RULE 1200-1-11-.09 STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES

(1) (RESERVED) [40 CFR 266 Subpart A]

(2) (RESERVED) [40 CFR 266 Subpart B]

(3) Recyclable Materials Used in a Manner Constituting Disposal [40 CFR 266 Subpart C]

(a) Applicability [40 CFR 266.20]

1. The regulations of this paragraph apply to recyclable materials that are applied to or placed on the land:

(i) Without mixing with any other substance(s); or

(ii) After mixing or combination with any other substance(s). These materials will be referred to throughout this subpart as "materials used in a manner that constitutes disposal."

2. Products produced for the general public's use 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 Rule 1200-1-11-.10(3) (or applicable prohibition levels in Rule 1200-1-11-.10(2)(c), where no treatment standards have been established) for each recyclable material (i.e., hazardous waste) that they contain.

3. Anti-skid/deicing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of hazardous waste K061, K062, and F006, in a manner constituting disposal are not covered by the exemption in part 2 of this subparagraph and remain subject to regulation.

4. Fertilizers that contain recyclable materials are not subject to regulation provided that:

(i) They are zinc fertilizers excluded from the definition of solid waste according to subpart (1)(d)1(xxiii) of Rule 1200-1-11-.02; or

(ii) They meet the applicable treatment standards in paragraph (3) of Rule 1200-1-11-.10 for each hazardous waste that they contain.

(b) Standards Applicable to Generators and Transporters of Materials Used in a Manner That Constitute Disposal [40 CFR 266.21]

Generators and transporters of materials that are used in a manner that constitutes disposal are subject to the applicable requirements of Rule 1200-1-11-.03 (including the notification requirement under paragraph (2) of that Rule) and Rule 1200-1-11-.04.

(c) Standards Applicable to Storers of Materials That Are to be Used in a Manner That Constitutes Disposal Who Are Not the Ultimate Users [40 CFR 266.22]

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 Rule 1200-1-11-.05(1) through (12), Rule 1200-1-11-.06(1) through (12), Rule 1200-1-11-.07, and the notification requirement under Rule 1200-1-11-.03(2).

(d) Standards Applicable to Users of Materials That Are Used in a Manner That Constitutes Disposal [40 CFR 266.23]

1. Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of Rules 1200-1-11-.05(1) through (14), Rule 1200-1-11-.06(1) through (14), Rules 1200-1-11-.07 and .10, and the notification requirement under Rule 1200-1-11-.03(2). (These requirements do not apply to products which contain these recyclable materials under the provisions of part (a)2 of this paragraph.)

2. 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.

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(4) (RESERVED) [40 CFR 266 Subpart D]

(5) (RESERVED) [40 CFR 266 Subpart E]

(6) Recyclable Materials Utilized for Precious Metal Recovery [40 CFR 266 Subpart F]

(a) Applicability and Requirements [40 CFR 266.70]

1. The regulations of this paragraph apply to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, paladium, irridium, osmium, rhodium, ruthenium, or any combination of these.

2. Persons who generate, transport, or store recyclable materials that are regulated under this paragraph are subject to the following requirements:

(i) Notification requirements under Rule 1200-1-11-.03(2);

(ii) Paragraph (3) of Rule 1200-1-11-.03 (for generators), Rules 1200-1-11-.04(3)(a) and (b) (for transporters), and Rules 1200-1-11-.05(5)(b) and (c) (for persons who store); and

(iii) (Reserved) [40 CFR 266.70(b)(3)]

3. Persons who store recycled materials that are regulated under this paragraph must keep the following records to document that they are not accumulating these materials speculatively (as defined in Rule 1200-1-11-.02(1)(a)3):

(i) Records showing the volume of these materials stored at the beginning of the calendar year;

(ii) The amount of these materials generated or received during the calendar year; and

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

4. Recyclable materials that are regulated under this paragraph that are accumulated speculatively (as defined in Rule 1200-1-11-.02(1)(a)3) are subject to all applicable provisions of Rules 1200-1-11-.03 through .07.

