



## Ohio Administrative Code

### Rule 3745-50-66 Permits for boilers and industrial furnaces burning hazardous waste.

Effective: September 29, 2021

When an owner or operator of a cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to hazardous waste permit requirements after February 16, 2009, or when an owner or operator of an existing cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace demonstrates compliance with the air emission standards and limitations in 40 CFR Part 63 subpart EEE [i.e., by conducting a comprehensive performance test and submitting a notification of compliance under 40 CFR 63.1207(j) and 40 CFR 63.1210(d) documenting compliance with all applicable requirements of 40 CFR Part 63 subpart EEE], this rule does not apply. This rule does apply, however, if the director determines that certain provisions are necessary to ensure compliance with paragraphs (E)(1) and (E)(2)(c) of rule 3745-266-102 of the Administrative Code if the owner or operator elects to comply with paragraph (A)(1)(a) of rule 3745-50-235 of the Administrative Code to minimize emissions of toxic compounds from startup, shutdown, and malfunction events, or if the facility is an area source and the owner or operator elects to comply with the rules 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals; or if the director determines that certain provisions apply, on a case-by-case basis, to collect information in accordance with paragraphs (A)(5), (D)(6), (H), and (I) of rule 3745-50-40 of the Administrative Code and paragraphs (D)(3)(b) and (D)(4)(a)(v) of rule 3745-50-51 of the Administrative Code.

(A) General. Owners and operators of new boilers and industrial furnaces (those not operating under the standards of rule 3745-266-103 of the Administrative Code) are subject to paragraphs (B) to (F) of this rule. Boilers and industrial furnaces operating under the standards of rule 3745-266-103 of the Administrative Code are subject to paragraph (G) of this rule.

(B) Permit operating periods for new boilers and industrial furnaces. A permit for a new boiler or industrial furnace shall specify appropriate conditions for the following operating periods:



(1) Pretrial burn period. For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the boiler or industrial furnace to a point of operational readiness to conduct a trial burn, not to exceed seven hundred twenty hours operating time when burning hazardous waste, the director shall establish in the pretrial burn period of the permit conditions, including but not limited to, allowable hazardous waste feed rates and operating conditions. The director may extend the duration of this operational period once, for up to seven hundred twenty additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to rule 3745-50-51 of the Administrative Code.

(a) Applicants shall submit a statement, with "Part B" of the permit application, that suggests the conditions necessary to operate in compliance with the standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code during this period. At a minimum, this statement should include restrictions on the applicable operating requirements identified in paragraph (E) of rule 3745-266-102 of the Administrative Code.

(b) Ohio EPA will review this statement and any other relevant information submitted with "Part B" of the permit application and specify requirements for this period sufficient to meet the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code based on engineering judgment.

(2) Trial burn period. For the duration of the trial burn, the director shall establish conditions in the permit for the purposes of determining feasibility of compliance with the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code and adequate operating conditions under paragraph (E) of rule 3745-266-102 of the Administrative Code. Applicants shall propose a trial burn plan, prepared under paragraph (C) of this rule, to be submitted with "Part B" of the permit application.

(3) Post-trial burn period.

(a) For the period immediately after completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submittal of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the director to



reflect the trial burn results, Ohio EPA will establish the operating requirements most likely to ensure compliance with the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code based on engineering judgment.

(b) Applicants shall submit a statement, with "Part B" of the application that identifies the conditions necessary to operate during this period in compliance with the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code. At a minimum, this statement should include restrictions on the operating requirements provided by paragraph (E) of rule 3745-266-102 of the Administrative Code.

(c) Ohio EPA will review this statement and any other relevant information submitted with "Part B" of the permit application and specify requirements for this period sufficient to meet the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code based on engineering judgment.

(4) Final permit period. For the final period of operation, the director will develop operating requirements in conformance with paragraph (E) of rule 3745-266-102 of the Administrative Code that reflect conditions in the trial burn plan and are likely to ensure compliance with the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code. Based on the trial burn results, the director shall make any necessary modifications to the operating requirements to ensure compliance with the performance standards. The permit modification shall proceed according to rule 3745-50-51 of the Administrative Code.

(C) Requirements for trial burn plans. The trial burn plan shall include the following information. The director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of paragraph (C) of this rule:

(1) An analysis of each feedstream, including hazardous waste, other fuels, and industrial furnace feedstocks, as fired, that includes both:

(a) Heating value, levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine or chloride, and ash.



