**Section 703.232 Permits for Boilers and Industrial Furnaces Burning Hazardous Waste**

When the owner or operator of a cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements 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 of the federal National Emission Standards for Hazardous Air Pollutants (NESHAPs) in subpart EEE of 40 CFR 63 (National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors), incorporated by reference in 35 Ill. Adm. Code 720.111(b) (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance pursuant to 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with all applicable requirements of subpart EEE of 40 CFR 63), this Section does not apply. This Section does apply, however, if the Agency determines certain provisions are necessary to ensure compliance with 35 Ill. Adm. Code 726.202(e)(1) and (e)(2)(C) if the owner or operator elects to comply with Section 703.320(a)(1)(A) 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 Sections 726.205, 726.206, and 726.207 standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals; or if the Agency determines certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with Sections 703.188, 703.189, and 703.241(a)(2) and (a)(3).

a) General. The owner or operator of a new boiler or industrial furnace (one not operating under the interim status standards of 35 Ill. Adm. Code 726.203) is subject to subsections (b) through (f). A boiler or industrial furnace operating under the interim status standards of 35 Ill. Adm. Code 726.203 is subject to subsection (g).

b) Permit Operating Periods for a New Boiler or Industrial Furnace. A permit for a new boiler or industrial furnace must 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 operation readiness to conduct a trial burn, not to exceed 720 hours operating time when burning hazardous waste, the Agency must establish permit conditions in the pretrial burn period, including but not limited to allowable hazardous waste feed rates and operating conditions. The Agency must extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit must be modified to reflect the extension according to Sections 703.280 through 703.283.

A) Applicants must submit a statement, with Part B of the permit application, that suggests the conditions necessary to operate in compliance with the standards of 35 Ill. Adm. Code 726.204 through 726.207 during this period. This statement should include, at a minimum, restrictions on the applicable operating requirements identified in 35 Ill. Adm. Code 726.202(e).

B) The Agency must 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 35 Ill. Adm. Code 726.204 through 726.207 based on the Agency's engineering judgment.

2) Trial Burn Period. For the duration of the trial burn, the Agency must establish conditions in the permit for the purposes of determining feasibility of compliance with the performance standards of 35 Ill. Adm. Code 726.204 through 726.207 and determining adequate operating conditions pursuant to 35 Ill. Adm. Code 726.202(e). Applicants must propose a trial burn plan, prepared pursuant to subsection (c), to be submitted with Part B of the permit application.

3) Post-Trial Burn Period

A) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Agency to reflect the trial burn results, the Agency must establish the operating requirements most likely to ensure compliance with the performance standards of 35 Ill. Adm. Code 726.204 through 726.207 based on the Agency's engineering judgment.

B) Applicants must 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 35 Ill. Adm. Code 726.204 through 726.207. This statement should include, at a minimum, restrictions on the operating requirements provided by 35 Ill. Adm. Code 726.202(e).

C) The Agency must review this statement and any other relevant information submitted with Part B of the permit application and specify requirements of this period sufficient to meet the performance standards of 35 Ill. Adm. Code 726.204 through 726.207 based on the Agency's engineering judgment.

4) Final permit period. For the final period of operation the Agency must develop operating requirements in conformance with 35 Ill. Adm. Code 726.202(e) that reflect conditions in the trial burn plan and are likely to ensure compliance with the performance standards of 35 Ill. Adm. Code 726.204 through 726.207. Based on the trial burn results, the Agency must make any necessary modifications to the operating requirements to ensure compliance with the performance standards. The permit modification must proceed according to Sections 703.280 through 703.283.

c) Requirements for Trial Burn Plans. The trial burn plan must include the following information. The Agency, in reviewing the trial burn plan, must evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this subsection (c).

1) An analysis of each feed stream, including hazardous waste, other fuels, and industrial furnace feed stocks, as fired, that includes the following:

A) Heating value, levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine and chloride, and ash; and

B) Viscosity or description of the physical form of the feed stream.

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

A) An identification of any hazardous organic constituents listed in Appendix H to 35 Ill. Adm. Code 721 that are present in the feed stream, except that the applicant need not analyze for constituents listed in Appendix H that would reasonably not be expected to be found in the hazardous waste. The constituents excluded from analysis must be identified and the basis for this exclusion explained. The analysis must be conducted in accordance with appropriate analytical methods;

B) An approximate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by the appropriate analytical methods; and

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.

BOARD NOTE: The federal regulations do not themselves define the phrase "appropriate analytical methods", but USEPA did include a definition in its preamble discussion accompanying the rule. The Board directs attention to the following segment (at 70 Fed. Reg. 34538, 34541 (June 14, 2005)) for the purposes of subsections (b)(1)(C) and (b)(1)(D):

[T]wo primary considerations in selecting an appropriate method, which together serve as our general definition of an appropriate method [are the following]...:

1. Appropriate methods are reliable and accepted as such in the scientific community.

2. Appropriate methods generate effective data.

USEPA went on to further elaborate these two concepts and to specify other documents that might provide guidance.

3) A detailed engineering description of the boiler or industrial furnace, including 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 pollution control system; and

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 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 Agency's decision pursuant to subsection (b)(2).

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 35 Ill. Adm. Code 726.204 through 726.207.