(7) Spent Lead-Acid Batteries Being Reclaimed [40 CFR 266 Subpart G]

(a) Applicability and Requirements [40 CFR 266.80]

1. 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 the ``Universal Waste" rule in Rule 1200-1-11-.12.

If your batteries * * *	And if you * * *	Then you * * *	And you * * *
(1) Will be reclaimed through regeneration (such as by electrolyte replacement).		are exempt from Rules 1200-1-11-.03 (except for .03(1)(b)) through .07, .09, and .10 including the notification requirement of Rule 1200-1-11-.03(2).	are subject to Rules 1200-1-11-.02 and .03(1)(b).
(2) Will be reclaimed other than through regeneration.	generate, collect, and/or transport these batteries.	are exempt from Rules 1200-1-11-.03 (except for .03(1)(b)) through .07 and .09, including the notification requirement of Rule 1200-1-11-.03(2).	are subject to Rules 1200-1-11-.02 and .03(1)(b),and applicable provisions under Rule 1200-1-11-.10.
(3) Will be reclaimed other than through regeneration.	store these batteries but you aren't the reclaimer.	are exempt from Rules 1200-1-11-.03 (except for .03(1)(b)) through .07 and .09, including the notification requirement of Rule 1200-1-11-.03(2).	are subject to Rules 1200-1-11-.02, .03(1)(b),and applicable provisions under Rule 1200-1-11-.10.
(4) Will be reclaimed other than through regeneration.	store these batteries before you reclaim them.	must comply with part 2 of this subparagraph and as appropriate other regulator provisions described in part 2 of this subparagraph.	are subject to Rules 1200-1-11-.02, .03(1)(b),and applicable provisions under Rule 1200-1-11-.10.
(5) Will be reclaimed other than through regeneration.	don't store these batteries before you reclaim them.	are exempt from Rules 1200-1-11-.03 (except for .03(1)(b)) through .07 and .09, including the notification requirement of Rule 1200-1-11-.03(2).	are subject to Rules 1200-1-11-.02, .03(1)(b),and applicable provisions under Rule 1200-1-11-.10.

2. If I store spent lead-acid batteries before I reclaim them but not through regeneration, which requirements apply? The requirements of part 2 of this subparagraph apply to you

if you store spent lead-acid batteries before you reclaim them, but you don't reclaim them through regeneration. The requirements are slightly different depending on your Hazardous Waste permit status.

(i) For Interim Status Facilities, you must comply with:

(I) Notification requirements under Rule 1200-1-11-.03(2).

(II) All applicable provisions in paragraph (1) of Rule 1200-1-11-.05.

(III) All applicable provisions in paragraph (2) of Rule 1200-1-11-.05. except Rule 1200-1-11-.05(2)(d) (waste analysis).

(IV) All applicable provisions in paragraphs (3) and (4) of Rule 1200-1-11-.05.

(V) All applicable provisions in paragraph (5) of Rule 1200-1-11-.05. except .05(5)(b) and (c) (dealing with the use of the manifest and manifest discrepancies).

(VI) All applicable provisions in paragraphs (6) through (12) of Rule 1200-1-11-.05.

(VII) All applicable provisions in Rule 1200-1-11-.07.

(ii) For Permitted Facilities.

(I) Notification requirements under Rule 1200-1-11-.03(2).

(II) All applicable provisions in paragraph (1) of Rule 1200-1-11-.06.

(III) All applicable provisions in paragraph (2) of Rule 1200-1-11-.06 but not Rule 1200-1-11-.06(2)(d) (waste analysis).

(IV) All applicable provisions in paragraph (3) and (4) of Rule 1200-1-11-.06

(V) All applicable provisions in paragraph (5) of Rule 1200-1-11-.06 but not Rules 1200-1-11-.06(5)(b) or (c) (dealing with the use of the manifest and manifest discrepancies).

(VI) All applicable provisions in paragraphs (6) through (12) of Rule 1200-1-11-.06.

(VII) All applicable provisions in Rule 1200-1-11-.07.

