land use ordinances, if any, provided that the industrial facility is not a commercial solid waste management facility. Prior to the issuance of a permit for a new or expanded facility, the Department shall approve an allowable capacity based on the local or regional solid waste management plan, the facility's design capacity, and the following criteria:

a. No solid waste incineration facility with a daily capacity in excess of six hundred (600) tons shall be permitted within the State.

b. No solid waste incineration facility with a daily capacity in excess of one hundred (100) tons shall be permitted to be sited within three (3) miles of another such facility.



2. The siting, design, construction, operation, closure, and post-closure activities of new or expanding solid waste incineration facilities shall conform to the standards set forth in this regulation, the facility's permit and in R.61-107.17. Solid Waste Management: Demonstration of Need.

3. A permit obtained from the Department pursuant to these regulations, or an exemption from permitting pursuant to these regulations, does not exempt the incineration facility from the necessity of obtaining other Department required permits (e.g. air quality, water pollution control).

4. No person owning or operating an incineration facility shall cause, suffer, allow, or permit the handling of regulated hazardous wastes or regulated infectious wastes at the incineration facility, unless the facility is specifically permitted for such wastes.

5. The Department shall require a disclosure statement from the permit applicant in accordance with Code Section 44-96-300. Local governments and regions comprised of local governments are exempt from this requirement. The Department may accept one (1) disclosure statement for multiple facility permit applicants.

6. A permit shall be required for each site or facility although the Department may include one or more different types of facilities in a single permit if the facilities are co-located on the same site.

7. Construction of an incinerator shall not be initiated until all required approvals are obtained.

8. The permittee of a solid waste incineration facility shall notify the Department prior to transfer of ownership or operation of the facility during its operating life or during the post-closure care period. The Department will approve a reissuance of the permit to the new owner provided that the facility is in compliance and the new owner agrees in writing to assume responsibility in accordance with these regulations. The Department must receive a disclosure statement and proof of financial assurance for the new permittee before a permit can be reissued.

9. Facilities that have a valid Department permit for managing hazardous or infectious waste, may request to be exempted from certain portions of this regulation.

## **Part II. Requirements for Air Curtain Incineration Facilities.**

### **A. Permit Application Requirements.**

1. Prior to the construction, modification, or operation of an air curtain incineration facility, a permit shall be obtained from the Department pursuant to these regulations. The application shall be signed by an engineer duly licensed and registered under the laws of the State of South Carolina.

2. Any person wishing to obtain a permit pursuant to these regulations, to operate an air curtain incineration facility, shall submit to the Department, one (1) printed copy and a digital copy of the following documents:

a. A completed permit application, on a form provided by the Department;

b. An operating report which shall include the following:

(1) A detailed description of the facility, including, but not limited to, structures, access roads, on-site roads, parking areas, loading and unloading areas, storage areas for incoming waste and non-combustible waste generated by the incinerator, fences, and gates;

- (2) A description of the disposal location or any re-use or recycling planned for the ash residue;
- (3) A map showing the specific location, land use, and zoning within one-fourth (1/4) mile of the boundaries of the proposed facility, and distances to any locations from which a buffer is required;
- (4) A site plan, on a scale of not greater than two hundred (200) feet per inch, designating the property boundaries and all existing and proposed structures and access roads;
- (5) Detailed engineering plans and specifications for the incinerator and other related machinery; and,
- (6) A description of the manner in which waste waters, if any, from the facility will be managed.

c. An itemized closure cost estimate, prepared by a third party acceptable to the Department, which projects the expenses for closure activities listed in the closure plan, using cost estimates as calculated in accordance with Part IV.B.2 of this regulation. The cost estimate will declare the maximum amount of incoming waste and ash which may be located at a facility at any given time.

3. Public Noticing Requirements for Air Curtain Incineration Facilities. Noticing for air curtain incineration facilities shall be in accordance with Part III. A.3 of this regulation, except that notice shall be given to the county administrator, the county planning office, and all owners of real property as they appear on the county tax maps, as contiguous landowners of the proposed permit area.

