**Section 703.208 Boilers and Industrial Furnaces Burning Hazardous Waste**

When the owner or operator of a cement or lightweight aggregate kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements, or when the 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 applies, 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 that certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with Sections 703.188, 703.189, and703.241(a)(2) and (a)(3).

a) Trial Burns

1) General. Except as provided below, an owner or operator that is subject to the standards to control organic emissions provided by 35 Ill. Adm. Code 726.204, standards to control particulate matter provided by 35 Ill. Adm. Code 726.205, standards to control metals emissions provided by 35 Ill. Adm. Code 726.206, or standards to control hydrogen chloride (HCl) or chlorine gas emissions provided by 35 Ill. Adm. Code 726.207 must conduct a trial burn to demonstrate conformance with those standards and must submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with Section 703.232.

A) Pursuant to subsections (a)(2) through (a)(5) and 35 Ill. Adm. Code 726.204 through 726.207, the Agency may waive a trial burn to demonstrate conformance with a particular emission standard; and

B) The owner or operator may submit data in lieu of a trial burn, as prescribed in subsection (a)(6).

2) Waiver of Trial Burn of DRE (Destruction Removal Efficiency)

A) Boilers Operatedunder Special Operating Requirements. When seeking to be permitted pursuant to 35 Ill. Adm. Code 726.204(a)(4) and 726.210, which automatically waive the DRE trial burn, the owner or operator of a boiler must submit documentation that the boiler operates under the special operating requirements provided by 35 Ill. Adm. Code 726.210.

B) Boilers and Industrial Furnaces Burning Low Risk Waste. When seeking to be permitted under the provisions for low risk waste provided by 35 Ill. Adm. Code 726.204(a)(5) and 726.209(a), which waive the DRE trial burn, the owner or operator must submit the following:

i) Documentation that the device is operated in conformance with 35 Ill. Adm. Code 726.209(a)(1).

ii) Results of analyses of each waste to be burned, documenting the concentrations of nonmetal compounds listed in Appendix H to 35 Ill. Adm. Code 721, except for those constituents that would reasonably not be expected to be in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained. The analysis must rely on appropriate analytical methods.

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.

iii) Documentation of hazardous waste firing rates and calculations of reasonable, worst-case emission rates of each constituent identified in subsection (a)(2)(B)(ii) using procedures provided by 35 Ill. Adm. Code 726.209(a)(2)(B).

iv) Results of emissions dispersion modeling for emissions identified in subsection (a)(2)(B)(iii) using modeling procedures prescribed by 35 Ill. Adm. Code 726.206(h). The Agency must review the emission modeling conducted by the applicant to determine conformance with these procedures. The Agency must either approve the modeling or determine that alternate or supplementary modeling is appropriate.

v) Documentation that the maximum annual average ground level concentration of each constituent identified in subsection (a)(2)(B)(ii) quantified in conformance with subsection (a)(2)(B)(iv) does not exceed the allowable ambient level established in Appendix D or E to 35 Ill. Adm. Code 726. The acceptable ambient concentration for emitted constituents for which a specific reference air concentration has not been established in Appendix D to 35 Ill. Adm. Code 726 or risk-specific doses has not been established in Appendix E to 35 Ill. Adm. Code 726 is 0.1 micrograms per cubic meter, as noted in the footnote to Appendix D to 35 Ill. Adm. Code 726.

3) Waiver of Trial Burn for Metals. When seeking to be permitted under the Tier I (or adjusted Tier I) metals feed rate screening limits provided by 35 Ill. Adm. Code 726.206(b) and (e) that control metals emissions without requiring a trial burn, the owner or operator must submit the following:

A) Documentation of the feed rate of hazardous waste, other fuels, and industrial furnace feed stocks;

B) Documentation of the concentration of each metal controlled by 35 Ill. Adm. Code 726.206(b) or (c) in the hazardous waste, other fuels and industrial furnace feedstocks, and calculations of the total feed rate of each metal;

C) Documentation of how the applicant will ensure that the Tier I feed rate screening limits provided by 35 Ill. Adm. Code 726.206(b) or (e) will not be exceeded during the averaging period provided by that subsection;

D) Documentation to support the determination of the TESH (terrain-adjusted effective stack height), good engineering practice stack height, terrain type, and land use, as provided by 35 Ill. Adm. Code 726.206(b)(3) through (b)(5);

E) Documentation of compliance with the provisions of 35 Ill. Adm. Code 726.206(b)(6), if applicable, for facilities with multiple stacks;

F) Documentation that the facility does not fail the criteria provided by 35 Ill. Adm. Code 726.206(b)(7) for eligibility to comply with the screening limits; and

G) Proposed sampling and metals analysis plan for the hazardous waste, other fuels, and industrial furnace feed stocks.

4) Waiver of Trial Burn for PM (Particulate Matter). When seeking to be permitted under the low risk waste provisions of 35 Ill. Adm. Code 726.209(b), which waives the particulate standard (and trial burn to demonstrate conformance with the particulate standard), applicants must submit documentation supporting conformance with subsections (a)(2)(B) and (a)(3).