(8) Hazardous Waste Burned in Boilers and Industrial Furnaces [40 CFR 266 Subpart H]

(a) Applicability [40 CFR 266.100]

Owners and operators of existing facilities referenced in this paragraph who have submitted information to the EPA as required by the Federal regulations prior to February 14, 1992, the effective date of this Regulation, shall not be required to resubmit that information to the Department unless specifically required to do so by the Department.

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1. The regulations of this paragraph apply to hazardous waste burned or processed in a boiler or industrial furnace (as defined in Rule 1200-1-11-.01(2)(a)) irrespective of the purpose of burning or processing, except as provided by parts 2, 3, 4, 7, and 8 of this subparagraph. In this paragraph, the term "burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient. The emissions standards of subparagraphs (e), (f), (g), and (h) of this paragraph apply to facilities operating under interim status or under a permit as specified in subparagraphs (c) and (d) of this paragraph.

2. Integration of the MACT standards

(i) Except as provided by subparts 2(ii), 2(iii), and 2(iv) of this subparagraph, the standards of this Rule do not apply to a new hazardous waste boiler or industrial furnace unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply 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 63 Subpart EEE by conducting a comprehensive performance test and submitting to the Commissioner a Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR 63 Subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, RCRA permit conditions that were based on the standards of this Rule will continue to be in effect until they are removed from the permit or the permit is terminated or revoked unless the permit expressly provides otherwise.

(ii) The following standards continue to apply:

(I) If you elect to comply with item (12)(a)1(i)(I) of Rule 1200-1-11-.07 to minimize emissions of toxic compounds from startup, shutdown, and malfunction events, subpart (c)5(i) of this paragraph requiring operations in accordance with the operating requirements specified in the permit at all times that hazardous waste is in the unit, and item (c)5(ii)(III) of this subparagraph requiring 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;

(II) The closure requirements of subpart (8)(c)5(xi) and part (8)(d)12 of this Rule;

(III) The standards for direct transfer of subparagraph (8)(1) of this Rule;

(IV) The standards for regulation of residues of subparagraph (8)(m) of this Rule; and

(V) The applicable requirements of paragraphs (1) through (8), (28), and (29) of Rule 1200-1-11-.05 and paragraphs (1) through (8), (31), and (32) of Rule 1200-1-11-.06.

(iii) If you own or operate a boiler or hydrochloric acid production furnace that is an area source under 40 CFR 63.2 and you elect not to comply with the emission

standards under 40 CFR 63.1216, 63.1217, and 63.1218 for particulate matter, semivolatile and low volatile metals, and total chlorine, you also remain subject to:

(I) Subparagraph (f) of this paragraph--Standards to control particulate matter;

(II) Subparagraph (g) of this paragraph--Standards to control metals emissions, except for mercury; and

(III) Subparagraph (h) of this paragraph--Standards to control hydrogen chloride and chlorine gas.

(iv) The particulate matter standard of subparagraph (f) of this paragraph remains in effect for boilers that elect to comply with the alternative to the particulate matter standard under 40 CFR 63.1216(e) and 63.1217(e).

3. The following hazardous wastes and facilities are not subject to regulation under this paragraph:

(i) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in Rule 1200-1-11-.02(3). Such used oil is subject to regulation under Rule 1200-1-11-.11;

(ii) Gas recovered from hazardous or solid waste landfills when such gas is burned for energy recovery;

(iii) Hazardous wastes that are exempt from regulation under Rule 1200-1-11-.02(1)(d) and Rule 1200-1-11-.02(1)(f)1(iii)(III) and (IV), and hazardous wastes that are subject to the special requirements for conditionally exempt small quantity generators under Rules 1200-1-11-.02(1)(e); and

(iv) Coke ovens, if the only hazardous waste burned is Hazardous Waste Code K087, decanter tank tar sludge from coking operations.

4. 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 this paragraph, except for subparagraphs (b) and (m) of this paragraph.

