**Section 726.212 Regulation of Residues**

A residue derived from the burning or processing of hazardous waste in a BIF is not excluded from the definition of a hazardous waste under 35 Ill. Adm. Code 721.104(b)(4), (b)(7), or (b)(8), unless the device and the owner or operator meet the following requirements:

a) The device meets the following criteria:

1) Boilers. Boilers must burn at least 50 percent coal on a total heat input or mass basis, whichever results in the greater mass feed rate of coal;

2) Ore or Mineral Furnaces. Industrial furnaces subject to 35 Ill. Adm. Code 721.104(b)(7) must process at least 50 percent by weight of normal, nonhazardous raw materials;

3) Cement Kilns. Cement kilns must process at least 50 percent by weight of normal cement-production raw materials;

b) The owner or operator demonstrates that the hazardous waste does not significantly affect the residue by demonstrating conformance with either of the following criteria:

1) Comparison of Waste-Derived Residue with Normal Residue. The waste-derived residue must not contain constituents listed in Appendix H of 35 Ill. Adm. Code 721 (toxic constituents) that could reasonably be attributable to the hazardous waste at concentrations significantly higher than in residue generated without burning or processing of hazardous waste, using the following procedure. Toxic compounds that could reasonably be attributable to burning or processing the hazardous waste (constituents of concern) include toxic constituents in the hazardous waste, and the organic compounds listed in Appendix H to 35 Ill. Adm. Code 721 that may be PICs. For polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses must be performed to determine specific congeners and homologues, and the results converted to 2,3,7,8-TCDD equivalent values using the procedure specified in section 4.0 of the documents referenced in Appendix I.

A) Normal Residue. Concentrations of toxic constituents of concern in normal residue must be determined based on analyses of a minimum of 10 samples representing a minimum of 10 days of operation. Composite samples may be used to develop a sample for analysis provided that the compositing period does not exceed 24 hours. The upper tolerance limit (at 95 percent confidence with a 95 percent proportion of the sample distribution) of the concentration in the normal residue must be considered the statistically-derived concentration in the normal residue. If changes in raw materials or fuels reduce the statistically-derived concentrations of the toxic constituents of concern in the normal residue, the statistically-derived concentrations must be revised or statistically-derived concentrations of toxic constituents in normal residue must be established for a new mode of operation with the new raw material or fuel. To determine the upper tolerance limit in the normal residue, the owner or operator must use statistical procedures prescribed in section 7.0 (Statistical Methodology for Bevill Residue Determinations) in federal appendix IX to 40 CFR 266 (Methods Manual for Compliance with the BIF Regulations), USEPA publication number EPA-454/R-92-019, incorporated by reference in 35 Ill. Adm. Code 720.111(b) (see Appendix I).

B) Waste-Derived Residue. Waste derived residue must be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the concentrations established for the normal residue under subsection (b)(1)(A). If so, hazardous waste burning has significantly affected the residue and the residue is not excluded from the definition of "hazardous waste". Concentrations of toxic constituents in waste-derived residue must be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent must be the arithmetic mean of the concentrations in the samples. No results can be disregarded; or

2) Comparison of Waste-Derived Residue Concentrations with Health-Based Limits

A) Nonmetal Constituents. The concentration of each nonmetal toxic constituent of concern (specified in subsection (b)(1)) in the waste-derived residue must not exceed the health-based level specified in Appendix G, or the level of detection, whichever is higher. If a health-based limit for a constituent of concern is not listed in Appendix G, then a limit of 0.002 µg/kg or the level of detection (using appropriate analytical methods), whichever is higher, must be used. The levels specified in Appendix G (and the default level of 0.002 µg/kg or the level of detection for constituents, as identified in Note 1 of Appendix G) are administratively stayed under the condition, for those constituents specified in subsection (b)(1), that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in 35 Ill. Adm. Code 728.143 and Table T of 35 Ill. Adm. Code 728 for F039 nonwastewaters. In complying with those alternative levels, if an owner or operator is unable to detect a constituent despite documenting use of the best good-faith efforts, as defined by applicable USEPA guidance and standards, the owner or operator is deemed to be in compliance for that constituent. Until USEPA develops new guidance or standards, the owner or operator may demonstrate such good-faith efforts by achieving a detection limit for the constituent that does not exceed an order of magnitude above (ten times) the level provided by 35 Ill. Adm. Code 728.143 and Table T of 35 Ill. Adm. Code 728 for F039 nonwastewater levels for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses must be performed for total hexachlorodibenzo-p-dioxins, total hexachlorodibenzofurans, total pentachlorodibenzo-p-dioxins, total pentachlorodibenzofurans, total tetrachlorodibenzo-p-dioxins, and total tetrachlorodibenzofurans;

BOARD NOTE: In a note to corresponding 40 CFR 266.112(b)(2)(i), USEPA stated as follows:

The administrative stay, under the condition that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in 35 Ill. Adm. Code 728.143 for F039 nonwastewaters, remains in effect until further administrative action is taken and notice is published in the Federal Register and the Code of Federal Regulations.

Under section 3006(b) and (g) of RCRA, 42 USC 6926(b) and (g), federal amendments do not go into effect in Illinois until the State of Illinois incorporates them into the State program. This applies unless the authority under which USEPA adopted the amendments is the Hazardous and Solid Waste Amendments of 1984 (HSWA), in which case the federal amendments become effective in Illinois on their federal effective date.

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.

B) Metal Constituents. The concentration of metals in an extract obtained using the TCLP test must not exceed the levels specified in Appendix G;

C) Sampling and Analysis. Wastewater-derived residue must be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the health-based levels. Concentrations of concern in the wastewater-derived residue must be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite for analysis provided that the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent is the arithmetic mean of the concentrations of the samples. No results can be disregarded; and

c) Records sufficient to document compliance with the provisions of this Section must be retained until closure of the BIF unit. At a minimum, the following must be recorded:

1) Levels of constituents in Appendix H of 35 Ill. Adm. Code 721 that are present in waste-derived residues;

2) If the waste-derived residue is compared with normal residue under subsection (b)(1):

A) The levels of constituents in Appendix H to 35 Ill. Adm. Code 721 that are present in normal residues; and

B) Data and information, including analyses of samples as necessary, obtained to determine if changes in raw materials or fuels would reduce the concentration of toxic constituents of concern in the normal residue.

(Source: Amended at 42 Ill. Reg. 23023, effective November 19, 2018)