

3745-266-20

Applicability- recyclable materials used in a manner that constitutes disposal.

(A) Rules 3745-266-20 to 3745-266-23 of the Administrative Code apply to recyclable materials that are applied to or placed on the land:

(1) Without mixing with any other ~~substance(s)~~substances; or

(2) After mixing or combination with any other ~~substance(s)~~substances. These materials will be referred to throughout rules 3745-266-20 to 3745-266-23 of the Administrative Code as "materials used in a manner that constitutes disposal."

~~(3) The materials in paragraphs (A)(1) and (A)(2) of this rule will be referred to throughout rules 3745-266-20 to 3745-266-23 of the Administrative Code as "materials used in a manner that constitutes disposal."~~

(B) Products produced for use by the general public that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means and if such products meet the applicable treatment standards in rules 3745-270-40 to 3745-270-49 of the Administrative Code [or applicable prohibition levels in rule 3745-270-32 of the Administrative Code or Section 3004(d) of RCRA, where no treatment standards have been established] for each recyclable material (i.e., hazardous waste) that they such products contain, and the recycler complies with paragraph (B)(6) of rule 3745-270-07 of the Administrative Code.

~~(C) Anti-skid/deicing~~Anti-skid and deicing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of hazardous wastes K061, K062, and F006, in a manner constituting disposal are not covered by the exemption in paragraph (B) of this rule and remain subject to regulation.

(D) Fertilizers that contain recyclable materials are not subject to regulation provided that:

(1) ~~They~~The fertilizers are zinc fertilizers excluded from the definition of "waste" according to paragraph (A)(21) of rule 3745-51-04 of the Administrative Code; or

- (2) ~~They~~The fertilizers meet the applicable treatment standards in rules 3745-270-40 to 3745-270-49 of the Administrative Code for each hazardous waste that ~~they~~the fertilizers contain.

[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."]

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Certification

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Date

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3745-266-21

Standards applicable to generators and transporters of materials used in a manner that constitutes disposal.

Generators and transporters of materials used in a manner that constitutes disposal are subject to the applicable requirements of Chapters 3745-52 and 3745-53 of the Administrative Code and the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity.

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Rule amplifies: 3734.12

Prior effective dates: 01/30/1986

3745-266-22

Standards applicable to storers of materials that are to be used in a manner that constitutes disposal who are not the ultimate users.

Owners or operators of facilities that store recyclable materials that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the materials, are regulated under all applicable provisions of Chapters 3745-54, 3745-55, 3745-65, and 3745-66, and rules 3745-50-40 to ~~3745-50-66~~3745-50-235, 3745-56-20 to 3745-56-31, 3745-56-50 to 3745-56-59, 3745-67-20 to 3745-67-30, and 3745-67-50 to 3745-67-60 of the Administrative Code, and the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity.

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R.C. 119.032 review dates: Exempt

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01/13/2009

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3745-266-23

Standards applicable to for users of materials that are used in a manner that constitutes disposal.

- (A) Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of Chapters 3745-54, 3745-55, 3745-56, 3745-65, 3745-66, 3745-67, and 3745-270, and rules 3745-50-39, 3745-50-40 to 3745-50-235, 3745-57-02 to 3745-57-17, and 3745-68-01 to 3745-68-16 of the Administrative Code, 40 CFR Part 124, and the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity. [These requirements do not apply to products which contain these recyclable materials under the provisions of paragraph (B) of rule 3745-266-20 of the Administrative Code.]
- (B) The use of waste or used oil or other material which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability) for dust suppression or road treatment is prohibited.

~~[Comment: See rules 3745-279-80 to 3745-279-82 of the Administrative Code for requirements regarding used oil used for dust suppression.]~~

[Comment: See rules 3745-279-80 to 3745-279-82 of the Administrative Code for requirements regarding used oil used for dust suppression.]

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3745-266-70

Applicability and requirements- recyclable materials utilized for precious metal recovery.

(A) This rule applies to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these.

(B) Persons who generate, transport, or store recyclable materials that are regulated under this rule are subject to the following:

(1) The requirement to notify Ohio EPA or U.S. EPA of regulated waste activity.

(2) Rules 3745-52-20 to 3745-52-27 of the Administrative Code (for generators), rules 3745-53-20 and 3745-53-21 of the Administrative Code (for transporters), and rules 3745-65-71 and 3745-65-72 of the Administrative Code (for persons who store).

(3) For precious metals exported to or imported from other countries for recovery, 40 ~~CFR~~C.F.R. Part 262 subpart H and ~~paragraph (A)(2) of rule 3745-65-12 of the Administrative Code.~~

[Comment: The exercise of foreign relations and international commerce powers is reserved to the federal government under the Constitution. These responsibilities are not delegable to the states. Therefore, the importation and exportation of hazardous waste into and out of the United States is solely regulated by the federal government.]

(C) Persons who store recycled materials that are regulated under this rule shall keep the following records to document that such persons are not accumulating these materials speculatively [as defined in paragraph (C) of rule 3745-51-01 of the Administrative Code]:

(1) Records showing the volume of these materials stored at the beginning of the calendar year.

(2) The amount of these materials generated or received during the calendar year.

(3) The amount of materials remaining at the end of the calendar year.

(D) Recyclable materials that are regulated under this rule that are "accumulated speculatively" [as defined in paragraph (C) of rule 3745-51-01 of the Administrative Code] are subject to all applicable provisions of Chapters 3745-50, 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, and 3745-256, ~~and rules 3745-50-40 to 3745-50-235~~ of the Administrative Code.

[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."]

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3745-266-80

Applicability and requirements- spent lead-acid batteries being reclaimed.

(A) Are spent lead-acid batteries exempt from hazardous waste management requirements?

If you generate, collect, transport, store, or regenerate lead-acid batteries for reclamation purposes, you may be exempt from certain hazardous waste management requirements. Use the following table to determine which requirements apply to you. Alternatively, you may choose to manage your spent lead-acid batteries under Chapter 3745-273 of the Administrative Code.

If your batteries...	And if you...	Then you...	And you...
(1) Will be <u>Are</u> reclaimed through regeneration (such as by electrolyte replacement)	--	Are exempt from the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, rules 3745-50-40 to 3745-50-235 of the Administrative Code, Chapters <u>3745-50</u> , 3745-52 (except for rule 3745-52-11 of the Administrative Code), 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266 (except for this rule), and 3745-270 of the Administrative Code	Are subject to Chapter 3745-51 and rule 3745-52-11 of the Administrative Code
(2) Will be <u>Are</u> reclaimed other than through regeneration	Generate, collect, or transport these batteries	Are exempt from the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, rules 3745-50-40 to 3745-50-235 of the Administrative Code, Chapters <u>3745-50</u> , 3745-52 (except for rule 3745-52-11 of the Administrative Code), 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, and 3745-266	Are subject to Chapter 3745-51 and rule 3745-52-11 of the Administrative Code, and applicable provisions in Chapter 3745-270 of the Administrative Code

		of the Administrative Code (except for this rule)	
(3) Will be <u>Are</u> reclaimed other than through regeneration	Store these batteries but you aren't the claimer	Are exempt from the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, rules 3745-50-40 to 3745-50-235 of the Administrative Code, Chapters <u>3745-50</u> , 3745-52 (except for rule 3745-52-11 of the Administrative Code), 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, and 3745-266 of the Administrative Code (except for this rule)	Are subject to Chapter 3745-51 and rule 3745-52-11 of the Administrative Code, and applicable provisions in Chapter 3745-270 of the Administrative Code
(4) Will be <u>Are</u> reclaimed other than through regeneration	Store these batteries before you reclaim these batteries	Shall comply with paragraph (B) of this rule, and as appropriate, other regulatory provisions described in paragraph (B) of this rule. <u>(See paragraph (A) [Comment 2] of this rule.)</u>	Are subject to Chapter 3745-51 and rule 3745-52-11 of the Administrative Code, and applicable provisions in Chapter 3745-270 of the Administrative Code
(5) Will be <u>Are</u> reclaimed other than through regeneration	Don't store these batteries before you reclaim these batteries	Are exempt from the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, rules 3745-50-40 to 3745-50-235 of the Administrative Code, Chapters <u>3745-50</u> , 3745-52 (except for rule 3745-52-11 of the Administrative Code), 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205,	Are subject to Chapter 3745-51 and rule 3745-52-11 of the Administrative Code, and applicable provisions in Chapter 3745-270 of the Administrative Code

		<p>3745-256, and 3745-266 of the Administrative Code (except for this rule)</p>	
<p>(6) Will be <u>Are</u> reclaimed other than through regeneration or any other means</p>	<p>Store spent lead-acid batteries for less than seventy-two hours before entering the spent lead-acid batteries into the reclaiming process at your facility <u>Export these batteries for reclamation in a foreign country</u></p>	<p>Are exempt from rules 3745-50-40 to 3745-50-235 of the Administrative Code, and shall comply with paragraph (C) of this rule, and as appropriate, shall comply with other rules referenced in paragraph (C) of this rule <u>the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, Chapters 3745-50, 3745-52 (except for rules 3745-52-11 and 3745-52-18 of the Administrative Code, and 40 C.F.R. Part 262 subpart H), 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266 (except for this rule), and 3745-270 of the Administrative Code</u></p>	<p>Are subject to Chapter 3745-51 and rules <u>rules 3745-52-11 and 3745-52-18</u> of the Administrative Code, and applicable provisions of Chapter 3745-270 of the Administrative Code <u>40 C.F.R. Part 262 subpart H</u></p>
<p>(7) Will be <u>Are</u> reclaimed through regeneration or any other means</p>	<p>Transport these batteries in the United States to export these batteries for reclamation in a foreign country</p>	<p>Are exempt from the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, and rules 3745-50-40 to 3745-50-235 of the Administrative Code, and Chapters 3745-50, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266 (except for this rule), and 3745-270 of the Administrative Code</p>	<p>Shall comply with applicable requirements in 40 CFR <u>40 C.F.R.</u> Part 262 subpart H</p>

<p>(8) Will be<u>Are</u> reclaimed other than through regeneration</p>	<p>Import these batteries from foreign country and store these batteries, but you aren't the claimer</p>	<p>Are exempt from the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, rules 3745-50-40 to 3745-50-235 of the Administrative Code, Chapter 3745-50, 3745-52 of the Administrative Code (except for rules 3745-52-11 and 3745-52-12<u>3745-52-18</u> of the Administrative Code; and Chapters), 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266 (except for this rule), and 3745-270 of the Administrative Code</p>	<p>Are subject to Chapter 3745-51 and rules 3745-52-11 and 3745-52-12 <u>3745-52-18</u> of the Administrative Code, applicable provisions of Chapter 3745-270 of the Administrative Code, and 40 CFR<u>C.F.R.</u> Part 262 subpart H</p>
<p>(9) Will be<u>Are</u> reclaimed other than through regeneration</p>	<p>Import these batteries from foreign country and store these batteries before you reclaim these batteries</p>	<p>Shall comply with paragraph (B) of this rule, and, as appropriate, other regulatory provisions described in paragraph (B) of this rule. <u>(See paragraph (A) [Comment 2] of this rule.)</u></p>	<p>Are subject to Chapter 3745-51 and rules 3745-52-11 and 3745-52-12 <u>3745-52-18</u> of the Administrative Code, applicable provisions of Chapter 3745-270 of the Administrative Code, and 40 CFR<u>C.F.R.</u> Part 262 subpart H</p>
<p>(10) Will be<u>Are</u> reclaimed other than through regeneration</p>	<p>Import these batteries from foreign country and don't store these batteries before you</p>	<p>Are exempt from the requirement to notify Ohio EPA or U.S. EPA of regulated waste activity, rules 3745-50-40 to 3745-50-235 of the Administrative</p>	<p>Are subject to Chapter 3745-51 and rules 3745-52-11 and 3745-52-12 <u>3745-52-18</u> of the Administrative Code, applicable</p>

	reclaim these batteries	Code, Chapter <u>Chapters 3745-50, 3745-52 of the Administrative Code</u> (except for rules 3745-52-11 and 3745-52-12 <u>3745-52-18</u> of the Administrative Code, and Chapters, and <u>40 C.F.R. Part 262 subpart H</u>), 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266 (except for this rule), and 3745-270 of the Administrative Code	provisions of Chapter 3745-270 of the Administrative Code, and 40 CFRC <u>C.F.R.</u> Part 262 subpart H
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[Comment 1: The exercise of foreign relations and international commerce powers is reserved to the federal government under the Constitution. These responsibilities are not delegable to the states. Therefore, the importation and exportation of hazardous waste into and out of the United States is solely regulated by the federal government.]

[Comment 2: Owners or operators who store lead acid batteries for less than seventy-two-hours prior to reclaiming as described in paragraphs (A)(4) and (A)(9) of this rule, may comply with paragraph (C)(3) of rule 3745-51-06 of the Administrative Code in lieu of paragraph (B) of this rule.]

(B) If I store spent lead-acid batteries before I reclaim the lead-acid batteries but not through regeneration, which requirements apply? Paragraph (B) of this rule applies to you if you store spent lead-acid batteries before you reclaim the lead-acid batteries, but you don't reclaim the lead-acid batteries through regeneration. The following requirements are slightly different, depending on your hazardous waste management permit status:

- (1) For facilities with a permit by rule, you shall comply with all of the following:
 - (a) The requirement to notify Ohio EPA or U.S. EPA of regulated waste activity.
 - (b) All applicable provisions in rule 3745-65-01 of the Administrative Code.
 - (c) All applicable provisions in rules 3745-65-10 to 3745-65-19 of the Administrative Code ~~but not~~ except rule 3745-65-13 of the Administrative Code (waste analysis).

- (d) All applicable provisions in rules 3745-65-30 to 3745-65-37 and 3745-65-50 to 3745-65-56 of the Administrative Code.
 - (e) All applicable provisions in rules 3745-65-70 to 3745-65-77 of the Administrative Code ~~but not rule~~except rules 3745-65-71 ~~or~~and 3745-65-72 of the Administrative Code (dealing with the use of the manifest and manifest discrepancies)†.
 - (f) All applicable provisions in rules 3745-65-90 to 3745-65-94, 3745-67-20 to 3745-67-30, and 3745-67-50 to 3745-67-60, and Chapter 3745-66 of the Administrative Code.
 - (g) All applicable provisions in ~~rules 3745-50-40 to 3745-50-235~~Chapter 3745-50 of the Administrative Code.
 - (h) [Reserved.]
- (2) For permitted facilities, you shall comply with all of the following:
- (a) The requirement to notify Ohio EPA or U.S. EPA of regulated waste activity.
 - (b) All applicable provisions in rules 3745-54-01 to 3745-54-03 of the Administrative Code.
 - (c) All applicable provisions in rules 3745-54-10 to 3745-54-19 of the Administrative Code ~~but not~~except rule 3745-54-13 of the Administrative Code (waste analysis)†.
 - (d) All applicable provisions in rules 3745-54-30 to 3745-54-37 and 3745-54-50 to 3745-54-56 of the Administrative Code.
 - (e) All applicable provisions in rules 3745-54-70 to 3745-54-77 of the Administrative Code ~~but not~~except rule 3745-54-71 or 3745-54-72 of the Administrative Code (dealing with the use of the manifest and manifest discrepancies)†.
 - (f) All applicable provisions in rules 3745-54-90 to 3745-54-101, 3745-56-20 to 3745-56-31, and 3745-56-50 to 3745-56-59, and Chapter 3745-55 of the Administrative Code.
 - (g) All applicable provisions in ~~rules 3745-50-40 to 3745-50-235~~Chapter 3745-50 of the Administrative Code.

(h) [Reserved.]

~~(C) If I store spent lead-acid batteries received from off-site for less than seventy-two hours prior to entering the lead-acid batteries into the reclaiming process, but reclamation is not through regeneration, which requirements apply? You shall store spent lead-acid batteries received from off-site in tanks, containers, or containment buildings. You shall comply with the applicable requirements of paragraphs (C)(3) to (C)(3)(b) of rule 3745-51-06 of the Administrative Code.~~

[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."]

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3745-266-100

Applicability- boilers and industrial furnaces.

(A) Rules 3745-266-100 to 3745-266-112 of the Administrative Code apply to hazardous waste burned or processed in a "boiler" or "industrial furnace" (as those terms are defined in rule 3745-50-10 of the Administrative Code) irrespective of the purpose of burning or processing, except as provided by paragraphs (B), (C), (D), (G), and (H) of this rule. In rules 3745-266-100 to 3745-266-112 of the Administrative Code, the term "burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient. The emissions standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code apply to facilities operating under permit by rule or under an Ohio hazardous waste permit as specified in rules 3745-266-102 and 3745-266-103 of the Administrative Code.

(B) Integration of the maximum achievable control technology (MACT) standards.

(1) Except as provided by paragraphs (B)(2), (B)(3), and (B)(4) of this rule, Chapter 3745-266 of the Administrative Code does not apply to a new hazardous waste boiler or industrial furnace unit that becomes subject to regulation under the hazardous waste permit requirements after February 16, 2009, or no longer applies when an owner or operator of an existing hazardous waste boiler or industrial furnace unit demonstrates compliance with the ~~maximum achievable control technology (MACT)~~ requirements of 40 CFR Part 63 subpart EEE by conducting a comprehensive performance test and submitting to the director a notification of compliance under 40 CFR 63.1207(j) and 40 CFR 63.1210(d) that documents compliance with 40 CFR Part 63 subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, hazardous waste installation and operation permit conditions ~~that were~~ based on the standards of Chapter 3745-266 of the Administrative Code ~~will~~ continue to be in effect until they the conditions are removed from the permit, or the permit is revoked, unless the permit expressly provides otherwise.

(2) The following standards continue to apply:

(a) 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, paragraph (E)(1) of rule 3745-266-102 of the Administrative Code that requires compliance with the operating requirements specified in the permit at all times that hazardous waste is in the unit, and paragraph (E)(2)(c) of rule 3745-266-102 of the Administrative Code that requires compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes. These provisions apply only during startup, shutdown, and malfunction events;

- (b) The closure requirements of paragraph (E)(11) of rule 3745-266-102 and paragraph (L) of rule 3745-266-103 of the Administrative Code.
 - (c) The standards for direct transfer of rule 3745-266-111 of the Administrative Code;
 - (d) The standards for regulation of residues of rule 3745-266-112 of the Administrative Code; ~~and~~
 - (e) The applicable requirements of Chapters 3745-54 and 3745-65 and rules 3745-55-10 to 3745-55-20, 3745-55-40 to 3745-55-51, 3745-66-10 to 3745-66-21, and 3745-66-40 to 3745-66-48 of the Administrative Code, 40 CFR Part 264 subparts BB and CC, and 40 CFR Part 265 subparts BB and CC.
- (3) Boilers or hydrochloric acid production furnaces that are area sources under 40 CFR 63.2 for which owners or operators elect not to comply with the emission standards under 40 CFR 63.1216, 40 CFR 63.1217, and 40 CFR 63.1218 for particulate matter, semivolatile and low volatile metals, and total chlorine remain subject to:
- (a) Rule 3745-266-105 of the Administrative Code titled "Standards to control particulate matter";
 - (b) Rule 3745-266-106 of the Administrative Code titled "Standards to control metal emissions," except for mercury"; and
 - (c) Rule 3745-266-107 of the Administrative Code titled "Standards to control hydrogen chloride and chlorine gas emissions."
- (4) The particulate matter standard of rule 3745-266-105 of the Administrative Code remains in effect for boilers for which owners or operators elect to comply with the alternative to the particulate matter standard under 40 CFR 63.1216(e) and 40 CFR 63.1217(e).
- (C) The following hazardous wastes and facilities are not subject to regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code:
- (1) Used oil burned for energy recovery that is also a hazardous waste solely because ~~it~~ the used oil exhibits a characteristic of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code. Such used oil is subject to regulation under Chapter 3745-279 of the Administrative Code.

- (2) Gas recovered from hazardous waste landfills or solid waste landfills when such gas is burned for energy recovery.
 - (3) Hazardous wastes that are exempt from regulation under rule 3745-51-04 and paragraphs (A)(3)(c) and (A)(3)(d) of rule 3745-51-06 of the Administrative Code.
 - (4) Coke ovens, if the only hazardous waste burned is EPA hazardous waste number K087, decanter tank tar sludge from coking operations.
- (D) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces, but not including cement kilns, aggregate kilns, or halogen acid furnaces burning hazardous waste) that process hazardous waste solely for metal recovery are conditionally exempt from regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code, except for rules 3745-266-101 and 3745-266-112 of the Administrative Code.
- (1) To be exempt from rules 3745-266-102 to 3745-266-111 of the Administrative Code, an owner or operator of a metal recovery furnace or mercury recovery furnace shall comply with the following requirements, except that an owner or operator of a lead or a nickel-chromium recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, shall comply with paragraph (D)(3) of this rule, and owners or operators of lead recovery furnaces that are subject to regulation under the secondary lead smelting "National Emissions Standards for Hazardous Air Pollutants" (NESHAP) shall comply with paragraph (H) of this rule:
 - (a) Provide a one-time written notice to the director that indicates all of the following:
 - (i) The owner or operator claims exemption under paragraph (D)(1) of this rule;
 - (ii) The hazardous waste is burned solely for metal recovery consistent with paragraph (D)(2) of this rule;
 - (iii) The hazardous waste contains recoverable levels of metals; and
 - (iv) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of ~~paragraphs~~ paragraph (D) to (D)(3)(b)(iii) of this rule;

- (b) Sample and analyze the hazardous waste and other feedstocks as necessary to comply with ~~paragraphs~~paragraph (D) ~~to (D)(3)(b)(iii)~~ of this rule by using appropriate methods; and
 - (c) Maintain at the facility for at least three years records to document compliance with ~~paragraphs~~paragraph (D) ~~to (D)(3)(b)(iii)~~ of this rule including limits on levels of toxic organic constituents and British thermal unit (Btu) value of the waste, and levels of recoverable metals in the hazardous waste compared to normal nonhazardous waste feedstocks.
- (2) A hazardous waste that meets either of the following criteria is not processed solely for metal recovery:
 - (a) The hazardous waste has a total concentration of organic compounds listed in the appendix to rule 3745-51-11 of the Administrative Code that exceeds five hundred parts per million (ppm) by weight, as-fired, and so is considered to be burned for destruction. The concentration of organic compounds in a waste as-generated may be reduced to the five hundred ppm limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the five hundred ppm limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the records required by paragraph (D)(1)(c) of this rule; or
 - (b) The hazardous waste has a heating value of five thousand Btu per pound or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the five thousand Btu per pound limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the five thousand Btu per pound limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the records required by paragraph (D)(1)(c) of this rule.
- (3) To be exempt from rules 3745-266-102 to 3745-266-111 of the Administrative Code, an owner or operator of a lead or nickel-chromium or mercury recovery furnace (except for owners or operators of lead recovery furnaces subject to regulation under the secondary lead smelting NESHAP) or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing; shall provide a one-time written notice to the director that identifies each hazardous waste burned and that specifies whether the owner or operator claims an exemption for each waste under this paragraph or paragraph (D)(1) of this rule. The owner or operator shall comply with paragraph (D)(1) of this rule for those wastes claimed to be exempt under paragraph (D)(1) of

this rule and shall comply with paragraphs (D)(3)(a) and (D)(3)(b) of this rule for those wastes claimed to be exempt under ~~paragraphs~~paragraph (D)(3) to (D)(3)(b)(iii) of this rule.

- (a) The hazardous wastes listed in appendices A, B, and C to this rule and baghouse bags used to capture metallic dusts emitted by steel manufacturing are exempt from paragraph (D)(1) of this rule, provided that:
- (i) A waste listed in appendix A to this rule shall contain recoverable levels of lead, a waste listed in appendix B to this rule shall contain recoverable levels of nickel or chromium, a waste listed in appendix C to this rule shall contain recoverable levels of mercury and contain less than five hundred ppm of organic constituents in the appendix to rule 3745-51-11 of the Administrative Code, and baghouse bags used to capture metallic dusts emitted by steel manufacturing shall contain recoverable levels of metal; and
 - (ii) The waste does not exhibit the toxicity characteristic of rule 3745-51-24 of the Administrative Code for an organic constituent; and
 - (iii) The waste is not a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code because it the waste is listed for an organic constituent as identified in the appendix to rule 3745-51-30 of the Administrative Code; and
 - (iv) The owner or operator certifies in the one-time notice that hazardous waste is burned under paragraph (D)(3) of this rule and that sampling and analysis will be conducted or other information will be obtained as necessary to ensure continued compliance with these requirements. Sampling and analysis shall be conducted according to paragraph (D)(1)(b) of this rule, and records to document compliance with paragraph (D)(3) of this rule shall be kept for at least three years.
- (b) The director may decide on a case-by-case basis that the toxic organic constituents in a material listed in appendix A, B, or C to this rule that contains a total concentration of more than five hundred ppm toxic organic compounds listed in the appendix to rule 3745-51-11 of the Administrative Code; may pose a hazard to human health and the environment when burned in a metal recovery furnace that is exempt from rules 3745-266-100 to 3745-266-112 of the Administrative Code.

In that situation, after adequate notice and opportunity for comment, the metal recovery furnace will become subject to rules 3745-266-100 to 3745-266-112 of the Administrative Code when burning that material. In making the hazard determination, the director will consider the following factors:

- (i) The concentration and toxicity of organic constituents in the material.
 - (ii) The level of destruction of toxic organic constituents provided by the furnace.
 - (iii) Whether the acceptable ambient levels established in appendix A or appendix B to rule 3745-266-109 of the Administrative Code may be exceeded for any toxic organic compound that may be emitted based on dispersion modeling to predict the maximum annual average off-site ground level concentration.
- (E) The standards for direct transfer operations under rule 3745-266-111 of the Administrative Code apply only to facilities subject to the permit standards of rule 3745-266-102 of the Administrative Code or the interim standards of rule 3745-266-103 of the Administrative Code.
- (F) The management standards for residues under rule 3745-266-112 of the Administrative Code apply to any boiler or industrial furnace that burns hazardous waste.
- (G) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces) that process hazardous waste for recovery of economically significant amounts of the precious metals gold, silver, platinum, palladium, iridium, osmium, rhodium, or ruthenium, or any combination of these are conditionally exempt from regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code, except for rule 3745-266-112 of the Administrative Code. To be exempt from rules 3745-266-101 to 3745-266-111 of the Administrative Code, an owner or operator shall:
- (1) Provide a one-time written notice to the director that indicates the following:
 - (a) The owner or operator claims exemption under ~~paragraphs~~paragraph (G) to (G)(3) of this rule;
 - (b) The hazardous waste is burned for legitimate recovery of precious metal;
and

- (c) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of ~~paragraphs~~paragraph (G) to (G)(3) of this rule; and
- (2) Sample and analyze the hazardous waste as necessary to document that the waste contains economically significant amounts of the metals and that the treatment recovers economically significant amounts of precious metals; and
- (3) Maintain at the facility for at least three years records to document that all hazardous wastes burned are burned for recovery of economically significant amounts of precious metal.
- (H) Owners or operators of lead recovery furnaces that process hazardous waste for recovery of lead and that are subject to regulation under the secondary lead smelting NESHAP; are conditionally exempt from regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code, except for rule 3745-266-101 of the Administrative Code. To be exempt, an owner or operator shall provide a one-time notice to the director that identifies each hazardous waste burned and that specifies that the owner or operator claims an exemption under this paragraph. The notice also shall state that the waste burned has a total concentration of non-metal compounds listed in the appendix to rule 3745-51-11 of the Administrative Code of less than five hundred ppm by weight, as fired and as provided in paragraph (D)(2)(a) of this rule, or is listed in appendix A to this rule.

[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."]

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3745-266-100

APPENDIX

1

Appendix A to rule 3745-266-100 of the Administrative Code

Lead-Bearing Materials That May Be Processed in Exempt Lead Smelters:

A. Exempt Lead-Bearing Materials When Generated Or Originally Produced By
Lead-Associated Industries *

- Acid dump or fill solids
- Sump mud
- Materials from laboratory analyses
- Acid filters
- Baghouse bags
- Clothing (e.g., coveralls, aprons, shoes, hats, gloves)
- Sweepings
- Air filter bags and cartridges
- Respiratory cartridge filters
- Shop abrasives
- Stacking boards
- Waste shipping containers (e.g., cartons, bags, drums, cardboard)
- Paper hand towels
- Wiping rags and sponges
- Contaminated pallets
- Water treatment sludges, filter cakes, residues, and solids
- Emission control dusts, sludges, filter cakes, residues, and solids from lead-associated industries (e.g., K069 and D008 wastes)
- Spent grids, posts, and separators
- Spent batteries
- Lead oxide and lead oxide residues
- Lead plates and groups
- Spent battery cases, covers, and vents
- Pasting belts
- Water filter media
- Cheesecloth from pasting rollers
- Pasting additive bags
- Asphalt paving materials

B. Exempt Lead-Bearing Materials When Generated or Originally Produced By Any Industry

- Charging jumpers and clips
- Platen abrasive
- Fluff from lead wire and cable casings
- Lead-based pigments and compounding pigment dust

- * Lead-associated industries are lead smelters, lead- acid battery manufacturing, and lead chemical manufacturing (e.g., manufacturing of lead oxide or other lead compounds).

3745-266-100

APPENDIX

1

Appendix B to rule 3745-266-100 of the Administrative Code

Nickel or Chromium-Bearing Materials That May Be Processed in
Exempt Nickel-Chromium Recovery Furnaces

- A. Exempt Nickel or Chromium-Bearing Materials when Generated by Manufacturers or Users of Nickel, Chromium, or Iron
- Baghouse bags
 - Raney nickel catalyst
 - Floor sweepings
 - Air filters
 - Electroplating bath filters
 - Wastewater filter media
 - Wood pallets
 - Disposable clothing (coveralls, aprons, hats, and gloves)
 - Laboratory samples and spent chemicals
 - Shipping containers and plastic liners from containers or vehicles used to transport nickel or chromium-containing wastes
 - Respirator cartridge filters
 - Paper hand towels
- B. Exempt Nickel or Chromium-Bearing Materials when Generated by Any Industry
- Electroplating wastewater treatment sludges (F006)
 - Nickel solutions and chromium-containing solutions
 - Nickel, chromium, and iron catalysts
 - Nickel-cadmium and nickel-iron batteries
 - Filter cake from wet scrubber system water treatment plants in the specialty steel industry*
 - Filter cake from nickel-chromium alloy pickling operations *

* If a hazardous waste under an authorized state program. (Ohio's program is authorized.)

3745-266-100

APPENDIX

1

Appendix C to rule 3745-266-100 of the Administrative Code

Mercury Bearing Wastes That May Be Processed
in Exempt Mercury Recovery Units

These are exempt mercury-bearing materials with less than five hundred parts per million of organic constituents in the appendix to rule 3745-51-11 of the Administrative Code when generated by manufacturers or users of mercury or mercury products.

1. Activated carbon
2. Decomposer graphite
3. Wood
4. Paper
5. Protective clothing
6. Sweepings
7. Respiratory cartridge filters
8. Cleanup articles
9. Plastic bags and other contaminated containers
10. Laboratory and process control samples
11. K106 and other wastewater treatment plant sludge and filter cake
12. Mercury cell sump and tank sludge
13. Mercury cell process solids
14. Recoverable levels of mercury contained in soil

3745-266-100

Applicability- boilers and industrial furnaces.

(A) Rules 3745-266-100 to 3745-266-112 of the Administrative Code apply to hazardous waste burned or processed in a "boiler" or "industrial furnace" (as those terms are defined in rule 3745-50-10 of the Administrative Code) irrespective of the purpose of burning or processing, except as provided by paragraphs (B), (C), (D), (G), and (H) of this rule. In rules 3745-266-100 to 3745-266-112 of the Administrative Code, the term "burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient. The emissions standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code apply to facilities operating under permit by rule or under an Ohio hazardous waste permit as specified in rules 3745-266-102 and 3745-266-103 of the Administrative Code.

(B) Integration of the maximum achievable control technology (MACT) standards.

(1) Except as provided by paragraphs (B)(2), (B)(3), and (B)(4) of this rule, Chapter 3745-266 of the Administrative Code does not apply to a new hazardous waste boiler or industrial furnace unit that becomes subject to regulation under the hazardous waste permit requirements after February 16, 2009, or no longer applies when an owner or operator of an existing hazardous waste boiler or industrial furnace unit demonstrates compliance with the ~~maximum achievable control technology (MACT)~~ requirements of 40 CFR Part 63 subpart EEE by conducting a comprehensive performance test and submitting to the director a notification of compliance under 40 CFR 63.1207(j) and 40 CFR 63.1210(d) that documents compliance with 40 CFR Part 63 subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, hazardous waste installation and operation permit conditions ~~that were~~ based on the standards of Chapter 3745-266 of the Administrative Code ~~will~~ continue to be in effect until they the conditions are removed from the permit, or the permit is revoked, unless the permit expressly provides otherwise.

(2) The following standards continue to apply:

(a) 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, paragraph (E)(1) of rule 3745-266-102 of the Administrative Code that requires compliance with the operating requirements specified in the permit at all times that hazardous waste is in the unit, and paragraph (E)(2)(c) of rule 3745-266-102 of the Administrative Code that requires compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes. These provisions apply only during startup, shutdown, and malfunction events;

- (b) The closure requirements of paragraph (E)(11) of rule 3745-266-102 and paragraph (L) of rule 3745-266-103 of the Administrative Code.
 - (c) The standards for direct transfer of rule 3745-266-111 of the Administrative Code;
 - (d) The standards for regulation of residues of rule 3745-266-112 of the Administrative Code; ~~and~~
 - (e) The applicable requirements of Chapters 3745-54 and 3745-65 and rules 3745-55-10 to 3745-55-20, 3745-55-40 to 3745-55-51, 3745-66-10 to 3745-66-21, and 3745-66-40 to 3745-66-48 of the Administrative Code, 40 CFR Part 264 subparts BB and CC, and 40 CFR Part 265 subparts BB and CC.
- (3) Boilers or hydrochloric acid production furnaces that are area sources under 40 CFR 63.2 for which owners or operators elect not to comply with the emission standards under 40 CFR 63.1216, 40 CFR 63.1217, and 40 CFR 63.1218 for particulate matter, semivolatile and low volatile metals, and total chlorine remain subject to:
- (a) Rule 3745-266-105 of the Administrative Code titled "Standards to control particulate matter";
 - (b) Rule 3745-266-106 of the Administrative Code titled "Standards to control metal emissions," except for mercury"; and
 - (c) Rule 3745-266-107 of the Administrative Code titled "Standards to control hydrogen chloride and chlorine gas emissions."
- (4) The particulate matter standard of rule 3745-266-105 of the Administrative Code remains in effect for boilers for which owners or operators elect to comply with the alternative to the particulate matter standard under 40 CFR 63.1216(e) and 40 CFR 63.1217(e).
- (C) The following hazardous wastes and facilities are not subject to regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code:
- (1) Used oil burned for energy recovery that is also a hazardous waste solely because ~~it~~ the used oil exhibits a characteristic of hazardous waste identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code. Such used oil is subject to regulation under Chapter 3745-279 of the Administrative Code.

