

**Instructions for Attachment E203  
INCINERATORS OR FLARES  
Supplemental Application Form**  
(Instructions for Completing DEEP-NSR-APP-203)

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All applications for a permit to construct and operate a stationary source shall include the information listed in the Regulations of Connecticut State Agencies (RCSA) section 22a-174-3a(c). This supplemental application form shall be completed for any new incinerator or flare.

An incinerator, as defined in RCSA section 22a-174-1, is any device, apparatus, equipment, slab or structure used for destroying, reducing, or salvaging by fire or heat any material or substance including, *but not limited to*, refuse, rubbish, garbage, trade waste, debris or scrap; or facilities for cremating human or animal remains provided that, for the purposes of this definition, sources primarily combusting the following used oil types are not incinerators: used oil meeting the specifications of 40 CFR §279.11 or used oil burned in space heaters meeting the requirements of 40 CFR §279.23.

Examples of incinerator types are small single-chamber, multiple-chamber, rotary kiln incinerators; pathological/medical waste incinerators; crematories, and flares.

Note: A permit is not required for incinerators for which construction commenced prior to June 1, 2009; or for those units constructed on or after June 1, 2009, and are used for the primary purpose of reducing, controlling or eliminating air pollution, or as a solid waste incineration unit subject to an emission guideline issued pursuant to Section 129 of the Clean Air Act. If an afterburner is being installed as control equipment, the *Air Pollution Control Equipment* form (DEEP-NSR-APP-210) is to be used instead.

Note: If you are applying for a human remains crematory or a small animal crematory, please use the appropriate form: [Attachment E203A: Crematory Units](#) (DEEP-NSR-APP-203A).

A flare, as defined in RCSA section 22a-174-1, is any device, apparatus, process, or procedure for the burning of flammable gases or vapors at or near the exit of the stack, flue or vent. For example, the flares at landfills and anaerobic digestion facilities are used to burn off any excess landfill gas or biogas produced, along with landfill gas/biogas unable to be used in downstream equipment due to gas quality, capacity limitations, downtime, maintenance or failure.

Complete a separate form for *each* incinerator, or flare. Complete each item as appropriate. If a specific item does not apply to your situation indicate N/A (not applicable). If additional space is needed to answer a question in the application, attach separate sheet(s) as necessary, clearly identifying the applicant's name, form name, Part number, and unit number.

**Note: The data provided in these forms will be used to define the operating limits in your permit.**

Questions? Visit the [Air Permitting](#) web page or contact the Air Permitting Engineer of the Day at 860-424-4152 (between 8:30 AM and 4:30 PM, Monday through Friday).

*Applicant Name:* Provide the applicant's name as previously indicated on the *Permit Application for Stationary Sources of Air Pollution* form (DEEP-NSR-APP-200).

*Unit Number:* Provide the unit number of the subject unit as previously assigned on the *Permit Application for Stationary Sources of Air Pollution* form (DEEP-NSR-APP-200). Please use a consistent reference number for each unit throughout the application package.

*Note: Complete Parts I-IV for an incinerator, Parts I and V for a flare.*

## **Part I: General**

*Manufacturer and Model Number* - Provide the manufacturer and model number of the incinerator, landfill flare or anaerobic digestion facility flare. This information can be obtained from the manufacturer.

*Construction Date* - Indicate the anticipated construction date of the equipment. This should be the date the applicant expects to initiate physical on-site construction activities on the emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures.

*Is this unit subject to Title 40 CFR Part 60, NSPS?:* Indicate if the unit is subject to Title 40 of the Code of Federal Regulations (CFR) Part 60, New Source Performance Standards (NSPS). If "yes", specify the appropriate subpart(s).

*Is this unit subject to Title 40 CFR Part 63, MACT?:* Indicate if the unit is subject to Title 40 CFR Part 63, National Emissions Standards for Hazardous Air Pollutants (NESHAP). If "yes", specify the appropriate subpart(s).

Title 40 CFR Part 60 and Title 40 CFR Part 63 regulations can be found on the [U.S. Government Printing Office Website](https://www.gpo.gov).

## **Part II: Incinerator Information**

*Maximum Rated Capacity* - Provide the incinerator's maximum rated capacity in pounds charged per hour or tons charged per hour. This information can be obtained from the manufacturer.

*Type of Incinerator* - Indicate the type of incinerator. If other, specify type.

*Maximum Quantity of Waste Processed* - Provide the maximum anticipated quantity of waste to be processed in tons per year, tons per day, and pounds per hour.

*Operating Schedule* - Provide the maximum anticipated operating schedule in hours per day, and hours per year.

*Combustion Temperature* - Provide the minimum combustion temperature in the primary and secondary chambers in °F for design control efficiency. This is a function of the design and the heat content of the gas.

*Residence/Retention Time* - Provide the minimum combustion chamber design residence/retention time in the primary and secondary chambers in seconds. This is the exhaust flow rate divided by the chamber volume.

*Effective Grate Area* - Provide the effective grate area of the incinerator in square feet.

*Overall Destruction Efficiency* - Provide the design destruction efficiency.

## **Part III: Incinerator Waste Content**

*Heat Content* - For each type of waste to be processed, provide the heat content per unit of waste and specify the measurement units, e.g., BTU per pound. Submit documentation of the waste heat contents as Attachment E203-B.

*Percent By Weight* - For each type of waste to be processed, estimate its percentage of the total amount to be processed on a weight basis.

*Other* – If the type of waste to be processed is not listed, specify the type and provide the requested information.