#### **B. Design Requirements for Air Curtain Incineration Facilities.**

1. All facilities shall be adjacent to or have direct access to roads that are of all-weather construction and capable of withstanding anticipated load limits.
2. The active waste handling area of the facility and burn trench shall have separation from the groundwater table at all times.
3. No facilities shall be located within the 100-year floodplain.
4. The active waste handling area of the facility shall not be located within five hundred (500) feet of any waters of the U.S.
5. All facilities shall be in compliance with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency requirements concerning wetlands.
6. The active waste handling area of the facility shall not extend closer than one hundred (100) feet to any drinking water well.
7. Locations shall allow for sufficient room to minimize traffic congestion and allow for safe operation.
8. No facility shall extend closer than one hundred (100) feet to any property line.
9. The active waste handling area of a facility, shall not extend closer than five hundred (500) feet to residences, schools, day-care centers, hospitals or recreational park areas.

10. Facilities shall adhere to all Federal and State rules and regulations and all local zoning, land use and other applicable local ordinances.

11. Facilities shall be equipped with portable fire extinguishers, fire control equipment and spill control equipment.

### **C. Operations Criteria for Air Curtain Incineration Facilities.**

1. Air curtain incinerators may burn only clean wood, yard-trimmings and land-clearing debris consisting of only untreated natural wood debris, untreated or unfinished wood waste, or a mixture of these specific waste streams.

2. The operator shall restrict the presence of, and shall minimize the possibility for any unauthorized entry onto the facility. A statement of the days and hours of operation shall be posted at the entrance of the facility and access, except for Department and/or emergency personnel, shall be limited to those times when authorized personnel are on duty.

3. Receipt and handling of solid waste:

(a) The facility is authorized to process only solid waste authorized by Department permit. The weight of all solid waste received at the facility shall be recorded and incorporated into the annual report.

(b) Storage and/or processing of putrescible waste is prohibited.

(c) Wastes shall be stored so as to prevent a fire hazard.

4. Trained personnel shall be present at all times during the operation of the facility.

5. The ash from all air curtain incineration facilities shall be properly managed and disposed, as approved in the facility permit, immediately after removal from the air curtain incinerator.

**D. Reporting Requirements.** Facilities with air curtain incinerators shall report annually to the Department by October 15 for the previous fiscal year (July 1 through June 30), which includes at a minimum, the following information:

1. Total quantity in tons of solid waste received at the facility for the previous fiscal year;

2. The county in South Carolina in which the solid waste originated, or the state, if the waste originated outside South Carolina;

3. The transfer station, if applicable; and,

4. A description of the method and quantities of the solid waste, ash, and non-acceptable waste transported off-site for disposal or reuse or recycling.

**E. Closure Requirements.** All air curtain incineration facilities shall comply with the closure and post-closure procedures as specified in Part IV.A of this regulation.

**F. Training Requirements.** All air curtain incineration facilities shall comply with personnel training requirements in Part IV.C of this regulation.

**Part III. Requirements for Solid Waste Incineration Facilities, Including Pyrolysis Facilities.** This Part applies to all facilities using incineration technologies, including pyrolysis, except for Air Curtain Incineration facilities permitted in accordance with the requirements in Part II of this regulation.

**A. Permit Application Requirements.**

1. Prior to the construction, modification, or operation of a solid waste incineration facility, a permit shall be obtained from the Department pursuant to these regulations. The application shall be signed by an engineer duly licensed and registered under the laws of the State of South Carolina.

2. Any person wishing to obtain a permit pursuant to these regulations, from the Department to operate a solid waste incineration facility, shall submit to the Department, one printed copy and a digital copy of the following documents:

a. A completed permit application, on a form provided by the Department;

b. An engineering report which shall include the following:

(1) An overall description of the facility;

(2) A description of the process and equipment to be used;

(3) A description of the area and proposed population which will be served by the facility;

(4) A description of the types and quantities of solid waste to be accepted;

(5) A description of the existing site. Any existing site conditions that will be utilized during the operation of the proposed incinerator shall be identified as existing on the plan including, but not limited to, structures, access roads, on-site roads, parking areas, loading and unloading areas, fences, and gates;

(6) A description of the security measures, including, but not limited to fences, gates, and signs;

(7) The location of storage areas for incoming waste, incinerator ash, precipitator waste, and other non-combustible waste generated by the incinerator;

