**Section 726.202 Permit Standards for Burners**

a) Applicability

1) General. An owner or operator of a BIF that burns hazardous waste and that does not operate under interim status must comply with the requirements of this Section and 35 Ill. Adm. Code 703.208 and 703.232, unless exempt under the small quantity burner exemption of Section 726.208.

2) Applicability of 35 Ill. Adm. Code 724 Standards. An owner or operator of a BIF that burns hazardous waste is subject to the following provisions of 35 Ill. Adm. Code 724, except as provided otherwise by this Subpart H:

A) In Subpart A (General), 35 Ill. Adm. Code 724.104;

B) In Subpart B (General facility standards), 35 Ill. Adm. Code 724.111 through 724.118;

C) In Subpart C (Preparedness and prevention), 35 Ill. Adm. Code 724.131 through 724.137;

D) In Subpart D (Contingency plan and emergency procedures), 35 Ill. Adm. Code 724.151 through 724.156;

E) In Subpart E (Manifest system, recordkeeping and reporting), the applicable provisions of 35 Ill. Adm. Code 724.171 through 724.177;

F) In Subpart F (Releases from Solid Waste Management Units), 35 Ill. Adm. Code 724.190 and 724.201;

G) In Subpart G (Closure and post-closure), 35 Ill. Adm. Code 724.211 through 724.215;

H) In Subpart H (Financial requirements), 35 Ill. Adm. Code 724.241, 724.242, 724.243, and 724.247 through 724.251, except that the State of Illinois and the federal government are exempt from the requirements of Subpart H of 35 Ill. Adm. Code 724; and

I) Subpart BB (Air emission standards for equipment leaks), except 35 Ill. Adm. Code 724.950(a).

b) Hazardous Waste Analysis

1) The owner or operator must provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in Appendix H of 35 Ill. Adm. Code 721 that is reasonably expected to be in the waste. Such constituents must be identified and quantified if present, at levels detectable by using appropriate analytical methods. The constituents listed in Appendix H of 35 Ill. Adm. Code 721 that are excluded from this analysis must be identified and the basis for their exclusion explained. This analysis must provide all information required by this Subpart H and 35 Ill. Adm. Code 703.208 and 703.232 and must enable the Agency to prescribe such permit conditions as are necessary to adequately protect human health and the environment. Such analysis must be included as a portion of the Part B permit application, or, for facilities operating under the interim status standards of this Subpart H, as a portion of the trial burn plan that may be submitted before the Part B application under provisions of 35 Ill. Adm. Code 703.232(g), as well as any other analysis required by the Agency. The owner or operator of a BIF not operating under the interim status standards must provide the information required by 35 Ill. Adm. Code 703.208 and 703.232 in the Part B application to the greatest extent possible.

2) Throughout normal operation, the owner or operator must conduct sampling and analysis as necessary to ensure that the hazardous waste, other fuels, and industrial furnace feedstocks fired into the BIF are within the physical and chemical composition limits specified in the permit.

c) Emissions Standards. An owner or operator must comply with emissions standards provided by Sections 726.204 through 726.207.

d) Permits

1) The owner or operator must burn only hazardous wastes specified in the facility permit and only under the operating conditions specified under subsection (e), except in approved trial burns under the conditions specified in 35 Ill. Adm. Code 703.232.

2) Hazardous wastes not specified in the permit must not be burned until operating conditions have been specified under a new permit or permit modification, as applicable. Operating requirements for new wastes must be based on either trial burn results or alternative data included with Part B of a permit application under 35 Ill. Adm. Code 703.208.

3) BIFs operating under the interim status standards of Section 726.203 are permitted under procedures provided by 35 Ill. Adm. Code 703.232(g).

4) A permit for a new BIF (those BIFs not operating under the interim status standards) must establish appropriate conditions for each of the applicable requirements of this Section, including but not limited to allowable hazardous waste firing rates and operating conditions necessary to meet the requirements of subsection (e), in order to comply with the following standards:

A) 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 device to a point of operational readiness to conduct a trial burn, not to exceed a duration of 720 hours operating time when burning hazardous waste, the operating requirements must be those most likely to ensure compliance with the emission standards of Sections 726.204 through 726.207, based on the Agency's engineering judgment. If the applicant is seeking a waiver from a trial burn to demonstrate conformance with a particular emission standard, the operating requirements during this initial period of operation must include those specified by the applicable provisions of Section 726.204, Section 726.205, Section 726.206, or Section 726.207. The Agency must extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

B) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the emissions standards of Sections 726.204 through 726.207 and must be in accordance with the approved trial burn plan;

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

D) For the remaining duration of the permit, the operating requirements must be those demonstrated in a trial burn or by alternative data specified in 35 Ill. Adm. Code 703.208, as sufficient to ensure compliance with the emissions standards of Sections 726.204 through 726.207.

e) Operating Requirements

1) General. A BIF burning hazardous waste must be operated in accordance with the operating requirements specified in the permit at all times when there is hazardous waste in the unit.