(i) To be exempt from subparagraphs (c) through (l) of this paragraph, an owner or operator of a metal recovery furnace or mercury recovery furnace must 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, must comply with the requirements of subpart (iii) of this part, and owners or operators of lead recovery furnaces that are subject to regulation under the Secondary Lead Smelting NESHAP must comply with the requirements of part 8 of this subparagraph:

(I) Provide a one-time written notice to the Commissioner indicating the following:

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I. The owner or operator claims exemption under this subpart;

II. The hazardous waste is burned solely for metal recovery consistent with the provisions of subpart 4(ii) of this subparagraph;

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 this subpart;

(II) Sample and analyze the hazardous waste and other feedstocks as necessary to comply with the requirements of this subpart by using appropriate methods; and

(III) Maintain at the facility for at least three years records to document compliance with the provisions of this subpart including limits on levels of toxic organic constituents and Btu value of the waste, and levels of recoverable metals in the hazardous waste compared to normal nonhazardous waste feedstocks.

(ii) A hazardous waste meeting either of the following criteria is not processed solely for metal recovery:

(I) The hazardous waste has a total concentration of organic compounds listed in Appendix VIII of Rule 1200-1-11-.02 exceeding 500 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 500 ppm limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by item 4(i)(III) of this subparagraph; or

(II) The hazardous waste has a heating value of 5,000 Btu/lb 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 5,000 Btu/lb limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by item 4(i)(III) of this subparagraph.

(iii) To be exempt from subparagraphs (c) through (l) of this paragraph, 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, must provide a one-time written notice to the Commissioner identifying each hazardous waste burned and specifying whether the owner or operator claims an exemption for each waste under this subpart or subpart 4(i) of this subparagraph. The owner or operator must comply with the requirements of

subpart 4(i) of this subparagraph for those wastes claimed to be exempt under that subpart and must comply with the requirements below for those wastes claimed to be exempt under this subpart.

(I) The hazardous wastes listed in Appendices XI, XII, and XIII of this Rule, and baghouse bags used to capture metallic dusts emitted by steel manufacturing are exempt from the requirements of subpart 4(i) of this subparagraph, provided that:

I. A waste listed in Appendix XI of this Rule must contain recoverable levels of lead, a waste listed in Appendix XII of this Rule must contain recoverable levels of nickel or chromium, a waste listed in Appendix XIII of this Rule must contain recoverable levels of mercury and contain less than 500 ppm of Rule 1200-1-11-.02, Appendix VIII organic constituents, and baghouse bags used to capture metallic dusts emitted by steel manufacturing must contain recoverable levels of metal; and

II. The waste does not exhibit the Toxicity Characteristic of Rule 1200-1-11-.02(3)(e) for an organic constituent; and

III. The waste is not a hazardous waste listed in Rule 1200-1-11-.02(4) because it is listed for an organic constituent as identified in Appendix VII of Rule 1200-1-11-.02; and

IV. The owner or operator certifies in the one-time notice that hazardous waste is burned under the provisions of subpart 4(iii) of this subparagraph 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 item 4(i)(II) of this subparagraph and records to document compliance with subpart 4(iii) of this subparagraph shall be kept for at least three years.

(II) The Commissioner may decide on a case-by-case basis that the toxic organic constituents in a material listed in Appendix XI, XII, or XIII of this Rule that contains a total concentration of more than 500 ppm toxic organic compounds listed in Appendix VIII of Rule 1200-1-11-.02, may pose a hazard to human health and the environment when burned in a metal recovery furnace exempt from the requirements of this paragraph. In that situation, after adequate notice and opportunity for comment, the metal recovery furnace will become subject to the requirements of this paragraph when burning that material. In making the hazard determination, the Commissioner 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; and

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III. Whether the acceptable ambient levels established in Appendices IV or V of this Rule 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.

5. The standards for direct transfer operations under subparagraph (l) of this paragraph apply only to facilities subject to the permit standards of subparagraph (c) of this paragraph or the interim status standards of subparagraph (d) of this paragraph.

6. The management standards for residues under subparagraph (m) of this paragraph apply to any boiler or industrial furnace burning hazardous waste.