(8) A description of any re-use or recycling planned for the ash residue; and,

(9) An identification of the ultimate disposal location for all facility-generated waste residues including, but not limited to, ash residues, and non-combustible waste, and the proposed alternate disposal locations for any unauthorized waste types, which may have been unknowingly accepted;

c. Complete engineering plans and specifications that, at a minimum, address the items listed below:

(1) A map showing the specific location, land use, and zoning within one-fourth (1 /4) mile of the boundaries of the proposed facility;

(2) Drawings of buildings and other structures, on a scale no greater than one (1) foot per quarter inch, showing types of construction, layout, and dimensions for unloading, storage, and processing areas;

(3) A site plan, on a scale of not greater than two hundred (200) feet per inch, designating the property boundaries and all existing and proposed structures and access roads;

- (4) Weighing of all solid waste to be accepted at the facility;
  - (5) Storage areas for incoming solid waste and out-going ash;
  - (6) Detailed engineering plans and specifications for the incinerator and other related machinery;
- and,
- (7) Detailed engineering plans and specifications for leachate control and related equipment;
- d. A complete description of the personnel training program that meets the requirements of Part IV.C of this regulation;
- e. An ash management plan that at a minimum addresses the following:
- (1) Identification of the facility approved by the Department that will receive the residue; and,
  - (2) A certification that the facility shall have adequate capacity to handle such residue;
- f. A description of the manner in which waste waters, if any, from the facility will be managed;
- g. A quality assurance and quality control report. The facility owner or operator shall institute a control program (including measures such as signs, monitoring, alternate collection programs, passage of local laws, etc.) to assure that only solid waste authorized by the Department is being processed at the facility;
- h. A written contingency plan which describes a technically and financially feasible course of action to be taken in response to contingencies during the construction and/or operation of the facility. The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous constituents to air, soil, or surface water;
- i. A narrative description of the general operating plan for the facility, including the origin, composition and weight of solid waste that is to be processed at the facility, the process to be used at the facility, the daily operational methodology of the process, the loading rate, the proposed capacity of the facility and the expected life of the facility. The plan shall include a descriptive statement of any materials recycling or reclamation activities to be operated in conjunction with the facility, either on the incoming solid waste or the out-going residue. The plan shall describe how the facility will meet all applicable regulatory requirements;
- j. An operation and maintenance manual describing how the facility shall be maintained and operated in accordance with the intended use and permit of the facility. The manual shall include, but not be limited to, the following:
- (1) A description of the proposed procedures for the operation of each major facility component;
  - (2) Procedures to be followed during startup and scheduled and unscheduled shutdown of operations;
  - (3) Identification of the operating variables for the process and any control devices used to detect a malfunction or failure, the normal range of these variables, and a description of the method of monitoring;

and the sequence of responsible action in the event that the equipment and instruments exceed normal operating ranges;

(4) Methods and schedules to check operation of control equipment and instrumentation, including a list of all equipment and instruments requiring calibration and a schedule of proposed calibration intervals. All process instruments shall be calibrated no less than once per year. Process control instruments shall be maintained in an operable condition;

(5) A description of the proposed measures to control dust, noise, litter, odor, rodents and insects at the facility;

(6) An inventory and location of all facility records and as-built drawings; and,

(7) An estimate of the type, quantity, and on-site storage of fuels needed for the facility;

k. A detailed closure plan which shall identify the steps necessary to close the facility. The plan will describe how all wastes, residues (including ash, scrubber waters and sludge) will be removed from the incinerator facility, including ductwork, piping, air pollution equipment, and surfaces that have contacted waste. The plan will also describe the procedures to dismantle and remove contaminated components of the incinerator facility when relocation or disposal of the component parts is preferred to closure in place. The plan may be amended at any time during the active life of the facility with Department approval. The plan shall be amended whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure;

l. An itemized closure cost estimate, prepared by a third party acceptable to the Department, which projects the expenses for closure activities listed in the closure plan and declares the maximum amount of incoming waste and ash which may be located at a facility at any given time and remain in compliance with all federal, state and local permits applicable to the site. Financial assurance requirements for permitted facilities are found in Part IV.B of this regulation; and,

m. A waste control plan that, at a minimum, addresses the items outlined below. Facilities that receive only municipal solid waste are exempt from items (2)(a) & (b) below.