- (2) Gas recovered from hazardous waste landfills or solid waste landfills when such gas is burned for energy recovery.
 - (3) Hazardous wastes that are exempt from regulation under rule 3745-51-04 and paragraphs (A)(3)(c) and (A)(3)(d) of rule 3745-51-06 of the Administrative Code.
 - (4) Coke ovens, if the only hazardous waste burned is EPA hazardous waste number K087, decanter tank tar sludge from coking operations.
- (D) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces, but not including cement kilns, aggregate kilns, or halogen acid furnaces burning hazardous waste) that process hazardous waste solely for metal recovery are conditionally exempt from regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code, except for rules 3745-266-101 and 3745-266-112 of the Administrative Code.
- (1) To be exempt from rules 3745-266-102 to 3745-266-111 of the Administrative Code, an owner or operator of a metal recovery furnace or mercury recovery furnace shall comply with the following requirements, except that an owner or operator of a lead or a nickel-chromium recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, shall comply with paragraph (D)(3) of this rule, and owners or operators of lead recovery furnaces that are subject to regulation under the secondary lead smelting "National Emissions Standards for Hazardous Air Pollutants" (NESHAP) shall comply with paragraph (H) of this rule:
 - (a) Provide a one-time written notice to the director that indicates all of the following:
 - (i) The owner or operator claims exemption under paragraph (D)(1) of this rule;
 - (ii) The hazardous waste is burned solely for metal recovery consistent with paragraph (D)(2) of this rule;
 - (iii) The hazardous waste contains recoverable levels of metals; and
 - (iv) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of ~~paragraphs~~paragraph (D) to (D)(3)(b)(iii) of this rule;

- (b) Sample and analyze the hazardous waste and other feedstocks as necessary to comply with ~~paragraphs~~paragraph (D) ~~to (D)(3)(b)(iii)~~ of this rule by using appropriate methods; and
 - (c) Maintain at the facility for at least three years records to document compliance with ~~paragraphs~~paragraph (D) ~~to (D)(3)(b)(iii)~~ of this rule including limits on levels of toxic organic constituents and British thermal unit (Btu) value of the waste, and levels of recoverable metals in the hazardous waste compared to normal nonhazardous waste feedstocks.
- (2) A hazardous waste that meets either of the following criteria is not processed solely for metal recovery:
- (a) The hazardous waste has a total concentration of organic compounds listed in the appendix to rule 3745-51-11 of the Administrative Code that exceeds five hundred parts per million (ppm) by weight, as-fired, and so is considered to be burned for destruction. The concentration of organic compounds in a waste as-generated may be reduced to the five hundred ppm limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the five hundred ppm limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the records required by paragraph (D)(1)(c) of this rule; or
 - (b) The hazardous waste has a heating value of five thousand Btu per pound or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the five thousand Btu per pound limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the five thousand Btu per pound limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the records required by paragraph (D)(1)(c) of this rule.
- (3) To be exempt from rules 3745-266-102 to 3745-266-111 of the Administrative Code, an owner or operator of a lead or nickel-chromium or mercury recovery furnace (except for owners or operators of lead recovery furnaces subject to regulation under the secondary lead smelting NESHAP) or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing; shall provide a one-time written notice to the director that identifies each hazardous waste burned and that specifies whether the owner or operator claims an exemption for each waste under this paragraph or paragraph (D)(1) of this rule. The owner or operator shall comply with paragraph (D)(1) of this rule for those wastes claimed to be exempt under paragraph (D)(1) of

this rule and shall comply with paragraphs (D)(3)(a) and (D)(3)(b) of this rule for those wastes claimed to be exempt under ~~paragraphs~~paragraph (D)(3) to (D)(3)(b)(iii) of this rule.

- (a) The hazardous wastes listed in appendices A, B, and C to this rule and baghouse bags used to capture metallic dusts emitted by steel manufacturing are exempt from paragraph (D)(1) of this rule, provided that:
- (i) A waste listed in appendix A to this rule shall contain recoverable levels of lead, a waste listed in appendix B to this rule shall contain recoverable levels of nickel or chromium, a waste listed in appendix C to this rule shall contain recoverable levels of mercury and contain less than five hundred ppm of organic constituents in the appendix to rule 3745-51-11 of the Administrative Code, and baghouse bags used to capture metallic dusts emitted by steel manufacturing shall contain recoverable levels of metal; and
 - (ii) The waste does not exhibit the toxicity characteristic of rule 3745-51-24 of the Administrative Code for an organic constituent; and
 - (iii) The waste is not a hazardous waste listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code because it the waste is listed for an organic constituent as identified in the appendix to rule 3745-51-30 of the Administrative Code; and
 - (iv) The owner or operator certifies in the one-time notice that hazardous waste is burned under paragraph (D)(3) of this rule and that sampling and analysis will be conducted or other information will be obtained as necessary to ensure continued compliance with these requirements. Sampling and analysis shall be conducted according to paragraph (D)(1)(b) of this rule, and records to document compliance with paragraph (D)(3) of this rule shall be kept for at least three years.
- (b) The director may decide on a case-by-case basis that the toxic organic constituents in a material listed in appendix A, B, or C to this rule that contains a total concentration of more than five hundred ppm toxic organic compounds listed in the appendix to rule 3745-51-11 of the Administrative Code; may pose a hazard to human health and the environment when burned in a metal recovery furnace that is exempt from rules 3745-266-100 to 3745-266-112 of the Administrative Code.

In that situation, after adequate notice and opportunity for comment, the metal recovery furnace will become subject to rules 3745-266-100 to 3745-266-112 of the Administrative Code when burning that material. In making the hazard determination, the director will consider the following factors:

- (i) The concentration and toxicity of organic constituents in the material.
 - (ii) The level of destruction of toxic organic constituents provided by the furnace.
 - (iii) Whether the acceptable ambient levels established in appendix A or appendix B to rule 3745-266-109 of the Administrative Code may be exceeded for any toxic organic compound that may be emitted based on dispersion modeling to predict the maximum annual average off-site ground level concentration.
- (E) The standards for direct transfer operations under rule 3745-266-111 of the Administrative Code apply only to facilities subject to the permit standards of rule 3745-266-102 of the Administrative Code or the interim standards of rule 3745-266-103 of the Administrative Code.
- (F) The management standards for residues under rule 3745-266-112 of the Administrative Code apply to any boiler or industrial furnace that burns hazardous waste.
- (G) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces) that process hazardous waste for recovery of economically significant amounts of the precious metals gold, silver, platinum, palladium, iridium, osmium, rhodium, or ruthenium, or any combination of these are conditionally exempt from regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code, except for rule 3745-266-112 of the Administrative Code. To be exempt from rules 3745-266-101 to 3745-266-111 of the Administrative Code, an owner or operator shall:
- (1) Provide a one-time written notice to the director that indicates the following:
 - (a) The owner or operator claims exemption under ~~paragraphs~~paragraph (G) to ~~(G)(3)~~ of this rule;
 - (b) The hazardous waste is burned for legitimate recovery of precious metal;
and

- (c) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of ~~paragraphs~~paragraph (G) to (G)(3) of this rule; and
- (2) Sample and analyze the hazardous waste as necessary to document that the waste contains economically significant amounts of the metals and that the treatment recovers economically significant amounts of precious metals; and
- (3) Maintain at the facility for at least three years records to document that all hazardous wastes burned are burned for recovery of economically significant amounts of precious metal.
- (H) Owners or operators of lead recovery furnaces that process hazardous waste for recovery of lead and that are subject to regulation under the secondary lead smelting NESHAP; are conditionally exempt from regulation under rules 3745-266-100 to 3745-266-112 of the Administrative Code, except for rule 3745-266-101 of the Administrative Code. To be exempt, an owner or operator shall provide a one-time notice to the director that identifies each hazardous waste burned and that specifies that the owner or operator claims an exemption under this paragraph. The notice also shall state that the waste burned has a total concentration of non-metal compounds listed in the appendix to rule 3745-51-11 of the Administrative Code of less than five hundred ppm by weight, as fired and as provided in paragraph (D)(2)(a) of this rule, or is listed in appendix A to this rule.

[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."]

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APPENDIX

1

Appendix A to rule 3745-266-100 of the Administrative Code

Lead-Bearing Materials That May Be Processed in Exempt Lead Smelters:

A. Exempt Lead-Bearing Materials When Generated Or Originally Produced By
Lead-Associated Industries *

- Acid dump or fill solids
- Sump mud
- Materials from laboratory analyses
- Acid filters
- Baghouse bags
- Clothing (e.g., coveralls, aprons, shoes, hats, gloves)
- Sweepings
- Air filter bags and cartridges
- Respiratory cartridge filters
- Shop abrasives
- Stacking boards
- Waste shipping containers (e.g., cartons, bags, drums, cardboard)
- Paper hand towels
- Wiping rags and sponges
- Contaminated pallets
- Water treatment sludges, filter cakes, residues, and solids
- Emission control dusts, sludges, filter cakes, residues, and solids from lead-associated industries (e.g., K069 and D008 wastes)
- Spent grids, posts, and separators
- Spent batteries
- Lead oxide and lead oxide residues
- Lead plates and groups
- Spent battery cases, covers, and vents
- Pasting belts
- Water filter media
- Cheesecloth from pasting rollers
- Pasting additive bags
- Asphalt paving materials

B. Exempt Lead-Bearing Materials When Generated or Originally Produced By Any Industry

- Charging jumpers and clips
- Platen abrasive
- Fluff from lead wire and cable casings
- Lead-based pigments and compounding pigment dust

- * Lead-associated industries are lead smelters, lead- acid battery manufacturing, and lead chemical manufacturing (e.g., manufacturing of lead oxide or other lead compounds).

3745-266-100

APPENDIX

1

Appendix B to rule 3745-266-100 of the Administrative Code

Nickel or Chromium-Bearing Materials That May Be Processed in
Exempt Nickel-Chromium Recovery Furnaces

- A. Exempt Nickel or Chromium-Bearing Materials when Generated by Manufacturers or Users of Nickel, Chromium, or Iron
- Baghouse bags
 - Raney nickel catalyst
 - Floor sweepings
 - Air filters
 - Electroplating bath filters
 - Wastewater filter media
 - Wood pallets
 - Disposable clothing (coveralls, aprons, hats, and gloves)
 - Laboratory samples and spent chemicals
 - Shipping containers and plastic liners from containers or vehicles used to transport nickel or chromium-containing wastes
 - Respirator cartridge filters
 - Paper hand towels
- B. Exempt Nickel or Chromium-Bearing Materials when Generated by Any Industry
- Electroplating wastewater treatment sludges (F006)
 - Nickel solutions and chromium-containing solutions
 - Nickel, chromium, and iron catalysts
 - Nickel-cadmium and nickel-iron batteries
 - Filter cake from wet scrubber system water treatment plants in the specialty steel industry*
 - Filter cake from nickel-chromium alloy pickling operations *

* If a hazardous waste under an authorized state program. (Ohio's program is authorized.)

3745-266-100

APPENDIX

1

Appendix C to rule 3745-266-100 of the Administrative Code

Mercury Bearing Wastes That May Be Processed
in Exempt Mercury Recovery Units

These are exempt mercury-bearing materials with less than five hundred parts per million of organic constituents in the appendix to rule 3745-51-11 of the Administrative Code when generated by manufacturers or users of mercury or mercury products.

1. Activated carbon
2. Decomposer graphite
3. Wood
4. Paper
5. Protective clothing
6. Sweepings
7. Respiratory cartridge filters
8. Cleanup articles
9. Plastic bags and other contaminated containers
10. Laboratory and process control samples
11. K106 and other wastewater treatment plant sludge and filter cake
12. Mercury cell sump and tank sludge
13. Mercury cell process solids
14. Recoverable levels of mercury contained in soil

3745-266-101 **Management prior to burning.**

- (A) ~~Generators.~~ Generators of hazardous waste that is burned in a boiler or industrial furnace are subject to regulation under Chapter 3745-52 of the Administrative Code.
- (B) ~~Transporters.~~ Transporters of hazardous waste that is burned in a boiler or industrial furnace are subject to regulation under Chapter 3745-53 of the Administrative Code.
- (C) Storage and treatment facilities:-
- (1) Owners and operators of facilities that store or treat hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provisions of Chapters 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, and rules 3745-50-40 to 3745-50-235 of the Administrative Code, except as provided by paragraph (C)(2) of this rule. These standards apply to storage and treatment by the burner as well as to storage and treatment facilities operated by intermediaries (processors, blenders, distributors, etc.) between the generator and the burner.
 - (2) Owners and operators of facilities that burn, in an on-site boiler or industrial furnace exempt from regulation under the small quantity burner provisions of rule 3745-266-108 of the Administrative Code, hazardous waste that such owners and operators generate are exempt from the requirements of Chapters 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, and rules 3745-50-40 to 3745-50-235 of the Administrative Code that are applicable to storage units for those storage units that store mixtures of hazardous waste and the primary fuel to the boiler or industrial furnace in tanks that feed the fuel mixture directly to the burner. Storage of hazardous waste prior to mixing with the primary fuel is subject to regulation as prescribed in paragraph (C)(1) of this rule.

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09/14/2021

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3745-266-102 **Permit standards for burners.**

(A) Applicability.

- (1) General. Owners and operators of boilers and industrial furnaces burning hazardous waste and not operating under permit by rule shall comply with this rule, rule 3745-50-66, and ~~paragraphs paragraph (C)(9) to (C)(9)(f)~~ of rule 3745-50-44 of the Administrative Code, unless exempt under the small quantity burner exemption of rule 3745-266-108 of the Administrative Code.
- (2) Applicability of Chapters 3745-54 to 3745-57 and 3745-205 of the Administrative Code. Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions, except as provided otherwise by rules 3745-266-100 to 3745-266-112 of the Administrative Code:
 - (a) [Reserved.]
 - (b) Rules 3745-54-11 to 3745-54-18 of the Administrative Code (general facility standards).
 - (c) Rules 3745-54-31 to 3745-54-37 of the Administrative Code (preparedness and prevention).
 - (d) Rules 3745-54-51 to 3745-54-56 of the Administrative Code (contingency plan and emergency procedures).
 - (e) The applicable provisions of rules 3745-54-71 to 3745-54-77 of the Administrative Code (manifest system, recordkeeping, and reporting).
 - (f) Rules 3745-54-90 and 3745-54-101 of the Administrative Code (releases from waste management units).
 - (g) Rules 3745-55-11 to 3745-55-15 of the Administrative Code (closure and post-closure).
 - (h) Rules 3745-55-41, 3745-55-42, 3745-55-43, and 3745-55-47 to 3745-55-51 of the Administrative Code, except that states and the federal government are exempt from rules 3745-55-40 to 3745-55-51 of the Administrative Code (financial requirements).
 - (i) [Reserved.]

(B) Hazardous waste analysis.

- (1) The owner or operator shall provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in the appendix to rule 3745-51-11 of the Administrative Code that may reasonably be expected to be in the waste. Such constituents shall be identified and quantified if present, at levels detectable by using appropriate analytical procedures. Alternative methods that meet or exceed the method performance capabilities of U.S. EPA publication SW-846 methods may be used. If U.S. EPA publication SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method. The constituents in the appendix to rule 3745-51-11 of the Administrative Code that are excluded from this analysis shall be identified, and the basis for ~~their~~the exclusion of such constituents shall be explained. This analysis will be used to provide all information required by rules 3745-50-66 and 3745-266-100 to 3745-266-112 and ~~paragraphs~~paragraph (C)(9) ~~to (C)(9)(f)~~ of rule 3745-50-44 of the Administrative Code and to enable the permit writer to prescribe such permit conditions as necessary to protect human health and the environment. Such analysis shall be included as a portion of the "Part B" permit application, or, for facilities operating under the interim standards of rules 3745-266-100 to 3745-266-112 of the Administrative Code, as a portion of the trial burn plan that may be submitted before the "Part B" application under paragraph (G) of rule 3745-50-66 of the Administrative Code as well as any other analysis required by the permit authority in preparing the permit. Owners and operators of boilers and industrial furnaces not operating under the interim standards shall provide the information required by ~~paragraphs~~paragraph (C)(9) ~~to (C)(9)(f)~~ of rule 3745-50-44 or paragraph (C) of rule 3745-50-66 of the Administrative Code in the "Part B" application to the greatest extent possible.
 - (2) Throughout normal operation, the owner or operator shall conduct sampling and analysis as necessary to ensure that the hazardous waste, other fuels, and industrial furnace feedstocks fired into the boiler or industrial furnace are within the physical and chemical composition limits specified in the permit.
- (C) Emissions standards. Owners and operators shall comply with emissions standards in rules 3745-266-104 to 3745-266-107 of the Administrative Code.
- (D) Permits.
- (1) The owner or operator may burn only hazardous wastes specified in the facility permit and only under the operating conditions specified under paragraph (E) of this rule, except in approved trial burns under the conditions specified in rule 3745-50-66 of the Administrative Code.

- (2) Hazardous wastes not specified in the permit may not be burned until operating conditions have been specified under a new permit or permit modification, as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with "Part B" of a permit application under ~~paragraphs~~paragraph (C)(9) to (C)(9)(f) of rule 3745-50-44 of the Administrative Code.
- (3) Boilers and industrial furnaces operating under the interim standards of rule 3745-266-103 of the Administrative Code are permitted under paragraph (G) of rule 3745-50-66 of the Administrative Code.
- (4) A permit for a new boiler or industrial furnace (those boilers and industrial furnaces not operating under the interim standards) shall establish appropriate conditions for each of the applicable requirements of this rule, including but not limited to allowable hazardous waste firing rates and operating conditions necessary to meet the requirements of paragraph (E) of this rule, 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 seven hundred twenty hours operating time when burning hazardous waste, the operating requirements shall be those most likely to ensure compliance with the emission standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code, based on Ohio EPA'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 shall include those specified by the applicable provisions of rule 3745-266-104, 3745-266-105, 3745-266-106, or 3745-266-107 of the Administrative Code. The director may extend the duration of this period for up to seven hundred twenty additional hours when good cause for the extension is demonstrated by the applicant.
 - (b) For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the emissions standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code and shall 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, submittal of the trial burn results by the applicant, review

of the trial burn results and modification of the facility permit by the director to reflect the trial burn results, the operating requirements shall be those most likely to ensure compliance with the emission standards rules 3745-266-104 to 3745-266-107 of the Administrative Code based on Ohio EPA's engineering judgment.

- (d) For the remaining duration of the permit, the operating requirements shall be those demonstrated in a trial burn or by alternative data specified in ~~paragraphs~~paragraph (C)(9) ~~to (C)(9)(f)~~ of rule 3745-50-44 of the Administrative Code, as sufficient to ensure compliance with the emissions standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code.

(E) Operating requirements.

- (1) General. A boiler or industrial furnace burning hazardous waste shall comply with the operating requirements specified in the permit at all times there is hazardous waste in the unit.

(2) Requirements to ensure compliance with the organic emissions standards.

- (a) Destruction and removal efficiency (DRE) standard. Operating conditions will be specified either on a case-by-case basis for each hazardous waste burned as those demonstrated [in a trial burn or by alternative data as specified in ~~paragraphs~~paragraph (C)(9) ~~to (C)(9)(f)~~ of rule 3745-50-44 of the Administrative Code] to be sufficient to comply with the DRE performance standard of paragraph (A) of rule 3745-266-104 of the Administrative Code or as those special operating requirements in paragraph (A)(4) of rule 3745-266-104 of the Administrative Code for the waiver of the DRE trial burn. When the DRE trial burn is not waived under paragraph (A)(4) of rule 3745-266-104 of the Administrative Code, each set of operating requirements will specify the composition of the hazardous waste (including acceptable variations in the physical and chemical properties of the hazardous waste which will not affect compliance with the DRE performance standard) to which the operating requirements apply. For each such hazardous waste, the permit will 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 paragraph (E)(6) of this rule;

- (ii) Minimum and maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (iii) Appropriate controls of the hazardous waste firing system;
 - (iv) Allowable variation in boiler and industrial furnace 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 paragraph (E)(6) of this rule;
 - (vi) An appropriate indicator of combustion gas velocity, measured and specified as prescribed in paragraph (E)(6) of this rule, unless documentation is provided under rule 3745-50-66 of the Administrative Code demonstrating adequate combustion gas residence time; and
 - (vii) Such other operating requirements as are necessary to ensure that the DRE performance standard paragraph (A) of rule 3745-266-104 of the Administrative Code is met.
- (b) Carbon monoxide and hydrocarbon standards. The permit shall incorporate a carbon monoxide limit and, as appropriate, a hydrocarbon limit as provided by paragraphs (B), (C), (D), (E), and (F) of rule 3745-266-104 of the Administrative Code. The permit limits will be specified as follows:
- (i) When complying with the carbon monoxide standard of paragraph (B) (1) of rule 3745-266-104 of the Administrative Code, the permit limit is one hundred parts per million by volume (ppmv).
 - (ii) When complying with the alternative carbon monoxide standard under paragraph (C) of rule 3745-266-104 of the Administrative Code, the permit limit for carbon monoxide is based on the trial burn and is established as the average over all valid runs of the highest hourly rolling average carbon monoxide level of each run, and the permit limit for hydrocarbon is twenty ppmv [as described in paragraph (C)(1) of rule 3745-266-104 of the Administrative Code], except as provided in paragraph (F) of rule 3745-266-104 of the Administrative Code.
 - (iii) When complying with the alternative hydrocarbon limit for industrial furnaces under paragraph (F) of rule 3745-266-104 of

the Administrative Code, the permit limit for hydrocarbon and carbon monoxide is the baseline level when hazardous waste is not burned as specified by paragraph (F) of rule 3745-266-104 of the Administrative Code.

- (c) Start-up and shut-down. During start-up and shut-down of the boiler or industrial furnace, 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 or chlorine, and except low risk waste exempt from the trial burn requirements under paragraph (A) (5) of rule 3745-266-104 and rules 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code] shall 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 standard.

- (a) Except as provided in paragraphs (E)(3)(b) and (E)(3)(c) of this rule, the permit shall specify the following operating requirements to ensure conformance with the particulate standard specified in rule 3745-266-105 of the Administrative Code:
 - (i) Total ash feed rate to the device from hazardous waste, other fuels, and industrial furnace feedstocks, measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (ii) Maximum device production rate when producing normal product expressed in appropriate units, and measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (iii) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;
 - (iv) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and
 - (v) Such other operating requirements as are necessary to ensure that the particulate standard in paragraph (A) of rule 3745-266-105 of the Administrative Code is met.
- (b) Permit conditions to ensure conformance with the particulate matter standard shall not be provided for facilities exempt from the particulate

matter standard under paragraph (B) of rule 3745-266-105 of the Administrative Code;

- (c) For cement kilns and light-weight aggregate kilns, permit conditions to ensure compliance with the particulate standard shall 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 paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code, the permit shall 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 paragraph (E)(6) of this rule;
- (ii) Total feed rate of hazardous waste measured and specified as prescribed in paragraph (E)(6) of this rule;
- (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 paragraph (C) of rule 3745-266-106 of the Administrative Code and the "Tier III" metals controls under paragraph (D) of rule 3745-266-106 of the Administrative Code, the permit shall 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 paragraph (E)(6)(a) of this rule;
- (iii) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in paragraph (E)(6) of this rule:

(a) Total feedstreams;

(b) Total hazardous waste feed; and

- (c) Total pumpable hazardous waste feed;
 - (iv) Total feed rate of chlorine and chloride in total feedstreams measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (v) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (vi) Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (vii) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (viii) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;
 - (ix) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and
 - (x) Such other operating requirements as are necessary to ensure that the metals standards under paragraph (C) or (D) of rule 3745-266-106 of the Administrative Code are met.
- (c) For conformance with an alternative implementation approach approved by the director under paragraph (F) of rule 3745-266-106 of the Administrative Code, the permit will 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 paragraph (E)(6)(a) of this rule;
 - (iii) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in paragraph (E)(6) of this rule:
 - (a) Total hazardous waste feed; and

- (b) Total pumpable hazardous waste feed;
 - (iv) Total feed rate of chlorine and chloride in total feedstreams measured and specified prescribed in paragraph (E)(6) of this rule;
 - (v) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (vi) Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (vii) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (viii) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;
 - (ix) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and
 - (x) Such other operating requirements as are necessary to ensure that the metals standards under paragraph (C) or (D) of rule 3745-266-106 of the Administrative Code are met.
- (5) Requirements to ensure conformance with the hydrogen chloride and chlorine gas standards.
- (a) For conformance with the "Tier I" total chloride and chlorine feed rate screening limits of paragraph (B)(1) of rule 3745-266-107 of the Administrative Code, the permit will specify the following operating requirements:
 - (i) Feed rate of total chloride and chlorine in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (ii) Feed rate of total hazardous waste measured and specified as prescribed in paragraph (E)(6) of this rule;

- (iii) A sampling and analysis program for total chloride and chlorine for the hazardous waste, other fuels, and industrial furnace feedstocks;
- (b) For conformance with the "Tier II" hydrogen chloride and chlorine gas, emission rate screening limits under paragraph (B)(2) of rule 3745-266-107 of the Administrative Code and the "Tier III" hydrogen chloride and chlorine gas controls under paragraph (C) of rule 3745-266-107 of the Administrative Code, the permit will specify the following operating requirements:
- (i) Maximum emission rate for hydrogen chloride and 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 paragraph (E)(6) of this rule;
 - (iii) Total feed rate of chlorine and chloride in total feedstreams, measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (iv) Maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (E)(6) of this rule;
 - (v) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;
 - (vi) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and
 - (vii) Such other operating requirements as are necessary to ensure that the hydrogen chloride and chlorine gas standards under paragraph (B) (2) or (C) of rule 3745-266-107 of the Administrative Code are met.
- (6) Measuring parameters and establishing limits based on trial burn data.
- (a) General requirements. As specified in paragraphs (E)(2) to (E)(5) of this rule, each operating parameter shall be measured, and permit limits on the parameter shall be established, according to either of the following procedures:
 - (i) Instantaneous limits. A parameter may be 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.

(a) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen seconds, and computes and records the average value at least every sixty seconds.

(ii) An hourly rolling average is the arithmetic mean of the sixty most recent one-minute average values recorded by the continuous monitoring system.

(b) The permit limit for the parameter shall 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.

(b) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium, and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (E)(6)(a) of this rule or on (up to) a twenty-four hour rolling average basis. If the owner or operator elects to use an average period from two to twenty-four hours, all three of the following apply:

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

(ii) The continuous monitor shall meet the following specifications:

(a) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen seconds, and computes and records the average value at least every sixty seconds; and

emissions sampling for the pollutants (i.e., metals, particulate matter, hydrogen chloride or chlorine gas, organic compounds) for which the parameter shall be established as specified by paragraph (E) of this rule.

(7) General requirements.

(a) Fugitive emissions. Fugitive emissions shall be controlled by:

- (i) Keeping the combustion zone totally sealed against fugitive emissions;
or
- (ii) Maintaining the combustion zone pressure lower than atmospheric pressure; or
- (iii) An alternate 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 boiler or industrial furnace shall be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this rule. The director may limit the number of cutoffs per an operating period on a case-by-case basis. In addition:

- (i) The permit limit for (the indicator of) minimum combustion chamber temperature shall be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber;
- (ii) Exhaust gases shall be ducted to the air pollution control system 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 shall continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the permit limits. For parameters that may be monitored on an instantaneous basis, the director will establish a minimum period of time after a waste feed cutoff during which the parameter shall not exceed the permit limit before the hazardous waste feed may be restarted.

- (c) Changes. A boiler or industrial furnace shall cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits as specified in the permit.

(8) Monitoring and inspections.

- (a) The owner or operator shall 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 chloride and chlorine.
 - (ii) If specified by the permit, carbon monoxide, hydrocarbons, and oxygen on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with operating requirements specified in paragraph (E)(2)(b) of this rule. Carbon monoxide, hydrocarbons, and oxygen monitors shall be installed, operated, and maintained in accordance with methods specified in the appendix to rule 3745-266-103 of the Administrative Code.
 - (iii) Upon the request of the director, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues, and exhaust emissions shall be conducted to verify that the operating requirements established in the permit achieve the applicable standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code.
- (b) All monitors shall record data in units corresponding to the permit limit unless otherwise specified in the permit.
- (c) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) shall be subjected to thorough visual inspection when ~~the equipment~~ the equipment 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 shall be tested at least once every seven days when hazardous waste

is burned to verify operability, unless the applicant demonstrates to the director that weekly testing will unduly restrict or upset operations and that less frequent inspections ~~will be~~ are adequate. At a minimum, operational testing shall be conducted at least once every thirty days.

- (e) These monitoring and inspection data shall be recorded and the records shall be placed in the operating record required by rule 3745-54-73 of the Administrative Code.
- (9) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator shall comply with rule 3745-266-111 of the Administrative Code.
- (10) Recordkeeping. The owner or operator shall maintain in the operating record of the facility all information and data required by this rule for five years.
- (11) Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace.

[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."]

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3745-266-103

Interim standards for burners.

(A) Purpose, scope, and applicability.

(1) General.

(a) The purpose of this rule is to establish minimum standards for owners and operators of "existing" boilers and industrial furnaces that burn hazardous waste where such standards define the acceptable management of hazardous waste until final administrative disposition of the owner's or operator's permit application is made pursuant to section 3734.05 of the Revised Code. The standards of this rule apply to owners and operators of existing facilities until either a permit is issued, or closure responsibilities are fulfilled. However, when the owner and operator of an existing boiler or industrial furnace that burns hazardous waste has obtained interim status or received a permit from U.S. EPA, the director may apply this rule on a case-by-case basis.

(b) "Existing" or "in existence" means a boiler or industrial furnace that on or before December 7, 2004, or the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule, was either in operation burning or processing hazardous waste or for which construction (including the ancillary facilities to burn or to process the hazardous waste) had commenced. A facility has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction, and either:

(i) A continuous on-site, physical construction program has begun.

(ii) The owner or operator has entered into contractual obligations-which cannot be canceled or modified without substantial loss-for physical construction of the facility to be completed within a reasonable time.

(c) If a boiler or industrial furnace is located at a facility that already has a permit or permit by rule, the owner or operator of the facility shall comply with the applicable requirements for permit modifications in rule 3745-50-51 of the Administrative Code.

(2) Exemptions. This rule does not apply to hazardous waste and facilities exempt under rule 3745-266-108 or paragraph (B) of rule 3745-266-100 of the Administrative Code.

- (3) Prohibition on burning dioxin-listed wastes. The following hazardous waste listed for dioxin and hazardous waste derived from any of these wastes may not be burned in a boiler or industrial furnace operating under permit by rule: F020, F021, F022, F023, F026, and F027.
- (4) Applicability of standards in Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code. Owners and operators of boilers and industrial furnaces that burn hazardous waste and are operating under permit by rule are subject to the following provisions of Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code, except as provided otherwise by this rule:
- (a) [Reserved.]
 - (b) Rules 3745-65-11 to 3745-65-17 of the Administrative Code (general facility standards).
 - (c) Rules 3745-65-31 to 3745-65-37 of the Administrative Code (preparedness and prevention).
 - (d) Rules 3745-65-51 to 3745-65-56 of the Administrative Code (contingency plan and emergency procedures).
 - (e) Rules 3745-65-71 to 3745-65-77 of the Administrative Code, except that rules 3745-65-71, 3745-65-72, and 3745-65-76 of the Administrative Code do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources (manifest system, recordkeeping, and reporting).
 - (f) Rules 3745-66-11 to 3745-66-21 of the Administrative Code (closure and post-closure).
 - (g) Rules 3745-66-41, 3745-66-42, 3745-66-43, and 3745-66-47 to 3745-66-48 of the Administrative Code, except that states and the federal government are exempt from rules 3745-66-40 to 3745-66-48 of the Administrative Code (financial requirements).
 - (h) [Reserved.]
- (5) Special requirements for furnaces. The following controls apply during permit by rule to industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient [see paragraph (A)(5)(b) of this rule] at any location other than the hot end where products are normally discharged or where fuels are normally fired:

(a) Controls.

- (i) The hazardous waste shall be fed at a location where combustion gas temperatures are at least eighteen hundred degrees Fahrenheit.
- (ii) The owner or operator shall determine that adequate oxygen is present in combustion gases to combust organic constituents in the waste and shall retain documentation of such determination in the facility record.
- (iii) For cement kiln systems, the hazardous waste shall be fed into the kiln.
- (iv) The hydrocarbon controls in paragraph (C) of rule 3745-266-104 of the Administrative Code or paragraph (C)(5) of this rule apply upon certification of compliance under paragraph (C) of this rule irrespective of the carbon monoxide level achieved during the compliance test.

(b) Burning hazardous waste solely as an ingredient. A hazardous waste is burned for a purpose other than solely as an ingredient if the hazardous waste meets either of the following criteria:

- (i) The hazardous waste has a total concentration of nonmetal compounds listed in the appendix to rule 3745-51-11 of the Administrative Code exceeding five hundred parts per million (ppm) by weight, as-fired, and so is considered to be burned for destruction. The concentration of nonmetal compounds in a waste as-generated may be reduced to the five hundred ppm limit by bona fide treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the five hundred ppm limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the facility record.
- (ii) The hazardous waste has a heating value of five thousand British thermal units (Btu) per pound or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the five thousand Btu per pound limit by bona fide treatment that removes or destroys organic constituents. Blending to augment the heating value to meet the five thousand Btu per pound limit is prohibited, and documentation that the waste has not been impermissibly blended shall be retained in the facility record.

- (6) Restrictions on burning hazardous waste that is not a fuel. Prior to certification of compliance under paragraph (C) of this rule, owners and operators shall not feed hazardous waste that has a heating value less than five thousand Btu per pound, as-generated, (except that the heating value of a waste as-generated may be increased to above the five thousand Btu per pound limit by bona fide treatment; however, blending to augment the heating value to meet the five thousand Btu per pound limit is prohibited, and records shall be kept to document that impermissible blending has not occurred) in a boiler or industrial furnace, except that:
- (a) Hazardous waste may be burned solely as an ingredient; or
 - (b) Hazardous waste may be burned for purposes of compliance testing (or testing prior to compliance testing) for a total period of time not to exceed seven hundred twenty hours; or
 - (c) Such waste may be burned if the director has documentation to show that, prior to December 7, 2004, or prior to the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule:
 - (i) The boiler or industrial furnace is operating under the standards for incinerators in rules 3745-68-40 to 3745-68-52 of the Administrative Code, or the standards for thermal treatment units provided by rules 3745-68-70 to 3745-68-83 of the Administrative Code; and
 - (ii) The boiler or industrial furnace met the permit by rule eligibility requirements under rule 3745-50-40 of the Administrative Code for rules 3745-68-40 to 3745-68-52 or rules 3745-68-70 to 3745-68-83 of the Administrative Code; and
 - (iii) Hazardous waste with a heating value less than five thousand Btu per pound was burned prior to December 7, 2004, or prior to the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule; or
 - (d) Such waste may be burned in a halogen acid furnace if the waste was burned as an excluded ingredient under paragraph (E) of rule 3745-51-02 of the Administrative Code prior to December 7, 2004, or prior to the effective date of any new, amended, or rescinded rule or statute that renders the

owner or operator of the boiler or industrial furnace subject to this rule, and documentation is kept on file supporting this claim.

- (7) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner or operator shall comply with rule 3745-266-111 of the Administrative Code.

(B) Certification of precompliance.

- (1) General. The owner or operator shall provide complete and accurate information specified in paragraph (B)(2) of this rule to the director within thirty days after December 7, 2004, or within thirty days after the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule, and shall establish limits for the operating parameters specified in paragraph (B)(3) of this rule. Such information is termed a "certification of precompliance" and constitutes a certification that the owner or operator has determined that, when the facility is operated within the limits specified in paragraph (B)(3) of this rule, the owner or operator believes that, using best engineering judgment, emissions of particulate matter, metals, hydrogen chloride, and chlorine gas are not likely to exceed the limits in rules 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code. The facility may burn hazardous waste only under the operating conditions that the owner or operator establishes under paragraph (B)(3) of this rule until the owner or operator submits a revised certification of precompliance under paragraph (B)(8) of this rule or a certification of compliance under paragraph (C) of this rule, or until a permit is issued.

- (2) Information required. The following information shall be submitted with the certification of precompliance to support the determination that the limits established for the operating parameters identified in paragraph (B)(3) of this rule are not likely to result in an exceedance of the allowable emission rates for particulate matter, metals, hydrogen chloride, and chlorine gas:

(a) General facility information:

- (i) U.S. EPA identification number.
- (ii) Facility name, contact person, telephone number, and address.
- (iii) Description of boilers and industrial furnaces burning hazardous waste, including type and capacity of device.

- (iv) A scaled plot plan showing the entire facility and location of the boilers and industrial furnaces burning hazardous waste.
 - (v) A description of the air pollution control system on each device burning hazardous waste, including the temperature of the flue gas at the inlet to the particulate matter control system.
- (b) Except for facilities complying with the "Tier I" or "Adjusted Tier I" feed rate screening limits for metals or total chlorine and chloride in paragraph (B) or (E) of rule 3745-266-106 and paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code, respectively, the estimated uncontrolled (at the inlet to the air pollution control system) emissions of particulate matter, each metal controlled by rule 3745-266-106 of the Administrative Code, hydrogen chloride, and chlorine, and the following information to support such determinations:
- (i) The feed rate (pounds per hour) of ash, chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream (hazardous waste, other fuels, industrial furnace feedstocks).
 - (ii) For industrial furnaces that recycle collected particulate matter back into the furnace and that will certify compliance with the metals emissions standards under paragraph (C)(3)(b)(i) of this rule, the estimated enrichment factor for each metal. To estimate the enrichment factor, the owner or operator shall use either best engineering judgment or the procedures specified in "Alternative Methodology for Implementing Metals Controls" in the appendix to this rule.
 - (iii) For industrial furnaces that recycle collected particulate matter back into the furnace and that will certify compliance with the metals emissions standards under paragraph (C)(3)(b)(i) of this rule, the estimated enrichment factor for each metal. To estimate the enrichment factor, the owner or operator shall use either best engineering judgment or the procedures specified in "Alternative Methodology for Implementing Metals Controls" in the appendix to this rule.
 - (iv) If best engineering judgment is used to estimate partitioning factors or enrichment factors under paragraph (B)(2)(b)(ii) or (B)(2)(b)(iii) of this rule, respectively, the basis for the judgment. When best engineering judgment is used to develop or evaluate data

or information and make determinations under this rule, the determinations shall be made by a qualified professional engineer and a certification of such engineer's determinations in accordance with paragraph (D) of rule 3745-50-42 of the Administrative Code shall be provided in the certification of precompliance.

