

45CSR25
WV OFFICE OF AIR QUALITY
PART B HAZARDOUS WASTE PERMIT APPLICATION

Incinerators

The applicant must provide the following information in accordance with 40 CFR Part 264, Subpart O. [§270.19]

- I. The applicant must fulfill the requirements of either section A., B., or C.:
 - A. When seeking an exemption under §264.340(b) or (c) (ignitable, corrosive or reactive wastes only), attach documentation showing:
 1. That the waste is listed as a hazardous waste in 40 CFR Part 261, Subpart D, solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or
 2. That the waste is listed as a hazardous waste in 40 CFR Part 261, Subpart D, solely because it is reactive (Hazard Code R) for characteristics other than those listed in §261.23(a)(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or
 3. That the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under 40 CFR part 261, Subpart C; or
 4. That the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in §261.23(a)(1), (2), (3), (6), (7), or (8); and that it will not be burned when other hazardous wastes are present in the combustion zone.
 - B. Submit the results of a trial burn conducted in accordance with and including all the determinations required by the following:
 1. The trial burn must be conducted in accordance with a trial burn plan prepared by the applicant and approved by the Chief. Conditions in the permit will be based on results of the trial burn. The trial burn plan will include the following information:
 - (a) An analysis of each waste, or mixture of wastes, to be burned which includes:
 - Heat value of the waste in the form and composition in which it will be burned;
 - Viscosity (liquid), or description of the physical form of the waste (non-liquids);
 - An identification of any hazardous organic constituents listed in 40 CFR Part 261, Appendix VIII, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 40 CFR Part 261, Appendix VIII, which would reasonably not be expected to be found in the waste. Identify the constituents excluded from analysis and state the basis

for their exclusion. Use the analytical techniques specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" or their equivalent for the waste analysis;

- An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" or their equivalent;
- Halogen concentrations;
- Chlorine content;
- Ash, sulfur, water, and metal content;
- Vapor pressure of liquid wastes at 25°C 760 mmHg; and
- Such other information judged necessary by the Chief.

(b) A detailed engineering diagram and description of the incinerator for which the applicant is seeking the permit, including:

- Manufacturer's name and model number of the incinerator (if available);
- Type of incinerator (rotary kiln, liquid injection, etc.);
- Engineering diagram(s) of the incinerator;
- Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber;
- Description of the auxiliary fuel system including the type of fuel, feed rate, heating value, and ash content;
- Combustion air and auxiliary air, supply air feed rates, type of fan(s) and fan curves;
- Description of automatic waste feed cut-off system(s) and an instrumentation diagram;
- A detailed engineering description of stack gas monitoring and pollution control equipment;
- An engineering diagram of burners and nozzles with associated piping diagrams;
- Construction materials;
- Location and description of temperature, pressure, and flow indicating and control devices. (Process and instrumentation diagrams should be included); and
- Method(s) of controlling fugitive emissions from the combustion zone.

(c) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency and equipment, and planned analytical procedures for sample analysis;

(d) A detailed test schedule for each waste for which the applicant is planning the trial burn including date(s), duration of each trial burn, quantity of waste to be burned, and other factors relevant to

the Chief's decision under paragraph 5.1.b.(4) of this section;

- (e) A detailed test protocol, including, for each waste and waste constituent identified, the ranges of combustion temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator;
 - (f) A description of, and planned operating conditions for, any emission control equipment which will be used;
 - (g) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction; and
2. Such other information as the Chief reasonably finds necessary to determine whether :
- (a) The trial burn itself will not present an imminent hazard to human health or the environment;
 - (b) The trial burn will help the Chief to determine operating requirements to specify under §264.345; and
 - (c) The information sought in paragraphs 5.1(b)(4)(i) and (ii) of this section cannot reasonably be developed through other means.
3. The Chief will specify trial principal organic hazardous constituents (trial POHCs) based on the waste analysis data in the trial burn plan. The trial POHCs are those constituents for which the applicant must calculate destruction and removal efficiencies during the trial burn. The Chief will specify these trial POHCs based on its estimate of the difficulty incinerating the constituents identified in the waste analysis, their concentration or mass in the waste feed, and the hazardous waste organic constituent or constituents identified as the basis for listing a waste in Appendix VII of 40 CFR Part 261, Subpart D.
4. The applicant must make the following determinations during each approved trial burn or as soon after the trial burn as is practicable:
- (a) A quantitative analysis of the trial POHCs in the waste feed to the incinerator;
 - (b) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O₂) and hydrogen chloride (HCl);
 - (c) A quantitative analysis of the scrubber water (if any), ash residues, and other residues for the purpose of estimating the fate of trial POHCs and hazardous combustion by-products;
 - (d) A total mass balance of the POHCs in the hazardous waste;
 - (e) A computation of destruction and removal efficiency (DRE) in accordance with the DRE formula specified in §264.343(a);
 - (f) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in