(1) Waste approval procedures for making the determination of whether to approve or refuse proposed waste streams;

(2) Waste screening procedures and a time frame for making the determination of whether to accept or reject shipments of incoming waste streams to include procedures for:

(a) Verifying that the profile sheets provided by the generators match all shipped containers; and,

(b) Conducting extended verification testing on each shipment of incoming waste;

(3) Waste disposal procedures for the proper handling, storage, and disposal of all unauthorized wastes; and,

(4) Record keeping procedures for maintaining documentation related to the acceptance, rejection, storage, operational data, and proper disposal of all wastes received by the facility. Records shall be maintained for a minimum of five (5) years and shall be made available to the Department upon request.

### 3. Public Noticing Requirements for Permitted Incineration Facilities.

a. Within fifteen (15) days of submitting an application to the Department, the applicant shall give notice that he/she has requested a permit to operate. Notice shall be given to the county administrator, the county planning office, and all owners of real property as they appear on the county tax maps, as landowners within one (1) mile of the proposed permit area. This notice shall contain:

- (1) The name and address of the applicant;
- (2) The type of facility and what it will accept for incineration;
- (3) A detailed description of the location of the facility, using road numbers, street names, and landmarks, as appropriate;
- (4) Department locations (Central Office and appropriate Regional Office) where a copy of the permit application will be available for review during normal working hours; and,
- (5) The Department address and contact name for submittal of comments and inquires.

b. The applicant shall provide evidence of Noticing as required in Part III.A.3 to the Department.

c. A comment period of not less than thirty (30) days from the date of Noticing will be provided prior to issuance of a Department decision.

d. Notice of the Department decision regarding the permit application will be sent to the applicant, to affected persons or interested persons who have asked to be notified, to all persons who commented in writing to the Department, and to the facility's host county. The use of certified mail to send Notice of the Department's decision shall be at the discretion of the Department unless specifically requested in writing by an interested person.

**B. Design Requirements.** Design requirements addressed in this section apply to all solid waste incineration facilities, unless otherwise approved by the Department.

1. Solid waste incineration facilities shall be adjacent to or have direct access to roads that are of all weather construction and capable of withstanding anticipated load limits.

2. Solid waste incineration facilities shall not be located within the 100-year floodplain.

3. The active waste handling area of a solid waste incineration facility shall not be located within five hundred (500) feet of any waters of the U.S.

4. Solid waste incineration facilities shall comply with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency requirements concerning wetlands.

5. The active waste handling area of a solid waste incineration facility shall not extend closer than five hundred (500) feet to any drinking water well. The active waste handling area of the facility and all ash management areas shall have separation from the groundwater table at all times.

6. Locations shall allow for sufficient room to minimize traffic congestion and allow for safe operation.

7. No solid waste incineration facility shall extend closer than one hundred (100) feet to any property line.

8. The active waste handling area of a solid waste incineration facility shall not extend closer than one thousand (1000) feet to residences, schools, day-care centers, hospitals or recreational park areas.

9. Solid waste incineration facilities shall adhere to all Federal and State rules and regulations and all local zoning, land use and other applicable local ordinances.

10. The tipping, loading and unloading areas shall be:

a. Constructed with a minimum slope of 1%;

b. Constructed of impervious materials, e.g., asphalt, concrete;

c. Provided with a water supply for storage and transfer area cleaning purposes; and,

d. Equipped with drains, pumps, or equivalent means to facilitate the removal of water for proper disposal.

11. The transfer structures, buildings, and ramps shall be constructed of materials that can be easily cleaned.

12. The solid waste storage area and tipping area must include fire detection and protection equipment.

13. Leachate and washwater from a solid waste incineration facility shall not be allowed to drain or discharge into waters of the State unless an effluent disposal permit (e.g. land application or NPDES) is approved by the Department.

14. Emergency Preparedness. In addition to requirements set forth in the contingency plan, all solid waste incineration facilities shall at a minimum:

a. Provide adequate aisle space to allow for emergency equipment;

b. Be equipped with the following:

(1) An internal communications system capable of providing immediate emergency instruction to facility personnel and an alarm system to notify facility personnel of an emergency condition;

(2) A device, such as a telephone (immediately available at the scene of operations) or a handheld two-way radio, capable of summoning emergency assistance from local police departments, fire departments, and State or local emergency response teams;

(3) Portable fire extinguishers, fire control equipment and spill control equipment; and,

(4) Water available at adequate volume and pressure to supply water hose streams, automatic sprinklers, or water spray systems.