- (c) For facilities complying with the "Tier I" or "Adjusted Tier I" feed rate screening limits for metals or total chlorine and chloride in paragraph (B) or (E) of rule 3745-266-106 and paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code, the feed rate (pounds per hour) of total chloride and chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each ~~feed stream~~feedstream (hazardous waste, other fuels, industrial furnace feedstocks).
- (d) For facilities complying with the "Tier II" or "Tier III" emission limits for metals or hydrogen chloride and chlorine gas [under paragraph (C) or (D) of rule 3745-266-106 or paragraph (B)(2) or (C) of rule 3745-266-107 of the Administrative Code], the estimated controlled (outlet of the air pollution control system) emissions rates of particulate matter, each metal controlled by rule 3745-266-106 of the Administrative Code, hydrogen chloride, and chlorine gas, and the following information to support such determinations:
 - (i) The estimated air pollution control system removal efficiency for particulate matter, hydrogen chloride, chlorine gas, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium.
 - (ii) To estimate air pollution control system removal efficiency, the owner or operator shall use either best engineering judgment or the procedures prescribed in the appendix to this rule.
 - (iii) If best engineering judgment is used to estimate air pollution control system removal efficiency, the basis for the judgment. Use of best engineering judgment shall be in conformance with provisions of paragraph (B)(2)(b)(iv) of this rule.
- (e) Determination of allowable emissions rates for hydrogen chloride, chlorine gas, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium, and the following information to support such determinations:

- (i) For all facilities:
 - (a) Physical stack height.
 - (b) "Good engineering practice stack height" as defined in 40 CFR 51.100(ii).
 - (c) Maximum flue gas flow rate.
 - (d) Maximum flue gas temperature.
 - (e) Attach a U.S. geological service topographic map (or equivalent) showing the facility location and surrounding land within five kilometers of the facility.
 - (f) Identify terrain type: complex or noncomplex.
 - (g) Identify land use: urban or rural.
- (ii) For owners and operators using "Tier III" ~~site specific~~site-specific dispersion modeling to determine allowable levels under paragraph (D) of rule 3745-266-106 or paragraph (C) of rule 3745-266-107 of the Administrative Code, or "Adjusted Tier I" feed rate screening limits under paragraph (E) of rule 3745-266-106 or paragraph (E) of rule 3745-266-107 of the Administrative Code, by providing the following:
 - (a) Dispersion model and version used.
 - (b) Source of meteorological data.
 - (c) The dilution factor in micrograms per cubic meter per gram per second of emissions for the maximum annual average off-site (unless on-site is required) ground level concentration (MEI location).
 - (d) Indicate the MEI location on the map required under paragraph (B)(2)(e)(i)(e) of this rule.
- (f) For facilities complying with the "Tier II" or "Tier III" emissions rate controls for metals or hydrogen chloride and chlorine gas, a comparison of the estimated controlled emissions rates determined under paragraph (B)(2)(d) of this rule with the allowable emission rates determined under paragraph (B)(2)(e) of this rule.

- (g) For facilities complying with the "Tier I" (or "Adjusted Tier I") feed rate screening limits for metals or total chloride and chlorine, a comparison of actual feed rates of each metal and total chlorine and chloride determined under paragraph (B)(2)(c) of this rule to the "Tier I" allowable feed rates.
 - (h) For industrial furnaces that feed hazardous waste for any purpose other than solely as an ingredient [as determined by paragraph (A)(5)(b) of this rule] at any location other than the product discharge end of the device, documentation of compliance with paragraphs (A)(5)(a)(i), (A)(5)(a)(ii), and (A)(5)(a)(iii) of this rule.
 - (i) For industrial furnaces that recycle collected particulate matter back into the furnace and that will certify compliance with the metals emissions standards under paragraph (C)(3)(b)(i) of this rule:
 - (i) The applicable particulate matter standard in rule 3745-266-105 of the Administrative Code in pounds per hour.
 - (ii) The precompliance limit on the concentration of each metal in collected particulate matter.
- (3) Limits on operating conditions. The owner or operator shall establish limits on the following parameters consistent with the determinations made under paragraph (B)(2) of this rule and certify [under provisions of paragraph (B)(9) of this rule] to the director that the facility will operate within these limits when there is hazardous waste in the unit until revised certification of precompliance under paragraph (B)(8) of this rule or certification of compliance under paragraph (C) of this rule:
- (a) Feed rate of total hazardous waste and [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code] pumpable hazardous waste.
 - (b) Feed rate of each metal in the following ~~feed streams~~feedstreams:
 - (i) Total ~~feed streams~~feedstreams, except that industrial furnaces that comply with the alternative metals implementation approach under paragraph (B)(4) of this rule shall specify limits on the concentration of each metal in collected particulate matter in lieu of feed rate limits for total feedstreams.

- (ii) Total hazardous waste feed, unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code.
 - (iii) Total pumpable hazardous waste feed, unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code.
 - (c) Total feed rate of chlorine and chloride in total ~~feed streams~~feedstreams.
 - (d) Total feed rate of ash in total ~~feed streams~~feedstreams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited.
 - (e) Maximum production rate of the device in appropriate units when producing normal product, unless complying with the "Tier I" or "Adjusted Tier I" feed rate screening limits for chlorine under rule paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code and for all metals under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code, and the uncontrolled particulate emissions do not exceed the standard under rule 3745-266-105 of the Administrative Code.
- (4) Operating requirements for furnaces that recycle particulate matter. Owners and operators of furnaces that recycle collected particulate matter back into the furnace and that will certify compliance with the metals emissions controls under paragraph (C)(3)(b)(i) of this rule shall comply with the special operating requirements in "Alternative Methodology for Implementing Metals Controls" in the appendix to this rule.
- (5) Measurement of feed rates and production rate.
- (a) General requirements. Limits on each of the parameters specified in paragraph (B)(3) of this rule (except for limits on metals concentrations in collected particulate matter for industrial furnaces that recycle collected particulate matter) shall be established and continuously monitored under either of the following methods:
 - (i) Instantaneous limits. A limit for a parameter may be established and continuously monitored and recorded on an instantaneous basis (i.e., the value that occurs at any time) not to be exceeded at any time.

- (ii) Hourly rolling average limits. A limit for a parameter may be established and "continuously monitored" on an "hourly rolling average" basis defined as follows:
 - (a) A "continuous monitor" is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen seconds, and computes and records the average value at least every sixty seconds.
 - (b) An "hourly rolling average" is the arithmetic mean of the sixty most recent one-minute average values recorded by the continuous monitoring system.
- (b) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (arsenic, beryllium, cadmium, and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (B)(5)(a)(ii) of this rule or on (up to) a twenty-four hour rolling average basis. If the owner or operator elects to use an averaging period from two to twenty-four hours:
 - (i) The feed rate of each metal shall 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 shall meet the following specifications:
 - (a) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen seconds, and computes and records the average value at least every sixty seconds.
 - (b) The "rolling average" for the selected averaging period is the arithmetic mean of one hour block averages for the averaging period. A "one hour block average" is the arithmetic mean of the one minute averages recorded during the sixty-minute period beginning at one minute after the beginning of preceding clock hour.
- (c) Feed rate limits for metals, total chloride and chlorine, 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 or 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 shall be monitored under the continuous monitoring requirements of paragraphs (B)(5)(a) and (B)(5)(b) of this rule.

- (6) Public notice requirements at precompliance. Within thirty days after December 7, 2004, or within thirty days after the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule, the owner or operator shall submit a notice with the following information for publication in a major local newspaper of general circulation and send a copy of the notice to the appropriate units of state and local government. The owner or operator shall provide to the director with the certification of precompliance evidence of submitting the notice for publication.
- (a) The notice, which shall be entitled "Notice of Certification of Precompliance with Hazardous Waste Burning Requirements of Paragraph (B) of Rule 3745-266-103 of the Administrative Code," shall include:
- (i) Name and address of the owner and operator of the facility as well as the location of the device burning hazardous waste.
 - (ii) Date that the certification of precompliance is submitted to Ohio EPA.
 - (iii) Brief description of the regulatory process required to comply with this rule including required emissions testing to demonstrate conformance with emissions standards for organic compounds, particulate matter, metals, hydrogen chloride, and chlorine gas.
 - (iv) Types and quantities of hazardous waste burned including, but not limited to, source, whether solids or liquids, as well as an appropriate description of the waste.
 - (v) Type of devices in which the hazardous waste is burned including a physical description and maximum production rate of each device.
 - (vi) Types and quantities of other fuels and industrial furnace feedstocks fed to each unit.
 - (vii) Brief description of the basis for this certification of precompliance as specified in paragraph (B)(2) of this rule.
 - (viii) Locations where the record for the facility can be viewed and copied by interested parties:

- (a) The administrative record kept by Ohio EPA where the supporting documentation was submitted or another location designated by the director.
- (b) The boiler and industrial furnace correspondence file kept at the facility site where the device is located. The correspondence file shall include all correspondence between the facility and the director, state and local regulatory officials, including copies of all certifications and notifications, such as the precompliance certification, precompliance public notice, notice of compliance testing, compliance test report, compliance certification, time extension requests and approvals or denials, enforcement notifications of violations, and copies of U.S. EPA and Ohio EPA site visit reports submitted to the owner or operator.
- (ix) Notification of the establishment of a facility mailing list whereby interested parties may notify Ohio EPA that such interested parties wish to be placed on the mailing list to receive future information and notices about this facility.
- (x) Location (mailing address) of the applicable Ohio EPA office, hazardous waste division, where further information can be obtained on Ohio EPA regulation of hazardous waste burning.
- (b) ~~These~~ At a minimum, these records and locations shall ~~at a minimum~~ include:
 - (i) The administrative record kept by the Ohio EPA office where the supporting documentation was submitted or another location designated by Ohio EPA; and
 - (ii) Files kept at the facility site where the device is located. The files shall include all correspondence between the facility and the U.S. EPA, state and local regulatory officials, including copies of all certifications and notifications, such as the precompliance certification, precompliance public notice, notice of compliance testing, compliance test report, compliance certification, time extension requests and approvals or denials, enforcement notifications of violations, and copies of U.S. EPA and Ohio EPA site visit reports submitted to the owner or operator.

- (c) Notification of the establishment of a facility mailing list whereby interested parties shall notify Ohio EPA that such interested parties wish to be placed on the mailing list to receive future information and notices about this facility.
 - (d) Location (mailing address) of the applicable U.S. EPA regional office, hazardous waste division, where further information can be obtained on regulation of hazardous waste burning.
- (7) Monitoring other operating parameters. When the monitoring systems for the operating parameters listed in paragraphs (C)(1)(e) to (C)(1)(m) of this rule are installed and operating in conformance with vendor specifications or (for carbon monoxide, hydrocarbon, and oxygen) specifications in the appendix to this rule, as appropriate, the parameters shall be continuously monitored and records shall be maintained in the operating record.
- (8) Revised certification of precompliance. The owner or operator may revise at any time the information and operating conditions documented under paragraphs (B)(2) and (B)(3) of this rule in the certification of precompliance by submitting a revised certification of precompliance under procedures in those paragraphs.
- (a) The public notice requirements of paragraph (B)(6) of this rule do not apply to recertifications.
 - (b) The owner and operator shall operate the facility within the limits established for the operating parameters under paragraph (B)(3) of this rule until a revised certification is submitted under ~~paragraphs~~paragraph (B)(8) ~~to (B)(8)(b)~~ of this rule or a certification of compliance is submitted under paragraph (C) of this rule.
- (9) Certification of precompliance statement. The owner or operator shall include the following signed statement with the certification of precompliance submitted to the director:

"I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with the requirements of paragraphs (B)(3) and (B)(4) of rule 3745-266-103 of the Administrative Code are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible

for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating limits established in this certification pursuant to paragraphs (B)(3) and (B)(4) of rule 3745-266-103 of the Administrative Code are enforceable limits at which the facility can legally operate during interim status until a revised certification of precompliance is submitted, a certification of compliance is submitted, or an operating permit is issued."

- (C) Certification of compliance. The owner or operator shall conduct emissions testing to document compliance with the emissions standards of rules 3745-266-105, 3745-266-106, 3745-266-107, and paragraphs (B) to (E) of rule 3745-266-104 of the Administrative Code, and paragraph (A)(5)(a)(iv) of this rule, under the procedures in ~~paragraphs paragraph (C) to (C)(8)(d)~~ paragraph (C) to (C)(8)(d) of this rule, except under extensions of time in paragraph (C)(7) of this rule. Based on the compliance test, the owner or operator shall submit to the director within thirty days after December 7, 2004, or within thirty days after the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule, a complete and accurate "certification of compliance" [under paragraph (C)(4) of this rule] with those emission standards establishing limits on the operating parameters specified in paragraph (C)(1) of this rule.

For purposes of compliance with this rule, all owners and operators who have submitted a certification of compliance to U.S. EPA, in accordance with 40 CFR 266.103(c), may submit a copy of the certification of compliance to the director within thirty days after December 7, 2004, or within thirty days after the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule. The copy of the certification of compliance that is submitted to the director shall be submitted with the "Part A" application required by rule 3745-50-40 of the Administrative Code, and shall be considered part of such application.

- (1) Limits on operating conditions. The owner or operator shall establish limits on the following parameters based on operations during the compliance test [under procedures prescribed in paragraph (C)(4)(d) of this rule] or as otherwise specified and include these limits with the certification of compliance. The boiler or industrial furnace shall be operated in accordance with these operating limits and the applicable emissions standards of rules 3745-266-105, 3745-266-106, 3745-266-107, and paragraphs (B) to (E) of rule 3745-266-104

of the Administrative Code and paragraph (A)(5)(a)(iv) of this rule at all times when there is hazardous waste in the unit.

(a) Feed rate of total hazardous waste and [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code], pumpable hazardous waste.

(b) Feed rate of each metal in the following feedstreams:

(i) Total feedstreams, except that:

(a) Facilities that comply with "Tier I" or "Adjusted Tier I" metals feed rate screening limits may set facility operating limits at the metals feed rate screening limits determined under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code.

(b) Industrial furnaces that shall comply with the alternative metals implementation approach under paragraph (C)(3)(b) of this rule shall specify limits on the concentration of each metal in the collected particulate matter in lieu of feed rate limits for total feedstreams.

(ii) Total hazardous waste feed [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code].

(iii) Total pumpable hazardous waste feed [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code].

(c) Total feed rate of chlorine and chloride in total ~~feed streams~~feedstreams, except that facilities that comply with "Tier I" or "Adjusted Tier I" feed rate screening limits may set facility operating limits at the total chlorine and chloride feed rate screening limits determined under paragraph (B) (1) or (E) of rule 3745-266-107 of the Administrative Code.

(d) Total feed rate of ash in total ~~feed streams~~feedstreams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited.

(e) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas. When complying with the carbon monoxide

controls of paragraph (B) of rule 3745-266-104 of the Administrative Code, the carbon monoxide limit is one hundred parts per million by volume (ppmv), and when complying with the hydrocarbon controls of paragraph (C) of rule 3745-266-104 of the Administrative Code, the hydrocarbon limit is twenty ppmv. When complying with the carbon monoxide controls of paragraph (C) rule 3745-266-104 of the Administrative Code, the carbon monoxide limit is established based on the compliance test.

- (f) Maximum production rate of the device in appropriate units when producing normal product, unless complying with the "Tier I" or "Adjusted Tier I" feed rate screening limits for chlorine under paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code and for all metals under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code, and the uncontrolled particulate emissions do not exceed the standard under rule 3745-266-105 of the Administrative Code.
- (g) Maximum combustion chamber temperature where the temperature measurement is as close to the combustion zone as possible and is upstream of any quench water injection [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code].
- (h) Maximum flue gas temperature entering a particulate matter control device [unless complying with "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code and the total chlorine and chloride feed rate screening limits under paragraph (B) or (E) of rule 3745-266-107 of the Administrative Code].
- (i) For systems using wet scrubbers, including wet ionizing scrubbers [unless complying with "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code and the total chlorine and chloride feed rate screening limits under paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code], the following:
 - (i) Minimum liquid to flue gas ratio.
 - (ii) Minimum scrubber blowdown from the system or maximum suspended solids content of scrubber water.
 - (iii) Minimum pH level of the scrubber water.

- (j) For systems using venturi scrubbers, the minimum differential gas pressure across the venturi [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code and the total chlorine and chloride feed rate screening limits under paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code].
 - (k) For systems using dry scrubbers [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code and the total chlorine and chloride feed rate screening limits under paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code]:
 - (i) Minimum caustic feed rate.
 - (ii) Maximum flue gas flow rate.
 - (l) For systems using wet ionizing scrubbers or electrostatic precipitators [unless complying with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code and the total chlorine and chloride feed rate screening limits under paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code]:
 - (i) Minimum electrical power in kilovolt amperes (kVA) to the precipitator plates.
 - (ii) Maximum flue gas flow rate.
 - (m) For systems using fabric filters (baghouses), the minimum pressure drop [unless complying with the "Tier I" or "Adjusted Tier I" metal feed rate screening limits under paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code and the total chlorine and chloride feed rate screening limits under paragraph (B)(1) or (E) of rule 3745-266-107 of the Administrative Code].
- (2) Prior notice of compliance testing. At least thirty days prior to the compliance testing required by paragraph (C)(3) of this rule, the owner or operator shall notify the director and submit the following information:
- (a) General facility information including:
 - (i) U.S. EPA identification number.

- (ii) Facility name, contact person, telephone number, and address.
 - (iii) Person responsible for conducting compliance test, including company name, address, and telephone number, and a statement of qualifications.
 - (iv) Planned date of the compliance test.
- (b) Specific information on each device to be tested including:
- (i) Description of boiler or industrial furnace.
 - (ii) A scaled plot plan showing the entire facility and location of the boiler or industrial furnace.
 - (iii) A description of the air pollution control system.
 - (iv) Identification of the continuous emission monitors that are installed, including:
 - (a) Carbon monoxide monitor.
 - (b) Oxygen monitor.
 - (c) Hydrocarbon monitor, specifying the minimum temperature of the system and, if the temperature is less than one hundred fifty degrees Celsius, an explanation of why a heated system is not used [see paragraph (C)(5) of this rule] and a brief description of the sample gas conditioning system.
 - (v) Indication of whether the stack is shared with another device that will be in operation during the compliance test.
 - (vi) Other information useful to an understanding of the system design or operation.
- (c) Information on the testing planned, including a complete copy of the test protocol and quality assurance or quality control plan, and a summary description for each test providing, at a minimum, the following information ~~at a minimum~~:
- (i) Purpose of the test (e.g., demonstrate compliance with emissions of particulate matter).

- (ii) Planned operating conditions, including levels for each pertinent parameter specified in paragraph (C)(1) of this rule.

(3) Compliance testing.

- (a) General. Compliance testing shall be conducted under conditions for which the owner or operator has submitted a certification of precompliance under paragraph (B) of this rule and under conditions established in the notification of compliance testing required by paragraph (C)(2) of this rule. The owner or operator may seek approval on a case-by-case basis to use compliance test data from one unit in lieu of testing a similar on-site unit. To support the request, the owner or operator shall provide a comparison of the hazardous waste burned and other feedstreams, and the design, operation, and maintenance of both the tested unit and the similar unit. The director shall provide a written approval to use compliance test data in lieu of testing a similar unit if the director finds that the hazardous wastes, the devices, and the operating conditions are sufficiently similar, and the data from the other compliance test is adequate to meet the requirements of paragraph (C) of this rule.
- (b) Special requirements for industrial furnaces that recycle collected particulate matter. Owners and operators of industrial furnaces that recycle back into the furnace particulate matter from the air pollution control system shall comply with one of the following procedures for testing to determine compliance with the metals standards of paragraph (C) or (D) of rule 3745-266-106 of the Administrative Code:
 - (i) The special testing requirements prescribed in "Alternative Method for Implementing Metals Controls" in the appendix to this rule.
 - (ii) Stack emissions testing for a minimum of six hours each day while hazardous waste is burned during permit by rule. The testing shall be conducted when burning normal hazardous waste for that day at normal feed rates for that day and when the air pollution control system is operated under normal conditions. During permit by rule, hazardous waste analysis for metals content shall be sufficient for the owner or operator to determine if changes in metals content may affect the ability of the facility to meet the metals emissions standards established under paragraph (C) or (D) of rule 3745-266-106 of the Administrative Code. Under this option, operating limits [under paragraph (C)(1) of this rule] shall be established during compliance testing under paragraph (C)(3) of this rule on the following parameters:

- (a) Feed rate of total hazardous waste.
 - (b) Total feed rate of chlorine and chloride in total ~~feed streams~~feedstreams.
 - (c) Total feed rate of ash in total ~~feed streams~~feedstreams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited.
 - (d) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas.
 - (e) Maximum production rate of the device in appropriate units when producing normal product.
- (iii) Conduct compliance testing to determine compliance with the metals standards to establish limits on the operating parameters of paragraph (C)(1) of this rule only after the kiln system has been conditioned to enable the kiln system to reach equilibrium with respect to metals fed into the system and metals emissions. During conditioning, hazardous waste and raw materials having the same metals content as will be fed during the compliance test shall be fed at the feed rates that will be fed during the compliance test.
- (c) Conduct of compliance testing.
- (i) If compliance with all applicable emissions standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code 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 shall be as close as possible to the original operating conditions.
 - (ii) Prior to obtaining test data for purposes of demonstrating compliance with the applicable emissions standards of rules 3745-266-104 to 3745-266-107 of the Administrative Code or establishing limits on operating parameters under this rule, the facility shall operate under compliance test conditions for a sufficient period to reach steady-state operations. ~~Industrial~~However, industrial furnaces that recycle collected particulate matter back into the furnace and that comply with paragraph (C)(3)(b)(i) or (C)(3)(b)(ii) of this rule, ~~however,~~ need not reach steady state conditions with respect to the flow

of metals in the system prior to beginning compliance testing for metals.

- (iii) Compliance test data on the level of an operating parameter for which a limit shall be established in the certification of compliance shall be obtained during emissions sampling for the pollutants (i.e., metals, particulate matter, hydrogen chloride or chlorine gas, organic compounds) for which the parameter shall be established as specified by paragraph (C)(1) of this rule.

(4) Certification of compliance. Within ninety days after completing compliance testing, the owner or operator shall certify to the director compliance with the emissions standards of rules 3745-266-105, 3745-266-106, 3745-266-107, and paragraphs (B), (C), and (E) of rule 3745-266-104 of the Administrative Code and paragraph (A)(5)(a)(iv) of this rule. The certification of compliance shall include the following information:

(a) General facility and testing information including:

- (i) U.S. EPA identification number.
- (ii) Facility name, contact person, telephone number, and address.
- (iii) Person responsible for conducting compliance testing, including company name, address, and telephone number, and a statement of qualifications.
- (iv) Dates of each compliance test.
- (v) Description of boiler or industrial furnace tested.
- (vi) Person responsible for quality assurance or quality control, title, and telephone number, and statement that procedures prescribed in the quality assurance or quality control plan submitted under paragraph (C)(2)(c) of this rule have been followed, or a description of any changes and an explanation of why changes were necessary.
- (vii) Description of any changes in the unit configuration prior to or during testing that would alter any of the information submitted in the prior notice of compliance testing under paragraph (C)(2) of this rule, and an explanation of why the changes were necessary.
- (viii) Description of any changes in the planned test conditions prior to or during the testing that alter any of the information submitted in the

prior notice of compliance testing under paragraph (C)(2) of this rule, and an explanation of why the changes were necessary.

(ix) The complete report on results of emissions testing.

(b) Specific information on each test including:

(i) Purposes of test (e.g., demonstrate conformance with the emissions limits for particulate matter, metals, hydrogen chloride, chlorine gas, and carbon monoxide).

(ii) Summary of test results for each run and for each test including the following information:

(a) Date of run.

(b) Duration of run.

(c) Time-weighted average and highest hourly rolling average carbon monoxide level for each run and for the test.

(d) Highest hourly rolling average hydrocarbon level, if hydrocarbon monitoring is required for each run and for the test.

(e) If dioxin and furan testing is required under paragraph (E) of rule 3745-266-104 of the Administrative Code, time-weighted average emissions for each run and for the test of chlorinated dioxin and furan emissions, and the predicted maximum annual average ground level concentration of the toxicity equivalency factor.

(f) Time-weighted average particulate matter emissions for each run and for the test.

(g) Time-weighted average hydrogen chloride and chlorine gas emissions for each run and for the test.

(h) Time-weighted average emissions for the metals subject to regulation under rule 3745-266-106 of the Administrative Code for each run and for the test.

(i) Quality assurance or quality control results.

- (c) Comparison of the actual emissions during each test with the emissions limits prescribed by rules 3745-266-105, 3745-266-106, 3745-266-107, and paragraphs (B), (C), and (E) of rule 3745-266-104 of the Administrative Code and established for the facility in the certification of precompliance under paragraph (B) of this rule.
- (d) Determination of operating limits based on all valid runs of the compliance test for each applicable parameter listed in paragraph (C)(1) of this rule using any of the following procedures:
- (i) Instantaneous limits. A parameter may be measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the operating limit specified as the time-weighted average during all runs of the compliance test.
- (ii) Hourly rolling average basis.
- (a) The limit for a parameter may be established and "continuously monitored" on an "hourly rolling average" basis defined as follows:
- (i) A "continuous monitor" is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen seconds, and computes and records the average value at least every sixty seconds.
- (ii) An "hourly rolling average" is the arithmetic mean of the sixty most recent one-minute average values recorded by the continuous monitoring system.
- (b) The operating limit for the parameter shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average value for each run.
- (iii) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium, and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (C)(4) (d)(ii) of this rule or on (up to) a twenty-four hour rolling average basis. If the owner or operator elects to use an averaging period from two to twenty-four hours, the owner or operator shall include the following in determining those limits:

- (a) The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis.
- (b) The continuous monitor shall meet the following specifications:
- (i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen seconds, and computes and records the average value at least every sixty seconds.
- (ii) The "rolling average" for the selected averaging period is the arithmetic mean of one hour block averages for the averaging period. A "one hour block average" is the arithmetic mean of the one minute averages recorded during the sixty-minute period beginning at one minute after the beginning of preceding clock hour.
- (c) The operating limit for the feed rate of each metal shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average feed rate for each run.
- (iv) Feed rate limits for metals, total chloride and chlorine, 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 or 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 shall be monitored under the continuous monitoring requirements of ~~paragraphs (C)(4)(d)(i) to (C)(4)(d)(iii)~~ paragraph (C)(4)(d) of this rule.
- (e) Certification of compliance statement. The following statement shall accompany the certification of compliance:
- "I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with the requirements of paragraph (C) of rule

3745-266-103 of the Administrative Code are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I also acknowledge that the operating conditions established in this certification pursuant to paragraph (C)(4)(d) of rule 3745-266-103 of the Administrative Code are enforceable limits at which the facility can legally operate during permit by rule until a revised certification of compliance is submitted."

- (5) Special requirements for hydrocarbon monitoring systems. When an owner or operator is required to comply with the hydrocarbon controls in paragraph (C) of rule 3745-266-104 of the Administrative Code or paragraph (A)(5)(a)(iv) of this rule, a conditioned gas monitoring system may be used in conformance with specifications in the appendix to this rule provided that the owner or operator submits a certification of compliance without using extensions of time in paragraph (C)(7) of this rule.
- (6) Special operating requirements for industrial furnaces that recycle collected particulate matter. Owners and operators of industrial furnaces that recycle back into the furnace particulate matter from the air pollution control system shall:
 - (a) When complying with paragraph (C)(3)(b)(i) of this rule, comply with the operating requirements prescribed in "Alternative Method to Implement the Metals Controls" in the appendix to this rule.
 - (b) When complying with paragraph (C)(3)(b)(ii) of this rule, comply with the operating requirements prescribed by paragraph (C)(3)(b)(ii) of this rule.
- (7) Extensions of time.
 - (a) If the owner or operator does not submit a complete certification of compliance for all of the applicable emissions standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code on or before thirty days after December 7, 2004, or on or before thirty days after the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule, the owner or operator shall do any of the following:

- (i) Stop burning hazardous waste and begin closure activities under paragraph (L) of this rule for the hazardous waste portion of the facility.
 - (ii) Limit hazardous waste burning only for purposes of compliance testing (and pretesting to prepare for compliance testing) for a total period of seven hundred twenty hours for the period of time beginning on December 7, 2004, or on the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule, submitted a notification to the director by thirty days after December 7, 2004, or by thirty days after the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule, stating that the facility is operating under restricted permit by rule and intends to resume burning hazardous waste, and submitted a complete certification of compliance within two years of December 7, 2004, or within two years after the effective date of any new, amended, or rescinded rule or statute that renders the owner or operator of the boiler or industrial furnace subject to this rule.
 - (iii) Obtain a case-by-case extension of time under paragraph (C)(7)(b) of this rule.
- (b) The owner or operator may request a case-by-case extension of time to extend any time limit in paragraph (C) of this rule if compliance with the time limit is not practicable for reasons beyond the control of the owner or operator.
- (i) In granting an extension, the director may apply conditions as the facts warrant to ensure timely compliance with this rule and that the facility operates in a manner that does not pose a hazard to human health and the environment.
 - (ii) When an owner or operator requests an extension of time to enable the facility to comply with the alternative hydrocarbon provisions of paragraph (F) of rule 3745-266-104 of the Administrative Code and obtain an installation and operation permit because the facility cannot meet the hydrocarbon limit of paragraph (C) of rule 3745-266-104 of the Administrative Code:
 - (a) In considering whether to grant the extension, the director shall both:

- (ii) Operating conditions that the owner or operator is seeking to revise and description of the changes in facility design or operation that prompted the need to seek to revise the operating conditions.
 - (iii) A determination that when operating under the revised operating conditions, the applicable emissions standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code are not likely to be exceeded. To document this determination, the owner or operator shall submit the applicable information required under paragraph (B)(2) of this rule.
 - (iv) Complete emissions testing protocol for any pretesting and for a new compliance test to determine compliance with the applicable emissions standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code when operating under revised operating conditions. The protocol shall include a schedule of pre-testing and compliance testing. If the owner or operator revises the scheduled date for the compliance test, the owner or operator shall notify the director in writing at least thirty days prior to the revised date of the compliance test.
 - (c) Conduct a compliance test under the revised operating conditions and the protocol submitted to the director to determine compliance with the applicable emissions standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code.
 - (d) Submit a revised certification of compliance under paragraph (C)(4) of this rule.
- (D) Periodic recertifications. The owner or operator shall conduct compliance testing and submit to the director a recertification of compliance under provisions of paragraph (C) of this rule within five years from submitting the previous certification or recertification. If the owner or operator seeks to recertify compliance under new operating conditions, the owner or operator shall comply with paragraph (C)(8) of this rule.
- (E) Noncompliance with certification schedule. If the owner or operator does not comply with the compliance schedule in paragraphs (B), (C), and (D) of this rule, hazardous waste burning shall terminate on the date that the deadline is missed, closure activities shall begin under paragraph (L) of this rule, and hazardous waste burning may not resume except under an operating permit issued under rule 3745-50-66 of the Administrative Code. For purposes of compliance with the closure provisions of paragraph (L) of this rule, paragraph (D)(2) of rule 3745-66-12, and rule 3745-66-13

of the Administrative Code, the boiler or industrial furnace has received "the known final volume of hazardous waste" on the date that the deadline is missed.

- (F) Start-up and shut-down. 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 or chlorine] shall not be fed into the device during start-up and shut-down of the boiler or industrial furnace, unless the device is operating within the conditions of operation specified in the certification of compliance.
- (G) Automatic waste feed cutoff. During the compliance test required by paragraph (C) (3) of this rule, and upon certification of compliance under paragraph (C) of this rule, a boiler or industrial furnace shall be operated with a functioning system that automatically cuts off the hazardous waste feed when the applicable operating conditions specified in paragraphs (C)(1)(a) and (C)(1)(e) to (C)(1)(m) of this rule deviate from those established in the certification of compliance. In addition, the boiler or industrial furnace shall be operated as follows:
- (1) To minimize emissions of organic compounds, the minimum combustion chamber temperature (or the indicator of combustion chamber temperature) that occurred during the compliance test shall be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber, with the minimum temperature during the compliance test determined to be either:
 - (a) If compliance with the combustion chamber temperature limit is based on an hourly rolling average, the minimum temperature during the compliance test is considered to be the average over all runs of the lowest hourly rolling average for each run; or
 - (b) If compliance with the combustion chamber temperature limit is based on an instantaneous temperature measurement, the minimum temperature during the compliance test is considered to be the time-weighted average temperature during all runs of the test; and
 - (2) Operating parameters limited by the certification of compliance shall continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the limits established in the certification of compliance.
- (H) Fugitive emissions. Fugitive emissions shall be controlled by any of the following:
- (1) Keeping the combustion zone totally sealed against fugitive emissions.
 - (2) Maintaining the combustion zone pressure lower than atmospheric pressure.

- (3) An alternate means of control that the owner or operator can demonstrate fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure. Support for such demonstration shall be included in the operating record.
- (I) Changes. A boiler or industrial furnace shall cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits specified in the certification of compliance.
- (J) Monitoring and inspections.
- (1) ~~The~~ At a minimum, the owner or operator shall monitor and record the following; ~~at a minimum,~~ while burning hazardous waste:
- (a) Feed rates and composition of hazardous waste, other fuels, and industrial furnace ~~feed stocks~~feedstocks, and feed rates of ash, metals, and total chloride and chlorine as necessary to ensure conformance with the certification of precompliance or certification of compliance.
- (b) Carbon monoxide, oxygen, and if applicable, hydrocarbons, on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with the operating limits specified in the certification of compliance. Carbon monoxide, hydrocarbon, and oxygen monitors shall be installed, operated, and maintained in accordance with methods specified in the appendix to this rule.
- (c) Upon the request of the director, sampling and analysis of the hazardous waste (and other fuels and industrial furnace ~~feed stocks~~feedstocks as appropriate) and the stack gas emissions shall be conducted to verify that the operating conditions established in the certification of precompliance or certification of compliance achieve the applicable standards of rules 3745-266-104, 3745-266-105, 3745-266-106, and 3745-266-107 of the Administrative Code.
- (2) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) shall be subjected to thorough visual inspection when such equipment contains hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

- (3) The automatic hazardous waste feed cutoff system and associated alarms shall be tested at least once every seven days when hazardous waste is burned to verify operability, unless the owner or operator can demonstrate that weekly testing will unduly restrict or upset operations and that less frequent inspections will be adequate. Support for such demonstration shall be included in the operating record. At a minimum, operational testing shall be conducted at least once every thirty days.
- (4) These monitoring and inspection data shall be recorded and the records shall be placed in the operating log.
- (K) Recordkeeping. The owner or operator shall keep in the operating record of the facility all information and data required by this rule for five years.
- (L) Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace and shall comply with rules 3745-66-11 to 3745-66-15 of the Administrative Code.

[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."]

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3745-266-104

Standards to control organic emissions.

(A) Destruction and removal efficiency (DRE) standard.

- (1) General. Except as provided in paragraph (A)(3) of this rule, a boiler or industrial furnace burning hazardous waste shall achieve a DRE of 99.99 per cent for all organic hazardous constituents in the waste feed. To demonstrate conformance with this requirement, 99.99 per cent DRE shall be demonstrated during a trial burn for each principal organic hazardous constituent (POHC) designated [under paragraph (A)(2) of this rule] in ~~its~~the boiler's or industrial furnace's permit for each waste feed. DRE is determined for each POHC from the following equation:

$$\text{DRE} = 1 [1 - (W_{\text{out}} / W_{\text{in}})] \times 100$$

where:

~~W_{in}~~W_{in} = mass feed rate of one POHC in the hazardous waste fired to the boiler or industrial furnace; ~~and~~

~~W_{out}~~W_{out} = mass emission rate of the same POHC present in stack gas prior to release to the atmosphere.