7. 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, paladium, irridium, osmium, rhodium, or ruthenium, or any combination of these are conditionally exempt from regulation under this paragraph, except for subparagraph (m) of this paragraph. To be exempt from subparagraph (b) through (l) of this paragraph, an owner or operator must:

(i) Provide a one-time written notice to the Commissioner indicating the following:

(I) The owner or operator claims exemption under this part;

(II) The hazardous waste is burned for legitimate recovery of precious metal; and

(III) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this part; and

(ii) Sample and analyze the hazardous waste as necessary to document that the waste contains economically significant amounts of metals and that the treatment recovers economically significant amounts of precious metal; and

(iii) 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.

8. Starting June 23, 1997, 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 this part, except for subparagraph (b) of this paragraph. To be exempt, an owner or operator must provide a one-time notice to the Commissioner identifying each hazardous waste burned and specifying that the owner or operator claims an exemption under this part. The notice also must state that the waste burned has a total concentration of nonmetal compounds listed in Appendix VIII of Rule 1200-1-11-.02 of less than 500 ppm by weight, as fired and as provided in item 4(ii)(I) of this subparagraph, or is listed in Appendix XI to this Rule.

(b) Management Prior to Burning [40 CFR 266.101]

1. Generators

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Generators of hazardous waste that is burned in a boiler or industrial furnace are subject to Rule 1200-1-11-.03.

2. Transporters

Transporters of hazardous waste that is burned in a boiler or industrial furnace are subject to Rule 1200-1-11-.04.

3. Storage and Treatment Facilities

(i) 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 Rules 1200-1-11-.05, .06, and .07, except as provided by subpart 3(ii) of this subparagraph. 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.

(ii) Owners and operators of facilities that burn, in an onsite boiler or industrial furnace exempt from regulation under the small quantity burner provisions of subparagraph (i) of this paragraph, hazardous waste that they generate are exempt from the regulations of Rules 1200-1-11-.05, .06, and .07 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 subpart 3(i) of this subparagraph.

(c) Permit Standards for Burners [40 CFR 266.102]

1. Applicability

(i) General

Owners and operators of boilers and industrial furnaces burning hazardous waste and not operating under interim status must comply with the requirements of this subparagraph, Rule 1200-1-11-.07(5)(b)8 and Rule 1200-1-11-.07(1)(j), unless exempt under the small quantity burner exemption of subparagraph (i) of this paragraph.

(ii) Applicability of Rule 1200-1-11-.07 Standards

Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions of Rule 1200-1-11-.06, except as provided otherwise by this paragraph:

(I) In paragraph (1) (General), Rule 1200-1-11-.06;

(II) In paragraph (2) (General facility standards), Rules 1200-1-11-.06(2)(b)-(i);

(III) In paragraph (3) (Preparedness and prevention), Rules 1200-1-11-.06(3)(b)-(h);

(IV) In paragraph (4) (Contingency plan and emergency procedures), Rules 1200-1-11-.06(4)(b)-(g);

(V) In paragraph (5) (Manifest system, recordkeeping, and reporting), the applicable provisions of Rules 1200-1-11-.06(5)(b)-(h);

(VI) In paragraph (6) (Corrective Action), Rules 1200-1-11-.06(6)(a)-(l);

(VII) In paragraph (7) (Closure and post-closure), Rules 1200-1-11-.06(7)(b)-(f);

(VIII) In paragraph (8) (Financial requirements), Rules 1200-1-11-.06(8)(b), (c), (d), and (n)-(r), except that States and the Federal government are exempt from the requirements of paragraph (8); and

(IX) In paragraph (31) (Air emission standards for equipment leaks), except Rule 1200-1-11-.06(31)(a)1.

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2. Hazardous Waste Analysis

(i) The owner or operator must provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in Appendix VIII of Rule 1200-1-11-.02 that may reasonably be expected to be in the waste. Such constituents must be identified and quantified if present, at levels detectable by using appropriate analytical procedures. The Appendix VIII, Rule 1200-1-11-.02 constituents excluded from this analysis must be identified and the basis for their exclusion explained. This analysis will be used to provide all information required by this paragraph and Rule 1200-1-11-.07(5)(b)8 and Rule 1200-1-11-.07(1)(j) and to enable the permit writer to prescribe such permit conditions as necessary to protect human health and the environment. Such analysis must be included as a portion of the part B permit application, or, for facilities operating under the interim status standards of this paragraph , as a portion of the trial burn plan that may be submitted before the part B application under provisions of Rule 1200-1-11-.07(1)(j)6 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 status standards must provide the information required by Rules 1200-1-11-.07(5)(b)8 or Rule 1200-1-11-.07(1)(j)3 in the part B application to the greatest extent possible.