**C. Operations Criteria.** A solid waste incineration facility shall be designed and operated according to the minimum criteria listed in this section, unless otherwise approved by the Department.



1. All incinerators shall be operated in a manner so as to prevent the creation of a public health nuisance or potential health hazard. Litter, odors, rats, insects, flies, mosquitos, and other vectors shall be controlled at the facility.

2. All solid waste containing putrescible wastes shall be processed within seventy-two (72) hours of receipt unless an exemption is requested and approved by the Department in the facility's general operating plan.

3. All solid waste containing putrescible wastes that will not be processed on site shall be transferred to a permitted disposal facility within seventy-two (72) hours of its receipt.

4. Prior to initial operation of a new incinerator, the Department shall be notified so that an inspection may be made of the facility to determine conformance with the approved plans.

5. The incineration facility shall be operated and maintained so as to minimize interference with other activities in the area.

6. Access Controls. The operator shall restrict the presence of, and shall minimize the possibility for any unauthorized entry onto the facility. A statement of the days and hours of operation shall be posted at the entrance of the facility and access, except for Department and/or emergency personnel, shall be limited to those times when authorized personnel are on duty.

#### 7. Receipt and Handling of Solid Waste.

a. The facility is authorized to process only solid waste authorized by Department permit. The weight of all solid waste received at the facility shall be recorded and incorporated into the annual report.

b. Outside storage and/or processing of putrescible waste is prohibited.

c. Unauthorized or untreatable solid waste may be temporarily stored on the premises for a period not to exceed one week; the facility may request an exemption to the one week limit to be incorporated in its general operating plan. The facility must ensure that waste does not create a nuisance or a sanitary or environmental problem.

d. Wastes shall be stored so as to prevent a fire hazard.

8. Process Changes. The owner or operator shall receive approval from all appropriate Department program areas in writing of all process changes before they are implemented. Permit modifications shall be required as deemed necessary by the Department.

#### 9. Emergency Preparedness.

a. All solid waste incineration facilities shall at a minimum:

(1) Test and maintain as necessary to assure its proper operations, all facility emergency equipment including, but not limited to, communications or alarm systems, fire protection equipment, spill control equipment, and personal safety equipment;

(2) Provide immediate access for all personnel involved in the facility operation to an internal alarm or emergency communication device; and,

(3) Provide for an emergency coordinator.

b. The contingency plan shall be implemented immediately whenever there is a fire, explosion, or release of hazardous constituents which could threaten human health or the environment, and the Department immediately notified using the 24-hour emergency response telephone number.

c. Any unscheduled shutdown that exceeds twenty-four (24) hours shall be reported to the Department's Environmental Quality Control Regional Office of the region in which the facility is located.

10. Guidelines shall be established for identifying any items or materials that shall be removed prior to the incineration process.

11. Trained personnel shall be present at all times during the operation of the facility.

#### **D. Monitoring and Reporting Requirements.**

1. Monitoring may be required by the Department, as appropriate, and based on a case-by-case evaluation to ensure protection of the environment.

2. An annual report, on a form provided by, or acceptable to, the Department, shall be submitted to the Department by October 15 for the previous fiscal year (July 1 through June 30,) which includes at a minimum, the following information:

a. Type (i.e., residential, medical, commercial, industrial, special, and other) and total quantity in tons of solid waste received at the facility for the previous fiscal year;

b. The county in South Carolina in which the solid waste originated, or the State if the waste originated outside South Carolina;

c. The transfer station, if applicable; and,

d. A description of the method and quantities of the solid waste, ash, and non-acceptable waste transported off-site for disposal or reuse or recycling.

3. A report containing the following information for ash residue sampling and analyses as outlined in Part IV.D of this regulation, shall be submitted to the Department within sixty (60) days of sample collection:

a. The date and place of sampling and analysis;

b. The names of the individuals who performed the sampling and analysis;

c. The sampling and analytical methods utilized;

d. The results of such sampling and analyses; and,

e. The signature and certification of the report by an appropriate authorized agent for the facility.