- (2) Designation of POHCs. POHCs are those compounds for which compliance with the DRE requirements of this rule shall be demonstrated in a trial burn in conformance with procedures prescribed in rule 3745-50-66 of the Administrative Code. One or more POHCs shall be designated by the director for each waste feed to be burned. POHCs shall be designated based on the degree of difficulty of destruction of the organic constituents in the waste and on ~~the~~their the organic constituents' concentrations or mass in the waste feed considering the results of waste analyses submitted with "Part B" of the permit application. POHCs are most likely to be selected from among those compounds listed in the appendix to rule 3745-51-11 of the Administrative Code that are also present in the normal waste feed. However, if the applicant demonstrates to the director's satisfaction that a compound not listed in the appendix to rule 3745-51-11 of the Administrative Code or not present in the normal waste feed is a suitable indicator of compliance with the DRE requirements of this rule, that compound may be designated as a POHC. Such POHCs need not be toxic or organic compounds.
- (3) Dioxin-listed waste. A boiler or industrial furnace burning hazardous waste containing (or derived from) EPA hazardous waste numbers F020, F021, F022, F023, F026, or F027 shall achieve a DRE of 99.9999 per cent for each POHC designated [under paragraph (A)(2) of this rule] in ~~its~~the boiler's or industrial

furnace's permit. This performance shall be demonstrated on POHCs that are more difficult to burn than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in paragraph (A)(1) of this rule. In addition, the owner or operator of the boiler or industrial furnace shall notify the director of intent to burn EPA hazardous waste numbers F020, F021, F022, F023, F026, or F027.

- (4) Automatic waiver of DRE trial burn. Owners and operators of boilers operated under the special operating requirements provided by rule 3745-266-110 of the Administrative Code are considered to be in compliance with the DRE standard of paragraph (A)(1) of this rule and are exempt from the DRE trial burn.
- (5) Low risk waste. Owners and operators of boilers or industrial furnaces that burn hazardous waste in compliance with paragraph (A) of rule 3745-266-109 of the Administrative Code are considered to be in compliance with the DRE standard of paragraph (A)(1) of this rule and are exempt from the DRE trial burn.

(B) Carbon monoxide standard.

- (1) Except as provided in paragraph (C) of this rule, the stack gas concentration of carbon monoxide from a boiler or industrial furnace burning hazardous waste cannot exceed one hundred parts per million by volume (ppmv) on an hourly rolling average basis (i.e., over any ~~sixty-minute~~ sixty-minute period), continuously corrected to seven per cent oxygen, dry gas basis.
- (2) Carbon monoxide and oxygen shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in the appendix to rule 3745-266-103 of the Administrative Code.
- (3) Compliance with the one hundred ppmv carbon monoxide limit shall be demonstrated during the trial burn (for new facilities or a permit by rule facility applying for a permit) or the compliance test (for permit by rule facilities). To demonstrate compliance, the highest hourly rolling average carbon monoxide level during any valid run of the trial burn or compliance test shall not exceed one hundred ppmv.

(C) Alternative carbon monoxide standard.

- (1) The stack gas concentration of carbon monoxide from a boiler or industrial furnace burning hazardous waste may exceed the one hundred ppmv limit provided that

stack gas concentrations of hydrocarbons do not exceed twenty ppmv, except as provided by paragraph (F) of this rule for certain industrial furnaces.

- (2) Hydrocarbon limits shall be established under this rule on an hourly rolling average basis (i.e., over any ~~sixty-minute~~sixty-minute period), reported as propane, and continuously corrected to seven per cent oxygen, dry gas basis.
 - (3) Hydrocarbons shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in the appendix to rule 3745-266-103 of the Administrative Code. Carbon monoxide and oxygen shall be continuously monitored in conformance with paragraph (B)(2) of this rule.
 - (4) The alternative carbon monoxide standard is established based on carbon monoxide data during the trial burn (for a new facility) and the compliance test (for a permit by rule facility). The alternative carbon monoxide standard is the average over all valid runs of the highest hourly average carbon monoxide level for each run. The carbon monoxide limit is implemented on an hourly rolling average basis, and continuously corrected to seven per cent oxygen, dry gas basis.
- (D) Special requirements for furnaces. Owners and operators of industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient [see paragraph (A)(5)(b) of rule 3745-266-103 of the Administrative Code] at any location other than the end where products are normally discharged and where fuels are normally fired shall comply with the hydrocarbon limits provided by paragraph (C) or (F) of this rule irrespective of whether stack gas carbon monoxide concentrations meet the one hundred ppmv limit of paragraph (B) of this rule.
- (E) Controls for dioxins and furans. Owners and operators of boilers and industrial furnaces that are equipped with a dry particulate matter control device that operates within the temperature range of four hundred fifty to seven hundred fifty degrees Fahrenheit, and industrial furnaces operating under an alternative hydrocarbon limit established under paragraph (F) of this rule shall conduct a site-specific risk assessment as follows to demonstrate that emissions of chlorinated dibenzo-p-dioxins and dibenzofurans do not result in an increased lifetime cancer risk to the hypothetical maximum exposed individual exceeding one in one hundred thousand:
- (1) During the trial burn (for new facilities or a permit by rule facility applying for a permit) or compliance test (for permit by rule facilities), determine emission rates of the tetra- to octa- congeners of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs and CDFs) using method 0023A, "Sampling Method

for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans Emissions from Stationary Sources," U.S. EPA publication SW-846;

- (2) Estimate the 2,3,7,8-TCDD toxicity equivalence of the tetra- to octa- CDDs and CDFs congeners using "Procedures for Estimating the Toxicity Equivalence of Chlorinated Dibenzo-p-dioxin and Dibenzofuran Congeners" in the appendix to rule 3745-266- 103 of the Administrative Code. Multiply the emission rates of CDD and CDF congeners with a toxicity equivalence greater than zero (see the procedure) by the calculated toxicity equivalence factor to estimate the equivalent emission rate of 2,3,7,8-TCDD;
 - (3) Conduct dispersion modeling using methods recommended in 40 CFR Part 51 appendix W ["Guideline on Air Quality Models (Revised)" and ~~its~~any supplements], the "Hazardous Waste Combustion Air Quality Screening Procedure," provided in the appendix to rule 3745-266-103 of the Administrative Code, or in "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised" to predict the maximum annual average off-site ground level concentration of 2,3,7,8-TCDD equivalents determined under paragraph (E)(2) of this rule. The maximum annual average concentration shall be used when a person resides on-site; and
 - (4) The ratio of the predicted maximum annual average ground level concentration of 2,3,7,8-TCDD equivalents to the risk-specific dose for 2,3,7,8-TCDD provided in appendix B to rule 3745-266-109 of the Administrative Code (2.2×10^{-7}) shall not exceed 1.0.
- (F) Monitoring carbon monoxide and hydrocarbons in the by-pass duct of a cement kiln. Cement kilns may comply with the carbon monoxide and hydrocarbon limits provided by paragraphs (B), (C), and (D) of this rule by monitoring in the by-pass duct provided that both:
- (1) Hazardous waste is fired only into the kiln and not at any location downstream from the kiln exit relative to the direction of gas flow.
 - (2) The by-pass duct diverts a minimum of ten per cent of kiln off-gas into the duct.
- (G) Use of emissions test data to demonstrate compliance and establish operating limits. Compliance with this rule shall be demonstrated simultaneously by emissions testing or during separate runs under identical operating conditions. Further, data to demonstrate compliance with the carbon monoxide and hydrocarbon limits of this rule or to establish alternative carbon monoxide or hydrocarbon limits under this rule shall be obtained during the time that DRE testing, and where applicable, CDD and

CDF testing under paragraph (E) of this rule and comprehensive organic emissions testing under paragraph (F) of this rule is conducted.

(H) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under rule 3745-266-102 of the Administrative Code) will be regarded as compliance with this rule. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with this rule may be information justifying modification of a permit under rule 3745-50-51 of the Administrative Code.

[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."]

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3745-266-105

Standards to control particulate matter.

(A) A boiler or industrial furnace burning hazardous waste may not emit particulate matter in excess of one hundred eighty milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) after correction to a stack gas concentration of seven per cent oxygen, using procedures prescribed in 40 CFR Part 60, appendix A, methods 1 to 5, and the appendix to rule 3745-266-103 of the Administrative Code.

(B) An owner or operator in compliance with paragraph (B) of rule 3745-266-109 of the Administrative Code for the low risk waste exemption is exempt from the particulate matter standard.

(C) Oxygen correction.

(1) Measured pollutant levels shall be corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times 14 / (E - Y)$$

where:

P_c is the corrected concentration of the pollutant in the stack gas.

P_m is the measured concentration of the pollutant in the stack gas.

E is the oxygen concentration on a dry basis in the combustion air fed to the device.

Y is the measured oxygen concentration on a dry basis in the stack.

(2) For devices that feed normal combustion air, ~~E will equal~~ E equals twenty-one per cent. For devices that feed oxygen-enriched air for combustion (that is, air with an oxygen concentration exceeding twenty-one per cent), the value of ~~E will be~~ E is the concentration of oxygen in the enriched air.

(3) Compliance with all emission standards provided by rules 3745-266-100 to 3745-266-112 of the Administrative Code shall be based on correcting to seven per cent oxygen using this procedure.

(D) For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under rule 3745-266-102 of the Administrative Code) ~~will be~~ are regarded as compliance with this rule. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with this rule may be information justifying modification of a permit under rule 3745-50-51 of the Administrative Code.

[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."]

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3745-266-106 Standards to control metals emissions.

- (A) General. The owner or operator shall comply with the metals standards provided by paragraph (B), (C), (D), (E), or (F) of this rule for each metal listed in paragraph (B) of this rule that is present in the hazardous waste at detectable levels by using appropriate analytical procedures.
- (B) "Tier I" feed rate screening limits. Feed rate screening limits for metals are specified in appendix B to this rule as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in paragraph (B)(7) of this rule. "Tier I" feed rate screening limits are the following:
- (1) Noncarcinogenic metals. The feed rates of antimony, barium, lead, mercury, thallium, and silver in all ~~feed streams~~feedstreams, including hazardous waste, fuels, and industrial furnace ~~feed stocks~~feedstocks shall not exceed the screening limits specified in appendix B to this rule.
- (a) The feed rate screening limits for antimony, barium, mercury, thallium, and silver are based on either of the following:
- (i) An hourly rolling average as described in paragraph (E)(6)(a)(ii) of rule 3745-266-102 of the Administrative Code; ~~or.~~
- (ii) An instantaneous limit not to be exceeded at any time.
- (b) The feed rate screening limit for lead is based on one of the following:
- (i) An hourly rolling average as described in paragraph (E)(6)(a)(ii) of rule 3745-266-102 of the Administrative Code; ~~or.~~
- (ii) An averaging period of two to twenty-four hours as described in paragraph (E)(6)(b) of rule 3745-266-102 of the Administrative Code with an instantaneous feed rate limit not to exceed ten times the feed rate that would be allowed on an hourly rolling average basis; ~~or.~~
- (iii) An instantaneous limit not to be exceeded at any time.
- (2) Carcinogenic metals.
- (a) The feed rates of arsenic, cadmium, beryllium, and chromium in all ~~feed streams~~feedstreams, including hazardous waste, fuels, and industrial furnace ~~feed stocks~~feedstocks shall not exceed values derived from the screening limits specified in appendix B to this rule. The feed rate of each of

these metals is limited to a level such that the sum of the ratios of the actual feed rate to the feed rate screening limit specified in appendix B to this rule shall not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^n \frac{AFR_{(i)}}{FRSL_{(i)}} \leq 1.0$$

where:

n = number of carcinogenic metals
 AFR = actual feed rate to the device for metal "i"
 FRSL = feed rate screening limit provided by appendix B to this rule for metal "i"

(b) The feed rate screening limits for the carcinogenic metals are based on either of the following:

- (i) An hourly rolling average; ~~or~~
- (ii) An averaging period of two to twenty-four hours as described in paragraph (E)(6)(b) of rule 3745-266-102 of the Administrative Code with an instantaneous feed rate limit not to exceed ten times the feed rate that would be allowed on an hourly rolling average basis.

(3) Terrain-adjusted effective stack height (TESH).

(a) The terrain-adjusted effective stack height is determined according to the following equation:

$$TESH = H_a + H_1 - Tr$$

where:

H_a = actual physical stack height
 H₁ = plume rise as determined from appendix A to this rule as a function of stack flow rate and stack gas exhaust temperature
 Tr = terrain rise within five kilometers of the stack

(b) The stack height (H_a) may not exceed "good engineering practice stack height" as defined in 40 CFR 51.100(ii).

- (c) If the TESH for a particular facility is not listed in the tables in appendix B to this rule, the nearest lower TESH listed in the tables in appendix B to this rule shall be used. If the TESH is four meters or less, a value of four meters shall be used.
- (4) Terrain type. The screening limits are a function of whether the facility is located in noncomplex or complex terrain. A device located where any part of the surrounding terrain within five kilometers ~~off~~from the stack equals or exceeds the elevation of the physical stack height (Ha) is considered to be in complex terrain and the screening limits for complex terrain apply. Terrain measurements are to be made from U.S. geological survey 7.5-minute topographic maps of the area surrounding the facility.
- (5) Land use. The screening limits are a function of whether the facility is located in an area where the land use is urban or rural. To determine whether land use in the vicinity of the facility is urban or rural, procedures provided in the appendix to rule 3745-266-103 of the Administrative Code shall be used.
- (6) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls of metals emissions under a hazardous waste installation and operation permit or interim standards controls shall comply with the screening limits for all such units assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics. The worst-case stack is determined from the following equation as applied to each stack:

$$K = HVT$$

where:

K = a parameter accounting for relative influence of stack height and plume rise

H = physical stack height (meters)

V = stack gas flow rate (~~m~~³/cubic meters per second)

T = exhaust temperature (degrees Kelvin)

The stack with the lowest value of K is the worst-case stack.

- (7) Criteria for facilities not eligible for screening limits. If any criteria in paragraphs (B)(7)(a) to (B)(7)(e) of this rule are met, the "Tier I" and "Tier II" screening limits do not apply. Owners and operators of such facilities shall comply with either the "Tier III" standards provided by paragraph (D) of this rule or with the "Adjusted Tier I" feed rate screening limits provided by paragraph (E) of this rule. The criteria are the following:
- (a) The device is located in a narrow valley less than one kilometer wide;

- (b) The device has a stack taller than twenty meters and is located such that the terrain rises to the physical height within one kilometer of the facility;
 - (c) The device has a stack taller than twenty meters and is located within five kilometers of a shoreline of a large body of water such as an ocean or large lake;
 - (d) The physical stack height of any stack is less than 2.5 times the height of any building within five building heights or five projected building widths of the stack and the distance from the stack to the closest boundary is within five building heights or five projected building widths of the associated building;
 - (e) The director determines that standards based on site-specific dispersion modeling are required.
- (8) Implementation. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate screening limits are not exceeded.
- (C) "Tier II" emission rate screening limits. Emission rate screening limits are specified in appendix B to this rule as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in paragraph (B)(7) of this rule. "Tier II" emission rate screening limits are the following:
- (1) Noncarcinogenic metals. The emission rates of antimony, barium, lead, mercury, thallium, and silver shall not exceed the screening limits specified in appendix B to this rule.
 - (2) Carcinogenic metals. The emission rates of arsenic, cadmium, beryllium, and chromium shall not exceed values derived from the screening limits specified in appendix B to this rule. The emission rate of each of these metals is limited to a level such that the sum of the ratios of the actual emission rate to the emission rate screening limit specified in appendix B to this rule shall not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^n \frac{\text{AER}_{(i)}}{\text{ERSL}_{(i)}} \leq 1.0$$

where:

n = number of carcinogenic metals

AER = actual emission rate for metal "i"

ERSL = emission rate screening limit provided by appendix B to this rule for metal "i"

- (3) Implementation. The emission rate limits shall be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or a permit by rule facility applying for a permit) or the compliance test (for permit by rule facilities). The feed rate averaging periods are the same as provided by paragraphs (B)(1)(a), ~~and (B)(1)(b)~~, and (B)(2)(b) of this rule. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate limits for the feedstreams specified in rule 3745-266-102 or 3745-266-103 of the Administrative Code are not exceeded.
- (4) Descriptions and limitations. The descriptions and limitations provided by paragraph (B) of this rule for the following terms also apply to the "Tier II" emission rate screening limits provided by paragraph (C) of this rule: "terrain-adjusted effective stack height," "good engineering practice stack height," "terrain type," "land use," and "criteria for facilities not eligible to use the screening limits."
- (5) Multiple stacks.
- (a) Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a hazardous waste installation and operation permit or interim standards controls shall comply with the emissions screening limits for any such stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.
- (b) The worst-case stack is determined by procedures in paragraph (B)(6) of this rule.
- (c) For each metal, the total emissions of the metal from those stacks shall not exceed the screening limit for the worst-case stack.
- (D) "Tier III" and "Adjusted Tier I" site-specific risk assessment. ~~Paragraphs (D) to (D)(6)~~ Paragraph (D) to (D)(6) of this rule apply applies to facilities complying with either the "Tier III" or "Adjusted Tier I" controls, except where specified otherwise, including the following:

- (1) General. Conformance with the "Tier III" metals controls shall be demonstrated by emissions testing to determine the emission rate for each metal. In addition, conformance with either the "Tier III" or "Adjusted Tier I" metals controls shall be demonstrated by air dispersion modeling to predict the maximum annual average off-site ground level concentration for each metal, and a demonstration that acceptable ambient levels are not exceeded.
- (2) Acceptable ambient levels. Appendices A and B to rule 3745-266-109 of the Administrative Code list the acceptable ambient levels for purposes of this rule. Reference air concentrations (RACs) are listed for the noncarcinogenic metals and 10^{-5} risk-specific doses (RSDs) are listed for the carcinogenic metals. The RSD for a metal is the acceptable ambient level for that metal provided that only one of the four carcinogenic metals is emitted. If more than one carcinogenic metal is emitted, the acceptable ambient level for the carcinogenic metals is a fraction of the RSD as described in paragraph (D)(3) of this rule.
- (3) Carcinogenic metals. For the carcinogenic metals, arsenic, cadmium, beryllium, and chromium, the sum of the ratios of the predicted maximum annual average off-site ground level concentrations (except that on-site concentrations shall be considered if a person resides ~~on-site~~ on-site) to the RSD for all carcinogenic metals emitted shall not exceed 1.0, as determined by the following equation:

$$\sum_{i=1}^n \frac{\text{Predicted Ambient Concentration}_{(i)}}{\text{Risk-Specific Dose}_{(i)}} \leq 1.0$$

where: n = number of carcinogenic metals

- (4) Noncarcinogenic metals. For the noncarcinogenic metals, the predicted maximum annual average off-site ground level concentration for each metal shall not exceed the reference air concentration.
- (5) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a hazardous waste installation and operation permit or interim standards controls shall conduct emissions testing (except that facilities complying with "Adjusted Tier I" controls need not conduct emissions testing) and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels.

- (6) Implementation. Under "Tier III", the metals controls shall be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or a permit by rule facility applying for a permit) or the compliance test (for permit by rule facilities). The feed rate averaging periods are the same as provided by paragraphs (B)(1)(a), ~~and (B)(1)(b)~~, and (B)(2)(b) of this rule. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate limits for the feedstreams specified in rule 3745-266-102 or 3745-266-103 of the Administrative Code are not exceeded.
- (E) "Adjusted Tier I" feed rate screening limits. The owner or operator may adjust the feed rate screening limits provided by appendix B to this rule to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit for a metal is determined by back-calculating from the acceptable ambient level provided by appendices A and B to rule 3745-266-109 of the Administrative Code using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the "Adjusted Tier I" feed rate screening limit. The feed rate screening limits for carcinogenic metals are implemented as prescribed in paragraph (B)(2) of this rule.
- (F) Alternative implementation approaches.
- (1) The director may approve on a case-by-case basis approaches to implement the "Tier II" or "Tier III" metals emission limits provided by paragraph (C) or (D) of this rule alternative to monitoring the feed rate of metals in each feedstream.
- (2) The emission limits provided by paragraph (D) of this rule shall be determined as follows:
- (a) For each noncarcinogenic metal, by back-calculating from the reference air concentration provided in appendix A to rule 3745-266-109 of the Administrative Code to determine the allowable emission rate for each metal using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with paragraph (H) of this rule; ~~and~~.
- (b) For each carcinogenic metal by doing both of the following:
- (i) Back-calculating from the RSD provided in appendix B to rule 3745-266-109 of the Administrative Code to determine the allowable emission rate for each metal if that metal were the only carcinogenic metal emitted using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with paragraph (H) of this rule; ~~and~~.

- (ii) If more than one carcinogenic metal is emitted, selecting an emission limit for each carcinogenic metal not to exceed the emission rate determined by paragraph (F)(2)(b)(i) of this rule such that the sum for all carcinogenic metals of the ratios of the selected emission limit to the emission rate determined by that paragraph does not exceed 1.0.
- (G) Emission testing.
 - (1) General. Emission testing for metals shall be conducted using method 0060, "Determinations of Metals in Stack Emissions," U.S. EPA publication SW-846.
 - (2) Hexavalent chromium. Emissions of chromium are assumed to be hexavalent chromium unless the owner or operator conducts emissions testing to determine hexavalent chromium emissions using procedures prescribed in method 0061, "Determination of Hexavalent Chromium Emissions from Stationary Sources," U.S. EPA publication SW-846.
- (H) Dispersion modeling. Dispersion modeling required by this rule shall be conducted according to methods recommended in 40 CFR Part 51, appendix W ("Guideline on Air Quality Models- Revised," and its supplements), the "Hazardous Waste Combustion Air Quality Screening Procedure", provided in the appendix to rule 3745-266-103 of the Administrative Code, or in "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised" to predict the maximum annual average off-site ground level concentration. However, on-site concentrations shall be considered when a person resides on-site.
- (I) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under rule 3745-266-102 of the Administrative Code) ~~will be~~ regarded as compliance with this rule. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with this rule may be information justifying modification of a permit under rule 3745-50-51 of the Administrative Code.

[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."]

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3745-266-106

APPENDIX A

1

Appendix A to rule 3745-266-106 of the Administrative Code

Stack Plume Rise

Estimated Plume Rise (in Meters) Based on Stack Exit Flow Rate and Gas Temperature

Flow rate (m ³ /s)	Exhaust Temperature (KE)										
	< 325	325- 349	350- 399	400- 449	450- 499	500- 599	600- 699	700- 799	800- 999	1000- 1499	> 1499
< 0.5	0	0	0	0	0	0	0	0	0	0	0
0.5 - 0.9	0	0	0	0	0	0	0	0	1	1	1
1.0 - 1.9	0	0	0	0	1	1	2	3	3	3	4
2.0 - 2.9	0	0	1	3	4	4	6	6	7	8	9
3.0 - 3.9	0	1	2	5	6	7	9	10	11	12	13
4.0 - 4.9	1	2	4	6	8	10	12	13	14	15	17
5.0 - 7.4	2	3	5	8	10	12	14	16	17	19	21
7.5 - 9.9	3	5	8	12	15	17	20	22	22	23	24
10.0 - 12.4	4	6	10	15	19	21	23	24	25	26	27
12.5 - 14.9	4	7	12	18	22	23	25	26	27	28	29
15.0 - 19.9	5	8	13	20	23	24	26	27	28	29	31
20.0 - 24.9	6	10	17	23	25	27	29	30	31	32	34
25.0 - 29.9	7	12	20	25	27	29	31	32	33	35	36
30.0 - 4.9	8	14	22	26	29	31	33	35	36	37	39
35.0 - 39.9	9	16	23	28	30	32	35	36	37	39	41
40.0 - 44.9	10	17	24	29	32	34	36	38	39	41	42
50.0 - 59.9	12	21	26	31	34	36	39	41	42	44	46
60.0 - 69.9	14	22	27	33	36	39	42	43	45	47	49
70.0 - 79.9	16	23	29	35	38	41	44	46	47	49	51
80.0 - 89.9	17	25	30	36	40	42	46	48	49	51	54
90.0 - 99.9	19	26	31	38	42	44	48	50	51	53	56
100.0 - 119.9	21	26	32	39	43	46	49	52	53	55	58
120.0 - 139.9	22	28	35	42	46	49	52	55	56	59	61
140.0 - 159.9	23	30	36	44	48	51	55	58	59	62	65
160.0 - 179.9	25	31	38	46	50	54	58	60	62	65	67
180.0 - 199.0	26	32	40	48	52	56	60	63	65	67	70
> 199.9	26	33	41	49	54	58	62	65	67	69	73

m³/s means cubic meters per second

Appendix B to rule 3745-266-106 of the Administrative Code
Tier I and Tier II Feed Rate and Emissions Screening Limits for Metals

In this appendix the units used are as follows: m means meters, g/hr means grams per hour.

Table A Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain- Values for Urban Areas						
Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
4	6.0E+01	1.0E+04	1.8E+01	6.0E+01	6.0E+02	6.0E+01
6	6.8E+01	1.1E+04	2.0E+01	6.8E+01	6.8E+02	6.8E+01
8	7.6E+01	1.3E+04	2.3E+01	7.6E+01	7.6E+02	7.6E+01
10	8.6E+01	1.4E+04	2.6E+01	8.6E+01	8.6E+02	8.6E+01
12	9.6E+01	1.7E+04	3.0E+01	9.6E+01	9.6E+02	9.6E+01
14	1.1E+02	1.8E+04	3.4E+01	1.1E+02	1.1E+03	1.1E+02
16	1.3E+02	2.1E+04	3.6E+01	1.3E+02	1.3E+03	1.3E+02
18	1.4E+02	2.4E+04	4.3E+01	1.4E+02	1.4E+03	1.4E+02
20	1.6E+02	2.7E+04	4.6E+01	1.6E+02	1.6E+03	1.6E+02
22	1.8E+02	3.0E+04	5.4E+01	1.8E+02	1.8E+03	1.8E+02
24	2.0E+02	3.4E+04	6.0E+01	2.0E+02	2.0E+03	2.0E+02
26	2.3E+02	3.9E+04	6.8E+01	2.3E+02	2.3E+03	2.3E+02
28	2.6E+02	4.3E+04	7.8E+01	2.6E+02	2.6E+03	2.6E+02
30	3.0E+02	5.0E+04	9.0E+01	3.0E+02	3.0E+03	3.0E+02
35	4.0E+02	6.6E+04	1.1E+02	4.0E+02	4.0E+03	4.0E+02
40	4.6E+02	7.8E+04	1.4E+02	4.6E+02	4.6E+03	4.6E+02
45	6.0E+02	1.0E+05	1.8E+02	6.0E+02	6.0E+03	6.0E+02
50	7.8E+02	1.3E+05	2.3E+02	7.8E+02	7.8E+03	7.8E+02
55	9.6E+02	1.7E+05	3.0E+02	9.6E+02	9.6E+03	9.6E+02
60	1.2E+03	2.0E+05	3.6E+02	1.2E+03	1.2E+04	1.2E+03
65	1.5E+03	2.5E+05	4.3E+02	1.5E+03	1.5E+04	1.5E+03
70	1.7E+03	2.8E+05	5.0E+02	1.7E+03	1.7E+04	1.7E+03
75	1.9E+03	3.2E+05	5.8E+02	1.9E+03	1.9E+04	1.9E+03
80	2.2E+03	3.6E+05	6.4E+02	2.2E+03	2.2E+04	2.2E+03
85	2.5E+03	4.0E+05	7.6E+02	2.5E+03	2.5E+04	2.5E+03
90	2.8E+03	4.6E+05	8.2E+02	2.8E+03	2.8E+04	2.8E+03
95	3.2E+03	5.4E+05	9.6E+02	3.2E+03	3.2E+04	3.2E+03
100	3.6E+03	6.0E+05	1.1E+03	3.6E+03	3.6E+04	3.6E+03
105	4.0E+03	6.8E+05	1.2E+03	4.0E+03	4.0E+04	4.0E+03
110	4.6E+03	7.8E+05	1.4E+03	4.6E+03	4.6E+04	4.6E+03
115	5.4E+03	8.6E+05	1.6E+03	5.4E+03	5.4E+04	5.4E+03
120	6.0E+03	1.0E+06	1.8E+03	6.0E+03	6.0E+04	6.0E+03

Table B Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain- Values for Rural Areas						
Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
4	3.1E+01	5.2E+03	9.4E+00	3.1E+01	3.1E+02	3.1E+01
6	3.6E+01	6.0E+03	1.1E+01	3.6E+01	3.6E+02	3.6E+01
8	4.0E+01	6.8E+03	1.2E+01	4.0E+01	4.0E+02	4.0E+01
10	4.6E+01	7.8E+03	1.4E+01	4.6E+01	4.6E+02	4.6E+01
12	5.8E+01	9.6E+03	1.7E+01	5.8E+01	5.8E+02	5.8E+01
14	6.8E+01	1.1E+04	2.1E+01	6.8E+01	6.8E+02	6.8E+01
16	8.6E+01	1.4E+04	2.6E+01	8.6E+01	8.6E+02	8.6E+01
18	1.1E+02	1.8E+04	3.2E+01	1.1E+02	1.1E+03	1.1E+02
20	1.3E+02	2.2E+04	4.0E+01	1.3E+02	1.3E+03	1.3E+02
22	1.7E+02	2.8E+04	5.0E+01	1.7E+02	1.7E+03	1.7E+02
24	2.2E+02	3.6E+04	6.4E+01	2.2E+02	2.2E+03	2.2E+02
26	2.8E+02	4.6E+04	8.2E+01	2.8E+02	2.8E+03	2.8E+02
28	3.5E+02	5.8E+04	1.0E+02	3.5E+02	3.5E+03	3.5E+02
30	4.3E+02	7.6E+04	1.3E+02	4.3E+02	4.3E+03	4.3E+02
35	7.2E+02	1.2E+05	2.1E+02	7.2E+02	7.2E+03	7.2E+02
40	1.1E+03	1.8E+05	3.2E+02	1.1E+03	1.1E+04	1.1E+03
45	1.5E+03	2.5E+05	4.6E+02	1.5E+03	1.5E+04	1.5E+03
50	2.0E+03	3.3E+05	6.0E+02	2.0E+03	2.0E+04	2.0E+03
55	2.6E+03	4.4E+05	7.8E+02	2.6E+03	2.6E+04	2.6E+03
60	3.4E+03	5.8E+05	1.0E+03	3.4E+03	3.4E+04	3.4E+03
65	4.6E+03	7.6E+05	1.4E+03	4.6E+03	4.6E+04	4.6E+03
70	5.4E+03	9.0E+05	1.6E+03	5.4E+03	5.4E+04	5.4E+03
75	6.4E+03	1.1E+06	1.9E+03	6.4E+03	6.4E+04	6.4E+03
80	7.6E+03	1.3E+06	2.3E+03	7.6E+03	7.6E+04	7.6E+03
85	9.4E+03	1.5E+06	2.8E+03	9.4E+03	9.4E+04	9.4E+03
90	1.1E+04	1.8E+06	3.3E+03	1.1E+04	1.1E+05	1.1E+04
95	1.3E+04	2.2E+06	3.9E+03	1.3E+04	1.3E+05	1.3E+04
100	1.5E+04	2.6E+06	4.6E+03	1.5E+04	1.5E+05	1.5E+04
105	1.8E+04	3.0E+06	5.4E+03	1.8E+04	1.8E+05	1.8E+04
110	2.2E+04	3.6E+06	6.6E+03	2.2E+04	2.2E+05	2.2E+04
115	2.6E+04	4.4E+06	7.8E+03	2.6E+04	2.6E+05	2.6E+04
120	3.1E+04	5.0E+06	9.2E+03	3.1E+04	3.1E+05	3.1E+04

Table C Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Complex Terrain- Values for Urban and Rural Areas						
Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
4	1.4E+01	2.4E+03	4.3E+00	1.4E+01	1.4E+02	1.4E+01
6	2.1E+01	3.5E+03	6.2E+00	2.1E+01	2.1E+02	2.1E+01
8	3.0E+01	5.0E+03	9.2E+00	3.0E+01	3.0E+02	3.0E+01
10	4.3E+01	7.6E+03	1.3E+01	4.3E+01	4.3E+02	4.3E+01
12	5.4E+01	9.0E+03	1.7E+01	5.4E+01	5.4E+02	5.4E+01
14	6.8E+01	1.1E+04	2.0E+01	6.8E+01	6.8E+02	6.8E+01
16	7.8E+01	1.3E+04	2.4E+01	7.8E+01	7.8E+02	7.8E+01
18	8.6E+01	1.4E+04	2.6E+01	8.6E+01	8.6E+02	8.6E+01
20	9.6E+01	1.6E+04	2.9E+01	9.6E+01	9.6E+02	9.6E+01
22	1.0E+02	1.8E+04	3.2E+01	1.0E+02	1.0E+03	1.0E+02
24	1.2E+02	1.9E+04	3.5E+01	1.2E+02	1.2E+03	1.2E+02
26	1.3E+02	2.2E+04	3.6E+01	1.3E+02	1.3E+03	1.3E+02
28	1.4E+02	2.4E+04	4.3E+01	1.4E+02	1.4E+03	1.4E+02
30	1.6E+02	2.7E+04	4.6E+01	1.6E+02	1.6E+03	1.6E+02
35	2.0E+02	3.3E+04	5.8E+01	2.0E+02	2.0E+03	2.0E+02
40	2.4E+02	4.0E+04	7.2E+01	2.4E+02	2.4E+03	2.4E+02
45	3.0E+02	5.0E+04	9.0E+01	3.0E+02	3.0E+03	3.0E+02
50	3.6E+02	6.0E+04	1.1E+02	3.6E+02	3.6E+03	3.6E+02
55	4.6E+02	7.6E+04	1.4E+02	4.6E+02	4.6E+03	4.6E+02
60	5.8E+02	9.4E+04	1.7E+02	5.8E+02	5.8E+03	5.8E+02
65	6.8E+02	1.1E+05	2.1E+02	6.8E+02	6.8E+03	6.8E+02
70	7.8E+02	1.3E+05	2.4E+02	7.8E+02	7.8E+03	7.8E+02
75	8.6E+02	1.4E+05	2.6E+02	8.6E+02	8.6E+03	8.6E+02
80	9.6E+02	1.6E+05	2.9E+02	9.6E+02	9.6E+03	9.6E+02
85	1.1E+03	1.8E+05	3.3E+02	1.1E+03	1.1E+04	1.1E+03
90	1.2E+03	2.0E+05	3.6E+02	1.2E+03	1.2E+04	1.2E+03
95	1.4E+03	2.3E+05	4.0E+02	1.4E+03	1.4E+04	1.4E+03
100	1.5E+03	2.6E+05	4.6E+02	1.5E+03	1.5E+04	1.5E+03
105	1.7E+03	2.8E+05	5.0E+02	1.7E+03	1.7E+04	1.7E+03
110	1.9E+03	3.2E+05	5.8E+02	1.9E+03	1.9E+04	1.9E+03
115	2.1E+03	3.6E+05	6.4E+02	2.1E+03	2.1E+04	2.1E+03
120	2.4E+03	4.0E+05	7.2E+02	2.4E+03	2.4E+04	2.4E+03

Table D Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Noncomplex Terrain								
Terrain adjusted eff. stack ht. (m)	Values for use in urban areas				Values for use in rural areas			
	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)
4	4.6E-01	1.1E+00	1.7E-01	8.2E-01	2.4E-01	5.8E-01	8.6E-02	4.3E-01
6	5.4E-01	1.3E+00	1.9E-01	9.4E-01	2.8E-01	6.6E-01	1.0E-01	5.0E-01
8	6.0E-01	1.4E+00	2.2E-01	1.1E+00	3.2E-01	7.6E-01	1.1E-01	5.6E-01
10	6.8E-01	1.6E+00	2.4E-01	1.2E+00	3.6E-01	8.6E-01	1.3E-01	6.4E-01
12	7.6E-01	1.8E+00	2.7E-01	1.4E+00	4.3E-01	1.1E+00	1.6E-01	7.8E-01
14	8.6E-01	2.1E+00	3.1E-01	1.5E+00	5.4E-01	1.3E+00	2.0E-01	9.6E-01
16	9.6E-01	2.3E+00	3.5E-01	1.7E+00	6.8E-01	1.6E+00	2.4E-01	1.2E+00
18	1.1E+00	2.6E+00	4.0E-01	2.0E+00	8.2E-01	2.0E+00	3.0E-01	1.5E+00
20	1.2E+00	3.0E+00	4.4E-01	2.2E+00	1.0E+00	2.5E+00	3.7E-01	1.9E+00
22	1.4E+00	3.4E+00	5.0E-01	2.5E+00	1.3E+00	3.2E+00	4.8E-01	2.4E+00
24	1.6E+00	3.9E+00	5.8E-01	2.8E+00	1.7E+00	4.0E+00	6.0E-01	3.0E+00
26	1.8E+00	4.3E+00	6.4E-01	3.2E+00	2.1E+00	5.0E+00	7.6E-01	3.9E+00
28	2.0E+00	4.8E+00	7.2E-01	3.6E+00	2.7E+00	6.4E+00	9.8E-01	5.0E+00
30	2.3E+00	5.4E+00	8.2E-01	4.0E+00	3.5E+00	8.2E+00	1.2E+00	6.2E+00
35	3.0E+00	6.8E+00	1.0E+00	5.4E+00	5.4E+00	1.3E+01	1.9E+00	9.6E+00
40	3.6E+00	9.0E+00	1.3E+00	6.8E+00	8.2E+00	2.0E+01	3.0E+00	1.5E+01
45	4.6E+00	1.1E+01	1.7E+00	8.6E+00	1.1E+01	2.8E+01	4.2E+00	2.1E+01
50	6.0E+00	1.4E+01	2.2E+00	1.1E+01	1.5E+01	3.7E+01	5.4E+00	2.8E+01
55	7.6E+00	1.8E+01	2.7E+00	1.4E+01	2.0E+01	5.0E+01	7.2E+00	3.6E+01
60	9.4E+00	2.2E+01	3.4E+00	1.7E+01	2.7E+01	6.4E+01	9.6E+00	4.8E+01
65	1.1E+01	2.8E+01	4.2E+00	2.1E+01	3.6E+01	8.6E+01	1.3E+01	6.4E+01
70	1.3E+01	3.1E+01	4.6E+00	2.4E+01	4.3E+01	1.0E+02	1.5E+01	7.6E+01
75	1.5E+01	3.6E+01	5.4E+00	2.7E+01	5.0E+01	1.2E+02	1.8E+01	9.0E+01
80	1.7E+01	4.0E+01	6.0E+00	3.0E+01	6.0E+01	1.4E+02	2.2E+01	1.1E+02
85	1.9E+01	4.6E+01	6.8E+00	3.4E+01	7.2E+01	1.7E+02	2.6E+01	1.3E+02
90	2.2E+01	5.0E+01	7.8E+00	3.9E+01	8.6E+01	2.0E+02	3.0E+01	1.5E+02
95	2.5E+01	5.8E+01	9.0E+00	4.4E+01	1.0E+02	2.4E+02	3.6E+01	1.8E+02
100	2.8E+01	6.8E+01	1.0E+01	5.0E+01	1.2E+02	2.9E+02	4.3E+01	2.2E+02
105	3.2E+01	7.6E+01	1.1E+01	5.6E+01	1.4E+02	3.4E+02	5.0E+01	2.6E+02
110	3.6E+01	8.6E+01	1.3E+01	6.4E+01	1.7E+02	4.0E+02	6.0E+01	3.0E+02
115	4.0E+01	9.6E+01	1.5E+01	7.2E+01	2.0E+02	4.8E+02	7.2E+01	3.6E+02
120	4.6E+01	1.1E+02	1.7E+01	8.2E+01	2.4E+02	5.8E+02	8.6E+01	4.3E+02

Table E Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Complex Terrain- Values for Use in Urban and Rural Areas				
Terrain adjusted eff. stack ht. (m)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)
4	1.1E-01	2.6E-01	4.0E-02	2.0E-01
6	1.6E-01	3.9E-01	5.8E-02	2.9E-01
8	2.4E-01	5.8E-01	8.6E-02	4.3E-01
10	3.5E-01	8.2E-01	1.3E-01	6.2E-01
12	4.3E-01	1.0E+00	1.5E-01	7.6E-01
14	5.0E-01	1.3E+00	1.9E-01	9.4E-01
16	6.0E-01	1.4E+00	2.2E-01	1.1E+00
18	6.8E-01	1.6E+00	2.4E-01	1.2E+00
20	7.6E-01	1.8E+00	2.7E-01	1.3E+00
22	8.2E-01	1.9E+00	3.0E-01	1.5E+00
24	9.0E-01	2.1E+00	3.3E-01	1.6E+00
26	1.0E+00	2.4E+00	3.6E-01	1.8E+00
28	1.1E+00	2.7E+00	4.0E-01	2.0E+00
30	1.2E+00	3.0E+00	4.4E-01	2.2E+00
35	1.5E+00	3.7E+00	5.4E-01	2.7E+00
40	1.9E+00	4.6E+00	6.8E-01	3.4E+00
45	2.4E+00	5.4E+00	8.4E-01	4.2E+00
50	2.9E+00	6.8E+00	1.0E+00	5.0E+00
55	3.5E+00	8.4E+00	1.3E+00	6.4E+00
60	4.3E+00	1.0E+01	1.5E+00	7.8E+00
65	5.4E+00	1.3E+01	1.9E+00	9.6E+00
70	6.0E+00	1.4E+01	2.2E+00	1.1E+01
75	6.8E+00	1.6E+01	2.4E+00	1.2E+01
80	7.6E+00	1.8E+01	2.7E+00	1.3E+01
85	8.2E+00	2.0E+01	3.0E+00	1.5E+01
90	9.4E+00	2.3E+01	3.4E+00	1.7E+01
95	1.0E+01	2.5E+01	4.0E+00	1.9E+01
100	1.2E+01	2.8E+01	4.3E+00	2.1E+01
105	1.3E+01	3.2E+01	4.8E+00	2.4E+01
110	1.5E+01	3.5E+01	5.4E+00	2.7E+01
115	1.7E+01	4.0E+01	6.0E+00	3.0E+01
120	1.9E+01	4.4E+01	6.4E+00	3.3E+01

3745-266-107

Standards to control hydrogen chloride and chlorine gas emissions.