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

3. Emissions Standards

Owners and operators must comply with emissions standards provided by subparagraphs (e) through (h) of this paragraph.

4. Permits

(i) The owner or operator may burn only hazardous wastes specified in the facility permit and only under the operating conditions specified under part 5 of this

subparagraph, except in approved trial burns under the conditions specified in Rule 1200-1-11-.07(1)(j).

(ii) 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 Rule 1200-1-11-.07(5)(b)8.

(iii) Boilers and industrial furnaces operating under the interim status standards of subparagraph (d) of this paragraph are permitted under procedures provided by Rule 1200-1-11-.07(1)(j)7.

(iv) A permit for a new boiler or industrial furnace (those boilers and industrial furnaces not operating under the interim status standards) must establish appropriate conditions for each of the applicable requirements of this subparagraph, including but not limited to allowable hazardous waste firing rates and operating conditions necessary to meet the requirements of part 5 of this subparagraph, in order to comply with the following standards:

(I) For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the device to a point of operational readiness to conduct a trial burn, not to exceed a duration of 720 hours operating time when burning hazardous waste, the operating requirements must be those most likely to ensure compliance with the emission standards of subparagraphs (e) through (h) of this paragraph, based on the Commissioner'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 subparagraph (e), (f), (g), or (h) of this paragraph. The Commissioner may extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(II) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the emissions standards of subparagraphs (e) through (h) of this paragraph and must be in accordance with the approved trial burn plan;

(III) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, submission of the trial burn results by the applicant, review of the trial burn results and modification of the facility permit by the Commissioner to reflect the trial burn results, the operating requirements must be those most likely to ensure compliance with the emission standards subparagraphs (e) through (h) of this paragraph based on the Commissioner's engineering judgment.

(IV) For the remaining duration of the permit, the operating requirements must be those demonstrated in a trial burn or by alternative data specified in Rule 1200-1-11-.07(5)(b)8, as sufficient to ensure

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compliance with the emissions standards of subparagraphs (e) through (h) of this paragraph.

5. Operating Requirements

(i) General

A boiler or industrial furnace burning hazardous waste must be operated in accordance with the operating requirements specified in the permit at all times where there is hazardous waste in the unit.

(ii) Requirements to ensure compliance with the organic emissions standards

(I) 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 Rule 1200-1-11-.07(5)(b)8) to be sufficient to comply with the destruction and removal efficiency (DRE) performance standard of part (e)1 of this paragraph or as those special operating requirements provided by subpart (e)1(iv) of this paragraph for the waiver of the DRE trial burn. When the DRE trial burn is not waived under subpart (e)1(iv) of this paragraph, 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 subpart 5(vi) of this subparagraph;

II. Minimum and maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in subpart 5(vi) of this subparagraph;

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 subpart 5(vi) of this subparagraph;

VI. An appropriate indicator of combustion gas velocity, measured and specified as prescribed in subpart 5(vi) of this subparagraph, unless documentation is provided under Rule 1200-1-11-.07(1)(j) demonstrating adequate combustion gas residence time; and

VII. Such other operating requirements as are necessary to ensure that the DRE performance standard of subparagraph (e) of this paragraph is met.

(II) Carbon monoxide and hydrocarbon standards. The permit must incorporate a carbon monoxide (CO) limit and, as appropriate, a hydrocarbon (HC) limit as provided by parts (e)2, 3, 4, 5, and 6 of this paragraph. The permit limits will be specified as follows:

I. When complying with the CO standard of subpart (e)2(i) of this paragraph, the permit limit is 100 ppmv;

II. When complying with the alternative CO standard under part (e)3 of this paragraph, the permit limit for CO is based on the trial burn and is established as the average over all valid runs of the highest hourly rolling average CO level of each run, and the permit limit for HC is 20 ppmv (as defined in subpart (e)3(i) of this paragraph), except as provided in part (e)6 of this paragraph.