(b) Viscosity or description of the physical form of the feedstream.

(2) An analysis of each hazardous waste, as fired, including all of the following:

(a) An identification of any hazardous organic constituents listed in the appendix to rule 3745-51-11 of the Administrative Code that are present in the feedstream, except that the applicant need not analyze for constituents listed in the appendix to rule 3745-51-11 of the Administrative Code that would reasonably not be expected to be found in the hazardous waste. The constituents excluded from analysis shall be identified and the basis for this exclusion explained. The waste analysis shall rely on appropriate analytical techniques.

(b) An approximate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by appropriate analytical methods.

(c) A description of blending procedures, if applicable, prior to firing the hazardous waste, including a detailed analysis of the hazardous waste prior to blending, an analysis of the material with which the hazardous waste is blended, and blending ratios.

(3) A detailed engineering description of the boiler or industrial furnace, including all of the following:

(a) Manufacturer's name and model number of the boiler or industrial furnace.

(b) Type of boiler or industrial furnace.

(c) Maximum design capacity in appropriate units.

(d) Description of the feed system for the hazardous waste, and, as appropriate, other fuels and industrial furnace feedstocks.

(e) Capacity of hazardous waste feed system.



- (f) Description of automatic hazardous waste feed cutoff systems.
  - (g) Description of any air pollution control system.
  - (h) Description of stack gas monitoring and any pollution control monitoring systems.
- (4) 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 planned analytical procedures for sample analysis.
- (5) A detailed test schedule for each hazardous waste for which the trial burn is planned, including dates, duration, quantity of hazardous waste to be burned, and other factors relevant to the director's decision under paragraph (B)(2) of this rule.
- (6) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feed rate, and, as appropriate, the feed rates of other fuels and industrial furnace feedstocks, and any other relevant parameters that may affect the ability of the boiler or industrial furnace to meet the performance standards in rules 3745-266-104 to 3745-266-107 of the Administrative Code.
- (7) A description of, and planned operating conditions for, any emission control equipment that will be used.
- (8) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction.
- (9) Such other information as the director reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of paragraph (C) of this rule and the criteria in paragraph (B)(2) of this rule.
- (D) Trial burn procedures.
- (1) A trial burn shall be conducted to demonstrate conformance with the standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code under an approved trial burn plan.



(2) The director shall approve a trial burn plan if the director finds that all of the following:

(a) The trial burn is likely to determine whether the boiler or industrial furnace can meet the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code.

(b) The trial burn itself does not present an imminent hazard to human health and the environment.

(c) The trial burn will help the director to determine operating requirements to be specified under paragraph (E) of rule 3745-266-102 of the Administrative Code.

(d) The information sought in the trial burn cannot reasonably be developed through other means.

(3) The director shall send a notice to all persons on the facility mailing list as provided in 40 CFR 124.10(c)(1)(ix), and to the appropriate units of state and local government as provided in 40 CFR 124.10(c)(1)(x), announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after the director has issued such notice.

(a) This notice shall be mailed within a reasonable time period before the trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or Ohio EPA.

(b) This notice shall contain all of the following:

(i) The name and telephone number of applicant's contact person.

(ii) The name and telephone number of the Ohio EPA contact office.

(iii) The location where the approved trial burn plan and any supporting documents can be reviewed and copied.

(iv) An expected time period for commencement and completion of the trial burn.



(4) The applicant shall submit to the director a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and shall submit the results of all the determinations required in paragraph (C) of this rule. This submittal shall be made within ninety days after completion of the trial burn, or later if approved by the director.

(5) All data collected during any trial burn shall be submitted to the director after completion of the trial burn.

(6) All submittals required by paragraph (D) of this rule shall be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under rule 3745-50-42 of the Administrative Code.

(E) Special procedures for destruction and removal efficiency (DRE) trial burns. When a DRE trial burn is required under paragraph (A) of rule 3745-266-104 of the Administrative Code, the director will specify (based on the hazardous waste analysis data and other information in the trial burn plan) as trial principal organic hazardous constituents (POHCs) those compounds for which destruction and removal efficiencies shall be calculated during the trial burn. These trial POHCs will be specified by the director based on information including the director's estimate of the difficulty of destroying the constituents identified in the hazardous waste analysis, concentrations or mass of the constituents in the hazardous waste feed, and, for hazardous waste containing or derived from wastes listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, the hazardous waste organic constituents identified in the appendix to rule 3745-51-30 of the Administrative Code as the basis for listing.