(A) General. The owner or operator shall comply with the hydrogen chloride and chlorine gas controls provided by paragraph (B), (C), or (E) of this rule.

(B) Screening limits.

- (1) "Tier I" feed rate screening limits. Feed rate screening limits are specified for total chlorine in appendix A to this rule as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The feed rate of total chlorine and chloride, both organic and inorganic, in all ~~feed streams~~~~feedstreams~~~~feedstocks~~feedstocks, including hazardous waste, fuels, and industrial furnace ~~feedstocks~~feedstocks shall not exceed the levels specified.
- (2) "Tier II" emission rate screening limits. Emission rate screening limits for hydrogen chloride and chlorine gas are specified in appendix B to this rule as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The stack emission rates of hydrogen chloride and chlorine gas shall not exceed the levels specified.
- (3) Descriptions and limitations. The descriptions and limitations provided by paragraph (B) of rule 3745-266-106 of the Administrative Code for the following terms also apply to the screening limits provided by ~~paragraphs~~paragraph (B) to ~~(B)(4)(c)~~ of this rule: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and criteria for facilities not eligible for screening limits.
- (4) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on hydrogen chloride or chlorine gas emissions under a hazardous waste facility installation and operation permit or interim standards controls shall comply with the "Tier I" and "Tier II" screening limits for those stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics:
 - (a) The worst-case stack is determined by procedures provided in paragraph (B)(6) of rule 3745-266-106 of the Administrative Code.
 - (b) Under "Tier I," the total feed rate of chlorine and chloride to all subject devices shall not exceed the screening limit for the worst-case stack.

- (c) Under "Tier II," the total emissions of hydrogen chloride and chlorine gas from all subject stacks shall not exceed the screening limit for the worst-case stack.

(C) "Tier III" site-specific risk assessments.

- (1) General. Conformance with the "Tier III" controls shall be demonstrated by emissions testing to determine the emission rate for hydrogen chloride and chlorine gas, air dispersion modeling to predict the maximum annual average off-site ground level concentration for each compound, and a demonstration that acceptable ambient levels are not exceeded.
- (2) Acceptable ambient levels. Appendix A to rule 3745-266-109 of the Administrative Code lists the reference air concentrations for hydrogen chloride (seven micrograms per cubic meter) and chlorine gas (0.4 micrograms per cubic meter).
- (3) Multiple stacks. Owners and operators of facilities with more than one on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on hydrogen chloride or chlorine gas emissions under a hazardous waste facility installation and operation permit or interim standards controls shall conduct emissions testing and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels for hydrogen chloride and chlorine gas.

(D) Averaging periods. The hydrogen chloride and chlorine gas controls are implemented by limiting the feed rate of total chlorine and chloride in all feedstreams, including hazardous waste, fuels, and industrial furnace ~~feed stocks~~ feedstocks. Under "Tier I," the feed rate of total chloride and chlorine is limited to the "Tier I" screening limits. Under "Tier II" and "Tier III," the feed rate of total chloride and chlorine is limited to the feed rates during the trial burn (for new facilities or a permit by rule facility applying for a permit) or the compliance test (for permit by rule facilities). The feed rate limits are based on either:

- (1) An hourly rolling average as described in paragraph (E)(6) of rule 3745-266-102 of the Administrative Code; or
- (2) An instantaneous basis not to be exceeded at any time.

(E) "Adjusted Tier I" feed rate screening limits. The owner or operator may adjust the feed rate screening limit provided by appendix A to this rule to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening

limit is determined by back-calculating from the acceptable ambient level for chlorine gas provided by appendix A to rule 3745-266-109 of the Administrative Code using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the "Adjusted Tier I" feed rate screening limit.

- (F) Emissions testing. Emissions testing for hydrogen chloride and chlorine gas shall be conducted using the procedures described in method 0050 or 0051, U.S. EPA publication SW-846.
- (G) Dispersion modeling. Dispersion modeling shall be conducted according to paragraph (H) of rule 3745-266-106 of the Administrative Code.
- (H) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under rule 3745-266-102 of the Administrative Code) ~~will be~~ regarded as compliance with this rule. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with this rule may be "information" justifying modification of a permit under rule 3745-50-51 of the Administrative Code.

[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."]

Effective: 9/29/2021
Five Year Review (FYR) Dates: 6/7/2021 and Exempt

CERTIFIED ELECTRONICALLY

Certification

09/14/2021

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 12/07/2004, 09/05/2010, 10/31/2015

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APPENDIX A

1

Appendix A to rule 3745-266-107 of the Administrative Code

Tier I Feed Rate Screening Limits for Total Chlorine			
Terrain-adjusted effective stack height (meters)	Noncomplex Terrain		Complex Terrain
	Urban (grams/hour) (g/hr)	Rural (g/hr)	(g/hr)
4	8.2E+01	4.2E+01	1.9E+01
6	9.1E+01	4.8E+01	2.8E+01
8	1.0E+02	5.3E+01	4.1E+01
10	1.2E+02	6.2E+01	5.8E+01
12	1.3E+02	7.7E+01	7.2E+01
14	1.5E+02	9.1E+01	9.1E+01
16	1.7E+02	1.2E+02	1.1E+02
18	1.9E+02	1.4E+02	1.2E+02
20	2.1E+02	1.8E+02	1.3E+02
22	2.4E+02	2.3E+02	1.4E+02
24	2.7E+02	2.9E+02	1.6E+02
26	3.1E+02	3.7E+02	1.7E+02
28	3.5E+02	4.7E+02	1.9E+02
30	3.9E+02	5.8E+02	2.1E+02
35	5.3E+02	9.6E+02	2.6E+02
40	6.2E+02	1.4E+03	3.3E+02
45	8.2E+02	2.0E+03	4.0E+02
50	1.1E+03	2.6E+03	4.8E+02
55	1.3E+03	3.5E+03	6.2E+02
60	1.6E+03	4.6E+03	7.7E+02
65	2.0E+03	6.2E+03	9.1E+02
70	2.3E+03	7.2E+03	1.1E+03
75	2.5E+03	8.6E+03	1.2E+03
80	2.9E+03	1.0E+04	1.3E+03
85	3.3E+03	1.2E+04	1.4E+03
90	3.7E+03	1.4E+04	1.6E+03
95	4.2E+03	1.7E+04	1.8E+03
100	4.8E+03	2.1E+04	2.0E+03
105	5.3E+03	2.4E+04	2.3E+03
110	6.2E+03	2.9E+04	2.5E+03
115	7.2E+03	3.5E+04	2.8E+03
120	8.2E+03	4.1E+04	3.2E+03

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APPENDIX B

1

Appendix B to rule 3745-266-107 of the Administrative Code

Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride						
Terrain-adjusted effective stack ht. (meters)	Noncomplex terrain				Complex terrain	
	Values for urban areas		Values for rural areas		Values for use in urban and rural areas	
	Cl ₂ (grams/hour) (g/hr)	HCl (g/hr)	Cl ₂ (g/hr)	HCl (g/hr)	Cl ₂ (g/hr)	HCl (g/hr)
4	8.2E+01	1.4E+03	4.2E+01	7.3E+02	1.9E+01	3.3E+02
6	9.1E+01	1.6E+03	4.8E+01	8.3E+02	2.8E+01	4.9E+02
8	1.0E+02	1.8E+03	5.3E+01	9.2E+02	4.1E+01	7.1E+02
10	1.2E+02	2.0E+03	6.2E+01	1.1E+03	5.8E+01	1.0E+03
12	1.3E+02	2.3E+03	7.7E+01	1.3E+03	7.2E+01	1.3E+03
14	1.5E+02	2.6E+03	9.1E+01	1.6E+03	9.1E+01	1.6E+03
16	1.7E+02	2.9E+03	1.2E+02	2.0E+03	1.1E+02	1.8E+03
18	1.9E+02	3.3E+03	1.4E+02	2.5E+03	1.2E+02	2.0E+03
20	2.1E+02	3.7E+03	1.8E+02	3.1E+03	1.3E+02	2.3E+03
22	2.4E+02	4.2E+03	2.3E+02	3.9E+03	1.4E+02	2.4E+03
24	2.7E+02	4.8E+03	2.9E+02	5.0E+03	1.6E+02	2.8E+03
26	3.1E+02	5.4E+03	3.7E+02	6.5E+03	1.7E+02	3.0E+03
28	3.5E+02	6.0E+03	4.7E+02	8.1E+03	1.9E+02	3.4E+03
30	3.9E+02	6.9E+03	5.8E+02	1.0E+04	2.1E+02	3.7E+03
35	5.3E+02	9.2E+03	9.6E+02	1.7E+04	2.6E+02	4.6E+03
40	6.2E+02	1.1E+04	1.4E+03	2.5E+04	3.3E+02	5.7E+03
45	8.2E+02	1.4E+04	2.0E+03	3.5E+04	4.0E+02	7.0E+03
50	1.1E+03	1.8E+04	2.6E+03	4.6E+04	4.8E+02	8.4E+03
55	1.3E+03	2.3E+04	3.5E+03	6.1E+04	6.2E+02	1.1E+04
60	1.6E+03	2.9E+04	4.6E+03	8.1E+04	7.7E+02	1.3E+04
65	2.0E+03	3.4E+04	6.2E+03	1.1E+05	9.1E+02	1.6E+04
70	2.3E+03	3.9E+04	7.2E+03	1.3E+05	1.1E+03	1.8E+04
75	2.5E+03	4.5E+04	8.6E+03	1.5E+05	1.2E+03	2.0E+04
80	2.9E+03	5.0E+04	1.0E+04	1.8E+05	1.3E+03	2.3E+04
85	3.3E+03	5.8E+04	1.2E+04	2.2E+05	1.4E+03	2.5E+04
90	3.7E+03	6.6E+04	1.4E+04	2.5E+05	1.6E+03	2.9E+04
95	4.2E+03	7.4E+04	1.7E+04	3.0E+05	1.8E+03	3.2E+04
100	4.8E+03	8.4E+04	2.1E+04	3.6E+05	2.0E+03	3.5E+04
105	5.3E+03	9.2E+04	2.4E+04	4.3E+05	2.3E+03	3.9E+04
110	6.2E+03	1.1E+05	2.9E+04	5.1E+05	2.5E+03	4.5E+04
115	7.2E+03	1.3E+05	3.5E+04	6.1E+05	2.8E+03	5.0E+04
120	8.2E+03	1.4E+05	4.1E+04	7.2E+05	3.2E+03	5.6E+04

3745-266-108

Small quantity on-site burner exemption.

(A) Exempt quantities. Owners and operators of facilities that burn hazardous waste in an on-site boiler or industrial furnace are exempt from rules 3745-266-100 to 3745-266-112 of the Administrative Code provided that all of the following:

- (1) The quantity of hazardous waste burned in a device for a calendar month does not exceed the limits in the table in this rule based on the terrain-adjusted effective stack height as determined in paragraph (B)(3) of rule 3745-266-106 of the Administrative Code:

Table: Exempt Quantities for Small Quantity Burner Exemption

Terrain-adjusted effective stack height of device (meters)	Allowable hazardous waste burning rate (gallons per month)
0 to 3.9	0
4.0 to 5.9	13
6.0 to 7.9	18
8.0 to 9.9	27
10.0 to 11.9	40
12.0 to 13.9	48
14.0 to 15.9	59
16.0 to 17.9	69
18.0 to 19.9	76
20.0 to 21.9	84
22.0 to 23.9	93
24.0 to 25.9	100
26.0 to 27.9	110
28.0 to 29.9	130
30.0 to 34.9	140
35.0 to 39.9	170

40.0 to 44.9	210
45.0 to 49.9	260
50.0 to 54.9	330
55.0 to 59.9	400
60.0 to 64.9	490
65.0 to 69.9	610
70.0 to 74.9	680
75.0 to 79.9	760
80.0 to 84.9	850
85.0 to 89.9	960
90.0 to 94.9	1,100
95.0 to 99.9	1,200
100.0 to 104.9	1,300
105.0 to 109.9	1,500
110.0 to 114.9	1,700
115.0 or greater	1,900

- (2) The maximum hazardous waste firing rate does not exceed at any time one per cent of the total fuel requirements for the device (hazardous waste plus other fuel) on a total heat input or mass input basis, whichever results in the lower mass feed rate of hazardous waste.
- (3) The hazardous waste has a minimum heating value of five thousand British thermal units (Btu) per pound, as generated.
- (4) The hazardous waste fuel does not contain (and is not derived from) EPA hazardous waste numbers F020, F021, F022, F023, F026, or F027.

- (B) Mixing with nonhazardous fuels. If hazardous waste fuel is mixed with a nonhazardous fuel, the quantity of hazardous waste before such mixing is used to comply with paragraph (A) of this rule.
- (C) Multiple stacks. If an owner or operator burns hazardous waste in more than one on-site boiler or industrial furnace exempt under this rule, the quantity limits provided by paragraph (A)(1) of this rule are implemented according to the following equation:

$$\sum_{i=1}^n \frac{\text{Actual Quantity Burned}_{(i)}}{\text{Allowable Quantity Burned}_{(i)}} \leq 1.0$$

where:

n = the number of stacks

Actual Quantity Burned = the waste quantity burned per month in device "i"

Allowable Quantity Burned = the maximum allowable exempt quantity for stack "i" from the table in this rule

[Comment: Hazardous wastes that are subject to the ~~special requirements for small quantity generators~~ generator category determination under rule ~~3745-51-05~~3745-52-13 of the Administrative Code may be burned in an off-site device under the exemption provided by this rule, but shall be included in the quantity determination for the exemption.]

- (D) Notification requirements. The owner or operator of facilities qualifying for the small quantity burner exemption under this rule shall provide a one-time signed, written notice to Ohio EPA that indicates all of the following:
- (1) The combustion unit is operating as a small quantity burner of hazardous waste.
 - (2) The owner and operator are in compliance with this rule.
 - (3) The maximum quantity of hazardous waste that the facility may burn per month as provided by paragraph (A)(1) of this rule.
- (E) Recordkeeping requirements. The owner or operator shall maintain at the facility for at least three years sufficient records documenting compliance with the hazardous waste quantity, firing rate, and heating value limits of this rule. At a minimum, these

records shall indicate the quantity of hazardous waste and other fuel burned in each unit per calendar month, and the heating value of the hazardous waste.

Effective: 10/5/2020

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

09/21/2020

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 12/07/2004, 10/31/2015

3745-266-109

Low risk waste exemption.

(A) Waiver of the destruction and removal efficiency standard. The destruction and removal efficiency standard of paragraph (A) of rule 3745-266-104 of the Administrative Code does not apply if the boiler or industrial furnace is operated in conformance with paragraph (A)(1) of this rule and the owner or operator demonstrates by procedures prescribed in paragraph (A)(2) of this rule that the burning will not result in unacceptable adverse health effects.

(1) The device ~~must~~shall be operated as follows:

- (a) A minimum of fifty per cent of fuel fired to the device ~~must~~shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the director on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed "primary fuel" for purposes of this rule. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The fifty per cent primary fuel firing rate ~~must~~shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;
- (b) Primary fuels and hazardous waste fuels ~~must~~shall have a minimum as-fired heating value of eight thousand British thermal units (Btu) per pound;
- (c) The hazardous waste is fired directly into the primary fuel flame zone of the combustion chamber; and
- (d) The device operates in conformance with the carbon monoxide controls provided by paragraph (B)(1) of rule 3745-266-104 of the Administrative Code. Devices subject to the exemption provided by this rule are not eligible for the alternative carbon monoxide controls provided by paragraph (C) of rule 3745-266-104 of the Administrative Code.

(2) Procedures to demonstrate that the hazardous waste burning will not pose unacceptable adverse public health effects are as follows:

- (a) Identify and quantify those nonmetal compounds listed in the appendix to rule 3745-51-11 of the Administrative Code that could reasonably be expected to be present in the hazardous waste. The constituents excluded from analysis ~~must~~shall be identified and the basis for ~~their~~the exclusion of such constituents shall be explained;
- (b) Calculate reasonable, worst case emission rates for each constituent identified in paragraph (A)(2)(a) of this rule by assuming the device achieves 99.9 per cent destruction and removal efficiency. That is, assume that 0.1 per cent of the mass weight of each constituent fed to the device is emitted.
- (c) For each constituent identified in paragraph (A)(2)(a) of this rule, use emissions dispersion modeling to predict the maximum annual average ground level concentration of the constituent.
- (i) Dispersion modeling ~~must~~shall be conducted using methods specified in paragraph (H) of rule 3745-266-106 of the Administrative Code.
- (ii) Owners and operators of facilities with more than one on-site stack from a boiler or industrial furnace that is exempt under this rule ~~must~~shall conduct dispersion modeling of emissions from all stacks exempt under this rule to predict ambient levels prescribed by paragraphs (A) to (A)(2)(d)(iii) of this rule.
- (d) Ground level concentrations of constituents predicted under paragraph (A)(2)(c) of this rule ~~must~~shall not exceed the following levels:
- (i) For the noncarcinogenic compounds listed in appendix ~~IA~~ to this rule, the levels established in appendix ~~IA~~ to this rule;
- (ii) For the carcinogenic compounds listed in appendix ~~HB~~ to this rule, the sum for all constituents of the ratios of the actual ground level concentration to the level established in appendix ~~HB~~ to this rule cannot exceed 1.0; and
- (iii) For constituents not listed in appendix ~~IA~~ or appendix ~~HB~~ to this rule, 0.1 micrograms per cubic meter.

(B) Waiver of particulate matter standard. The particulate matter standard of rule 3745-266-105 of the Administrative Code does not apply if:

- (1) The destruction and removal efficiency standard is waived under paragraph (A) of this rule; and
- (2) The owner or operator complies with the "Tier I" or "Adjusted Tier I" metals feed rate screening limits provided by paragraph (B) or (E) of rule 3745-266-106 of the Administrative Code.

Effective: 10/31/2015

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

10/07/2015

Date

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Prior Effective Dates: 12/07/2004, 09/05/2010

3745-266-109

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Appendix IA to rule 3745-266-109 of the Administrative Code

Reference Air Concentrations*		
Constituent	CAS No.	RAC ($\mu\text{g}/\text{m}^3$)
Acetaldehyde	75-07-0	10.0
Acetonitrile	75-05-8	10.0
Acetophenone	98-86-2	100.0
Acrolein	107-02-8	20.0
Aldicarb	116-06-3	1.0
Aluminum Phosphide	20859-73-8	0.3
Allyl Alcohol	107-18-6	5.0
Antimony	7440-36-0	0.3
Barium	7440-39-3	50.0
Barium Cyanide	542-62-1	50.0
Bromomethane	74-83-9	0.8
Calcium Cyanide	592-01-8	30.0
Carbon Disulfide	75-15-0	200.0
Chloral	75-87-6	2.0
Chlorine (free)	----	0.4
2-Chloro-1,3-butadiene	126-99-8	3.0
Chromium III	16065-83-1	1000.0
Copper Cyanide	544-92-3	5.0
Cresols	1319-77-3	50.0
Cumene	98-82-8	1.0
Cyanide (free)	57-12-15	20.0
Cyanogen	460-19-5	30.0
Cyanogen Bromide	506-68-3	80.0
Di-n-butyl Phthalate	84-74-2	100.0
o-Dichlorobenzene	95-50-1	10.0
p-Dichlorobenzene	106-46-7	10.0
Dichlorodifluoromethane	75-71-8	200.0
2,4-Dichlorophenol	120-83-2	3.0
Diethyl Phthalate	84-66-2	800.0

Reference Air Concentrations*		
Constituent	CAS No.	RAC ($\mu\text{g}/\text{m}^3$)
Dimethoate	60-51-5	0.8
2,4-Dinitrophenol	51-28-5	2.0
Dinoseb	88-85-7	0.9
Diphenylamine	122-39-4	20.0
Endosulfan	115-29-1	0.05
Endrin	72-20-8	0.3
Fluorine	7782-41-4	50.0
Formic Acid	64-18-6	2000.0
Glycidyaldehyde	765-34-4	0.3
Hexachlorocyclopentadiene	77-47-4	5.0
Hexachlorophene	70-30-4	0.3
Hydrocyanic Acid	74-90-8	20.0
Hydrogen Chloride	7647-01-1	7.0
Hydrogen Sulfide	7783-06-4	3.0
Isobutyl Alcohol	78-83-1	300.0
Lead	7439-92-1	0.09
Maleic Anhydride	108-31-6	100.0
Mercury	7439-97-6	0.3
Methacrylonitrile	126-98-7	0.1
Methomyl	16752-77-5	20.0
Methoxychlor	72-43-5	50.0
Methyl Chlorocarbonate	79-22-1	1000.0
Methyl Ethyl Ketone	78-93-3	80.0
Methyl Parathion	298-00-0	0.3
Nickel Cyanide	557-19-7	20.0
Nitric Oxide	10102-43-9	100.0
Nitrobenzene	98-95-3	0.8
Pentachlorobenzene	608-93-5	0.8
Pentachlorophenol	87-86-5	30.0
Phenol	108-95-2	30.0
M-Phenylenediamine	108-45-2	5.0

Reference Air Concentrations*		
Constituent	CAS No.	RAC ($\mu\text{g}/\text{m}^3$)
Phenylmercuric Acetate	62-38-4	0.075
Phosphine	7803-51-2	0.3
Phthalic Anhydride	85-44-9	2000.0
Potassium Cyanide	151-50-8	50.0
Potassium Silver Cyanide	506-61-6	200.0
Pyridine	110-86-1	1.0
Selenious Acid	7783-60-8	3.0
Selenourea	630-10-4	5.0
Silver	7440-22-4	3.0
Silver Cyanide	506-64-9	100.0
Sodium Cyanide	143-33-9	30.0
Strychnine	57-24-9	0.3
1,2,4,5-Tetrachlorobenzene	95-94-3	0.3
2,3,4,6-Tetrachlorophenol	58-90-2	30.0
Tetraethyl Lead	78-00-2	0.0001
Tetrahydrofuran	109-99-9	10.0
Thallic Oxide	1314-32-5	0.3
Thallium	7440-28-0	0.5
Thallium (I) Acetate	563-68-8	0.5
Thallium (I) Carbonate	6533-73-9	0.3
Thallium (I) Chloride	7791-12-0	0.3
Thallium (I) Nitrate	10102-45-1	0.5
Thallium Selenite	12039-52-0	0.5
Thallium (I) Sulfate	7446-18-6	0.075
Thiram	137-26-8	5.0
Toluene	108-88-3	300.0
1,2,4-Trichlorobenzene	120-82-1	20.0
Trichloromonofluoromethane	75-69-4	300.0
2,4,5-Trichlorophenol	95-95-4	100.0
Vanadium Pentoxide	1314-62-1	20.0
Warfarin	81-81-2	0.3

Reference Air Concentrations*		
Constituent	CAS No.	RAC ($\mu\text{g}/\text{m}^3$)
Xylenes	1330-20-7	80.0
Zinc Cyanide	557-21-1	50.0
Zinc Phosphide	1314-84-7	0.3
<p>* The RAC for other constituents that are found in the appendix to rule 3745-51-11 of the Administrative Code that are not listed herein or in appendix HB to this rule is $0.1 \text{ ug}/\text{m}^3$.</p>		

3745-266-109

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Appendix HB to rule 3745-266-109 of the Administrative Code

Risk Specific Doses (10^{-5})			
Constituent	CAS Number	Unit risk ($m^3/\mu g$)	R_sDRSD ($\mu g/m^3$)
Acrylamide	79-06-1	1.3E-03	7.7E-03
Acrylonitrile	107-13-1	6.8E-05	1.5E-01
Aldrin	309-00-2	4.9E-03	2.0E-03
Aniline	62-53-3	7.4E-06	1.4E+00
Arsenic	7440-38-2	4.3E-03	2.3E-03
Benz(a)anthracene	56-55-3	8.9E-04	1.1E-02
Benzene	71-43-2	8.3E-06	1.2E+00
Benzidine	92-87-5	6.7E-02	1.5E-04
Benzo(a)pyrene	50-32-8	3.3E-03	3.0E-03
Beryllium	7440-41-7	2.4E-03	4.2E-03
Bis(2-chloroethyl)ether	111-44-4	3.3E-04	3.0E-02
Bis(chloromethyl)ether	542-88-1	6.2E-02	1.6E-04
Bis(2-ethylhexyl)phthalate	117-81-7	2.4E-07	4.2E+01
1,3-Butadiene	106-99-0	2.8E-04	3.6E-02
Cadmium	7440-43-9	1.8E-03	5.6E-03
Carbon Tetrachloride	56-23-5	1.5E-05	6.7E-01
Chlordane	57-74-9	3.7E-04	2.7E-02
Chloroform	67-66-3	2.3E-05	4.3E-01
Chloromethane	74-87-3	3.6E-06	2.8E+00
Chromium VI	7440-47-3	1.2E-02	8.3E-04
DDT	50-29-3	9.7E-05	1.0E-01
Dibenz(a,h)anthracene	53-70-3	1.4E-02	7.1E-04
1,2-Dibromo-3-chloropropane	96-12-8	6.3E-03	1.6E-03
1,2-Dibromoethane	106-93-4	2.2E-04	4.5E-02
1,1-Dichloroethane	75-34-3	2.6E-05	3.8E-01
1,2-Dichloroethane	107-06-2	2.6E-05	3.8E-01
1,1-Dichloroethylene	75-35-4	5.0E-05	2.0E-01

Risk Specific Doses (10^{-5})			
Constituent	CAS Number	Unit risk ($m^3/\mu g$)	$R_s \times DRSD$ ($\mu g/m^3$)
1,3-Dichloropropene	542-75-6	3.5E-01	2.9E-05
Dieldrin	60-57-1	4.6E-03	2.2E-03
Diethylstilbestrol	56-5-1	1.4E-01	7.1E-05
Dimethylnitrosamine	62-75-9	1.4E-02	7.1E-04
2,4-Dinitrotoluene	121-14-2	8.8E-05	1.1E-01
1,2-Diphenylhydrazine	122-66-7	2.2E-04	4.5E-02
1,4-Dioxane	123-91-1	1.4E-06	7.1E+00
Epichlorohydrin	106-89-8	1.2E-06	8.3E+00
Ethylene Oxide	75-21-8	1.0E-04	1.0E-01
Ethylene Dibromide	106-93-4	2.2E-04	4.5E-02
Formaldehyde	50-00-0	1.3E-05	7.7E-01
Heptachlor	76-44-8	1.3E-03	7.7E-03
Heptachlor Epoxide	1024-57-3	2.6E-03	3.8E-03
Hexachlorobenzene	118-74-1	4.9E-04	2.0E-02
Hexachlorobutadiene	87-68-3	2.0E-05	5.0E-01
Alpha-hexachlorocyclohexane	319-84-6	1.8E-03	5.6E-03
Beta-hexachlorocyclohexane	319-85-7	5.3E-04	1.9E-02
Gamma-hexachlorocyclohexane	58-89-9	3.8E-04	2.6E-02
Hexachlorocyclohexane, Technical	----	5.1E-04	2.0E-02
Hexachlorodibenzo-p-dioxin (1,2 Mixture)	----	1.3E+0	7.7E-06
Hexachloroethane	67-72-1	4.0E-06	2.5E+00
Hydrazine	302-01-2	2.9E-03	3.4E-03
Hydrazine Sulfate	302-01-2	2.9E-03	3.4E-03
3-Methylcholanthrene	56-49-5	2.7E-03	3.7E-03
Methyl Hydrazine	60-34-4	3.1E-04	3.2E-02
Methylene Chloride	75-09-2	4.1E-06	2.4E+00
4,4'-Methylene-bis-2-chloroaniline	101-14-4	4.7E-05	2.1E-01
Nickel	7440-02-0	2.4E-04	4.2E-02
Nickel Refinery Dust	7440-02-0	2.4E-04	4.2E-02

Risk Specific Doses (10^{-5})			
Constituent	CAS Number	Unit risk ($m^3/\mu g$)	$R_s \text{DRSD}$ ($\mu g/m^3$)
Nickel Subsulfide	12035-72-2	4.8E-04	2.1E-02
2-Nitropropane	79-46-9	2.7E-02	3.7E-04
N-Nitroso-n-butylamine	924-16-3	1.6E-03	6.3E-03
N-Nitroso-n-methylurea	684-93-5	8.6E-02	1.2E-04
N-Nitrosodiethylamine	55-18-5	4.3E-02	2.3E-04
N-Nitrosopyrrolidine	930-55-2	6.1E-04	1.6E-02
Pentachloronitrobenzene	82-68-8	7.3E-05	1.4E-01
PCBs	1336-36-3	1.2E-03	8.3E-03
Pronamide	23950-58-5	4.6E-06	2.2E+00
Reserpine	50-55-5	3.0E-03	3.3E-03
2,3,7,8-Tetrachloro-dibenzo-p-dioxin	1746-01-6	4.5E+01	2.2E-07
1,1,2,2-Tetrachloroethane	79-34-5	5.8E-05	1.7E-01
Tetrachloroethylene	127-18-4	4.8E-07	2.1E+01
Thiourea	62-56-6	5.5E-04	1.8E-02
1,1,2-Trichloroethane	79-005	1.6E-05	6.3E-01
Trichloroethylene	79-01-6	1.3E-06	7.7E+00
2,4,6-Trichlorophenol	88-06-2	5.7E-06	1.8E+00
Toxaphene	8001-35-2	3.2E-04	3.1E-02
Vinyl Chloride	75-01-4	7.1E-06	1.4E+00

3745-266-110 Waiver of destruction and removal efficiency trial burn for boilers.

Boilers that operate under the special requirements of this rule, and that do not burn hazardous waste containing (or derived from) EPA hazardous waste numbers F020, F021, F022, F023, F026, or F027, are considered to be in conformance with the destruction and removal efficiency (DRE) standard of paragraph (A) of rule 3745-266-104 of the Administrative Code, and a trial burn to demonstrate DRE is waived. When burning hazardous waste:

- (A) A minimum of fifty per cent of fuel fired to the device must be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the director on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed "primary fuel" for purposes of this rule. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The fifty per cent primary fuel firing rate must be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;
- (B) Boiler load must not be less than forty per cent. Boiler load is the ratio at any time of the total heat input to the maximum design heat input;
- (C) Primary fuels and hazardous waste fuels must have a minimum as-fired heating value of eight thousand Btu per pound, and each material fired in a burner where hazardous waste is fired must have a heating value of at least eight thousand Btu per pound, as-fired;
- (D) The device must operate in conformance with the carbon monoxide standard provided by paragraph (B)(1) of rule 3745-266-104 of the Administrative Code. Boilers subject to the waiver of the DRE trial burn provided by this rule are not eligible for the alternative carbon monoxide standard provided by paragraph (C) of rule 3745-266-104 of the Administrative Code;
- (E) The boiler must be a watertube type boiler that does not feed fuel using a stoker or stoker type mechanism; and
- (F) The hazardous waste must be fired directly into the primary fuel flame zone of the combustion chamber with an air or steam atomization firing system, mechanical atomization system, or a rotary cup atomization system under the following conditions:
 - (1) Viscosity. The viscosity of the hazardous waste fuel as-fired must not exceed three hundred SSU;
 - (2) Particle size. When a high pressure air or steam atomizer, low pressure atomizer, or mechanical atomizer is used, seventy per cent of the hazardous waste fuel must pass through a two hundred mesh (seventy-four micron) screen, and when a rotary cup atomizer is used, seventy per cent of the hazardous waste must pass through a one hundred mesh (one hundred fifty micron) screen;

- (3) Mechanical atomization systems. Fuel pressure within a mechanical atomization system and fuel flow rate must be maintained within the design range taking into account the viscosity and volatility of the fuel;
- (4) Rotary cup atomization systems. Fuel flow rate through a rotary cup atomization system must be maintained within the design range taking into account the viscosity and volatility of the fuel.

Effective: 12/07/2004
119.032 review dates: Exempt
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Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: None

3745-266-111

Standards for direct transfer.

(A) Applicability. This rule applies to owners and operators of boilers and industrial furnaces subject to rule 3745-266-102 or 3745-266-103 of the Administrative Code if hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit.

(B) Definitions.