5) Waiver of Trial Burn for HCl and Chlorine Gas. When seeking to be permitted under the Tier I (or adjusted Tier I) feed rate screening limits for total chlorine and chloride provided by 35 Ill. Adm. Code 726.207(b)(1) and (e) that control emissions of HCl and chlorine gas without requiring a trial burn, the owner or operator must submit the following:

A) Documentation of the feed rate of hazardous waste, other fuels, and industrial furnace feed stocks;

B) Documentation of the levels of total chlorine and chloride in the hazardous waste, other fuels and industrial furnace feedstocks, and calculations of the total feed rate of total chlorine and chloride;

C) Documentation of how the applicant will ensure that the Tier I (or adjusted Tier I) feed rate screening limits provided by 35 Ill. Adm. Code 726.207(b)(1) or (e) will not be exceeded during the averaging period provided by that subsection;

D) Documentation to support the determination of the TESH, good engineering practice stack height, terrain type and land use as provided by 35 Ill. Adm. Code 726.207(b)(3);

E) Documentation of compliance with the provisions of 35 Ill. Adm. Code 726.207(b)(4), if applicable, for facilities with multiple stacks;

F) Documentation that the facility does not fail the criteria provided by 35 Ill. Adm. Code 726.207(b)(3) for eligibility to comply with the screening limits; and

G) Proposed sampling and analysis plan for total chlorine and chloride for the hazardous waste, other fuels, and industrial furnace feedstocks.

6) Data in Lieu of Trial Burn. The owner or operator may seek an exemption from the trial burn requirements to demonstrate conformance with Section 703.232 and 35 Ill. Adm. Code 726.204 through 726.207 by providing the information required by Section 703.232 from previous compliance testing of the device in conformance with 35 Ill. Adm. Code 726.203 or from compliance testing or trial or operational burns of similar boilers or industrial furnaces burning similar hazardous wastes under similar conditions. If data from a similar device is used to support a trial burn waiver, the design and operating information required by Section 703.232 must be provided for both the similar device and the device to which the data is to be applied, and a comparison of the design and operating information must be provided. The Agency must approve a permit application without a trial burn if the Agency finds that the hazardous wastes are sufficiently similar, the devices are sufficiently similar, the operating conditions are sufficiently similar, and the data from other compliance tests, trial burns, or operational burns are adequate to specify (pursuant to 35 Ill. Adm. Code 726.102) operating conditions that will ensure conformance with 35 Ill. Adm. Code 726.102(c). In addition, the following information must be submitted:

A) For a waiver from any trial burn, the following:

i) A description and analysis of the hazardous waste to be burned compared with the hazardous waste for which data from compliance testing or operational or trial burns are provided to support the contention that a trial burn is not needed;

ii) The design and operating conditions of the boiler or industrial furnace to be used, compared with that for which comparative burn data are available; and

iii) Such supplemental information as the Agency finds necessary to achieve the purposes of this subsection (a).

B) For a waiver of the DRE trial burn, the basis for selection of POHCs (principal organic hazardous constituents) used in the other trial or operational burns that demonstrate compliance with the DRE performance standard in 35 Ill. Adm. Code 726.204(a). This analysis should specify the constituents in Appendix H to 35 Ill. Adm. Code 721 that the applicant has identified in the hazardous waste for which a permit is sought and any differences from the POHCs in the hazardous waste for which burn data are provided.

b) Alternative HC Limit for Industrial Furnaces with Organic Matter in Raw Materials. An owner or operator of industrial furnaces requesting an alternative HC limit pursuant to 35 Ill. Adm. Code 726.204(f) must submit the following information at a minimum:

1) Documentation that the furnace is designed and operated to minimize HC emissions from fuels and raw materials;

2) Documentation of the proposed baseline flue gas HC (and CO) concentration, including data on HC (and CO) levels during tests when the facility produced normal products under normal operating conditions from normal raw materials while burning normal fuels and when not burning hazardous waste;

3) Test burn protocol to confirm the baseline HC (and CO) level including information on the type and flow rate of all feedstreams, point of introduction of all feedstreams, total organic carbon content (or other appropriate measure of organic content) of all nonfuel feedstreams, and operating conditions that affect combustion of fuels and destruction of hydrocarbon emissions from nonfuel sources;

4) Trial burn plan to do the following:

A) To demonstrate when burning hazardous waste that flue gas HC (and CO) concentrations do not exceed the baseline HC (and CO) level; and

B) To identify, in conformance with Section 703.232(d), the types and concentrations of organic compounds listed in Appendix H to 35 Ill. Adm. Code 721 that are emitted when burning hazardous waste;

5) Implementation plan to monitor over time changes in the operation of the facility that could reduce the baseline HC level and procedures to periodically confirm the baseline HC level; and

6) Such other information as the Agency finds necessary to achieve the purposes of this subsection (b).

c) Alternative Metals Implementation Approach. When seeking to be permitted under an alternative metals implementation approach pursuant to 35 Ill. Adm. Code 726.206(f), the owner or operator must submit documentation specifying how the approach ensures compliance with the metals emissions standards of 35 Ill. Adm. Code 726.106(c) or (d) and how the approach can be effectively implemented and monitored. Further, the owner or operator must provide such other information that the Agency finds necessary to achieve the purposes of this subsection (c).

d) Automatic Waste Feed Cutoff System. An owner or operator must submit information describing the automatic waste feed cutoff system, including any pre-alarm systems that may be used.

e) Direct Transfer. An owner or operator that uses direct transfer operations to feed hazardous waste from transport vehicles (containers, as defined in 35 Ill. Adm. Code 726.211) directly to the boiler or industrial furnace must submit information supporting conformance with the standards for direct transfer provided by 35 Ill. Adm. Code 726.211.

f) Residues. An owner or operator that claims that its residues are excluded from regulation pursuant to 35 Ill. Adm. Code 726.212 must submit information adequate to demonstrate conformance with those provisions.

BOARD NOTE: Derived from 40 CFR 270.22 (2017).

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