KEY (for internal Agency use only)
▶ = Permitting/Corrective Action
▶ = Engineering
▶ = Chemistry
▶ = Financial Assurance
▶ = Geology

Hazardous Waste "Part B" Operating Permit Application
Incinerator Module

The following link to guidance is for informational purposes only. Please do not include guidance with the permit application submittal.

Resource Conservation and Recovery Act (RCRA) Training Module about Hazardous Waste Incinerators | US EPA

Add the permit application module information below where designated in the base checklist (sequentially).

C. ▶ **WASTE CHARACTERISTICS**

C-1e ▶ Wastes Incinerated and Wastes Used in Performance Tests: 40 CFR 264.341, 270.62(b)

Analyses must be provided for each waste or waste mixture to be burned during operation and for the waste feed (to be) used in the performance tests, including: heat value; viscosity of liquids; physical form of non-liquids; identification and approximate quantification of Appendix VIII hazardous organic constituents reasonably expected to be present; chlorine concentration; and ash content. If data is submitted in lieu of a trial burn, applicant must quantify potential POHCs and provide a comparison of wastes used in performance tests and those for which permit is sought demonstrating similarity.

D. ▶ **PROCESS INFORMATION**

D-5 Incinerators: 40 CFR 270.19, 264.340 through 264.351

D-5a ▶ Justification for Exemption: 40 CFR 270.19(a)

To justify an exemption under 264.340(b) or (c), document the following: (1) the waste contains no or insignificant concentrations of Part 261, Appendix VIII materials; and (2) the waste is considered hazardous solely because it is (a) ignitable and/or corrosive or (b) reactive. Exempted reactive wastes are limited to materials that will not liberate toxic fumes or vapors per 40 CFR 261.23(a)(4) and (5) and shall not be burned when other hazardous wastes are present in combustion zone.

A demonstration that the waste contains insignificant quantities of Appendix VIII materials can be based on either: (1) risk assessment that considers dispersion rates, local receptors, and toxicological effects; or (2) relationship of emission to prevent ambient concentrations; or (3) detectability of contaminants in stack gases.

D-5b Trial Burn: 40 CFR 270.19(b)

Submit a trial burn plan that includes the following information.

D-5b(1) Trial Burn Plan: 40 CFR 270.19(b)

Submit a trial burn plan addressing the following information requirements.

D-5b(1)(a) Detailed Engineering Description of Incinerator: 40 CFR 270.62(b)(2(ii)

Describe, at a minimum: manufacturer's name and model, if available; incinerator type; linear dimensions of incinerator unit, including the cross-sectional area of the combustion chamber; description of auxiliary fuel system (type and feed); prime mover capacity and type; description of the automatic waste feed cut-off system(s); stack gas monitoring and pollution control equipment; nozzle and burner design; construction materials; and location and description of temperature, pressure, and flow indicating and control devices. (A process and instrumentation diagram should be included.)

D-5b(1)(b) Sampling and Monitoring Procedures: 40 CFR 270.62(b)(2)(iii)

Describe sampling and monitoring procedures during the trial burn (i.e., waste feed, fuel feed rate, combustion gas velocity and emission), including sampling and monitoring locations, equipment, frequency, and analytical procedures. EPA approved sampling and analysis methods must be employed or, alternatively, a demonstration of equivalence with EPA approved methods must be made.

Quality assurance/quality control program must be described. Statistical analyses of trial burn data must use 95% confidence limits.

D-5b(1)(c) Trial Burn Schedule: 40 CFR 270.62(b)(2)(iv)

Submit a detailed schedule for each waste for which a trial burn is proposed, including: dates when trial burn(s) are planned; the duration of each trial burn; the quantity of waste to be burned during each trial burn; and any other relevant factors.

D-5b(1)(d) Test Protocols: 40 CFR 270.62(b)(2)(v)

For each waste to be burned, describe ranges in operating conditions that will be tested, including: waste constituents; combustion temperature ranges; waste feed rate; combustion gas velocity; and auxiliary fuel use.

D-5b(1)(e) Pollution Control Equipment Operation: 40 CFR 270.62(b)(2)(vi)

Describe any emission control equipment identified in D-5b(1) and include the planned operating conditions for each.