(1) When used in this rule, the following terms have the following meanings:

(a) "Direct transfer equipment" means any device (including but not limited to, such devices as piping, fittings, flanges, valves, and pumps) that is used to distribute, meter, or control the flow of hazardous waste between a container (i.e., transport vehicle) and a boiler or industrial furnace.

(b) "Container" means any portable device in which hazardous waste is transported, stored, treated, or otherwise handled, and includes transport vehicles that are containers themselves (e.g., tank trucks, tanker-trailers, and rail tank cars), and containers placed on or in a transport vehicle.

(2) This rule references several requirements in rules 3745-55-70 to 3745-55-78, 3745-55-90 to 3745-55-99, 3745-66-70 to 3745-66-77, and 3745-66-90 to ~~3745-66-101~~3745-66-100 of the Administrative Code. For purposes of this rule, the term "tank systems" in those referenced requirements means "direct transfer equipment" as defined in paragraph (B)(1)(a) of this rule.

(C) General operating requirements.

(1) No direct transfer of a pumpable hazardous waste shall be conducted from an open-top container to a boiler or industrial furnace.

(2) Direct transfer equipment used for pumpable hazardous waste shall always be closed, except when necessary to add or remove the waste, and shall not be opened, handled, or stored in a manner that may cause any rupture or leak.

(3) The direct transfer of hazardous waste to a boiler or industrial furnace shall be conducted so that ~~it~~the direct transfer does not do any of the following:

(a) Generate extreme heat or pressure, fire, explosion, or violent reaction.

(b) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health.

- (c) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.
 - (d) Damage the structural integrity of the container or direct transfer equipment containing the waste.
 - (e) Adversely affect the capability of the boiler or industrial furnace to meet the standards in rules 3745-266-104 to 3745-266-107 of the Administrative Code.
 - (f) Threaten human health or the environment.
- (4) Hazardous waste shall not be placed in direct transfer equipment, if ~~it~~the hazardous waste could cause the equipment or ~~its~~the equipment's secondary containment system to rupture, leak, corrode, or otherwise fail.
- (5) The owner or operator of the facility shall use appropriate controls and practices to prevent spills and overflows from the direct transfer equipment or ~~its~~the equipment's secondary containment systems. These include, at a minimum, both of the following:
- (a) Spill prevention controls (e.g., check valves, dry discount couplings).
 - (b) Automatic waste feed cutoff to use if a leak or spill occurs from the direct transfer equipment.
- (D) Areas where direct transfer vehicles (containers) are located. Applying the definition of "container" under this rule, owners and operators shall comply with all of the following:
- (1) The containment requirements of rule 3745-55-75 of the Administrative Code.
 - (2) The use and management requirements of rules 3745-66-70 to 3745-66-77 of the Administrative Code, except for rules 3745-66-70 and 3745-66-74 of the Administrative Code, and except that in lieu of the special requirements of rule 3745-66-76 of the Administrative Code for ignitable waste or reactive waste, the owner or operator may comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjacent property line that can be built upon as required in the national fire protection association's (NFPA) "Flammable and Combustible Liquids Code." The owner or operator shall obtain and keep on file at the facility a written certification by the local fire marshal that the installation meets the subject NFPA codes.

(3) The closure requirements of rule 3745-55-78 of the Administrative Code.

(E) Direct transfer equipment. Direct transfer equipment shall meet all of the following:

(1) Secondary containment. Owners and operators shall comply with the secondary containment requirements of rule 3745-66-93 of the Administrative Code, except for paragraphs (A), (D), (E), and (I) of rule 3745-66-93 of the Administrative Code, as follows:

(a) For all new direct transfer equipment, prior to the equipment being put into service.

(b) For existing direct transfer equipment, within two years after December 7, 2004.

(2) Requirements prior to meeting secondary containment requirements.

(a) For existing direct transfer equipment that does not have secondary containment, the owner or operator shall determine whether the equipment is leaking or is unfit for use. The owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by a qualified professional engineer in accordance with paragraph (D) of rule 3745-50-41 of the Administrative Code that attests to the equipment's integrity.

(b) This assessment shall determine whether the direct transfer equipment is adequately designed and has sufficient structural strength and compatibility with the wastes to be transferred to ensure that ~~it will~~ the equipment does not collapse, rupture, or fail. At a minimum, this assessment shall consider all of the following:

(i) Design standards, if available, according to which the direct transfer equipment was constructed.

(ii) Hazardous characteristics of the wastes that have been or will be handled.

(iii) Existing corrosion protection measures.

(iv) Documented age of the equipment, if available, (otherwise, an estimate of the age).

(v) Results of a leak test or other integrity examination such that the effects of temperature variations, vapor pockets, cracks, leaks, corrosion, and erosion are accounted for.

(c) If, as a result of the assessment specified in paragraphs (E)(2)(a) to (E)(2)(b)(v) of this rule, the direct transfer equipment is found to be leaking or unfit for use, the owner or operator shall comply with paragraphs (A) and (B) of rule 3745-66-96 of the Administrative Code.

(3) Inspections and recordkeeping.

(a) The owner or operator shall inspect at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the boiler or industrial furnace all of the following:

(i) Overfill or spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that ~~it~~the equipment is in good working order.

(ii) The above ground portions of the direct transfer equipment to detect corrosion, erosion, or releases of waste (e.g., wet spots, dead vegetation).

(iii) Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges) to ensure that the direct transfer equipment is being operated according to ~~its~~the equipment's design.

(b) The owner or operator shall inspect cathodic protection systems, if used, to ensure that the systems are functioning properly according to the schedule provided by paragraph (B) of rule 3745-66-95 of the Administrative Code.

(c) Records of inspections made ~~under~~in accordance with paragraphs (E)(3) to (E)(3)(c) of this rule shall be maintained in the operating record at the facility, and available for inspection for at least three years after the date of the inspection.

(4) Design and installation of new ancillary equipment. Owners and operators shall comply with rule 3745-66-92 of the Administrative Code.

(5) Response to leaks or spills. Owners and operators shall comply with rule 3745-66-96 of the Administrative Code.

- (6) Closure. Owners and operators shall comply with rule 3745-66-97 of the Administrative Code, except for paragraphs (C)(2) to (C)(4) of rule 3745-66-97 of the Administrative Code.

[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."]

Effective: 10/5/2020
Five Year Review (FYR) Dates: 7/13/2020 and 10/05/2025

CERTIFIED ELECTRONICALLY

Certification

09/21/2020

Date

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Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 12/07/2004, 09/05/2010, 10/31/2015

3745-266-112

Regulation of residues.

A residue derived from the burning or processing of hazardous waste in a boiler or industrial furnace is not excluded from the definition of a hazardous waste under paragraph (B)(4), (B)(7), or (B)(8) of rule 3745-51-04 of the Administrative Code 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 fifty per cent coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal;
- (2) Ore or mineral furnaces. Industrial furnaces subject to paragraph (B)(7) of rule 3745-51-04 of the Administrative Code must process at least fifty per cent by weight normal, nonhazardous raw materials;
- (3) Cement kilns. Cement kilns must process at least fifty per cent by weight 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 in the appendix to rule 3745-51-11 of the Administrative Code (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 II to this rule that may be generated as products of incomplete combustion. ~~Sampling and analyses must be in conformance with procedures prescribed in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods."~~ 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 appendix to rule 3745-266-103 of the Administrative Code.
 - (a) Normal residue. Concentrations of toxic constituents of concern in normal residue must be determined based on analyses of a minimum of ten samples representing a minimum of ten days of operation. Composite samples may be used to develop a sample for analysis provided that the

compositing period does not exceed twenty-four hours. The upper tolerance limit (at ninety-five per cent confidence with a ninety-five per cent 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 "Statistical Methodology for Beville Residue Determinations" in the appendix to rule 3745-266-103 of the Administrative Code.

- (b) Waste-derived residue. Waste-derived residue must be sampled and analyzed as often as necessary to determine whether the residue generated during each twenty-four-hour period has concentrations of toxic constituents that are higher than the concentrations established for the normal residue under paragraph (B)(1)(a) of this rule. If so, hazardous waste burning has significantly affected the residue and the residue must not be excluded from the definition of a hazardous waste. Concentrations of toxic constituents of concern in the waste-derived residue must be determined based on analysis of one or more samples obtained over a twenty-four-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 twenty-four hours. If more than one sample is analyzed to characterize waste-derived residues generated over a twenty-four-hour period, the concentration of each toxic constituent must be the arithmetic mean of the concentrations in the samples. No results may 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 paragraph (B)(1) of this rule] in the waste-derived residue must not exceed the health-based level specified in appendix I to this rule, or the level of detection (using analytical procedures prescribed in SW-846), whichever is higher. If a health-based limit for a constituent of concern is not listed in appendix I to this rule, then a limit of 0.002 micrograms per kilogram or the level of detection (~~which must be determined by using appropriate analytical procedures contained in SW-846, or other appropriate methods~~), whichever is higher, must be used.

[Note: The levels specified in appendix I to this rule (and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in note 1 of appendix I of this rule) have been administratively stayed by U.S. EPA under the condition, for the constituents specified in paragraph (B)(1) of this rule, that the owner or operator complies with alternate levels defined as the land disposal restriction limits specified in rule 3745-270-40 of the Administrative Code for F039 nonwastewaters. Ohio EPA will interpret this rule consistent with U.S. EPA's administrative stay.]

- (b) Metal constituents. The concentration of metals in an extract obtained using the toxicity characteristic leaching procedure of rule 3745-51-24 of the Administrative Code must not exceed the levels specified in appendix I to this rule; and
 - (c) Sampling and analysis. Waste-derived residue must be sampled and analyzed as often as necessary to determine whether the residue generated during each twenty-four-hour period has concentrations of toxic constituents that are higher than the health-based levels. Concentrations of toxic constituents of concern in the waste-derived residue must be determined based on analysis of one or more samples obtained over a twenty-four-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 twenty-four hours. If more than one sample is analyzed to characterize waste-derived residues generated over a twenty-four-hour period, the concentration of each toxic constituent must be the arithmetic mean of the concentrations in the samples. No results may be disregarded; and
- (C) Records sufficient to document compliance with the provisions of this rule must be retained until closure of the boiler or industrial furnace unit. At a minimum, the following must be recorded.
- (1) Levels of constituents in the appendix to rule 3745-51-11 of the Administrative Code that are present in waste-derived residues;
 - (2) If the waste-derived residue is compared with normal residue under paragraph (B)(1) of this rule:
 - (a) The levels of constituents in the appendix to rule 3745-51-11 of the Administrative Code 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.

[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."]

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R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

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01/13/2009

Date

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3745-266-112

EXISTING APPENDIX

1

Appendix I to rule 3745-266-112 of the Administrative Code
Health-Based Limits for Exclusion of Waste-Derived Residues *

Metals- TCLP Extract Concentration Limits		
Constituent	CAS Number	Concentration limits (mg/L)
Antimony	7440-36-0	1xE+00
Arsenic	7440-38-2	5xE+00
Barium	7440-39-3	1xE+02
Beryllium	7440-41-7	7xE-03
Cadmium	7440-43-9	1xE+00
Chromium	7440-47-3	5xE+00
Lead	7439-92-1	5xE+00
Mercury	7439-97-6	2xE-01
Nickel	7440-02-0	7xE+01
Selenium	7782-49-2	1xE+00
Silver	7440-22-4	5xE+00
Thallium	7440-28-0	7xE+00

Nonmetals- Residue Concentration Limits		
Constituent	CAS Number	Concentration limits for residues (mg/kg)
Acetonitrile	75-05-8	2xE-01
Acetophenone	98-86-2	4xE+00
Acrolein	107-02-8	5xE-01
Acrylamide	79-06-1	2xE-04
Acrylonitrile	107-13-1	7xE-04
Aldrin	309-00-2	2xE-05
Allyl alcohol	107-18-6	2xE-01
Aluminum phosphide	20859-73-8	1xE-02
Aniline	62-53-3	6xE-02
Barium cyanide	542-62-1	1xE+00
Benz(a)anthracene	56-55-3	1xE-04
Benzene	71-43-2	5xE-03
Benzidine	92-87-5	1xE-06

Nonmetals- Residue Concentration Limits		
Constituent	CAS Number	Concentration limits for residues (mg/kg)
Bis(2-chloroethyl) ether	111-44-4	3xE-04
Bis(chloromethyl) ether	542-88-1	2xE-06
Bis(2-ethylhexyl) phthalate	117-81-7	3xE+01
Bromoform	75-25-2	7xE-01
Calcium cyanide	592-01-8	1xE-06
Carbon disulfide	75-15-0	4xE+00
Carbon tetrachloride	56-23-5	5xE-03
Chlordane	57-74-9	3xE-04
Chlorobenzene	108-90-7	1xE+00
Chloroform	67-66-3	6xE-02
Copper cyanide	544-92-3	2xE-01
Cresols (Cresylic acid)	1319-77-3	2xE+00
Cyanogen	460-19-5	1xE+00
DDT	50-29-3	1xE-03
Dibenz(a, h)-anthracene	53-70-3	7xE-06
1,2-Dibromo-3-chloropropane	96-12-8	2xE-05
p-Dichlorobenzene	106-46-7	7.5xE-02
Dichlorodifluoromethane	75-71-8	7xE+00
1,1-Dichloroethylene	75-35-4	5xE-03
2,4-Dichlorophenol	120-83-2	1xE-01
1,3-Dichloropropene	542-75-6	1xE-03
Dieldrin	60-57-1	2xE-05
Diethyl phthalate	84-66-2	3xE+01
Diethylstilbesterol	56-53-1	7xE-07
Dimethoate	60-51-5	3xE-02
2,4-Dinitrotoluene	121-14-2	5xE-04
Diphenylamine	122-39-4	9xE-01
1,2-Diphenylhydrazine	122-66-7	5xE-04
Endosulfan	115-29-7	2xE-03
Endrin	72-20-8	2xE-04
Epichlorohydrin	106-89-8	4xE-02
Ethylene dibromide	106-93-4	4xE-07
Ethylene oxide	75-21-8	3xE-04
Fluorine	7782-41-4	4xE+00
Formic acid	64-18-6	7xE+01

Nonmetals- Residue Concentration Limits		
Constituent	CAS Number	Concentration limits for residues (mg/kg)
Heptachlor	76-44-8	8xE-05
Heptachlor epoxide	1024-57-3	4xE-05
Hexachlorobenzene	118-74-1	2xE-04
Hexachlorobutadiene	87-68-3	5xE-03
Hexachlorocyclopentadiene	77-47-4	2xE-01
Hexachlorodibenzo-p-dioxins	19408-74-3	6xE-08
Hexachloroethane	67-72-1	3xE-02
Hydrazine	302-01-1	1xE-04
Hydrogen cyanide	74-90-8	7xE-05
Hydrogen sulfide	7783-06-4	1xE-06
Isobutyl alcohol	78-83-1	1xE+01
Methomyl	16752-77-5	1xE+00
Methoxychlor	72-43-5	1xE-01
3-Methylcholanthrene	56-49-5	4xE-05
4,4'-Methylenebis (2-chloroaniline)	101-14-4	2xE-03
Methylene chloride	75-09-2	5xE-02
Methyl ethyl ketone (MEK)	78-93-3	2xE+00
Methyl hydrazine	60-34-4	3xE-04
Methyl parathion	298-00-0	2xE-02
Naphthalene	91-20-3	1xE+01
Nickel cyanide	557-19-7	7xE-01
Nitric oxide	10102-43-9	4xE+00
Nitrobenzene	98-95-3	2xE-02
N-Nitrosodi-n-butylamine	924-16-3	6xE-05
N-Nitrosodiethylamine	55-18-5	2xE-06
N-Nitroso-N-methylurea	684-93-5	1xE-07
N-Nitrosopyrrolidine	930-55-2	2xE-04
Pentachlorobenzene	608-93-5	3xE-02
Pentachloronitrobenzene (PCNB)	82-68-8	1xE-01
Pentachlorophenol	87-86-5	1xE+00
Phenol	108-95-2	1xE+00
Phenylmercury acetate	62-38-4	3xE-03
Phosphine	7803-51-2	1xE-02
Polychlorinated biphenyls, N.O.S	1336-36-3	5xE-05
Potassium cyanide	151-50-8	2xE+00

Nonmetals- Residue Concentration Limits		
Constituent	CAS Number	Concentration limits for residues (mg/kg)
Potassium silver cyanide	506-61-6	7xE+00
Pronamide	23950-58-5	3xE+00
Pyridine	110-86-1	4xE-02
Reserpine	50-55-5	3xE-05
Selenourea	630-10-4	2xE-01
Silver cyanide	506-64-9	4xE+00
Sodium cyanide	143-33-9	1xE+00
Strychnine	57-24-9	1xE-02
1,2,4,5-Tetrachlorobenzene	95-94-3	1xE-02
1,1,2,2-Tetrachloroethane	79-34-5	2xE-03
Tetrachloroethylene	127-18-4	7xE-01
2,3,4,6-Tetrachlorophenol	58-90-2	1xE-02
Tetraethyl lead	78-00-2	4xE-06
Thiourea	62-56-6	2xE-04
Toluene	108-88-3	1xE+01
Toxaphene	8001-35-2	5xE-03
1,1,2-Trichloroethane	79-00-5	6xE-03
Trichloroethylene	79-01-6	5xE-03
Trichloromonofluoromethane	75-69-4	1xE+01
2,4,5-Trichlorophenol	95-95-4	4xE+00
2,4,6-Trichlorophenol	88-06-2	4xE+00
Vanadium pentoxide	1314-62-1	7xE-01
Vinyl chloride	75-01-4	2xE-03
Note 1:	The health-based concentration limits for constituents found in the appendix to rule 3745-51-11 of the Administrative Code for which a health-based concentration is not provided here is 2xE-06 mg/kg.	
Note 2:	The levels specified in this appendix and the default level of 0.002 mg/kg or the level of detection for constituents as identified in Note 1 of this appendix are administratively stayed by U.S. EPA under the condition, for those constituents specified in paragraph (B)(1) of rule 3745-266-112 of the Administrative Code, that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in rule 3745-270-40 of the Administrative Code for F039 nonwastewaters. See paragraph (B)(2)(a)[Note] of this rule.	

[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."]

3745-266-112

EXISTING APPENDIX

1

Appendix II to rule 3745-266-112 of the Administrative Code
Potential PICs for Determination of Exclusion of Waste-Derived Residues

PICs Found in Stack Effluents	
Volatiles	Semivolatiles
Benzene Toluene Carbon tetrachloride Chloroform Methylene chloride Trichloroethylene Tetrachloroethylene 1,1,1-Trichloroethane Chlorobenzene cis-1,4-Dichloro-2-butene Bromochloromethane Bromodichloromethane Bromoform Bromomethane Methylene bromide Methyl ethyl ketone	Bis(2-ethylhexyl)phthalate Naphthalene Phenol Diethyl phthalate Butyl benzyl phthalate 2,4-Dimethylphenol o-Dichlorobenzene m-Dichlorobenzene p-Dichlorobenzene Hexachlorobenzene 2,4,6-Trichlorophenol Fluoranthene o-Nitrophenol 1,2,4-Trichlorobenzene o-Chlorophenol Pentachlorophenol Pyrene Dimethyl phthalate Mononitrobenzene 2,6-Toluene diisocyanate Polychlorinated dibenzo-p-dioxins * Polychlorinated dibenzo-furans *
* Analyses for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans are required only for residues collected from areas downstream of the combustion chamber (e.g., ductwork, boiler tubes, heat exchange surfaces, air pollution control devices, etc.).	

[Comment: Analysis is not required for those compounds that do not have an established F039 nonwastewater concentration limit.]

[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."]

3745-266-200

Applicability- military munitions.

- (A) Rules 3745-266-200 to 3745-266-206 of the Administrative Code identify when military munitions become a waste, and, if these wastes are also hazardous under rules 3745-266-200 to 3745-266-206 or Chapter 3745-51 of the Administrative Code, the management standards that apply to these wastes.
- (B) Unless otherwise specified in rules 3745-266-200 to 3745-266-206 of the Administrative Code, all applicable requirements in Chapters 3745-50 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code apply to waste military munitions.

Five Year Review (FYR) Dates: 6/7/2021 and 06/05/2026

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Certification

06/07/2021

Date

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3745-266-201

Definitions- military munitions.

In addition to the definitions in rule 3745-50-10 of the Administrative Code, the following definitions apply to rules 3745-266-200 to 3745-266-206 of the Administrative Code:

- (A) "Active range" means a military range that is currently in service and is ~~being~~ regularly used for range activities.
- (B) "Chemical agents" and "munitions" are defined as in 50 U.S.C. 1521(j)(1).
- (C) "Inactive range" means a military range that is not currently ~~being used~~ in use, but that is still under military control and considered by the military to be a potential range area, and that has not been put to a new use that is incompatible with range activities.
- (D) "Military" means the department of defense (DOD), the armed services, coast guard, national guard, department of energy (DOE), or other parties under contract or acting as an agent for the foregoing, who handle military munitions.
- (E) "Military range" means designated land and water areas set aside, managed, and used to conduct research on, develop, test, and evaluate military munitions and explosives, other ordnance, or weapon systems, or to train military personnel in the use and handling of such devices. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas.
- (F) "Unexploded ordnance" means military munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material and remain unexploded either by malfunction, design, or any other cause.

[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."]

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3745-266-202

Definition of waste ~~for purposes of~~ military munitions.

(A) A military munition is not a waste when:

- (1) A military munition is used for ~~its~~the intended purpose of the military munition, including:
 - (a) Use in training military personnel or explosives and munitions emergency response specialists (including training in proper destruction of unused propellant or other munitions); or
 - (b) Use in research, development, testing, and evaluation of military munitions, weapons, or weapon systems; or
 - (c) Recovery, collection, and on-range destruction of unexploded ordnance and munitions fragments during range clearance activities at active or inactive ranges. However, "use for intended purpose" does not include the on-range disposal or burial of unexploded ordnance and contaminants when the burial is not a result of product use; ~~or~~
- (2) An unused munition, or component thereof, is being repaired, reused, recycled, reclaimed, disassembled, reconfigured, or otherwise subjected to materials recovery activities, unless such activities involve use constituting disposal as described in paragraph (C)(1) of rule 3745-51-02 of the Administrative Code, or burning for energy recovery as described in paragraph (C)(2) of rule 3745-51-02 of the Administrative Code.

(B) An unused military munition is a waste when any of the following occurs:

- (1) The munition is abandoned by being disposed ~~of~~, burned, detonated [except during intended use as specified in paragraph (A) of this rule], incinerated, or treated prior to disposal; or
- (2) The munition is removed from storage in a military magazine or other storage area for the purpose of being disposed ~~of~~, burned; or incinerated, or treated prior to disposal; or
- (3) The munition is deteriorated or damaged (e.g., the integrity of the munition is compromised by cracks, leaks, or other damage) to the point that the munition cannot be put into serviceable condition, and cannot reasonably be recycled or used for other purposes; or
- (4) The munition has been declared a waste by an authorized military official.

(C) A used or fired military munition is a waste:

- (1) When transported off range or from the site of use, where the site of use is not a range, for the purposes of storage, reclamation, treatment, disposal, or treatment prior to disposal; or
 - (2) If recovered, collected, and then disposed of by burial, or landfilling either on or off a range.
- (D) A used or fired military munition is potentially subject to the cleanup requirements of Chapters 3734. and 6111. of the Revised Code; if the munition lands off-range and is not promptly rendered safe or retrieved. For purposes of Section 1004(27) of RCRA, a used or fired military munition is a solid waste, and; therefore; is potentially subject to RCRA corrective action authorities under Section 3004(u), Section 3004(v), and Section 3008(h) of RCRA, or imminent and substantial endangerment authorities under Section 7003 of RCRA, if the munition lands off-range and is not promptly rendered safe or retrieved. Any imminent and substantial threats associated with any remaining material shall be addressed. If remedial action is infeasible, the operator of the range shall maintain a record of the event for as long as any threat remains. The record shall include the type of munition and the location (to the extent the location of the munition is known).

[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."]

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3745-266-203

Standards applicable to for the transportation of waste military munitions.

- (A) Criteria for hazardous waste regulation of waste non-chemical military munitions in transportation.
- (1) Waste military munitions that are being transported and that exhibit a hazardous waste characteristic or are listed as hazardous waste under Chapter 3745-51 of the Administrative Code, are listed or identified as a hazardous waste (and thus are subject to regulation under Chapters 3745-50, 3745-51, 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code), unless all the following conditions are met:
- (a) The waste military munitions are not chemical agents or chemical munitions.
- (b) The waste military munitions shall be transported in accordance with the department of defense (DOD) shipping controls applicable to the transport of military munitions.
- (c) The waste military munitions shall be transported from a military owned or operated installation to a military owned or operated treatment, storage, or disposal facility.
- (d) The transporter of the waste shall provide verbal notice to the director within twenty-four hours after the time the transporter becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of paragraph (A)(1) of this rule that may endanger health or the environment. In addition, a written submittal describing the circumstances shall be provided within five days after the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of paragraph (A)(1) of this rule.
- (2) If any waste military munitions shipped under paragraph (A)(1) of this rule are not received by the receiving facility within forty-five days after the day the waste was shipped, the owner or operator of the receiving facility shall report this non-receipt to the director within five days.
- (3) The exemption from regulation as hazardous waste in paragraph (A)(1) of this rule applies only to the transportation of non-chemical waste military munitions. The exemption does not affect the regulatory status of waste military munitions as hazardous wastes with regard to storage, treatment, or disposal.

- (4) The conditional exemption in paragraph (A)(1) of this rule applies only so long as all of the conditions in paragraph (A)(1) of this rule are met.
- (B) Reinstatement of exemption. If any waste military munition loses the exemption under paragraph (A)(1) of this rule, an application may be filed with the director for reinstatement of the exemption from hazardous waste transportation regulation with respect to such munition as soon as the munition is returned to compliance with ~~the conditions of~~ paragraph (A)(1) of this rule. If the director finds that reinstatement of the exemption is appropriate based on factors such as the transporter's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the director may reinstate the exemption under paragraph (A)(1) of this rule. If the director does not take action on the reinstatement application within sixty days after receipt of the application, then reinstatement is deemed granted, retroactive to the date of the application. However, the director may terminate a conditional exemption reinstated by default in the preceding sentence if the director finds that reinstatement is inappropriate based on factors such as the transporter's failure to provide a satisfactory explanation of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the exemption under paragraph (A)(1) of this rule, the director may specify additional conditions as are necessary to ensure and document proper transportation to protect human health and the environment.
- (C) Amendments to DOD shipping controls. The DOD shipping controls applicable to the transport of military munitions referenced in paragraph (A)(1)(b) of this rule are government bill of lading (GBL) [general services administration (GSA) standard form 1103], requisition tracking form (DD form 1348), the signature and tally record (DD form 1907), special instructions for motor vehicle drivers (DD form 836), and the motor vehicle inspection report (DD form 626).

[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."]

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3745-266-204 Standards applicable to emergency responses involving military munitions.

Explosives or munitions emergencies involving military munitions or explosives are subject to paragraph (I) of rule 3745-52-10, paragraph (E) of rule 3745-53-10, paragraph (G)(8) of rule 3745-54-01, paragraph (C)(11) of rule 3745-65-01, and paragraph (D) of rule 3745-50-45 of the Administrative Code, or alternatively to rule 3745-50-57 of the Administrative Code.

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3745-266-205

Standards ~~applicable to~~for the storage of waste military munitions.

(A) Criteria for hazardous waste regulation of waste non-chemical military munitions in storage.

(1) Waste military munitions in storage that exhibit a hazardous waste characteristic or are listed as hazardous waste in Chapter 3745-51 of the Administrative Code, are listed or identified as a hazardous waste (and thus are subject to regulation under Chapters 3745-50, 3745-51, 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, 3745-270, 3745-273, and 3745-279 of the Administrative Code), unless all the following conditions are met:

- (a) The waste military munitions are not chemical agents or chemical munitions.
- (b) The waste military munitions shall be subject to the jurisdiction of the department of defense explosives safety board (DDESB).
- (c) The waste military munitions shall be stored in accordance with the DDESB storage standards applicable to waste military munitions.
- (d) Within ninety days after December 7, 2004 or within ninety days after a storage unit is first used to store waste military munitions, whichever is later, the owner or operator shall notify the director of the location of any waste storage unit used to store waste military munitions for which the conditional exemption in paragraph (A)(1) of this rule is claimed.
- (e) The owner or operator shall provide verbal notice to the director within twenty-four hours after the time the owner or operator becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of paragraph (A)(1) of this rule that may endanger health or the environment. In addition, a written submittal describing the circumstances shall be provided within five days after the time the owner or operator becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of paragraph (A)(1) of this rule.
- (f) The owner or operator shall inventory the waste military munitions at least annually, shall inspect the waste military munitions at least quarterly for compliance with the conditions of paragraph (A)(1) of this rule, and shall maintain records of the findings of these inventories and inspections for at least three years.

- (g) Access to the stored waste military munitions shall be limited to appropriately trained and authorized personnel.
 - (2) The conditional exemption in paragraph (A)(1) of this rule from regulation as hazardous waste applies only to the storage of non-chemical waste military munitions. The exemption does not affect the regulatory status of waste military munitions as hazardous wastes with regard to transportation, treatment, or disposal.
 - (3) The conditional exemption in paragraph (A)(1) of this rule applies only so long as all of the conditions in paragraph (A)(1) of this rule are met.
- (B) Notice of termination of waste storage. The owner or operator shall notify the director when a storage unit identified in paragraph (A)(1)(d) of this rule will no longer be used to store waste military munitions.
- (C) Reinstatement of conditional exemption. If any waste military munition loses the conditional exemption under paragraph (A)(1) of this rule, an application may be filed with the director for reinstatement of the conditional exemption from hazardous waste storage regulation with respect to such munition as soon as the munition is returned to compliance with the conditions of paragraph (A)(1) of this rule. If the director finds that reinstatement of the conditional exemption is appropriate based on factors such as the owner's or operator's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the director may reinstate the conditional exemption under paragraph (A)(1) of this rule. If the director does not take action on the reinstatement application within sixty days after receipt of the application, then reinstatement is deemed granted, retroactive to the date of the application. However, the director may terminate a conditional exemption reinstated by default in the preceding sentence if the director finds that reinstatement is inappropriate based on factors such as the owner's or operator's failure to provide a satisfactory explanation of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the conditional exemption under paragraph (A)(1) of this rule, the director may specify additional conditions as are necessary to ensure and document proper storage to protect human health and the environment.
- (D) Waste chemical munitions.
- (1) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste in Chapter 3745-51 of the Administrative Code, are listed or identified as a hazardous waste and are subject to the "hazardous waste rules" as defined in rule 3745-50-10 of the Administrative Code.

- (2) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste in Chapter 3745-51 of the Administrative Code, are not subject to the storage prohibition in rule 3745-270-50 of the Administrative Code.
- (E) Amendments to DDESB storage standards. The DDESB storage standards applicable to waste military munitions, referenced in paragraph (A)(1)(c) of this rule, are DOD 6055.9-STD ("DOD Ammunition and Explosive Safety Standards").

[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."]

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3745-266-206

Standards applicable to for the treatment and disposal of waste military munitions.

The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in Chapters 3745-50, 3745-51, 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code.

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3745-266-210 **Definitions- conditional exemption for LLMW storage and disposal.**

Rules 3745-266-210 to 3745-266-355 of the Administrative Code use the following special definitions:

- (A) "Agreement State" means a state that has entered into an agreement with the U.S. nuclear regulatory commission (NRC) under Subsection 274(b) of the Atomic Energy Act of 1954, ~~as amended through the date specified in rule 3745-50-11 of the Administrative Code 68 Stat. 919~~ (AEA), to assume responsibility for regulating within that state's borders by-product material, source material, or special nuclear material in quantities not sufficient to form a critical mass.
- (B) "Certified delivery" means certified mail with return receipt requested, or equivalent courier service, or other means, that provides the sender with a receipt confirming delivery.
- (C) "Eligible NARM" is naturally occurring or accelerator-produced radioactive material (NARM) that is eligible for the transportation and disposal conditional exemption. Eligible NARM is a NARM waste that contains hazardous waste, meets the waste acceptance criteria of, and is allowed by state NARM regulations to be disposed of at a low-level radioactive waste (LLW) disposal facility licensed in accordance with 10 CFR Part 61 or NRC "Agreement State" equivalent regulations.
- (D) "Exempted waste" means a waste that meets the eligibility criteria in paragraph (B) of rule 3745-266-220 of the Administrative Code and meets all of the conditions in paragraph (C) of rule 3745-266-220 of the Administrative Code, or meets the eligibility criteria in rule 3745-266-310 of the Administrative Code and complies with all the conditions in paragraph (A) of rule 3745-266-315 of the Administrative Code. Such waste is conditionally exempted from the regulatory definition of "hazardous waste" in rule 3745-51-03 of the Administrative Code.
- (E) "Land disposal restriction (LDR) treatment standards" means treatment standards, under Chapter 3745-270 of the Administrative Code, that a hazardous waste is required to meet before such hazardous waste may be disposed of in a hazardous waste land disposal unit.
- (F) "License" means a license issued by the NRC, or NRC Agreement State, to users that manage radionuclides regulated by NRC, or NRC Agreement States, under authority of the AEA.
- (G) "Low-level mixed waste" or "LLMW" is a waste that contains both low-level radioactive waste and hazardous waste.

- (H) "Low-level radioactive waste" or "LLW" is a radioactive waste which contains "source material," special material," or "by-product material" as defined by the AEA, and which is not classified as "high-level radioactive waste," "transuranic waste," "spent nuclear fuel," or "by-product material" as defined by the AEA. (See also NRC definition of "waste" at 10 CFR 61.2).
- (I) "Mixed waste" means a waste that contains both hazardous waste and source material, special nuclear material, or by-product material subject to the AEA.
- (J) "Naturally occurring or accelerator-produced radioactive material" or "NARM" means radioactive materials that are either:
- (1) ~~Are naturally~~ Naturally occurring and are not "source material," "special nuclear material," or "by-product material" as defined by the AEA; or
 - (2) ~~Are produced~~ Produced by an accelerator. NARM is regulated by the states under state law, or by the department of energy (DOE) (as authorized by the AEA) under DOE orders.
- (K) "NRC" means the U.S. nuclear regulatory commission.
- (L) "We" or "us" means the "director" as defined in rule 3745-50-10 of the Administrative Code.
- (M) "You" means a generator, treater, or other handler of LLMW or eligible NARM.

[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."]

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3745-266-220 Storage and treatment conditional exemption and eligibility.

- (A) What does a storage and treatment conditional exemption do? The storage and treatment conditional exemption exempts your LLMW from the regulatory definition of hazardous waste in rule 3745-51-03 of the Administrative Code if your waste meets the eligibility criteria in paragraph (B) of this rule and you meet the conditions in paragraphs (C) to (C)(2)(e) of this rule.
- (B) What wastes are eligible for the storage and treatment conditional exemption? LLMW is eligible for this conditional exemption if it is generated and managed by you under a single NRC or NRC agreement state license. (Mixed waste generated at a facility with a different license number and shipped to your facility for storage or treatment requires a permit and is ineligible for this exemption. In addition, NARM waste is ineligible for this exemption.)
- (C) What conditions must you meet for your LLMW to qualify for and maintain a storage and treatment exemption?
- (1) For your LLMW to qualify for the exemption you must notify us in writing by certified delivery that you are claiming a conditional exemption for the LLMW stored on your facility. The dated notification must include your name, address, U.S. EPA identification number, NRC or NRC agreement state license number, the waste code(s) and storage unit(s) for which you are seeking an exemption, and a statement that you meet the conditions of rules 3745-266-210 to 3745-266-355 of the Administrative Code. Your notification must be signed by your authorized representative who certifies that the information in the notification is true, accurate, and complete. You must notify us of your claim either within ninety days of the first effective date of this rule, or within ninety days of when a storage unit is first used to store conditionally exempt LLMW.
- (2) To qualify for and maintain an exemption for your LLMW you must:
- (a) Store your LLMW in tanks or containers in compliance with the requirements of your license that apply to the proper storage of LLW (not including those license requirements that relate solely to recordkeeping);
- (b) Store your LLMW in tanks or containers in compliance with chemical compatibility requirements of a tank or container in rule 3745-55-77 or 3745-55-99 of the Administrative Code, or rule 3745-66-77 or 3745-66-99 of the Administrative Code;
- (c) Certify that facility personnel who manage stored conditionally exempt LLMW are trained in a manner that ensures that the conditionally exempt waste is safely managed and includes training in chemical waste management and hazardous materials incidents response that meets the personnel training standards found in paragraph (A)(3) of rule 3745-65-16 of the Administrative Code;

- (d) Conduct an inventory of your stored conditionally exempt LLMW at least annually and inspect it at least quarterly for compliance with rules 3745-266-210 to 3745-266-355 of the Administrative Code; and
- (e) Maintain an accurate emergency plan and provide it to all local authorities who may have to respond to a fire, explosion, or release of hazardous waste or hazardous constituents. Your plan must describe emergency response arrangements with local authorities; describe evacuation plans; list the names, addresses, and telephone numbers of all facility personnel qualified to work with local authorities as emergency coordinators; and list emergency equipment.