2) Requirements to Ensure Compliance with the Organic Emissions Standards

A) DRE (destruction or removal efficiency) Standard. Operating conditions must be specified in either of the following ways: on a case-by-case basis for each hazardous waste burned, which conditions must be demonstrated (in a trial burn or by alternative data, as specified in 35 Ill. Adm. Code 703.208) to be sufficient to comply with the DRE performance standard of Section 726.204(a), or as special operating requirements provided by Section 726.204(a)(4) for the waiver of the DRE trial burn. When the DRE trial burn is not waived under Section 726.204(a)(4), each set of operating requirements must specify the composition of the hazardous waste (including acceptable variations in the physical and chemical properties of the hazardous waste that will not affect compliance with the DRE performance standard) to which the operating requirements apply. For each such hazardous waste, the permit must specify acceptable operating limits including, but not limited to, the following conditions, as appropriate:

i) Feed rate of hazardous waste and other fuels measured and specified as prescribed in subsection (e)(6);

ii) Minimum and maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in subsection (e)(6);

iii) Appropriate controls of the hazardous waste firing system;

iv) Allowable variation in BIF system design or operating procedures;

v) Minimum combustion gas temperature measured at a location indicative of combustion chamber temperature, measured, and specified as prescribed in subsection (e)(6);

vi) An appropriate indicator of combustion gas velocity, measured and specified as prescribed in subsection (e)(6), unless documentation is provided under 35 Ill. Adm. Code 703.232 demonstrating adequate combustion gas residence time; and

vii) Such other operating requirements as are necessary to ensure that the DRE performance standard of Section 726.204(a) is met.

B) CO and Hydrocarbon (HC) Standards. The permit must incorporate a CO limit and, as appropriate, a HC limit as provided by Section 726.204(b), (c), (d), (e), and (f). The permit limits must be specified as follows:

i) When complying with the CO standard of Section 726.204(b)(1), the permit limit is 100 ppmv;

ii) When complying with the alternative CO standard under Section 726.204(c), the permit limit for CO is based on the trial burn and is established as the average over all valid runs of the highest hourly rolling average CO level of each run; and, the permit limit for HC is 20 ppmv (as defined in Section 726.204(c)(1)), except as provided in Section 726.204(f); or

iii) When complying with the alternative HC limit for industrial furnaces under Section 726.204(f), the permit limit for HC and CO is the baseline level when hazardous waste is not burned as specified by that subsection.

C) Start-Up and Shut-Down. During start-up and shut-down of the BIF, hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride/chlorine, and except low risk waste exempt from the trial burn requirements under Sections 726.204(a)(5), 726.205, 726.206, and 726.207) must not be fed into the device, unless the device is operating within the conditions of operation specified in the permit.

3) Requirements to Ensure Conformance with the Particulate Matter (PM) Standard

A) Except as provided in subsections (e)(3)(B) and (e)(3)(C), the permit must specify the following operating requirements to ensure conformance with the PM standard specified in Section 726.205:

i) Total ash feed rate to the device from hazardous waste, other fuels, and industrial furnace feedstocks, measured and specified as prescribed in subsection (e)(6);

ii) Maximum device production rate when producing normal product expressed in appropriate units, and measured and specified as prescribed in subsection (e)(6);

iii) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system (APCS);

iv) Allowable variation in BIF system design including any APCS or operating procedures; and

v) Such other operating requirements as are necessary to ensure that the PM standard in Section 726.205(a) is met.

B) Permit conditions to ensure conformance with the PM standard must not be provided for facilities exempt from the PM standard under Section 726.205(b);

C) For cement kilns and light-weight aggregate kilns, permit conditions to ensure compliance with the PM standard must not limit the ash content of hazardous waste or other feed materials.