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 Agency finds necessary to determine whether to approve the trial burn plan in light of the purposes of this subsection (c) and the criteria in subsection (b)(2).

d) Trial Burn Procedures.

1) A trial burn must be conducted to demonstrate conformance with the standards of 35 Ill. Adm. Code 726.104 through 726.107.

2) The Agency must approve a trial burn plan if the Agency finds as follows:

A) That the trial burn is likely to determine whether the boiler or industrial furnace can meet the performance standards of 35 Ill. Adm. Code 726.104 through 726.107;

B) That the trial burn itself will not present an imminent hazard to human health and the environment;

C) That the trial burn will help the Agency to determine operating requirements to be specified pursuant to 35 Ill. Adm. Code 726.102(e); and

D) That the information sought in the trial burn cannot reasonably be developed through other means.

3) The Agency must send a notice to all persons on the facility mailing list, as set forth in 35 Ill. Adm. Code 705.161(a), and to the appropriate units of State and local government, as set forth in 35 Ill. Adm. Code 705.163(a)(5), announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after the Agency has issued such notice.

A) This notice must 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 the Agency.

B) This notice must contain the following:

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

ii) The name and telephone number of the Agency regional office appropriate for the facility;

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

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

4) The applicant must submit to the Agency a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and submit the results of all the determinations required in subsection (c). The Agency must, in the trial burn plan, require that the submission be made within 90 days after completion of the trial burn, or later if the Agency determines that a later date is acceptable.

5) All data collected during any trial burn must be submitted to the Agency following completion of the trial burn.

6) All submissions required by this subsection (d) must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report pursuant to 35 Ill. Adm. Code 702.126.

e) Special Procedures for DRE Trial Burns. When a DRE trial burn is required pursuant to 35 Ill. Adm. Code 726.104, the Agency must 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 must be calculated during the trial burn. These trial POHCs will be specified by the Agency based on information including the Agency's estimate of the difficulty of destroying the constituents identified in the hazardous waste analysis, their concentrations or mass in the hazardous waste feed, and, for hazardous waste containing or derived from wastes listed in Subpart D of 35 Ill. Adm. Code 721, the hazardous waste organic constituents identified in Appendix G to 35 Ill. Adm. Code 721 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 must make the following determinations:

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

2) When a DRE trial burn is required pursuant to 35 Ill. Adm. Code 726.204(a), the following determinations:

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; and

C) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in 35 Ill. Adm. Code 726.204(a);

3) When a trial burn for chlorinated dioxins and furans is required pursuant to 35 Ill. Adm. Code 726.204(e), a quantitative analysis of the stack gas for the concentration and mass emission rate of the 2,3,7,8-chlorinated tetra- through octa-congeners of chlorinated dibenzo-p-dioxins and furans, and a computation showing conformance with the emission standard;

4) When a trial burn for PM, metals, or HCl and chlorine gas is required pursuant to 35 Ill. Adm. Code 726.205, 726.206(c) or (d), or 726.207(b)(2) or (c), a quantitative analysis of the stack gas for the concentrations and mass emissions of PM, metals, or HCl and chlorine gas, and computations showing conformance with the applicable emission performance standards;

5) When a trial burn for DRE, metals, and HCl and chlorine gas is required pursuant to 35 Ill. Adm. Code 726.204(a), 726.206(c) or (d), or 726.207(b)(2) or (c), 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 and chloride;

6) An identification of sources of fugitive emissions and their means of control;

7) A continuous measurement of carbon monoxide (CO), oxygen, and, where required, hydrocarbons (HC) in the stack gas; and

8) Such other information as the Agency specifies as necessary to ensure that the trial burn will determine compliance with the performance standards 35 Ill. Adm. Code 726.204 through 726.207 and to establish the operating conditions required by 35 Ill. Adm. Code 726.204 through 726.207 and of determining adequate operating conditions pursuant to 35 Ill. Adm. Code 726.203, and to establish the operating conditions required by 35 Ill. Adm. Code 726.202(e) as necessary to meet those performance standards.

g) Interim Status Boilers and Industrial Furnaces. For the purpose of determining feasibility of compliance with the performance standards of 35 Ill. Adm. Code 726.204 through 726.207 and of determining adequate operating conditions pursuant to 35 Ill. Adm. Code 726.203, an applicant that owns or operates an existing boiler or industrial furnace that is operated under the interim status standards of 35 Ill. Adm. Code 726.203 must either prepare and submit a trial burn plan and perform a trial burn in accordance with this Section or submit other information as specified in Section 703.208(a)(6). The Agency must announce its intention to approve of the trial burn plan in accordance with the timing and distribution requirements of subsection (d)(3). The contents of the notice must include all of the following information: the name and telephone number of a contact person at the facility; the name and telephone number of the Agency regional office appropriate for the facility; 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 Agency approval of the plan, and the time periods during which the trial burn would be conducted. Applicants that submit a trial burn plan and receive approval before submission of the Part B permit application must complete the trial burn and submit the results specified in subsection (f) with the Part B permit application. If completion of this process conflicts with the date set for submission of the Part B application, the applicant must contact the Agency to establish a later date for submission 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 must be conducted and the results submitted within a time period prior to permit issuance to be specified by the Agency.

BOARD NOTE: Derived from 40 CFR 270.66 (2017).

(Source: Amended at 42 Ill. Reg. 20993, effective November 19, 2018)