4. Upon implementation of the contingency plan, the owner or operator shall immediately notify the Department (using the 24-hour emergency response telephone number) and note, in the operating record

and the annual report, the time, date, and details of the incident. Upon request, a written report shall be submitted to the Department that includes the following information:

- a. The name, address and telephone number of the operator and the facility;
- b. The date, time and type of incident (e.g., fire, explosion, etc.);
- c. The type and quantity of materials involved;
- d. The extent of injuries, if any;
- e. An assessment of actual or potential hazards to human health or the environment, where this is applicable;
- f. The estimated quantity and disposition of solid waste, liquids, or material recovered that resulted from the incident; and,
- g. The procedures or equipment available to prevent a recurrence of the reported event.

5. Records of all monitoring and reporting information, pursuant to these regulations, shall be maintained for a minimum of at least five (5) years from the sample or measurement date, unless otherwise specified by the Department. These reports shall be made available to Department personnel upon request.

#### **Part IV. General Requirements.**

##### **A. Closure and Post-Closure Procedures.**

Closure and post-closure procedures addressed in this section apply to all solid waste incineration facilities.

1. At least sixty (60) days prior to closure, provide written notice of intent to close and a proposed closure date to the Department. The final quantity of solid waste shall be received no less than thirty (30) days prior to closure date.

2. Upon closing, the owner or operator shall immediately post signs at the facility which state that the facility is no longer in operation.

3. Within thirty (30) days after receiving the final quantity of solid waste, the owner or operator of a conditionally exempt facility shall remove all solid waste and shall remove or treat all waste residues, contaminated soils and equipment. Within thirty (30) days after receiving the final quantity of solid waste, the owner or operator of a permitted facility shall remove all solid waste and shall remove or treat all waste residues, contaminated soils and equipment in accordance with the approved closure plan, and notify the Department upon completion.

4. After receiving notification that the facility closure is complete, the Department will conduct an inspection of the facility. If all procedures have been correctly completed, the Department will approve the closure in writing, at which time the Department permit shall be terminated.

5. If the owner or operator demonstrates that not all contaminated soils can be practicably removed or treated as required in paragraph 3. of this section, then the owner or operator shall submit for Department approval, a post-closure care plan.

## **B. Financial Assurance Requirements.**

1. The requirements of this section apply to all permitted solid waste incineration facilities. Local governments are exempt from this requirement until such time as federal regulations require such local governments or regions to demonstrate financial responsibility for such facilities and the Department promulgates regulations addressing this issue. Prior to accepting wastes, facilities shall fund a financial assurance mechanism acceptable to the Department to ensure the satisfactory maintenance and closure of the facility. The acceptable mechanisms to fund financial assurance requirements are described in R.61-107.19, SWM: Solid Waste Landfills and Structural Fill Part I.E.

2. The amount of financial assurance required shall be based on a third party itemized cost estimate to complete the facility closure plan as approved in the facility permit and the costs for tipping fees and hauling the maximum amount of material that the facility can store at any given time, to a suitable landfill for disposal. The closure cost estimate shall include the costs of labor, equipment, and soil amendments to properly grade and seed the site and the costs for soliciting third party bids to complete the closure. The Department shall use an average cost of disposal per ton of material, as reported in the most recent Solid Waste Management Annual Report.

3. During the active life of the facility, the permittee shall annually adjust the closure cost estimate when the disposal cost estimate increases substantially based on information published in the Solid Waste Management Annual Report.

4. The permittee shall increase the closure cost estimate and the amount of financial assurance provided if changes to the closure plan or site conditions increase the maximum cost of closure at any time during the site's remaining active life.

5. The permittee shall increase the closure cost estimate and the amount of financial assurance provided if a release to the environment occurs to include cost of groundwater monitoring, assessment and corrective action if the Department determines that these measures are necessary at any time during the active life of the facility. Financial assurance shall be maintained and adjusted annually until the Department agrees that environmental conditions meet applicable standards.

6. The permittee may reduce the closure cost estimate and the amount of financial assurance provided for proper closure if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the facility. The permittee shall submit justification for the reduction of the closure cost estimate and the amount of financial assurance to the Department for review and approval.

7. The registrant or permittee shall provide continuous coverage for closure until released from financial assurance requirements, pursuant to this regulation.