4) Requirements to Ensure Conformance with the Metals Emissions Standard

A) For conformance with the Tier I (or adjusted Tier I) metals feed rate screening limits of Section 726.206(b) or (e), the permit must specify the following operating requirements:

i) Total feed rate of each metal in hazardous waste, other fuels and industrial furnace feedstocks measured and specified under provisions of subsection (e)(6);

ii) Total feed rate of hazardous waste measured and specified as prescribed in subsection (e)(6); and

iii) A sampling and metals analysis program for the hazardous waste, other fuels and industrial furnace feedstocks;

B) For conformance with the Tier II metals emission rate screening limits under Section 726.206(c) and the Tier III metals controls under Section 726.206(d), the permit must specify the following operating requirements:

i) Maximum emission rate for each metal specified as the average emission rate during the trial burn;

ii) Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in subsection (e)(6)(A);

iii) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in subsections (e)(6): total feed streams; total hazardous waste feed; and total pumpable hazardous waste feed;

BOARD NOTE: The Board has combined the text of 40 CFR 266.102(e)(4)(ii)(C)(*1*) and (e)(4)(ii)(C)(*2*) into this subsection (e)(4)(B)(iii) to comport with Illinois Administrative Code codification requirements.

iv) Total feed rate of chlorine and chloride in total feed streams measured and specified as prescribed in subsection (e)(6);

v) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in subsection (e)(6);

vi) Maximum flue gas temperature at the inlet to the PM APCS measured and specified as prescribed in subsection (e)(6);

vii) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in subsection (e)(6);

viii) Appropriate controls on operation and maintenance of the hazardous waste firing system and any APCS;

ix) Allowable variation in BIF system design including any APCS or operating procedures; and

x) Such other operating requirements as are necessary to ensure that the metals standards under Section 726.206(c) or (d) are met.

C) For conformance with an alternative implementation approach approved by the Agency under Section 726.206(f), the permit must specify the following operating requirements:

i) Maximum emission rate for each metal specified as the average emission rate during the trial burn;

ii) Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in subsection (e)(6)(A);

iii) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in subsection (e)(6): total hazardous waste feed; and total pumpable hazardous waste feed;

BOARD NOTE: The Board has combined the text of 40 CFR 266.102(e)(4)(iii)(C)(*1*) and (e)(4)(iii)(C)(*2*) into this subsection (e)(4)(C)(iii) to comport with Illinois Administrative Code codification requirements.

iv) Total feed rate of chlorine and chloride in total feed streams measured and specified prescribed in subsection (e)(6);

v) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in subsection (e)(6);

vi) Maximum flue gas temperature at the inlet to the PM APCS measured and specified as prescribed in subsection (e)(6);

vii) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in subsection (e)(6);

viii) Appropriate controls on operation and maintenance of the hazardous waste firing system and any APCS;

ix) Allowable variation in BIF system design including any APCS or operating procedures; and

x) Such other operating requirements as are necessary to ensure that the metals standards under Section 726.206(c) or (d) are met.

5) Requirements to Ensure Conformance with the HCl and Chlorine Gas Standards

A) For conformance with the Tier I total chlorine and chloride feed rate screening limits of Section 726.207(b)(1), the permit must specify the following operating requirements:

i) Feed rate of total chlorine and chloride in hazardous waste, other fuels and industrial furnace feedstocks measured and specified as prescribed in subsection (e)(6);

ii) Feed rate of total hazardous waste measured and specified as prescribed in subsection (e)(6); and

iii) A sampling and analysis program for total chlorine and chloride for the hazardous waste, other fuels and industrial furnace feedstocks;

B) For conformance with the Tier II HCl and chlorine gas emission rate screening limits under Section 726.207(b)(2) and the Tier III HCl and chlorine gas controls under Section 726.207(c), the permit must specify the following operating requirements:

i) Maximum emission rate for HCl and for chlorine gas specified as the average emission rate during the trial burn;

ii) Feed rate of total hazardous waste measured and specified as prescribed in subsection (e)(6);

iii) Total feed rate of chlorine and chloride in total feed streams, measured and specified as prescribed in subsection (e)(6);

iv) Maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in subsection (e)(6);

v) Appropriate controls on operation and maintenance of the hazardous waste firing system and any APCS;

vi) Allowable variation in BIF system design including any APCS or operating procedures; and

vii) Such other operating requirements as are necessary to ensure that the HCl and chlorine gas standards under Section 726.207(b)(2) or (c) are met.

6) Measuring Parameters and Establishing Limits Based on Trial Burn Data

A) General Requirements. As specified in subsections (e)(2) through (e)(5), each operating parameter must be measured, and permit limits on the parameter must be established, according to either of the following procedures:

i) Instantaneous Limits. A parameter is measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the permit limit specified as the time-weighted average during all valid runs of the trial burn; or

ii) Hourly Rolling Average. The limit for a parameter must be established and continuously monitored on an hourly rolling average basis, as defined in Section 726.200(i). The permit limit for the parameter must be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average value for each run.

BOARD NOTE: The Board has combined the text of 40 CFR 266.102(e)(6)(i)(B)(*1*) and (e)(6)(i)(B)(*2*) into this subsection (e)(6)(A)(ii) and moved the text of 40 CFR 266.102(e)(6)(i)(B)(*1*)(*i*) and (e)(6)(i)(B)(*1*)(*ii*) to appear as definitions of "continuous monitor" and "hourly rolling average", respectively, in Section 726.200(i) to comport with Illinois Administrative Code codification requirements.