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3745-266-235 Treatment of LLMW.

What waste treatment does the storage and treatment conditional exemption allow?
You may treat your LLMW at your facility within a tank or container in accordance with the terms of your NRC or NRC agreement state license. Treatment that cannot be done in a tank or container without an Ohio hazardous waste permit (such as incineration) is not allowed under this exemption.

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3745-266-240

Loss of conditional exemption for LLMW.

(A) How could you lose the conditional exemption for your low level mixed waste (LLMW) and what action ~~must~~shall you take?

(1) Your LLMW will automatically lose the storage and treatment conditional exemption if you fail to meet any of the conditions specified in ~~paragraphs~~paragraph (C) to ~~(C)(2)(e)~~ of rule 3745-266-220 of the Administrative Code. When your LLMW loses the exemption, you ~~must~~shall immediately manage that waste which failed the condition as hazardous waste, and the storage unit storing the LLMW immediately becomes subject to hazardous waste container ~~and/or~~ tank storage requirements.

(a) If you fail to meet any of the conditions specified in ~~paragraphs~~paragraph (C) to ~~(C)(2)(e)~~ of rule 3745-266-220 of the Administrative Code you ~~must~~shall report to ~~us~~Ohio EPA and the nuclear regulatory commission (NRC), or the oversight agency in the NRC agreement state, in writing by certified delivery within thirty days ~~of~~after learning of the failure. Your report ~~must~~shall be signed by your authorized representative, certifying that the information provided is true, accurate, and complete. This report ~~must~~shall include:

(i) The specific ~~condition(s)~~conditions you failed to meet;

(ii) A description of the LLMW (including the waste name, EPA hazardous waste numbers, and quantity) and storage location at the facility; and

(iii) The ~~date(s)~~dates on which you failed to meet the ~~condition(s)~~conditions.

(b) If the failure to meet any of the conditions may endanger human health or the environment, you ~~must~~ also shall immediately notify ~~us~~Ohio EPA verbally within twenty-four hours and follow up with a written notification within five days. Failures that may endanger human health or the environment include, but are not limited to, discharge of a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) reportable quantity or other leaking or exploding tanks or containers, or detection of radionuclides above background or hazardous constituents in the leachate collection system of a storage area. If the failure may endanger human health or the environment, you ~~must~~shall follow the provisions of your emergency plan.

[~~Note Comment:~~ CERCLA reportable quantities are those substances and quantities listed by the administrator ~~of U.S. EPA~~ under 40 CFR ~~part~~Part 302, table 302.4, ~~as amended.~~]

- (2) ~~We~~Ohio EPA may terminate your conditional exemption for your LLMW, or require you to meet additional conditions to claim a conditional exemption, for serious or repeated noncompliance with any ~~requirement(s)~~requirements of rules 3745-266-210 to 3745-266-355 of the Administrative Code.

(B) If you lose the storage and treatment conditional exemption for your LLMW, can the exemption be reclaimed?

- (1) You may reclaim the storage and treatment exemption for your LLMW if:

(a) You again meet the conditions specified in ~~paragraphs~~paragraph (C) ~~to (C)(2)(e)~~ of rule 3745-266-220 of the Administrative Code; and

(b) You send ~~us~~Ohio EPA a notice by certified delivery that you are reclaiming the exemption for your LLMW. Your notice ~~must~~shall be signed by your authorized representative certifying that the information contained in your notice is true, complete, and accurate. In your notice you ~~must~~shall do the following:

(i) Explain the circumstances of each failure.

(ii) Certify that you have corrected each failure that caused you to lose the exemption for your LLMW and that you again meet all the conditions as of the date you specify.

(iii) Describe plans that you have implemented, listing specific steps you have taken, to ensure the conditions will be met in the future.

(iv) Include any other information you want ~~us~~Ohio EPA to consider when ~~we review~~Ohio EPA reviews your notice reclaiming the exemption.

- (2) ~~We~~Ohio EPA may terminate a reclaimed conditional exemption if ~~we find~~Ohio EPA finds that your claim is inappropriate based on factors including, but not limited to, the following: you have failed to correct the problem; you explained the circumstances of the failure unsatisfactorily; or you failed to implement a plan with steps to prevent another failure to meet the conditions of ~~paragraphs~~Paragraph (C) ~~to (C)(2)(e)~~ of rule 3745-266-220 of the Administrative Code. In reviewing a reclaimed conditional exemption under ~~paragraphs~~paragraph (B) ~~to (B)(2)~~ of this rule, ~~we~~Ohio EPA may add

conditions to the exemption to ensure that waste management during storage and treatment of the LLMW will protect human health and the environment.

~~[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."]~~

[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."]

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3745-266-250 Recordkeeping for LLMW.

What records must you keep at your facility and for how long?

- (A) In addition to those records required by your NRC or NRC agreement state license, you must keep records as follows:
- (1) Your initial notification records, return receipts, reports to us of failure(s) to meet the exemption conditions, and all records supporting any reclaim of an exemption;
 - (2) Records of your LLMW annual inventories, and quarterly inspections;
 - (3) Your certification that facility personnel who manage stored mixed waste are trained in safe management of LLMW including training in chemical waste management and hazardous materials incidents response; and
 - (4) Your emergency plan as specified in paragraphs (C)(2) to (C)(2)(e) of rule 3745-266-220 of the Administrative Code.
- (B) You must maintain records concerning notification, personnel trained, and your emergency plan for as long as you claim this exemption and for three years thereafter, or in accordance with NRC regulations under 10 CFR part 20 (or equivalent NRC agreement state regulations), whichever is longer. You must maintain records concerning your annual inventory and quarterly inspections for three years after the waste is sent for disposal, or in accordance with NRC regulations under 10 CFR part 20 (or equivalent NRC agreement state regulations), whichever is longer.

[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."]

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3745-266-255

Re-entry of LLMW into regulation as a hazardous waste.

When is your low level mixed waste (LLMW) no longer eligible for the storage and treatment conditional exemption?

- (A) When your LLMW has met the requirements of your nuclear regulatory commission (NRC) or NRC agreement state license for decay-in-storage and can be disposed of as non-radioactive waste, then the conditional exemption for storage no longer applies. On that date, your waste is subject to hazardous waste regulation under the applicable rules in Chapters 3745-50, 3745-51, 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code, and the time period for accumulation of a hazardous waste as specified in rule ~~3745-52-34~~3745-52-16 or 3745-52-17 of the Administrative Code begins.
- (B) When your conditionally exempt LLMW, which has been generated and stored under a single NRC or NRC agreement state license number, is removed from storage, ~~it~~the conditionally exempt LLMW is no longer eligible for the storage and treatment exemption. However, your waste may be eligible for the transportation and disposal conditional exemption in rule 3745-266-305 of the Administrative Code.

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Five Year Review (FYR) Dates: 7/13/2020 and 10/05/2025

CERTIFIED ELECTRONICALLY

Certification

09/21/2020

Date

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Prior Effective Dates: 12/07/2004

3745-266-260

LLMW storage unit closure.

Permitted storage units ~~that have been~~ used to store only "low level mixed waste" (LLMW), as defined in rule 3745-266-210 of the Administrative Code, prior to December 7, 2004 and after that date store only LLMW which becomes exempt under rules 3745-266-210 to 3745-266-355 of the Administrative Code, are not subject to the closure requirements of Chapters 3745-54 to 3745-57 and 3745-205 and 3745-65 to 3745-69 and 3745-256 of the Administrative Code. Storage units (or portions of units) ~~that have been~~ used to store both LLMW and non-mixed hazardous waste prior to December 7, 2004, or ~~are~~ used to store both after that date, remain subject to closure requirements with respect to the non-mixed hazardous waste.

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3745-266-305 Transportation and disposal conditional exemption.

What does the transportation and disposal conditional exemption do? This conditional exemption exempts your waste from the regulatory definition of hazardous waste in rule 3745-51-03 of the Administrative Code if your waste meets the eligibility criteria under rule 3745-266-310 of the Administrative Code, and you meet the conditions in paragraphs (A) to (A)(4) of rule 3745-266-315 of the Administrative Code.

Effective: 12/07/2004
119.032 review dates: Exempt
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Rule amplifies: 3734.12
Prior effective dates: None

3745-266-310 Eligibility for conditional exemptions.

What wastes are eligible for the transportation and disposal conditional exemption?
Eligible waste must be:

- (A) A LLMW that meets the waste acceptance criteria of a LLW disposal facility;
and/or
- (B) An eligible NARM.

Effective: 12/07/2004
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: None

3745-266-315 Conditions for the conditional exemptions.

- (A) What are the conditions you must meet for your waste to qualify for and maintain the transportation and disposal conditional exemption? You must meet the following conditions for your eligible waste to qualify for and maintain the exemption:
- (1) The eligible waste must meet or be treated to meet LDR treatment standards as described in paragraph (B) of this rule.
 - (2) If you are not already subject to NRC, or NRC agreement state equivalent manifest and transportation regulations for the shipment of your waste, you must manifest and transport your waste according to NRC regulations as described in paragraph (C) of this rule.
 - (3) The exempted waste must be in containers when it is disposed of in the LLW disposal facility as described in paragraphs (F) to (F)(3) of this rule.
 - (4) The exempted waste must be disposed of at a designated LLW disposal facility as described in paragraph (E) of this rule.
- (B) What treatment standards must your eligible waste meet? Your LLMW or eligible NARM waste must meet LDR treatment standards specified in rules 3745-270-40 to 3745-270-49 of the Administrative Code.
- (C) Are you subject to the manifest and transportation condition in paragraph (A)(2) of this rule? If you are not already subject to NRC, or NRC agreement state equivalent manifest and transportation regulations for the shipment of your waste, you must meet the manifest requirements under 10 CFR 20.2006 (or NRC agreement state equivalent regulations), and the transportation requirements under 10 CFR 1.5 (or NRC agreement state equivalent regulations) to ship the exempted waste.
- (D) When does the transportation and disposal exemption take effect? The exemption becomes effective once all the following have occurred:
- (1) Your eligible waste meets the applicable treatment standards in Chapter 3745-270 of the Administrative Code.
 - (2) You have received return receipts that you have notified us and the LLW disposal facility as described in rule 3745-266-345 of the Administrative Code.
 - (3) You have completed the packaging and preparation for shipment requirements for your waste according to NRC packaging and transportation regulations found under 10 CFR part 71 (or NRC agreement state equivalent regulations); and you have prepared a manifest for your waste according to NRC manifest regulations found under 10 CFR part 20 (or NRC agreement state equivalent regulations), and

- (4) You have placed your waste on a transportation vehicle destined for a LLW disposal facility licensed by NRC or an NRC agreement state.
- (E) Where must your exempted waste be disposed of? Your exempted waste must be disposed of in a LLW disposal facility that is regulated and licensed by NRC under 10 CFR part 61 or by an NRC agreement state under equivalent state regulations, including state NARM licensing regulations for eligible NARM.
- (F) What type of container must be used for disposal of exempted waste? Your exempted waste must be placed in containers before it is disposed. The container must be:
 - (1) A carbon steel drum; or
 - (2) An alternative container with equivalent containment performance in the disposal environment as a carbon steel drum; or
 - (3) A high integrity container as defined by NRC.

[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."]

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Rule amplifies: 3734.12
Prior effective dates: None

3745-266-345 Notification of exemptions.

Whom must you notify?

- (A) You must provide a one time notice to us stating that you are claiming the transportation and disposal conditional exemption prior to the initial shipment of an exempted waste from your facility to a LLW disposal facility. Your dated written notice must include your facility name, address, phone number, and U.S. EPA identification number, and be sent by certified delivery.

- (B) You must notify the LLW disposal facility receiving your exempted waste by certified delivery before shipment of each exempted waste. You can only ship the exempted waste after you have received the return receipt of your notice to the LLW disposal facility. This notification must include the following:
 - (1) A statement that you have claimed the exemption for the waste.
 - (2) A statement that the eligible waste meets applicable treatment standards in Chapter 3745-270 of the Administrative Code.
 - (3) Your facility's name, address, and U.S. EPA identification number.
 - (4) The EPA hazardous waste numbers prior to the exemption of the waste streams.
 - (5) A statement that the exempted waste must be placed in a container according to paragraphs (F) to (F)(3) of rule 3745-266-315 of the Administrative Code prior to disposal in order for the waste to remain exempt under the transportation and disposal conditional exemption of rules 3745-266-210 to 3745-266-355 of the Administrative Code.
 - (6) The manifest number of the shipment that will contain the exempted waste.
 - (7) A certification that all the information provided is true, complete, and accurate. The statement must be signed by your authorized representative.

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Prior effective dates: None

3745-266-350 Recordkeeping.

What records must you keep at your facility and for how long? In addition to those records required by your NRC or NRC agreement state license, you must keep records as follows:

- (A) You must follow the applicable existing recordkeeping requirements under rules 3745-54-73, 3745-65-73, and 3745-270-07 of the Administrative Code to demonstrate that your waste has met LDR treatment standards prior to your claiming the exemption.
- (B) You must keep a copy of all notifications and return receipts required under rule 3745-266-355 of the Administrative Code for three years after the exempted waste is sent for disposal.
- (C) You must keep a copy of all notifications and return receipts required under paragraph (A) of rule 3745-266-345 of the Administrative Code for three years after the last exempted waste is sent for disposal.
- (D) You must keep a copy of the notification and return receipt required under paragraph (B) of rule 3745-266-345 of the Administrative Code for three years after the exempted waste is sent for disposal.
- (E) If you are not already subject to NRC, or NRC agreement state equivalent manifest and transportation regulations for the shipment of your waste, you must also keep all other documents related to tracking the exempted waste as required under 10 CFR 20.2006 or NRC agreement state equivalent regulations, including applicable NARM requirements, in addition to the records specified in paragraphs (A) to (D) of this rule.

[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."]

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3745-266-355 Loss of transportation and disposal conditional exemption.

- (A) How could you lose the transportation and disposal conditional exemption for your waste and what actions must you take?
- (1) Any waste will automatically lose the transportation and disposal exemption if you fail to manage it in accordance with all of the conditions specified in paragraphs (A) to (A)(4) of rule 3745-266-315 of the Administrative Code.
 - (a) When you fail to meet any of the conditions specified in paragraphs (A) to (A)(4) of rule 3745-266-315 of the Administrative Code for any of your wastes, you must report to us, in writing by certified delivery, within thirty days of learning of the failure. Your report must be signed by your authorized representative certifying that the information provided is true, accurate, and complete. This report must include:
 - (i) The specific condition(s) that you failed to meet for the waste;
 - (ii) A description of the waste (including the waste name, EPA hazardous waste numbers and quantity) that lost the exemption; and
 - (iii) The date(s) on which you failed to meet the condition(s) for the waste.
 - (b) If the failure to meet any of the conditions may endanger human health or the environment, you must also immediately notify us orally within twenty-four hours and follow up with a written notification within five days.
 - (2) We may terminate your ability to claim a conditional exemption for your waste, or require you to meet additional conditions to claim a conditional exemption, for serious or repeated noncompliance with any requirement(s) of rules 3745-266-210 to 3745-266-355 of the Administrative Code.
- (B) If you lose the transportation and disposal conditional exemption for a waste, can the exemption be reclaimed?
- (1) You may reclaim the transportation and disposal exemption for a waste after you have received a return receipt confirming that we have received your notification of the loss of the exemption specified in paragraphs (A)(1) to (A)(2) of this rule and if:
 - (a) You again meet the conditions specified in paragraphs (A) to (A)(4) of rule 3745-266-315 of the Administrative Code for the waste; and

- (b) You send a notice, by certified delivery, to us that you are reclaiming the exemption for the waste. Your notice must be signed by your authorized representative certifying that the information provided is true, accurate, and complete. The notice must:
 - (i) Explain the circumstances of each failure.
 - (ii) Certify that each failure that caused you to lose the exemption for the waste has been corrected and that you again meet all conditions for the waste as of the date you specify.
 - (iii) Describe plans you have implemented, listing the specific steps that you have taken, to ensure that conditions will be met in the future.
 - (iv) Include any other information you want us to consider when we review your notice reclaiming the exemption.
- (2) We may terminate a reclaimed conditional exemption if we find that your claim is inappropriate based on factors including, but not limited to: you have failed to correct the problem; you explained the circumstances of the failure unsatisfactorily; or you failed to implement a plan with steps to prevent another failure to meet the conditions of paragraphs (A) to (A)(4) of rule 3745-266-315 of the Administrative Code. In reviewing a reclaimed conditional exemption under paragraphs (B) to (B)(2) of this rule, we may add conditions to the exemption to ensure that transportation and disposal activities will protect human health and the environment.

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3745-266-500**Definitions - hazardous waste pharmaceuticals.**

The following definitions apply to rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(A) "Evaluated hazardous waste pharmaceutical" means a prescription hazardous waste pharmaceutical that has been evaluated by a reverse distributor in accordance with paragraph (A)(3) of rule 3745-266-510 of the Administrative Code and will not be sent to another reverse distributor for further evaluation or verification of manufacture credit.

(B) "Hazardous waste pharmaceutical" means a pharmaceutical that is a waste, as defined in rule 3745-51-02 of the Administrative Code, and exhibits one or more characteristics identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code or is listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code. A pharmaceutical is not a waste, as defined in rule 3745-51-02 of the Administrative Code, and therefore not a hazardous waste pharmaceutical, if the pharmaceutical is legitimately used or reused (e.g., lawfully donated for the waste's intended purpose) or reclaimed. An over-the-counter pharmaceutical, dietary supplement, or homeopathic drug is not a waste, as defined in rule 3745-51-02 of the Administrative Code, and therefore not a hazardous waste pharmaceutical, if such item has a reasonable expectation of being legitimately used or reused (e.g., lawfully redistributed for the item's intended purpose) or reclaimed.

(C) "Healthcare facility" means any person that is lawfully authorized to do either of the following:

- (1) Provide preventative, diagnostic, therapeutic, rehabilitative, maintenance or palliative care, and counseling, service, assessment or procedure with respect to the physical or mental condition, or functional status, of a human or animal or that affects the structure or function of the human or animal body.
- (2) Distribute, sell, or dispense pharmaceuticals, including over-the-counter pharmaceuticals, dietary supplements, homeopathic drugs, or prescription pharmaceuticals. This definition includes, but is not limited to, wholesale distributors, third-party logistics providers that serve as forward distributors, military medical logistics facilities, hospitals, psychiatric hospitals, ambulatory surgical centers, health clinics, physicians' offices, optical and dental providers, chiropractors, long-term care facilities, ambulance services, pharmacies, long-term care pharmacies, mail-order pharmacies, retailers of pharmaceuticals, veterinary clinics, and veterinary hospitals. This definition does not include pharmaceutical manufacturers, reverse distributors, or reverse logistics centers.

- (D) "Household waste pharmaceutical" means a pharmaceutical that is a waste, as defined in rule 3745-51-02 of the Administrative Code, but is excluded from being a hazardous waste under paragraph (B)(1) of rule 3745-51-04 of the Administrative Code.
- (E) "Long-term care facility" means a licensed entity that provides assistance with activities of daily living, including managing and administering pharmaceuticals to one or more individuals at the facility. This definition includes, but is not limited to, hospice facilities, nursing facilities, skilled nursing facilities, and the nursing and skilled nursing care portions of continuing care retirement communities. Not included within the scope of this definition are group homes, independent living communities, assisted living facilities, and the independent and assisted living portions of continuing care retirement communities.
- (F) "Non-creditable hazardous waste pharmaceutical" means a prescription hazardous waste pharmaceutical that does not have a reasonable expectation to be eligible for manufacturer credit or a nonprescription hazardous waste pharmaceutical that does not have a reasonable expectation to be legitimately used or reused or reclaimed. This includes but is not limited to, investigational drugs, free samples of pharmaceuticals received by healthcare facilities, residues of pharmaceuticals remaining in empty containers, contaminated personal protective equipment, floor sweepings, and clean-up material from the spills of pharmaceuticals.
- (G) "Non-hazardous waste pharmaceutical" means a pharmaceutical that is a "waste," as defined in rule 3745-51-02 of the Administrative Code, and is not listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, and does not exhibit a characteristic identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code.
- (H) "Non-pharmaceutical hazardous waste" means a waste, as defined in rule 3745-51-02 of the Administrative Code, that is listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code, or exhibits one or more characteristics identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code, but is not a pharmaceutical, as defined in this rule.
- (I) "Pharmaceutical" means any drug or dietary supplement for use by humans or other animals, any electronic nicotine delivery system (e.g., electronic cigarette or vaping pen), or any liquid nicotine (e-liquid) packaged for retail sale for use in electronic nicotine delivery systems (e.g., pre-filled cartridges or vials). This definition includes, but is not limited to, "dietary supplements," as defined by the Federal Food, Drug, and Cosmetic Act; "prescription drugs," as defined in 21 C.F.R. 203.3(y); over-the-counter drugs; homeopathic drugs; compounded drugs; investigational new drugs; pharmaceuticals remaining in non-empty containers; personal protective

equipment contaminated with pharmaceuticals; and clean-up material from spills of pharmaceuticals. This definition does not include dental amalgam or sharps.

(J) "Potentially creditable hazardous waste pharmaceutical" means a prescription hazardous waste pharmaceutical that has a reasonable expectation to receive manufacturer credit and is all of the following:

(1) In original manufacturer packaging (except pharmaceuticals that were subject to a recall).

(2) Undispensed.

(3) Unexpired or less than one year past expiration date. The term does not include evaluated hazardous waste pharmaceuticals or nonprescription pharmaceuticals including, but not limited to, over-the-counter drugs, homeopathic drugs, and dietary supplements.

(K) "Reverse distributor" means any person that receives and accumulates prescription pharmaceuticals that are potentially creditable hazardous waste pharmaceuticals for the purpose of facilitating or verifying manufacturer credit. Any person, including forward distributors, third-party logistics providers, and pharmaceutical manufacturers, that processes prescription pharmaceuticals for the facilitation or verification of manufacturer credit is considered a reverse distributor.

[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."]

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3745-266-501**Applicability - hazardous waste pharmaceuticals.**

- (A) A healthcare facility that is a very small quantity generator when counting all of the generator's hazardous waste, including both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste, remains subject to rule 3745-52-14 of the Administrative Code and is not subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code, except for rules 3745-266-505 and 3745-266-507 of the Administrative Code and the optional provisions of rule 3745-266-504 of the Administrative Code.
- (B) A healthcare facility that is a very small quantity generator when counting all of the generator's hazardous waste, including both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste, has the option of complying with paragraph (D) of this rule for the management of the hazardous waste pharmaceuticals as an alternative to complying with rule 3745-52-14 of the Administrative Code and the optional provisions of rule 3745-266-504 of the Administrative Code.
- (C) A healthcare facility or reverse distributor remains subject to all applicable hazardous waste regulations with respect to the management of non-pharmaceutical hazardous waste.
- (D) With the exception of healthcare facilities identified in paragraph (A) of this rule, a healthcare facility is subject to the following in lieu of Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, and 3745-256 of the Administrative Code:
- (1) Rules 3745-266-502 and 3745-266-505 to 3745-266-508 of the Administrative Code with respect to the management of both of the following:
 - (a) Non-creditable hazardous waste pharmaceuticals.
 - (b) Potentially creditable hazardous waste pharmaceuticals if the potentially creditable pharmaceuticals are not destined for a reverse distributor.
 - (2) Paragraph (A) of rule 3745-266-502 and rules 3745-266-503, 3745-266-505 to 3745-266-507, and 3745-266-509 of the Administrative Code with respect to the management of potentially creditable hazardous waste pharmaceuticals that are prescription pharmaceuticals and are destined for a reverse distributor.
- (E) A reverse distributor is subject to rules 3745-266-505 to 3745-266-510 of the Administrative Code in lieu of Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, and 3745-256 of the Administrative Code with respect to the management of hazardous waste pharmaceuticals.

- (F) Hazardous waste pharmaceuticals generated or managed by entities other than healthcare facilities and reverse distributors (e.g., pharmaceutical manufacturers and reverse logistics centers) are not subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code. Other generators are subject to Chapter 3745-52 of the Administrative Code for the generation and accumulation of hazardous wastes, including hazardous waste pharmaceuticals.
- (G) The following are not subject to Chapters 3745-50, 3745-51, 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-273 of the Administrative Code, except as specified:
- (1) Pharmaceuticals that are not "waste," as defined in rule 3745-51-02 of the Administrative Code, because the pharmaceuticals are legitimately used or reused (e.g., lawfully donated for the pharmaceuticals' intended purpose) or reclaimed.
 - (2) Over-the-counter pharmaceuticals, dietary supplements, or homeopathic drugs that are not "wastes," as defined in rule 3745-51-02 of the Administrative Code, because the items have a reasonable expectation of being legitimately used or reused (e.g., lawfully redistributed for the items' intended purpose) or reclaimed.
 - (3) Pharmaceuticals being managed in accordance with a recall strategy that has been approved by the food and drug administration (FDA) in accordance with 21 C.F.R. Part 7 subpart C. Rules 3745-266-500 to 3745-266-510 of the Administrative Code do apply to the management of the recalled hazardous waste pharmaceuticals after the FDA approves the destruction of the recalled items.
 - (4) Pharmaceuticals being managed in accordance with a recall corrective action plan that has been accepted by the consumer product safety commission in accordance with 16 C.F.R. Part 1115. Rules 3745-266-500 to 3745-266-510 of the Administrative Code apply to the management of the recalled hazardous waste pharmaceuticals after the consumer product safety commission approves the destruction of the recalled items.
 - (5) Pharmaceuticals stored according to a preservation order or during an investigation or judicial proceeding until after the preservation order, investigation, or judicial proceeding has concluded or a decision is made to discard the pharmaceuticals.
 - (6) Investigational new drugs for which an investigational new drug application is in effect in accordance with the FDA's regulations in 21 C.F.R. Part 312.

Rules 3745-2636-500 to 3745-266-510 of the Administrative Code apply to the management of the investigational new drug after the decision is made to discard the investigational new drug or the FDA approves the destruction of the investigational new drug, if the investigational new drug is a hazardous waste.

(7) Household waste pharmaceuticals, including those that have been collected by an "authorized collector," as defined by the drug enforcement administration, provided the authorized collector complies with the conditional exemption in paragraphs (A)(2) and (B) of rule 3745-266-506 of the Administrative Code.

[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."]

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3745-266-502**Standards for healthcare facilities that manage non-creditable hazardous waste pharmaceuticals.**

(A) Notification and withdrawal from rules 3745-266-500 to 3745-266-510 of the Administrative Code for healthcare facilities managing hazardous waste pharmaceuticals.

(1) Notification. A healthcare facility shall notify Ohio EPA, using Ohio EPA form EPA 9029, that the facility is a healthcare facility operating in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code. A healthcare facility is not required to fill out waste codes for federally regulated hazardous waste on the form with respect to the healthcare facility's hazardous waste pharmaceuticals. A healthcare facility shall submit a separate notification for each site or EPA identification number.

(a) A healthcare facility that already has an EPA identification number shall notify Ohio EPA, using Ohio EPA form EPA 9029, that the facility is a healthcare facility as part of the healthcare facility's next biennial report, if the healthcare facility is required to submit a biennial report; or if not required to submit a biennial report, within sixty days after the first effective date of rules 3745-266-500 to 3745-266-510 of the Administrative Code, or within sixty days after becoming subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(b) A healthcare facility that does not have an EPA identification number shall obtain one by notifying Ohio EPA, using Ohio EPA form EPA 9029, that the facility is a healthcare facility as part of the healthcare facility's next biennial report, if the healthcare facility is required to submit a biennial report; or if not required to submit a biennial report, within sixty days after the first effective date of rules 3745-266-500 to 3745-266-510 of the Administrative Code, or within sixty days after becoming subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(c) A healthcare facility shall keep a copy of the healthcare facility's notification on file for as long as the healthcare facility is subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(2) Withdrawal. A healthcare facility that operated under rules 3745-266-500 to 3745-266-510 of the Administrative Code but is no longer subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code, because the healthcare facility is a very small quantity generator under rule 3745-52-14 of the Administrative Code, and elects to withdraw from rules 3745-266-500 to 3745-266-510 of the Administrative Code, shall notify Ohio EPA, using Ohio EPA form EPA 9029, that the healthcare facility is no longer operating

under rules 3745-266-500 to 3745-266-510 of the Administrative Code. A healthcare facility is not required to fill out the waste codes for federally regulated hazardous waste portion of Ohio EPA form EPA 9029 with respect to the healthcare facility's hazardous waste pharmaceuticals. A healthcare facility shall submit a separate Ohio EPA form EPA 9029 for each EPA identification number.

(a) A healthcare facility shall submit Ohio EPA form EPA 9029 notifying that the healthcare facility is withdrawing from rules 3745-266-500 to 3745-266-510 of the Administrative Code before the healthcare facility begins operating under the conditional exemption of rule 3745-52-14 of the Administrative Code.

(b) A healthcare facility shall keep a copy of the healthcare facility's withdrawal on file for three years after the date of signature on the notification of the healthcare facility's withdrawal.

(B) Training of personnel managing non-creditable hazardous waste pharmaceuticals at healthcare facilities. A healthcare facility shall ensure that all personnel that manage non-creditable hazardous waste pharmaceuticals are thoroughly familiar with proper waste handling and emergency procedures relevant to the personnel's responsibilities during normal facility operations and emergencies.

(C) Hazardous waste determination for non-creditable pharmaceuticals. A healthcare facility that generates a waste that is a non-creditable pharmaceutical shall determine whether that pharmaceutical is a hazardous waste pharmaceutical (i.e., the waste exhibits a characteristic identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code or is listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code) in order to determine whether the waste is subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code. A healthcare facility may choose to manage non-hazardous waste pharmaceuticals as non-creditable hazardous waste pharmaceuticals under rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(D) Standards for containers used to accumulate non-creditable hazardous waste pharmaceuticals at healthcare facilities.

(1) A healthcare facility shall place non-creditable hazardous waste pharmaceuticals in a container that is structurally sound, compatible with the contents, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

- (2) A healthcare facility that manages ignitable or reactive non-creditable hazardous waste pharmaceuticals, or that mixes or commingles incompatible non-creditable hazardous waste pharmaceuticals shall manage the container so that the container does not have the potential to do any of the following:
- (a) Generate extreme heat or pressure, fire or explosion, or violent reaction.
 - (b) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health.
 - (c) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.
 - (d) Damage the structural integrity of the container of non-creditable hazardous waste pharmaceuticals.
 - (e) Through other like means threaten human health or the environment.
- (3) A healthcare facility shall keep containers of non-creditable hazardous waste pharmaceuticals closed and secured in a manner that prevents unauthorized access to the contents.
- (4) A healthcare facility may accumulate non-creditable hazardous waste pharmaceuticals and non-hazardous non-creditable waste pharmaceuticals in the same container, except that non-creditable hazardous waste pharmaceuticals prohibited from being combusted because of the dilution prohibition of paragraph (C) of rule 3745-270-03 of the Administrative Code shall be accumulated in separate containers and labeled with all applicable hazardous waste numbers.
- (E) Labeling containers used to accumulate non-creditable hazardous waste pharmaceuticals at healthcare facilities. A healthcare facility shall label or clearly mark each container of non-creditable hazardous waste pharmaceuticals with the phrase "Hazardous Waste Pharmaceuticals."
- (F) Maximum accumulation time for non-creditable hazardous waste pharmaceuticals at healthcare facilities.
- (1) A healthcare facility may accumulate non-creditable hazardous waste pharmaceuticals on-site for one year or less without an Ohio hazardous waste permit or a permit by rule.
 - (2) A healthcare facility that accumulates non-creditable hazardous waste pharmaceuticals on-site shall demonstrate the length of time that the non-

creditable hazardous waste pharmaceuticals have been accumulating, starting from the date the non-creditable hazardous waste pharmaceutical first becomes a waste. A healthcare facility may make this demonstration by any of the following methods:

- (a) Marking or labeling the container of non-creditable hazardous waste pharmaceuticals with the date that the non-creditable hazardous waste pharmaceuticals became a waste.
- (b) Maintaining an inventory system that identifies the date the non-creditable hazardous waste pharmaceuticals being accumulated first became a waste.
- (c) Placing the non-creditable hazardous waste pharmaceuticals in a specific area and identifying the earliest date that any of the non-creditable hazardous waste pharmaceuticals in the area became a waste.

(G) Land disposal restrictions for non-creditable hazardous waste pharmaceuticals. The non-creditable hazardous waste pharmaceuticals generated by a healthcare facility are subject to the land disposal restrictions of Chapter 3745-270 of the Administrative Code. A healthcare facility that generates non-creditable hazardous waste pharmaceuticals shall comply with the land disposal restrictions in accordance with paragraph (A) of rule 3745-270-07 of the Administrative Code, except that the healthcare facility is not required to identify the hazardous waste numbers on the land disposal restrictions notification.

(H) Procedures for healthcare facilities for managing rejected shipments of non-creditable hazardous waste pharmaceuticals. A healthcare facility that sends a shipment of non-creditable hazardous waste pharmaceuticals to a designated facility with the understanding that the designated facility can accept and manage the waste, and later receives that shipment back as a rejected load in accordance with the manifest discrepancy provisions of rule 3745-54-72 or 3745-65-72 of the Administrative Code, may accumulate the returned non-creditable hazardous waste pharmaceuticals on-site for up to an additional ninety days, provided the rejected or returned shipment is managed in accordance with paragraphs (D) and (E) of this rule. Upon receipt of the returned shipment, the healthcare facility shall do all of the following:

(1) Sign either of the following:

- (a) Item 18c of the original manifest, if the original manifest was used for the returned shipment.

(b) Item 20 of the new manifest, if a new manifest was used for the returned shipment.

(2) Provide the transporter a copy of the manifest.

(3) Within thirty days after receipt of the rejected shipment, send a copy of the manifest to the designated facility that returned the shipment to the healthcare facility.

(4) Within ninety days after receipt of the rejected shipment, transport or offer for transport the returned shipment in accordance with the shipping standards of paragraph (A) of rule 3745-266-508 of the Administrative Code.

(I) Reporting by healthcare facilities for non-creditable hazardous waste pharmaceuticals.

(1) Biennial reporting by healthcare facilities. Healthcare facilities are not subject to biennial reporting requirements in accordance with rule 3745-52-41 of the Administrative Code, with respect to non-creditable hazardous waste pharmaceuticals managed in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(2) Exception reporting by healthcare facilities for a missing copy of the manifest.

(a) For shipments from a healthcare facility to a designated facility:

(i) If a healthcare facility does not receive a copy of the manifest with the signature of the owner or operator of the designated facility within sixty days after the date the non-creditable hazardous waste pharmaceuticals were accepted by the initial transporter, the healthcare facility shall submit all of the following:

(a) A legible copy of the original manifest, indicating that the healthcare facility has not received confirmation of delivery, to the director.

(b) A handwritten or typed note on the manifest or on an attached sheet of paper, stating that the return copy was not received and explaining the efforts taken to locate the non-creditable hazardous waste pharmaceuticals, and the results of those efforts.

(ii) [Reserved.]

(b) For shipments rejected by the designated facility and shipped to an alternate facility.

(i) If a healthcare facility does not receive a copy of the manifest for a rejected shipment of the non-creditable hazardous waste pharmaceuticals that is forwarded by the designated facility to an alternate facility (using appropriate manifest procedures), with the signature of the owner or operator of the alternate facility, within sixty days after the date the non-creditable hazardous waste was accepted by the initial transporter forwarding the shipment of non-creditable hazardous waste pharmaceuticals from the designated facility to the alternate facility, the healthcare facility shall submit all of the following:

(a) A legible copy of the original manifest, indicating that the healthcare facility has not received confirmation of delivery, to the director.

(b) A handwritten or typed note on the manifest or on an attached sheet of paper, stating that the return copy was not received and explaining the efforts taken to locate the non-creditable hazardous waste pharmaceuticals, and the results of those efforts.

(ii) [Reserved.]

(3) Additional reports. The director may require healthcare facilities to furnish additional reports concerning the quantities and disposition of non-creditable hazardous waste pharmaceuticals.

(J) Recordkeeping by healthcare facilities for non-creditable hazardous waste pharmaceuticals.

(1) A healthcare facility shall keep a copy of each manifest signed in accordance with paragraph (A) of rule 3745-52-23 of the Administrative Code for three years or until the healthcare facility receives a signed copy from the designated facility which received the non-creditable hazardous waste pharmaceuticals. This signed copy shall be retained as a record for at least three years after the date the waste was accepted by the initial transporter.