- accordance with §264.343(b);
- (g) A computation of particulate emissions in accordance with §264.343(c);
- (h) An identification of sources of fugitive emissions and their means of control;
- (i) A measurement of average, maximum, and minimum temperatures, and combustion gas velocity;
- (j) A continuous monitoring results of carbon monoxide (CO) in the exhaust gas concentrations and combustion temperature;
- (k) A certification that the trial burn was carried out in accordance with the approved plan;
- (l) Such other information as the Chief may specify as necessary to ensure that the trial burn will determine compliance with the performance standard in §264.343 and to establish the operating conditions required by §264.345 as necessary to meet that performance standard.

NOTE: *The applicant shall comply with the performance specifications for continuous emission monitoring of carbon monoxide and oxygen for incinerators, boilers and industrial furnaces burning hazardous waste. See 40 CFR 266 Appendix IX, Section 2.*

- 5. The applicant shall submit to the Chief the results of all the determinations required in paragraph B.4. of this section and a certification that the trial burn has been carried out in accordance with the approved trial burn plan. Send the certification and the results no later than 90 days from the completion of the trial burn unless the Chief approves a later date.
- 6. After the trial burn is completed, submit all data collected during the trial burn to the Chief.
- 7. A person authorized to sign a permit application or a report shall certify all submissions required by this section on behalf of the applicant.

C. In lieu of a trial burn, the applicant may submit the following information:

- 1. An analysis of each waste or mixture of wastes to be burned including:
 - (a) Heat value of the waste in the form and composition in which it will be burned;
 - (b) Viscosity (if applicable) or a description of the physical form of the waste;
 - (c) An identification of any hazardous organic constituents listed in 40 CFR Part 261, Appendix VIII, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 40 CFR Part 261, Appendix VIII, which would reasonably not be expected to be found in the waste. Identify the constituents excluded from analysis and state the basis for their exclusion. Use the analytical techniques specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" or their equivalent for the waste analysis;

- (d) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" or their equivalent;
 - (e) A quantification of those hazardous constituents in the waste which may be designated as POHCs based on data submitted from other trial or operational burns which demonstrate compliance with the performance standard in §264.343;
 - (f) Halogen concentrations including Chlorine content;
 - (g) Ash, sulfur, water and metal contents;
 - (h) Vapor pressure of liquid wastes at 25°C 760 mmHg; and
 - (i) Such other information judged necessary by the Chief.
2. A detailed engineering description of the incinerator, including:
- (a) Manufacturer's name and model number of the incinerator;
 - (b) Type of incinerator (rotary, kiln, liquid injection, etc.);
 - (c) Engineering diagram(s) of the incinerator;
 - (d) Linear dimension of the incinerator unit including cross sectional area of the combustion chamber;
 - (e) Description of auxiliary fuel system including the type of fuel, feed rate, heating value, and ash content;
 - (f) Combustion air auxiliary air. Supply air feed rates, type of fan(s) and fan curve;
 - (g) Description of automatic waste feed cutoff system(s) and instrumentation diagrams;
 - (h) A detailed engineering description of stack gas monitoring and pollution control monitoring system;
 - (i) An engineering diagram of burners and nozzles and associated piping diagrams;
 - (j) Construction materials;
 - (k) Location and description of temperature, pressure, and flow indicating devices and control devices. (Process and instrumentation diagrams should be included); and
 - (l) Method(s) of controlling fugitive emissions from the combustion zone.
3. A description and analysis of the waste to be burned compared with the waste for which the applicant provided data from operational or trial burns to support the contention that a trial burn is not needed. Include those items listed in this section in the data. Specify in this analysis the POHCs which the applicant has identified in the waste for which the applicant is seeking a permit, and any differences from the POHCs in the waste for which the applicant provided burn data.
4. The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.
5. A description of the results submitted from any previously conducted trial burn(s), including:
- (a) Sampling and analysis techniques used to calculate the

- performance standards in §264.343;
- (b) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement);
- (c) Identification of any hazardous combustion by-products detected; and
- (d) The certification and results required by paragraph B.5. of this section.