D-5b(1)(f) Shutdown Procedures: 40 CFR 270.62(b)(2)(vii)

Describe procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

D-5c Data Submitted in Lieu of Trial Burn: 40 CFR 270.19(c)

Provide the following data in lieu of a trial burn plan:

D-5c(1) Detailed Engineering Description of Incineration: 40 CFR 270.19(c)(2)

Describe, at a minimum: manufacturer's name and model, if available; incinerator type; linear dimensions of incinerator unit, including the cross-sectional area of the combustion chamber; description of auxiliary fuel system (type and feed); prime mover capacity and type; description of the automatic waste feed cut-off system(s); stack gas monitoring and pollution control equipment; nozzle and burner design; construction materials; and location and description of temperature, pressure, and flow indicating and controlled devices. (A process and instrumentation diagram should be included.)

D-5c(2) Expected Incinerator Operation: 40 CFR 270.19(c)(6)

Submit information on the expected incinerator operation to demonstrate conformance with 264.343 and 264.345 including: expected carbon monoxide level in the stack exhaust gas; waste feed rate; combustion zone temperature; expected stack gas volume, flow rate and temperature; computed residence time for waste in the combustion zone; expected HCl removal efficiency; expected fugitive emissions and their control procedures; and proposed waste feed system cut-off limits based on identified significant operating parameters.

D-5c(3) Design and Operating Conditions: 40 CFR 270.19(c)(4)

Provide design and operating conditions of the incinerator unit compared with similar information from the unit used to develop data in lieu of trial burn. Information contained in D-5c(1) and D-5c(2) should be used as a basis for comparison.

D-5c(4) Previous Trial Burn Results: 40 CFR 270.19(c)(5)

Describe the results from all previously conducted, approved trial burns.

D-5c(4)(a) Sampling and Analysis Techniques: 40 CFR 270.19(c)(5)(i)

Describe the sampling and analysis techniques used to demonstrate performance in past trial burn(s). Unless EPA approved methods are used, the methods must be described and demonstrated to be equivalent with EPA approved methods.

D-5c(4)(b) Methods and Results: 40 CFR 270.19(c)(5)(ii)

Describe the methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and combustion gas velocity during past trial burn(s) (including a precision and accuracy statement regarding this measurement).

D-5d ▶ Determinations: 40 CFR 270.62(b)(6)

If approved trial burn has already been conducted, or if data in lieu of trial burn is submitted, provide the following determination: quantitative analysis of waste feed POHCs; quantitative analysis of exhaust gas concentrations of trial POHCs, oxygen and HCl; computation of DRE; quantitative analysis of any scrubber water, ash residues and other residues (for use in estimating fate of trial POHCs); computation of HCl removal efficiency (if HCl emission rate exceeds 1.8 kg/hr); identification of fugitive emissions and their means of control; average temperatures; minimum temperatures; combustion gas velocity; and continuous-monitoring results of CO exhaust gas concentrations.

F. ▶ ▶ PROCEDURES TO PREVENT HAZARDS

F-2b(5)(a) Incinerator and Associated Equipment: 40 CFR 264.347(b)

Describe the procedures for daily visual inspections of the incinerator and associated equipment for leaks, spills, fugitive emissions, and signs of tampering.

F-2b(5)(b) Incinerator Waste Feed Cut-Off System and Associated Alarms: 40 CFR 264.347(c)

Describe the procedures for testing the emergency waste feed cut-off system and associated alarms. Testing must be conducted on a weekly basis unless a demonstration can be made that the weekly frequency is unduly restrictive and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted monthly.

I. CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS

I-1e(8) ▶ ▶ Closure of Incinerators: 40 CFR 264.351, 270.14(b)(13)

Describe how, at closure, all hazardous waste and hazardous waste residues (including, but not limited to ash, scrubber waters, and scrubber sludges) will be removed from the incinerator, associated ductwork, piping, air pollution control equipment, sumps, and any other structures or operating equipment such as pumps, valves, etc., that have come into contact with the hazardous waste. Alternatively, describe how the incinerator and associated units and equipment will be dismantled and disposed of as a hazardous waste.