B) Rolling Average Limits for Carcinogenic Metals and Lead. Feed rate limits for the carcinogenic metals (as defined in Section 726.200(i)) and lead must be established either on an hourly rolling average basis, as prescribed by subsection (e)(6)(A), or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an average period from 2 to 24 hours, the following requirements apply:

i) The feed rate of each metal must be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis;

ii) The continuous monitor must meet the specifications of "continuous monitor", "rolling average for the selected averaging period", and "one hour block average" as defined in Section 726.200(i); and

BOARD NOTE: The Board has moved the text of 40 CFR 266.102(e)(6)(ii)(B)(*1*) and (e)(6)(ii)(B)(*2*) to appear as definitions in Section 726.200(i) to comport with Illinois Administrative Code codification requirements.

iii) The permit limit for the feed rate of each metal must be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average feed rate for each run.

C) Feed Rate Limits for Metals, Total Chlorine and Chloride, and Ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of subsections (e)(6)(A) and (e)(6)(B).

D) Conducting Trial Burn Testing

i) If compliance with all applicable emissions standards of Sections 726.204 through 726.207 is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards must be as close as possible to the original operating conditions.

ii) Prior to obtaining test data for purposes of demonstrating compliance with the emissions standards of Sections 726.204 through 726.207 or establishing limits on operating parameters under this Section, the unit must operate under trial burn conditions for a sufficient period to reach steady-state operations. However, industrial furnaces that recycle collected PM back into the furnace and that comply with an alternative implementation approach for metals under Section 726.206(f) need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals emissions.

iii) Trial burn data on the level of an operating parameter for which a limit must be established in the permit must be obtained during emissions sampling for the pollutants (i.e., metals, PM, HCl/chlorine gas, organic compounds) for which the parameter must be established as specified by this subsection (e).

7) General Requirements

A) Fugitive Emissions. Fugitive emissions must be controlled in one of the following ways:

i) By keeping the combustion zone totally sealed against fugitive emissions;

ii) By maintaining the combustion zone pressure lower than atmospheric pressure; or

iii) By an alternative means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

B) Automatic Waste Feed Cutoff. A BIF must be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this Section. In addition, the following requirements apply:

i) The permit limit for (the indicator of) minimum combustion chamber temperature must be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber;

ii) Exhaust gases must be ducted to the APCS operated in accordance with the permit requirements while hazardous waste or hazardous waste residues remain in the combustion chamber; and

iii) Operating parameters for which permit limits are established must continue to be monitored during the cutoff, and the hazardous waste feed must not be restarted until the levels of those parameters comply with the permit limits. For parameters that are monitored on an instantaneous basis, the Agency must establish a minimum period of time after a waste feed cutoff during which the parameter must not exceed the permit limit before the hazardous waste feed is restarted.

C) Changes. A BIF must cease burning hazardous waste when combustion properties or feed rates of the hazardous waste, other fuels or industrial furnace feedstocks, or the BIF design or operating conditions deviate from the limits as specified in the permit.

8) Monitoring and Inspections

A) The owner or operator must monitor and record the following, at a minimum, while burning hazardous waste:

i) If specified by the permit, feed rates and composition of hazardous waste, other fuels, and industrial furnace feedstocks and feed rates of ash, metals, and total chlorine and chloride;

ii) If specified by the permit, CO, HCs, and oxygen on a continuous basis at a common point in the BIF downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with operating requirements specified in subsection (e)(2)(B). CO, HC, and oxygen monitors must be installed, operated, and maintained in accordance with methods specified in Appendix I; and

iii) Upon the request of the Agency, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues, and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the applicable standards of Sections 726.204, 726.205, 726.206, and 726.207.

B) All monitors must record data in units corresponding to the permit limit unless otherwise specified in the permit.

C) The BIF and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) must be subjected to thorough visual inspection when it contains hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

D) The automatic hazardous waste feed cutoff system and associated alarms must be tested at least once every seven days when hazardous waste is burned to verify operability, unless the applicant demonstrates to the Agency that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least once every 30 days.

E) These monitoring and inspection data must be recorded and the records must be placed in the operating record required by 35 Ill. Adm. Code 724.173.

9) Direct Transfer to the Burner. If hazardous waste is directly transferred from a transport vehicle to a BIF without the use of a storage unit, the owner and operator must comply with Section 726.211.

10) Recordkeeping. The owner or operator must maintain in the operating record of the facility all information and data required by this Section for five years.

11) Closure. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the BIF.

(Source: Amended at 44 Ill. Reg. 15427, effective September 3, 2020)