8. Default by Permittee. The Department may take possession of a financial assurance fund if the permittee fails to:

- a. Complete closure in accordance with the Department approved facility closure plan;
- b. Complete corrective action; or,
- c. Renew or provide alternate acceptable financial assurance as required.

9. Prior to taking possession of financial assurance funds, the Department shall:

- a. Issue a notice of violation or order alleging that the permittee has failed to perform closure in accordance with the closure plan or permit requirements; and,
- b. Provide the permittee seven (7) days prior notice and an opportunity for a hearing.

**C. Personnel Training Requirements.** Solid waste incineration facility personnel training programs pursuant to these regulations, shall at a minimum:

1. Identify the positions which will require training and a knowledge of the procedures, equipment, and processes at the facility;
2. Describe how facility personnel will be trained to perform their duties in a way that ensures the facility's compliance with these regulations, including the proper procedures that shall be followed in the processing and handling of solid waste not authorized by the Department to be received at the facility;
3. Be designed to ensure that facility personnel are able to respond effectively to all emergencies, including different types of fires, by familiarizing them with the contingency plan, emergency and safety equipment, emergency procedures and emergency systems; and,
4. Documentation of training. The following records of training shall be maintained at the facility:
  - a. The job title for each position at the facility related to solid waste management and the name of the employee filling each job;
  - b. A written job description for each position listed under paragraph 4.a. of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;
  - c. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph 4.a. of this section; and,
  - d. Records that document the training or job experience required under this section that has been given to, and completed by, facility personnel.
5. Training records on current personnel shall be kept until closure of the facility; training records on former employees shall be kept for at least three (3) years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

**D. Ash Residue Requirements.** Permanently located air curtain incinerators are exempt from the requirements of this section. However, the ash from these facilities shall be properly disposed immediately after removal from the incinerator.

1. Sampling and Analysis Requirements and Procedures.

- a. Ash residue generated by a solid waste incinerator shall be sampled and analyzed according to the current Environmental Protection Agency (EPA) acceptable methodology for determining the hazardous nature of the ash being disposed.

b. The required analyses of all residual ash, shall be performed in accordance with the conditions of the solid waste management facility permit and current solid waste management regulations. The analyses shall be performed separately on the bottom ash and the fly ash, unless the bottom ash and fly ash are combined, in which case the combined ash shall be sampled and analyzed.

c. At a minimum, the ash residue at a new incineration facility shall be sampled and analyzed:

- (1) Prior to the initial disposal of ash from the facility;
- (2) Monthly for the first six (6) months of incineration operations at the facility;
- (3) Semi-annually during the remaining life of the facility; and,
- (4) At any time there is a change in the waste stream being incinerated.

d. At a minimum, the ash residue at an existing incineration facility shall be sampled and analyzed semi-annually.

e. If the Department deems necessary, more stringent sampling and analysis may be required.

f. A sampling and analysis plan shall be submitted to and approved by the Department, along with the ash residue management plan that identifies both the sample collection and analytical protocols that must be used to obtain representative samples of ash residue.

g. All analyses performed pursuant to this section shall be conducted by a laboratory certified by the Department.

h. The results of all such analyses shall be submitted to the Department no later than sixty (60) days after testing. Records shall be maintained at the facility for a period not less than five (5) years, and be available to Department personnel upon request.

## 2. Contents of the Ash Management Plan.

a. Prior to the construction and/or operation of a solid waste incinerator, an ash residue management plan shall be submitted to and approved by the Department.

b. The ash residue management plan shall describe the methods, equipment, and structures necessary to prevent the uncontrolled dispersion of ash residue considering potential pathways of human or environmental exposure including, but not limited to, inhalation, direct contact, and potential for groundwater and surface water contamination.

c. The ash residue management plan shall address the handling, storage, transportation, treatment, and disposal or reuse or recycling of ash residue as described in this section.

d. Handling. The owner and/or operator shall design, construct, operate, and maintain ash handling systems that ensure that ash residue (whether bottom ash, fly ash or combined ash) is properly wetted or contained to ensure that dust emissions are controlled during on-site and offsite storage, loading, transport, and unloading. The ash residue shall be wet enough so the surface of the ash remains damp after unloading at a landfill.

e. Storage.

(1) The owner and/or operator shall provide sufficient on-site ash residue storage capacity to ensure that facility operations continue during short term interruptions of ash residue transportation and/or disposal. The quantity of residue stored on-site shall be limited to no more than seven (7) times the daily design output.