(F) Determinations based on trial burn. During each approved trial burn (or as soon after the burn as is practicable), the applicant shall make all of the following determinations:

(1) A quantitative analysis of the levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, thallium, silver, and chlorine or chloride, in the feedstreams (hazardous waste, other fuels, and industrial furnace feedstocks).

(2) When a DRE trial burn is required under paragraph (A) of rule 3745-266-104 of the Administrative Code, all of the following are required:



- (a) A quantitative analysis of the trial POHCs in the hazardous waste feed.
- (b) A quantitative analysis of the stack gas for the concentration and mass emissions of the trial POHCs.
- (c) A computation of DRE, in accordance with the DRE formula specified in paragraph (A) of rule 3745-266-104 of the Administrative Code.
- (3) When a trial burn for chlorinated dioxins and furans is required under paragraph (E) of rule 3745-266-104 of the Administrative Code, a quantitative analysis of the stack gas for the concentration and mass emission rate of the 2,3,7,8-chlorinated tetra- to octa- congeners of chlorinated dibenzo-p-dioxins and furans, and a computation showing conformance with the emission standard.
- (4) When a trial burn for particulate matter, metals, or hydrogen chloride or chlorine is required under rule 3745-266-105, or paragraph (C) or (D) of rule 3745-266-106, or paragraph (B)(2) or (C) of rule 3745-266-107 of the Administrative Code, a quantitative analysis of the stack gas for the concentrations and mass emissions of particulate matter, metals, or hydrogen chloride and chlorine, and computations showing conformance with the applicable emission performance standards in Chapter 3745-266 of the Administrative Code.
- (5) When a trial burn for DRE, metals, or hydrogen chloride or chlorine is required under paragraph (A) of rule 3745-266-104, paragraph (C) or (D) of rule 3745-266-106, or paragraph (B)(2) or (C) of rule 3745-266-107 of the Administrative Code, a quantitative analysis of the scrubber water (if any), ash residues, other residues, and products, for the purpose of estimating the fate of the trial POHCs, metals, and chlorine or chloride.
- (6) An identification of sources of fugitive emissions and the means to control the fugitive emissions.
- (7) A continuous measurement of carbon monoxide, oxygen, and where required, hydrocarbons, in the stack gas.
- (8) Such other information as the director may specify as necessary to ensure that the trial burn will





determine compliance with the performance standards in rules 3745-266-104 to 3745-266-107 of the Administrative Code and to establish the operating conditions required by paragraph (E) of rule 3745-266-102 of the Administrative Code as necessary to meet those performance standards.

(G) Permit by rule boilers and industrial furnaces. For the purpose of determining feasibility of compliance with the performance standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code and adequate operating conditions under rule 3745-266-103 of the Administrative Code, applicants owning or operating existing boilers or industrial furnaces operated under rule 3745-266-103 of the Administrative Code either shall prepare and submit a trial burn plan and perform a trial burn in accordance with this rule, or shall submit other information as specified in paragraphs (C)(9)(a)(vi) to (C)(9)(a)(vi)(b) of rule 3745-50-44 of the Administrative Code. The director shall announce the director's intention to approve of the trial burn plan in accordance with the timing and distribution requirements of paragraph (D)(3) of this rule. The contents of the notice shall include the name and telephone number of a contact person at the facility, the name and telephone number of the Ohio EPA contact office, the location where the trial burn plan and any supporting documents can be reviewed and copied, and a schedule of the activities that are required prior to permit issuance, including the anticipated time schedule for Ohio EPA approval of the plan and the time periods during which the trial burn would be conducted. Applicants who submit a trial burn plan and receive approval before submittal of the "Part B" permit application shall complete the trial burn and submit the results specified in paragraph (F) of this rule with the "Part B" permit application. If completion of this process conflicts with the date set for submittal of the "Part B" application, the applicant shall contact the director to establish a later date for submittal of the "Part B" application or the trial burn results. If the applicant submits a trial burn plan with "Part B" of the permit application, the trial burn shall be conducted and the results submitted within a time period prior to permit issuance to be specified by the director.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]