*Waste Material Ultimate Analysis* - For the total waste to be processed, provide the percentages (by weight on a dry basis) of nitrogen, sulfur, hydrogen, carbon, oxygen, ash, fluorine, chlorine and any other element(s). Specify any other elements if present, e.g., halogens. Submit documentation of the waste analysis (e.g., chemical lab analysis) as Attachment E203-C.

#### **Part IV: Incinerator Auxiliary Burners**

*Burner Manufacturer and Model Number* – Provide the manufacturer and model number of the auxiliary burners. This information can be obtained from the manufacturer.

*Number of Burners* – Provide the number of burners.

*Burner Maximum Design Heat Input* - Provide each burner's maximum design hourly heat input in BTU/hour. This information is specified by the manufacturer and can often be found on the equipment nameplate. If unknown, this information can be obtained from the manufacturer. Designate the burners as primary or secondary.

*Fuel Types* - For the incinerator's primary and secondary auxiliary burners, list all fuel types to be used (e.g., natural gas).

*Percent by Weight*- For each fuel to be used, list the percent sulfur, ash, and nitrogen contents by weight on a dry basis. These can be obtained from your fuel dealer.

*Higher Heating Value* - Provide the higher heating value for each fuel in BTU.

*Maximum Hourly Firing Rate* - Provide the maximum hourly firing rate for each fuel. This information can be obtained from the equipment manufacturer.

*Maximum Annual Fuel Usage* - Provide the maximum anticipated annual fuel usage for each

fuel.

*Units* – Provide the unit of measure used for the subject fuel in gallons or cubic feet.

#### **Part V: Flares**

*Flare Design* - Indicate if the flare is an open flame (candlestick), or enclosed flame.

*Location* – Provide the location of the flare. Is it located at a landfill, an anaerobic digestion facility, or other location? If other, specify type.

*Pollutant(s) controlled* – List the pollutants that the flare will control.

*Overall Destruction Efficiency* - Provide the manufacturer's guaranteed destruction efficiency of the flare.

*Operating Schedule* - Provide the maximum anticipated operating schedule in hours per day, and hours per year.

*Maximum Heat Input Rate* – Provide the maximum heat input rate in units of MMBtu/hr.

*Maximum Firing Rate* – Provide the maximum firing rate in cubic feet per hour (cf/hr).

*Maximum Annual Fuel Usage* – Provide the maximum annual gas usage in units of cubic feet (cf).

*Mechanism to Monitor Flame Presence* – Provide information on the mechanism used to monitor flame presence, i.e., a thermocouple or any other equivalent device to detect the presence of a flame.

*Minimum Combustion Temperature* – provide the minimum temperature, in °F, at which the flare can be operated to ensure the manufacturer's guaranteed destruction efficiency.

*Residence Time* - Provide the minimum design gas residence time in seconds.

*Design Gas Flow Rate Range* – Provide the

flare's design gas flow rate range required to meet the manufacturer's guaranteed destruction efficiency in scfm. This information can be obtained from the manufacturer.

*Proposed Gas Generation Rate* - Provide the maximum proposed gas flow rate to the flare in scfm.

*Maximum Methane Content of Gas* - Provide the maximum percent of methane in the gas entering the flare in units of % by volume.

*Minimum Methane Content of Gas* - Provide the minimum methane content of gas entering the flare in units of % by volume.

*Average Methane Content of Gas* - Provide the average percent of methane in the gas entering the flare in units of % by volume.

*Maximum H<sub>2</sub>S Content of Gas* - Provide the maximum H<sub>2</sub>S content of gas entering the flare in units of parts per million (ppm) by volume.

*Heat Content of Gas* - Provide the heat content of the gas entering the flare in BTU/scfm.

*Supplemental Fuel Types* - If a supplemental fuel is used with the flare, provide the type of fuel. (e.g., propane).

*Maximum Hourly Supplemental Fuel Firing Rate* - Provide the maximum hourly firing rate for the supplemental fuel in cf/hr or other unit of measure. This information can be obtained from the equipment manufacturer.

*Maximum Annual Supplemental Fuel Usage* - Provide the maximum anticipated annual supplemental fuel usage in cf/yr or other unit of measure.

## **Part VI: Attachments**

This section offers a checklist of all the attachments necessary to complete this application.

Check the appropriate box by each attachment being submitted as verification that all

applicable attachments have been submitted. Please label all attachments as referenced in the permit application form and these instructions and be sure to include the name of the applicant as indicated on the application form.

### **Attachment E203-A: Process Information and Flow Diagram, REQUIRED**

Submit a process flow diagram indicating all related equipment, air pollution control equipment and stacks, as applicable. Identify all materials entering and leaving each such device indicating quantities and parameters relevant to the proper operation of the device. Indicate all monitoring devices and controls.

### **Attachment E203-B: Waste Heat Content, IF APPLICABLE**

If operating an incinerator, for each type of waste to be processed, submit documentation of the heat content per unit of waste and specify the measurement units, e.g., BTU per pound.

### **Attachment E203-C: Waste Material Ultimate Analysis, IF APPLICABLE**

If operating an incinerator, for the total waste to be processed, submit a waste analysis (e.g., chemical lab analysis) as documentation of the percentages (by weight on a dry basis) of nitrogen, sulfur, hydrogen, carbon, oxygen, ash, fluorine, chlorine, and any other element(s). Specify any other elements if present, e.g., halogens.

### **Attachment E203-D: EPA LandGEM Report, IF APPLICABLE**

If operating a landfill flare, submit an EPA LandGEM report showing all inputs and results from such report.

### **Attachment E203-E: Manufacturer's Information for Flare IF APPLICABLE**

If operating a landfill or anaerobic digestion facility flare, submit the manufacturer's information for the flare.