- 6. The expected incinerator operation information to demonstrate compliance with §§264.343 and 264.345, including:
 - (a) Waste constituents;
 - (b) Expected carbon monoxide (CO) level in the stack exhaust gas;
 - (c) Waste feed rate;
 - (d) Combustion zone temperature;
 - (e) Indication of combustion gas velocity;
 - (f) Expected stack gas volume, flow rate, and temperature;
 - (g) Computed residence time for waste in the combustion zone;
 - (h) Expected hydrochloric acid removal efficiency;
 - (i) Expected fugitive emissions and their control procedures; and
 - (j) Proposed waste feed cut-off limits based on the identified significant operating parameters.

NOTE: For new incineration facilities, conditions must be specified for the period prior to the trial burn, conducting the trial burn, and after the trial burn.

- 7. Such supplemental information as the Chief finds necessary to achieve the purposes of this section.
- 8. Waste analysis data, including that submitted in paragraph B.1.(a) of this section, sufficient to allow the Chief to specify permit principal organic hazardous constituents (permit POHCs). Permit POHCs are those constituents for which the applicant must provide destruction and removal efficiencies.
- 9. The Chief shall approve a permit application without a trial burn if it finds that:
 - (a) The wastes are sufficiently similar; and
 - (b) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under §264.345) operating conditions that will ensure that the incinerator will meet the performance standards in §264.343.
 - (c) The trial burn was performed within the last 5 years.

- II. Attach a copy of the inspection schedule which demonstrates compliance with §264.15 (General inspection requirements). Include a demonstration of compliance with §264.347 (Monitoring and inspections) unless the applicant is exempted in accordance with §264.340. [§270.14(b)(5)]

III. Closure for Combustion Units

The applicant must provide a copy of the following information in accordance with 40 CFR Part 264, Subpart G. [§270.14(b)(13)].

- A. Attach the following information to meet the closure performance standard of 40 CFR 264.111. 40 CFR 264.111 requires controlling, minimizing, or eliminating to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground water, surface waters or to the atmosphere. The closure plan [§264.112] must include all of the information required in Part II, Sections A through I [§270.14(b)(13)]:
1. A description of how the applicant will close each hazardous waste management unit at the facility in accordance with 40 CFR 264.111;
 2. A description of how the applicant will conduct final closure of the facility in accordance with 40 CFR 264.111. The description must identify the maximum extent of the operations during the active life of the facility;
 3. An estimate of the maximum inventory of wastes over onsite over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure. The methods include but are not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes. Identify the type(s) of the offsite hazardous waste management units the applicant will use, if applicable;
 4. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure. The steps include but are not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard;
 5. A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including but not limited to, ground water monitoring, leachate collection, and run-on and run-off control; and
 6. A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracing of the progress of partial and final closure. Closure schedule with total time to close, time for closure activities and inspection schedule during closure.
 7. For facilities that use trust funds to establish financial assurance under §264.143 or §264.145 and that are expected to close prior to the expiration of the operation permit, an estimate of the expected year of final closure.
- B. A description of how at closure all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber water and scrubber sludges)

from the combustion units, associated duct-work, piping, air pollution control equipment, sump, and any other structures or operating equipment such as pumps, valves, etc., that have come in contact with the hazardous waste. Alternatively, a description of how the combustion units and associated units and equipment will be dismantled and disposed of as a hazardous waste.

- C. Attach a copy of the closure cost estimate [§270.14(b)(14)] and post-closure cost estimate [§270.14(b)(15)].
- D. If closure or post-closure plans have been approved by the Chief as part of a construction or operation permit application, attach a copy of a closure and post-closure plan as required by §264.112 and §264.118. Also, either:
 - 1. Attach a certification stating that no changes have been made to the plans which have been provided to the Chief; or
 - 2. Provide an amended plan showing all the changes which have been made, or are proposed to be made, to the plans which have been provided to the Chief.

IV. Risk Exposure Assessment and Air Dispersion Models (specific requirements are located *WV Risk Assessment Policy for Hazardous Waste Combustors*)

V. Compliance Schedule

The applicant shall propose to the Chief, a compliance schedule for achieving compliance with any standards that have not been met at this time. The Chief will evaluate this proposal and may take into consideration when developing a compliance schedule.