(2) A healthcare facility shall keep a copy of each exception report for a period of at least three years after the date of the report.

- (3) A healthcare facility shall keep records of any test results, waste analyses, or other determinations made to support the healthcare facility's hazardous waste determinations consistent with paragraph (F) of rule 3745-52-11 of the Administrative Code, for at least three years after the date the waste was last sent to on-site or off-site treatment, storage or disposal. A healthcare facility that manages all of the non-creditable non-hazardous waste pharmaceuticals as non-creditable hazardous waste pharmaceuticals is not required to keep documentation of hazardous waste determinations.
- (4) The periods of retention referred to in this rule are extended automatically during the course of any unresolved enforcement action regarding the regulated activity, or as requested by the director.
- (5) All records shall be readily available upon request by an inspector.
- (K) Response to spills of non-creditable hazardous waste pharmaceuticals at healthcare facilities. A healthcare facility shall immediately contain all spills of non-creditable hazardous waste pharmaceuticals and manage the spill clean-up materials as non-creditable hazardous waste pharmaceuticals in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.
- (L) Accepting non-creditable hazardous waste pharmaceuticals from an off-site healthcare facility that is a very small quantity generator. A healthcare facility may accept non-creditable hazardous waste pharmaceuticals from an off-site healthcare facility that is a very small quantity generator in accordance with rule 3745-52-14 of the Administrative Code, without an Ohio hazardous waste permit or without having a permit by rule, provided the receiving healthcare facility meets all of the following:
- (1) Is under the control of the same "person," as defined in rule 3745-50-10 of the Administrative Code, as the very small quantity generator healthcare facility that is sending the non-creditable hazardous waste pharmaceuticals off-site or has a contractual or other documented business relationship whereby the receiving healthcare facility supplies pharmaceuticals to the very small quantity generator healthcare facility. ("Control," for the purposes of this rule, means the power to direct the policies of the healthcare facility, whether by the ownership of stock, voting rights, or otherwise, except that contractors who operate healthcare facilities on behalf of a different "person," as defined in rule 3745-50-10 of the Administrative Code, shall not be deemed to "control" such healthcare facilities.)
- (2) Is operating under rules 3745-266-500 to 3745-266-510 of the Administrative Code for the management of the healthcare facility's non-creditable hazardous waste pharmaceuticals.

(3) Manages the non-creditable hazardous waste pharmaceuticals that the healthcare facility receives from off-site in compliance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(4) Keeps records of the non-creditable hazardous waste pharmaceuticals shipments the healthcare facility receives from off-site for three years after the date that the shipment is received.

[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."]

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3745-266-503**Standards for healthcare facilities that manage potentially creditable hazardous waste pharmaceuticals.**

- (A) Hazardous waste determination for potentially creditable pharmaceuticals. A healthcare facility that generates a waste that is a potentially creditable pharmaceutical shall determine whether the potentially creditable pharmaceutical is a potentially creditable hazardous waste pharmaceutical (i.e., listed in rules 3745-51-30 to 3745-51-35 of the Administrative Code or exhibits a characteristic identified in rules 3745-51-20 to 3745-51-24 of the Administrative Code). A healthcare facility may choose to manage the healthcare facility's potentially creditable non-hazardous waste pharmaceuticals as potentially creditable hazardous waste pharmaceuticals in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.
- (B) Accepting potentially creditable hazardous waste pharmaceuticals from an off-site healthcare facility that is a very small quantity generator. A healthcare facility may accept potentially creditable hazardous waste pharmaceuticals from an off-site healthcare facility that is a very small quantity generator in accordance with rule 3745-52-14 of the Administrative Code, without a permit or without having a permit by rule, provided the receiving healthcare facility meets all of the following:
- (1) Is under the control of the same "person," as defined in rule 3745-50-10 of the Administrative Code, as the very small quantity generator healthcare facility that is sending the potentially creditable hazardous waste pharmaceuticals off-site, or has a contractual or other documented business relationship whereby the receiving healthcare facility supplies pharmaceuticals to the very small quantity generator healthcare facility.
 - (2) Is operating in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code for the management of the healthcare facility's potentially creditable hazardous waste pharmaceuticals.
 - (3) Manages the potentially creditable hazardous waste pharmaceuticals that the healthcare facility receives from off-site in compliance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.
 - (4) Keeps records of the potentially creditable hazardous waste pharmaceuticals shipments the healthcare facility receives from off-site for three years after the date that the shipment is received.
- (C) Prohibition. Healthcare facilities are prohibited from sending hazardous wastes other than potentially creditable hazardous waste pharmaceuticals to a reverse distributor.
- (D) Biennial reporting by healthcare facilities. Healthcare facilities are not subject to biennial reporting requirements in accordance with rule 3745-52-41 of the

Administrative Code with respect to potentially creditable hazardous waste pharmaceuticals managed in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(E) Recordkeeping by healthcare facilities.

(1) A healthcare facility that initiates a shipment of potentially creditable hazardous waste pharmaceuticals to a reverse distributor shall keep the following records (paper or electronic) for each shipment of potentially creditable hazardous waste pharmaceuticals for three years after the date of shipment:

(a) The confirmation of delivery.

(b) The shipping papers prepared in accordance with 49 C.F.R. Part 172 subpart C, if applicable.

(2) The periods of retention referred to in this rule are extended automatically during the course of any unresolved enforcement action regarding the regulated activity, or as requested by the director.

(3) All records shall be readily available upon request by an inspector.

(F) Response to spills of potentially creditable hazardous waste pharmaceuticals at healthcare facilities. A healthcare facility shall immediately contain all spills of potentially creditable hazardous waste pharmaceuticals and manage the spill clean-up materials as non-creditable hazardous waste pharmaceuticals in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.

[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."]

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3745-266-504

Healthcare facilities that are very small quantity generators for both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste.

- (A) Potentially creditable hazardous waste pharmaceuticals. A healthcare facility that is a very small quantity generator for both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste may send the healthcare facility's potentially creditable hazardous waste pharmaceuticals to a reverse distributor.
- (B) Off-site collection of hazardous waste pharmaceuticals generated by a healthcare facility that is a very small quantity generator. A healthcare facility that is a very small quantity generator for both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste may send the healthcare facility's hazardous waste pharmaceuticals off-site to another healthcare facility, provided one of the following:
- (1) The receiving healthcare facility meets the conditions in paragraph (L) of rule 3745-266-502 of the Administrative Code and paragraph (B) of rule 3745-266-503 of the Administrative Code, as applicable.
 - (2) The very small quantity generator healthcare facility meets the conditions in paragraph (A)(5)(h) of rule 3745-52-14 of the Administrative Code and the receiving large quantity generator meets the conditions in paragraph (F) of rule 3745-52-17 of the Administrative Code.
- (C) Long-term care facilities that are very small quantity generators. Pharmaceutical hazardous waste generated by a long-term care facility that is a very small quantity generator for both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste is exempt from rules 3745-50-40 to 3745-50-235 and Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, 3745-270, and 3745-273 of the Administrative Code provided the long-term care facility's hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste meet the following conditions:
- (1) The long-term care facility's hazardous waste pharmaceuticals (excluding contaminated personal protective equipment or clean-up materials) are placed in an on-site collection receptacle of an "authorized collector," as defined by the drug enforcement administration (DEA), that is registered with the DEA.
 - (2) The on-site collection receptacle contents are collected, stored, transported, destroyed, and disposed of in compliance with all applicable DEA regulations for controlled substances.
- (D) Long-term care facilities with twenty beds or fewer. A long-term care facility with twenty beds or fewer is presumed to be a very small quantity generator subject to rule

3745-52-14 of the Administrative Code for both hazardous waste pharmaceuticals and non-pharmaceutical hazardous waste and is not subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code, except for rules 3745-266-505 and 3745-266-507 of the Administrative Code and the other optional provisions of this rule. The director has the responsibility to demonstrate that a long-term care facility with twenty beds or fewer generates quantities of hazardous waste that are in excess of the "very small quantity generator" limits as defined in rule 3745-50-10 of the Administrative Code. A long-term care facility with more than twenty beds that operates as a very small quantity generator in accordance with rule 3745-52-14 of the Administrative Code shall demonstrate that the long-term care facility generates quantities of hazardous waste that are within the "very small quantity generator" limits as defined in rule 3745-50-10 of the Administrative Code.

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3745-266-505**Prohibition of sewerage hazardous waste pharmaceuticals.**

All healthcare facilities, including very small quantity generators operating in accordance with rule 3745-52-14 of the Administrative Code in lieu of rules 3745-266-500 to 3745-266-510 of the Administrative Code, and reverse distributors are prohibited from discharging hazardous waste pharmaceuticals to a sewer system that passes through to a publicly-owned treatment works. Healthcare facilities and reverse distributors remain subject to the prohibitions in 40 C.F.R. 403.5(b)(1) and paragraph (B)(1) of rule 3745-3-04 of the Administrative Code.

[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."]

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3745-266-506

Conditional exemptions for hazardous waste pharmaceuticals that are also controlled substances and household waste pharmaceuticals collected in a take-back event or program.

(A) Conditional exemptions. Provided the conditions of paragraph (B) of this rule are met, the following are exempt from rules 3745-50-40 to 3745-50-235 and Chapters 3745-52, 3745-53, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, 3745-270, and 3745-273 of the Administrative Code:

- (1) Hazardous waste pharmaceuticals that are also listed on a schedule of controlled substances by the drug enforcement administration (DEA) in 21 C.F.R. Part 1308.
- (2) Household waste pharmaceuticals that are collected in a take-back event or program, including those that are collected by an "authorized collector," as defined by the DEA, registered with the DEA that commingles the household waste pharmaceuticals with controlled substances from an "ultimate user," as defined by the DEA.

(B) Conditions for exemption. The hazardous waste pharmaceuticals shall be all of the following:

- (1) Managed in compliance with the sewer prohibition of rule 3745-266-505 of the Administrative Code.
- (2) Collected, stored, transported, and disposed of in compliance with all applicable DEA regulations for controlled substances.
- (3) Destroyed by a method that the DEA has publicly deemed in writing to meet the DEA's non-retrievable standard of destruction or combusted at one of the following:
 - (a) A permitted large municipal waste combustor, subject to 40 C.F.R. Part 62 subpart FFF or applicable state plan for existing large municipal waste combustors, or 40 C.F.R. Part 60 subpart Eb for new large municipal waste combustors.
 - (b) A permitted small municipal waste combustor, subject to 40 C.F.R. Part 62 subpart JJJ or applicable state plan for existing small municipal waste combustors, or 40 C.F.R. Part 60 subpart AAAA for new small municipal waste combustors.
 - (c) A permitted hospital, medical, and infectious waste incinerator, subject to 40 C.F.R. Part 62 subpart HHH or applicable state plan for existing hospital.

medical, and infectious waste incinerators, or 40 C.F.R. Part 60 subpart Ec for new hospital, medical, and infectious waste incinerators.

(d) A permitted commercial and industrial solid waste incinerator, subject to 40 C.F.R. Part 62 subpart III or applicable state plan for existing commercial and industrial solid waste incinerators, or 40 C.F.R. Part 60 subpart CCCC for new commercial and industrial solid waste incinerators.

(e) A permitted hazardous waste combustor subject to 40 C.F.R. Part 63 subpart EEE.

[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."]

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3745-266-507**Residues of hazardous waste pharmaceuticals in empty containers.**

- (A) Stock, dispensing, and unit-dose containers. A stock bottle, dispensing bottle, vial, or ampule (not to exceed one liter or ten-thousand pills); or a unit-dose container (e.g., a unit-dose packet, cup, wrapper, blister pack, or delivery device) is considered empty and the residues are not regulated as hazardous waste provided the pharmaceuticals have been removed from the stock bottle, dispensing bottle, vial, ampule, or the unit-dose container using the practices commonly employed to remove materials from that type of container.
- (B) Syringes. A syringe is considered empty and the residues are not regulated as hazardous waste in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code provided the contents have been removed by fully depressing the plunger of the syringe. If a syringe is not empty, the syringe shall be placed with the remaining hazardous waste pharmaceuticals into a container that is managed and disposed of as a non-creditable hazardous waste pharmaceutical in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code and any applicable federal, state, and local requirements for sharps containers and medical waste.
- (C) Intravenous (IV) bags. An IV bag is considered empty and the residues are not regulated as hazardous waste provided the pharmaceuticals in the IV bag have been fully administered to a patient. If an IV bag is not empty, the IV bag shall be placed with the remaining hazardous waste pharmaceuticals into a container that is managed and disposed of as a non-creditable hazardous waste pharmaceutical in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code, unless the IV bag held non-acute hazardous waste pharmaceuticals and is "empty," as defined in paragraph (B)(1) of rule 3745-51-07 of the Administrative Code.
- (D) Other containers, including delivery devices. Hazardous waste pharmaceuticals remaining in all other types of unused, partially administered, or fully administered containers shall be managed as non-creditable hazardous waste pharmaceuticals in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code, unless the container held non-acute hazardous waste pharmaceuticals and is "empty," as defined in paragraph (B)(1) or (B)(2) of rule 3745-51-07 of the Administrative Code. This includes, but is not limited to, residues in inhalers, aerosol cans, nebulizers, tubes of ointments, gels, or creams.

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3745-266-508

Shipping non-creditable hazardous waste pharmaceuticals from a healthcare facility or evaluated hazardous waste pharmaceuticals from a reverse distributor.

(A) Shipping non-creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals. A healthcare facility shall ship non-creditable hazardous waste pharmaceuticals and a reverse distributor shall ship evaluated hazardous waste pharmaceuticals off-site to a designated facility (such as a permitted or interim standards treatment, storage, or disposal facility) in compliance with all of the following:

(1) The following pre-transport requirements, before transporting or offering for transport off-site:

(a) Packaging. Package the waste in accordance with the applicable department of transportation (DOT) regulations on hazardous materials under 49 C.F.R. Parts 173, 178, and 180.

(b) Labeling. Label each package in accordance with the applicable DOT regulations on hazardous materials under 49 C.F.R. Part 172 subpart E.

(c) Marking.

(i) Mark each package of hazardous waste pharmaceuticals in accordance with the applicable DOT regulations on hazardous materials under 49 C.F.R. Part 172 subpart D.

(ii) Mark each container of one hundred-nineteen gallons or less used in such transportation with the following words and information in accordance with 49 C.F.R. 172.304: "HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency. Healthcare Facility's or Reverse distributor's Name and Address _____. Healthcare Facility's or Reverse distributor's EPA Identification Number _____. Manifest Tracking Number _____."

(iii) Lab packs that will be incinerated in compliance with paragraph (C) of rule 3745-270-42 of the Administrative Code are not required to be marked with EPA hazardous waste numbers, except D004, D005, D006, D007, D008, D010, and D011, where applicable. A nationally recognized electronic system, such as bar coding or radio frequency identification, may be used to identify the EPA hazardous waste numbers.

- (d) Placarding. Placard or offer the initial transporter the appropriate placards according to DOT regulations for hazardous materials under 49 C.F.R. Part 172 subpart F.
- (2) The manifest requirements of rules 3745-52-20 to 3745-52-27 of the Administrative Code, except as follows:

 - (a) A healthcare facility shipping non-creditable hazardous waste pharmaceuticals is not required to list all applicable hazardous waste numbers in item 13 of U.S. EPA form 8700-22.
 - (b) A healthcare facility shipping non-creditable hazardous waste pharmaceuticals shall write the word "PHARMS" in item 13 of U.S. EPA form 8700-22.
- (B) Exporting non-creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals. A healthcare facility or reverse distributor that exports non-creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals is subject to 40 C.F.R. Part 262 subpart H.
- (C) Importing non-creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals. Any person who imports non-creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals is subject to 40 C.F.R. Part 262 subpart H. A healthcare facility or reverse distributor may not accept imported non-creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals unless the healthcare facility or reverse distributor has an Ohio hazardous waste permit or interim standards that allows the healthcare facility or reverse distributor to accept hazardous waste from off-site.

[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."]

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3745-266-509

Shipping potentially creditable hazardous waste pharmaceuticals from a healthcare facility or a reverse distributor to a reverse distributor.

- (A) Shipping potentially creditable hazardous waste pharmaceuticals. A healthcare facility or a reverse distributor who transports or offers for transport potentially creditable hazardous waste pharmaceuticals off-site to a reverse distributor shall comply with all applicable U.S. department of transportation (DOT) regulations in 49 C.F.R. Parts 171 to 180 for any potentially creditable hazardous waste pharmaceutical that meets the definition of "hazardous material" in 49 C.F.R. 171.8. For purposes of the DOT regulations, a material is considered a hazardous waste if the material is subject to the hazardous waste manifest requirements of U.S. EPA specified in 40 C.F.R. Part 262. Because a potentially creditable hazardous waste pharmaceutical does not require a manifest, the hazardous waste pharmaceutical is not considered hazardous waste under the DOT regulations.
- (B) Delivery confirmation. Upon receipt of each shipment of potentially creditable hazardous waste pharmaceuticals, the receiving reverse distributor shall provide confirmation (paper or electronic) to the healthcare facility or reverse distributor that initiated the shipment that the shipment of potentially creditable hazardous waste pharmaceuticals has arrived at the potentially creditable hazardous waste pharmaceuticals' destination and is under the custody and control of the reverse distributor.
- (C) Procedures for when delivery confirmation is not received within thirty-five calendar days. If a healthcare facility or reverse distributor initiates a shipment of potentially creditable hazardous waste pharmaceuticals to a reverse distributor and does not receive delivery confirmation within thirty-five calendar days after the date that the shipment of potentially creditable hazardous waste pharmaceuticals was sent, the healthcare facility or reverse distributor that initiated the shipment shall contact the carrier and the intended recipient (i.e., the reverse distributor) promptly to report that the delivery confirmation was not received and to determine the status of the potentially creditable hazardous waste pharmaceuticals.
- (D) Exporting potentially creditable hazardous waste pharmaceuticals. A healthcare facility or reverse distributor that sends potentially creditable hazardous waste pharmaceuticals to a foreign destination shall comply with the applicable sections of 40 C.F.R. Part 262 subpart H, except the manifesting requirement of 40 C.F.R. 262.83(c), in addition to paragraphs (A) to (C) of this rule.
- (E) Importing potentially creditable hazardous waste pharmaceuticals. Any person that imports potentially creditable hazardous waste pharmaceuticals into Ohio is subject to paragraphs (A) to (C) of this rule in lieu of 40 C.F.R. Part 262 subpart H. Immediately after the potentially creditable hazardous waste pharmaceuticals enter Ohio, the

hazardous waste pharmaceuticals are subject to all applicable requirements of rules 3745-266-500 to 3745-266-510 of the Administrative Code.

[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."]

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3745-266-510

Standards for the management of potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals at reverse distributors.

A reverse distributor may accept potentially creditable hazardous waste pharmaceuticals from off-site and accumulate potentially creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals on-site without an Ohio hazardous waste permit or without having permit by rule, provided that the reverse distributor complies with the following conditions:

(A) Standards for reverse distributors that manage potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals.

(1) Notification. A reverse distributor shall notify Ohio EPA, using Ohio EPA form EPA 9029, that the reverse distributor is a reverse distributor operating in accordance with rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(a) A reverse distributor that already has an EPA identification number shall notify Ohio EPA, using Ohio EPA form EPA 9029, that the reverse distributor is a "reverse distributor," as defined in rule 3745-266-500 of the Administrative Code, within sixty days after the first effective date of rules 3745-266-500 to 3745-266-510 of the Administrative Code, or within sixty days after becoming subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(b) A reverse distributor that does not have an EPA identification number shall obtain one by notifying Ohio EPA, using Ohio EPA form EPA 9029, that the reverse distributor is a "reverse distributor," as defined in rule 3745-266-500 of the Administrative Code, within sixty days after the first effective date of rules 3745-266-500 to 3745-266-510 of the Administrative Code, or within sixty days after becoming subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code.

(2) Inventory by the reverse distributor. A reverse distributor shall maintain a current inventory of all the potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals that are accumulated on-site.

(a) A reverse distributor shall inventory each potentially creditable hazardous waste pharmaceutical within thirty calendar days of each waste arriving at the reverse distributor.

- (b) The inventory shall include the identity (e.g., name or national drug code) and quantity of each potentially creditable hazardous waste pharmaceutical and evaluated hazardous waste pharmaceutical.
 - (c) If the reverse distributor already meets the inventory requirements of this paragraph because of other regulatory requirements, such as state board of pharmacy regulations, the reverse distributor is not required to provide a separate inventory pursuant to this rule.
- (3) Evaluation by a reverse distributor that is not a manufacturer. A reverse distributor that is not a pharmaceutical manufacturer shall evaluate a potentially creditable hazardous waste pharmaceutical within thirty calendar days after the waste's arrival at the reverse distributor to establish whether the waste is destined for another reverse distributor for further evaluation or verification of manufacturer credit or for a permitted or interim standards treatment, storage, or disposal facility.
- (a) A potentially creditable hazardous waste pharmaceutical that is destined for another reverse distributor is still considered a "potentially creditable hazardous waste pharmaceutical" and shall be managed in accordance with paragraph (B) of this rule.
 - (b) A potentially creditable hazardous waste pharmaceutical that is destined for a permitted or interim standards treatment, storage, or disposal facility is considered an "evaluated hazardous waste pharmaceutical" and shall be managed in accordance with paragraph (C) of this rule.
- (4) Evaluation by a reverse distributor that is a manufacturer. A reverse distributor that is a pharmaceutical manufacturer shall evaluate a potentially creditable hazardous waste pharmaceutical to verify manufacturer credit within thirty calendar days after the waste's arrival at the facility and following the evaluation shall manage the evaluated hazardous waste pharmaceuticals in accordance with paragraph (C) of this rule.
- (5) Maximum accumulation time for hazardous waste pharmaceuticals at a reverse distributor.
- (a) A reverse distributor may accumulate potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals on-site for one hundred eighty calendar days or less. The one hundred eighty days start after the potentially creditable hazardous waste pharmaceutical has been evaluated and applies to all hazardous waste pharmaceuticals accumulated on-site, regardless of whether the

hazardous waste pharmaceuticals are destined for another reverse distributor (i.e., potentially creditable hazardous waste pharmaceuticals) or a permitted or interim standards treatment, storage, or disposal facility (i.e., evaluated hazardous waste pharmaceuticals).

(b) Aging pharmaceuticals. Unexpired pharmaceuticals that are otherwise creditable but are awaiting the expiration date (i.e., aging in a holding morgue) can be accumulated for up to one hundred eighty days after the expiration date, provided that the unexpired pharmaceuticals are managed in accordance with paragraph (A) of this rule and the container labeling and management standards in paragraph (C)(4) of this rule.

(6) Security at the reverse distributor facility. A reverse distributor shall prevent unknowing entry and minimize the possibility for the unauthorized entry into the portion of the facility where potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals are kept.

(a) Examples of methods that may be used to prevent unknowing entry and minimize the possibility for unauthorized entry include, but are not limited to, the following:

(i) A twenty-four-hour continuous monitoring surveillance system.

(ii) An artificial barrier such as a fence.

(iii) A means to control entry, such as keycard access.

(b) If the reverse distributor already meets the security requirements of this paragraph because of other regulatory requirements, such as drug enforcement administration or state board of pharmacy regulations, the reverse distributor is not required to provide separate security measures pursuant to this rule.

(7) Contingency plan and emergency procedures at a reverse distributor. A reverse distributor that accepts potentially creditable hazardous waste pharmaceuticals from off-site shall prepare a contingency plan and comply with rules 3745-52-250 to 3745-52-265 of the Administrative Code.

(8) Closure of a reverse distributor. When closing an area where a reverse distributor accumulates potentially creditable hazardous waste pharmaceuticals or evaluated hazardous waste pharmaceuticals, the reverse distributor shall comply with paragraphs (A)(8)(b) and (A)(8)(c) of rule 3745-52-17 of the Administrative Code.

(9) Reporting by a reverse distributor.

(a) Unauthorized waste report. A reverse distributor shall submit an unauthorized waste report if the reverse distributor receives waste from off-site that the reverse distributor is not authorized to receive (e.g., non-pharmaceutical hazardous waste, regulated medical waste). The reverse distributor shall prepare and submit an unauthorized waste report to the director within forty-five calendar days after the unauthorized waste arrives at the reverse distributor, and shall send a copy of the unauthorized waste report to the healthcare facility (or other entity) that sent the unauthorized waste. The reverse distributor shall manage the unauthorized waste in accordance with all applicable rules. The unauthorized waste report shall be signed by the owner or operator of the reverse distributor, or an authorized representative, and contain all of the following information:

(i) The U.S. EPA identification number, name, and address of the reverse distributor.

(ii) The date the reverse distributor received the unauthorized waste.

(iii) The U.S. EPA identification number, name, and address of the healthcare facility that shipped the unauthorized waste, if available.

(iv) A description and the quantity of each unauthorized waste the reverse distributor received.

(v) The method of treatment, storage, or disposal for each unauthorized waste.

(vi) A brief explanation of why the waste was unauthorized, if known.

(b) Additional reports. The director may require reverse distributors to submit additional reports concerning the quantities and disposition of potentially creditable hazardous waste pharmaceuticals and evaluated hazardous waste pharmaceuticals.

(10) Recordkeeping by reverse distributors. A reverse distributor shall keep all of the following records (paper or electronic) readily available upon request by an inspector. The periods of retention referred to in this rule are extended automatically during the course of any unresolved enforcement action regarding the regulated activity, or as requested by the director.

- (a) A copy of the reverse distributor's notification on file for as long as the facility is subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code.
 - (b) A copy of the delivery confirmation and the shipping papers for each shipment of potentially creditable hazardous waste pharmaceuticals that the reverse distributor receives, and a copy of each unauthorized waste report, for at least three years after the date the shipment arrives at the reverse distributor.
 - (c) A copy of the reverse distributor's current inventory for as long as the facility is subject to rules 3745-266-500 to 3745-266-510 of the Administrative Code.
- (B) Additional standards for reverse distributors that manage potentially creditable hazardous waste pharmaceuticals destined for another reverse distributor. A reverse distributor that does not have an Ohio hazardous waste permit or permit by rule shall comply with the following conditions, in addition to paragraph (A) of this rule, for the management of potentially creditable hazardous waste pharmaceuticals that are destined for another reverse distributor for further evaluation or verification of manufacturer credit:
- (1) A reverse distributor that receives potentially creditable hazardous waste pharmaceuticals from a healthcare facility shall send those potentially creditable hazardous waste pharmaceuticals to another reverse distributor within one hundred eighty days after the potentially creditable hazardous waste pharmaceuticals have been evaluated, or follow paragraph (C) of this rule for evaluated hazardous waste pharmaceuticals.
 - (2) A reverse distributor that receives potentially creditable hazardous waste pharmaceuticals from another reverse distributor shall send those potentially creditable hazardous waste pharmaceuticals to a reverse distributor that is a pharmaceutical manufacturer within one hundred eighty days after the potentially creditable hazardous waste pharmaceuticals have been evaluated, or follow paragraph (C) of this rule for evaluated hazardous waste pharmaceuticals.
 - (3) A reverse distributor shall ship potentially creditable hazardous waste pharmaceuticals destined for another reverse distributor in accordance with rule 3745-266-509 of the Administrative Code.
 - (4) Recordkeeping by reverse distributors. A reverse distributor shall keep all of the following records (paper or electronic) readily available upon request

by an inspector for each shipment of potentially creditable hazardous waste pharmaceuticals that the reverse distributor initiates to another reverse distributor, for at least three years after the date of shipment. The periods of retention referred to in this rule are extended automatically during the course of any unresolved enforcement action regarding the regulated activity, or as requested by the director.

(a) The confirmation of delivery.

(b) The department of transportation (DOT) shipping papers prepared in accordance with 49 C.F.R. Part 172 subpart C, if applicable.

(C) Additional standards for reverse distributors that manage evaluated hazardous waste pharmaceuticals. A reverse distributor that does not have an Ohio hazardous waste permit or permit by rule shall comply with the following conditions, in addition to paragraph (A) of this rule, for the management of evaluated hazardous waste pharmaceuticals:

(1) Accumulation area at the reverse distributor. A reverse distributor shall designate an on-site accumulation area where the reverse distributor shall accumulate evaluated hazardous waste pharmaceuticals.

(2) Inspections of on-site accumulation area. A reverse distributor shall inspect the reverse distributor's on-site accumulation area at least once every seven days, looking at containers for leaks and for deterioration caused by corrosion or other factors, as well as for signs of diversion.

(3) Personnel training at a reverse distributor. Personnel at a reverse distributor who handle evaluated hazardous waste pharmaceuticals are subject to the training requirements of paragraph (A)(7) of rule 3745-52-17 of the Administrative Code.

(4) Labeling and management of containers at on-site accumulation areas. A reverse distributor accumulating evaluated hazardous waste pharmaceuticals in containers in an on-site accumulation area shall do all of the following:

(a) Label the containers with the words, "Hazardous Waste Pharmaceuticals."

(b) Ensure the containers are in good condition and managed to prevent leaks.

(c) Use containers that are made of or lined with materials which shall not react with, and are otherwise compatible with, the evaluated hazardous waste pharmaceuticals, so that the ability of the container to contain the waste is not impaired.

- (d) Keep containers closed, if holding liquid or gel evaluated hazardous waste pharmaceuticals. If the liquid or gel evaluated hazardous waste pharmaceuticals are in the original, intact, sealed packaging; or repackaged, intact, sealed packaging, the evaluated hazardous waste pharmaceuticals are considered to meet the closed container standard.
 - (e) Manage any container of ignitable or reactive evaluated hazardous waste pharmaceuticals, or any container of commingled incompatible evaluated hazardous waste pharmaceuticals, so that the container does not have the potential to do any of the following:
 - (i) Generate extreme heat or pressure, fire or explosion, or violent reaction.
 - (ii) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health.
 - (iii) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.
 - (iv) Damage the structural integrity of the container of hazardous waste pharmaceuticals.
 - (v) Through other like means threaten human health or the environment.
 - (f) Accumulate evaluated hazardous waste pharmaceuticals that are prohibited from being combusted because of the dilution prohibition of paragraph (C) of rule 3745-270-03 of the Administrative Code [e.g., arsenic trioxide (P012)] in separate containers from other evaluated hazardous waste pharmaceuticals at the reverse distributor.
- (5) EPA hazardous waste numbers. Prior to shipping evaluated hazardous waste pharmaceuticals off-site, all containers shall be marked with the applicable EPA hazardous waste numbers. A nationally recognized electronic system, such as bar coding or radio frequency identification, may be used to identify the EPA hazardous waste numbers.
- (6) Shipments. A reverse distributor shall ship evaluated hazardous waste pharmaceuticals that are destined for a permitted or interim standards treatment, storage, or disposal facility in accordance with the applicable shipping standards in paragraph (A) or (B) of rule 3745-266-508 of the Administrative Code.

(7) Procedures for a reverse distributor to manage rejected shipments. A reverse distributor that sends a shipment of evaluated hazardous waste pharmaceuticals to a designated facility with the understanding that the designated facility can accept and manage the waste, and later receives that shipment back as a rejected load in accordance with the manifest discrepancy provisions of rule 3745-54-72 or 3745-65-72 of the Administrative Code, may accumulate the returned evaluated hazardous waste pharmaceuticals on-site for up to an additional ninety days in the on-site accumulation area, provided the rejected or returned shipment is managed in accordance with paragraphs (A) and (C) of rule 3745-266-510 of the Administrative Code. Upon receipt of the returned shipment, the reverse distributor shall do all of the following:

(a) Sign either of the following:

(i) Item 18c of the original manifest, if the original manifest was used for the returned shipment.

(ii) Item 20 of the new manifest, if a new manifest was used for the returned shipment.

(b) Provide the transporter a copy of the manifest.

(c) Within thirty days after receipt of the rejected shipment of the evaluated hazardous waste pharmaceuticals, send a copy of the manifest to the designated facility that returned the shipment to the reverse distributor.

(d) Within ninety days after receipt of the rejected shipment, transport or offer for transport the returned shipment of evaluated hazardous waste pharmaceuticals in accordance with the applicable shipping standards of paragraph (A) or (B) of rule 3745-266-508 of the Administrative Code.

(8) Land disposal restrictions. Evaluated hazardous waste pharmaceuticals are subject to the land disposal restrictions of Chapter 3745-270 of the Administrative Code. A reverse distributor that accepts potentially creditable hazardous waste pharmaceuticals from off-site shall comply with the land disposal restrictions in accordance with paragraph (A) of rule 3745-270-07 of the Administrative Code.

(9) Reporting by a reverse distributor for evaluated hazardous waste pharmaceuticals.

(a) Biennial reporting by a reverse distributor. A reverse distributor that ships evaluated hazardous waste pharmaceuticals off-site shall prepare and submit a single copy of a biennial report to the director by March first

of each even numbered year in accordance with rule 3745-52-41 of the Administrative Code.

(b) Exception reporting by a reverse distributor for a missing copy of the manifest.

(i) For shipments from a reverse distributor to a designated facility, the reverse distributor shall do the following:

(a) If a reverse distributor does not receive a copy of the manifest with the signature of the owner or operator of the designated facility within thirty-five days after the date the evaluated hazardous waste pharmaceuticals were accepted by the initial transporter, the reverse distributor shall contact the transporter or the owner or operator of the designated facility to determine the status of the evaluated hazardous waste pharmaceuticals.

(b) A reverse distributor shall submit an exception report to the director if the reverse distributor has not received a copy of the manifest with the signature of the owner or operator of the designated facility within forty-five days after the date the evaluated hazardous waste pharmaceutical was accepted by the initial transporter. The exception report shall include both of the following:

(i) A legible copy of the manifest for which the reverse distributor does not have confirmation of delivery.

(ii) A cover letter signed by the reverse distributor, or an authorized representative, explaining the efforts taken to locate the evaluated hazardous waste pharmaceuticals and the results of those efforts.

(ii) For shipments rejected by the designated facility and shipped to an alternate facility, the reverse distributor shall do the following:

(a) A reverse distributor that does not receive a copy of the manifest with the signature of the owner or operator of the alternate facility within thirty-five days after the date the evaluated hazardous waste pharmaceuticals were accepted by the initial transporter shall contact the transporter or the owner or operator of the alternate facility to determine the status of

the hazardous waste. The thirty-five-day time frame begins the date the evaluated hazardous waste pharmaceuticals are accepted by the transporter forwarding the hazardous waste shipment from the designated facility to the alternate facility.

(b) A reverse distributor shall submit an exception report to the director if the reverse distributor has not received a copy of the manifest with the signature of the owner or operator of the alternate facility within forty-five days after the date the evaluated hazardous waste pharmaceuticals were accepted by the initial transporter. The forty-five-day timeframe begins the date the evaluated hazardous waste pharmaceuticals are accepted by the transporter forwarding the hazardous waste pharmaceutical shipment from the designated facility to the alternate facility. The exception report shall include both of the following:

(i) A legible copy of the manifest for which the generator does not have confirmation of delivery.

(ii) A cover letter signed by the reverse distributor, or an authorized representative, explaining the efforts taken to locate the evaluated hazardous waste pharmaceuticals and the results of those efforts.

(10) Recordkeeping by a reverse distributor for evaluated hazardous waste pharmaceuticals.

(a) A reverse distributor shall keep a log (written or electronic) of the inspections of the on-site accumulation area, required by paragraph (C) (2) of this rule. This log shall be retained as a record for at least three years after the date of the inspection.

(b) A reverse distributor shall keep a copy of each manifest signed in accordance with paragraph (A) of rule 3745-52-23 of the Administrative Code for three years or until the reverse distributor receives a signed copy from the designated facility that received the evaluated hazardous waste pharmaceutical. This signed copy shall be retained as a record for at least three years after the date the evaluated hazardous waste pharmaceutical was accepted by the initial transporter.

(c) A reverse distributor shall keep a copy of each biennial report for at least three years after the due date of the report.

(d) A reverse distributor shall keep a copy of each exception report for at least three years after the submittal of the report.

(e) A reverse distributor shall keep records to document personnel training, in accordance with paragraph (A)(7)(d) of rule 3745-52-17 of the Administrative Code.

(f) All records shall be readily available upon request by an inspector. The periods of retention referred to in this rule are extended automatically during the course of any unresolved enforcement action regarding the regulated activity, or as requested by the director.

(D) When a reverse distributor shall have a permit. A reverse distributor is an operator of a hazardous waste treatment, storage, or disposal facility and is subject to the requirements of Chapters 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, and 3745-256 and rules 3745-50-40 to 3745-50-235 of the Administrative Code, if the reverse distributor does any of the following:

(1) Does not meet the conditions of this rule.

(2) Accepts manifested hazardous waste from off-site.

(3) Treats or disposes of hazardous waste pharmaceuticals on-site.

[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."]

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