(2) Residue stored on-site may be either:

(a) Stored in watertight, leak resistant containers located inside a building or enclosed structure. Prior to storage, free liquid shall be allowed to drain from the ash residue. Liquid drained during this process shall be collected and disposed in an approved waste water disposal system. Loaded containers may be stored outside of a building or enclosed structure if all free-liquid has been drained and the container is sealed and covered to prevent rain water infiltration or airborne emissions; or,

(b) Stored on-site in a waste pile which is located in an enclosed structure. The residue shall be placed on an impermeable base. A runoff management system shall be provided to collect and control the free liquid that is allowed to drain from the ash residue.

f. Transportation. Ash residue shall be drained of free liquid prior to transport. Ash residue transportation containers or vehicles shall be watertight and leak resistant and shall be designed and constructed such that any closures at or near the bottom are sealed to prevent leakage under normal transportation conditions. Closures shall be fitted with gaskets or materials that will not be deteriorated by the ash. The transport vehicle shall be enclosed or covered to prevent the top surface of the load from becoming dried. Provisions shall be made to wash vehicle tires and/or body to prevent ash from tracking onto roadways.

g. Disposal. Disposal of all ash generated by the facility shall be in accordance with standards set forth by Department regulations.

h. Reuse or Recycling. This section applies to ash residue in the form of bottom ash only, fly ash only, or combined ash that is proposed to be reused or recycled as an ingredient or as a substitute for a raw material.

(1) The owner and/or operator shall demonstrate to the Department's satisfaction that the resulting material: has a known market or disposition; and, that contractual arrangements have been made with a second person for use as an ingredient in a production process and that this person has the necessary equipment to do so.

(2) The owner and/or operator shall also:

(a) Chemically and physically characterize the ash residue and each finished product or products and identify the quantity and quality to be marketed;

(b) Describe the proposed method of application or use, available markets and marketing agreements;

(c) Demonstrate that the intended use will not adversely affect the public health, safety, welfare and the environment;

(d) If the use of the ash residue includes the mixing with different types of materials, a description of each product mixture shall be provided; and,

(e) Provide the Department with a copy of any information regarding the reuse or recycling of ash residue.

(3) The reuse or recycling of ash residue does not relieve the owner and/or operator from compliance with other monitoring requirements specified in this regulation.

**E. Corrective Action Requirements.** If at any time, the Department determines that the solid waste incineration facility poses an actual or potential threat to human health or the environment, the owner or operator shall implement a corrective action program reviewed and approved by the Department.

**F. Violations and Penalties.** A violation of this regulation or violation of any permit, order, or standard subjects the person to the issuance of a Department order, or a civil or criminal enforcement action in accordance with Code Section 44-96-450. In addition, the Department may impose reasonable civil penalties not to exceed ten thousand dollars (\$10,000.00) for each day of violation of the provisions of this regulation, including violation of any order, permit, or standard.

**G. Permit Review.** A permit issued pursuant to this regulation shall be effective for the design and operational life of the facility, to be determined by the Department. At least once every five (5) years, the Department will review the environmental compliance history of each permitted solid waste incineration facility.

1. If, upon review, the Department finds that material or substantial violations of the permit issued pursuant to these regulations, demonstrate the permittee's disregard for, or inability to comply with applicable laws, regulations, or requirements and would make continuation of the permit not in the best interests of human health and safety or the environment, the Department may, after a hearing, amend or revoke the permit, as appropriate and necessary. When a permit is reviewed, the Department shall include additional limitations, standards, or conditions when the technical limitations, standards, or regulations on which the original permit was based have been changed by statute or amended by regulation.

2. The Department may amend or attach conditions to a permit when:

a. There is significant change in the manner and scope of operation which may require new or additional permit conditions or safeguards to protect human health and safety and the environment;

b. The investigation has shown the need for additional equipment, construction, procedures, and testing to ensure the protection of human health and safety and the environment; and,

c. The amendment is necessary to meet changes in applicable regulatory requirements.

**H. Severability.** Should any section, paragraph, sentence, clause or phrase of this regulation be declared unconstitutional or invalid for any reason, the remainder of this regulation shall not be affected thereby.