III. When complying with the alternative HC limit for industrial furnaces under part (e)6 of this paragraph, the permit limit for HC and CO is the baseline level when hazardous waste is not burned as specified by that part.

(III) 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/chlorine, and except low risk waste exempt from the trial burn requirements under subpart (e)(1)(v) and subparagraphs (f), (g), and (h) of this paragraph) must not be fed into the device unless the device is operating within the conditions of operation specified in the permit.

(iii) Requirements to Ensure Conformance with the Particulate Standard

(I) Except as provided in items 5(iii)(II) and (III) of this subparagraph, the permit shall specify the following operating requirements to ensure conformance with the particulate standard specified in subparagraph (f) of this paragraph:

I. Total ash feed rate to the device from hazardous waste, other fuels, and industrial furnace feedstocks, measured and specified as prescribed in subpart 5(vi) of this subparagraph;

II. Maximum device production rate when producing normal product expressed in appropriate units, and measured and specified as prescribed in subpart 5(vi) of this subparagraph;

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 part (e)2 of this paragraph is met.

(II) Permit conditions to ensure conformance with the particulate matter standard shall not be provided for facilities exempt from the particulate matter standard under part (f)2 of this paragraph;

(III) 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.

(iv) Requirements to Ensure Conformance with the Metals Emissions Standard

(I) For conformance with the Tier I (or adjusted Tier I) metals feed rate screening limits of parts (g)2 or 5 of this paragraph, 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 provisions of subpart 5(vi) of this subparagraph;

II. Total feed rate of hazardous waste measured and specified as prescribed in subpart 5(vi) of this subparagraph;

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

(II) For conformance with the Tier II metals emission rate screening limits under part (g)3 of this paragraph and the Tier III metals controls under part (g)4 of this paragraph 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 item 5(vi)(I) of this subparagraph;

III. Feed rate of each metal in the following feedstreams, measured and specified as prescribed in subpart 5(vi) of this subparagraph:

A. Total feed streams;

B. Total hazardous waste feed; and

C. Total pumpable hazardous waste feed;

IV. Total feed rate of chlorine and chloride in total feed streams measured and specified as prescribed in subpart 5(vi) of this subparagraph;

V. Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in subpart 5(vi) of this subparagraph;

VI. Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in subpart 5(vi) of this subparagraph;

VII. Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in subpart 5(vi) of this subparagraph;

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 parts (g)3 or (g)4 of this paragraph are met.

(III) For conformance with an alternative implementation approach approved by the Commissioner under part (g)6 of this paragraph, 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 item 5(vi)(I) of this subparagraph;

III. Feed rate of each metal in the following feedstreams, measured and specified as prescribed in subpart 5(vi) of this subparagraph:

A. Total hazardous waste feed; and

B. Total pumpable hazardous waste feed;

IV. Total feed rate of chlorine and chloride in total feed streams measured and specified prescribed in subpart 5(vi) of this subparagraph;

V. Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured

and specified as prescribed in subpart 5(vi) of this subparagraph;

VI. Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in subpart 5(vi) of this subparagraph;

VII. Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in subpart 5(vi) of this subparagraph;

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 parts (g)3 or (g)4 of this subparagraph are met.

(v) Requirements to Ensure Conformance with the Hydrogen Chloride and Chlorine Gas Standards

(I) For conformance with the Tier I total chloride and chlorine feed rate screening limits of subpart (h)2(i) of this paragraph, 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 subpart 5(vi) of this subparagraph;

II. Feed rate of total hazardous waste measured and specified as prescribed in subpart 5(vi) of this subparagraph;

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

(II) For conformance with the Tier II HCl and Cl_2 emission rate screening limits under subpart (h)2(ii) of this paragraph and the Tier III HCl and Cl_2 controls under part (h)3 of this paragraph, the permit will specify the following operating requirements:

I. Maximum emission rate for HCl and for Cl_2 specified as the average emission rate during the trial burn;

II. Feed rate of total hazardous waste measured and specified as prescribed in subpart 5(vi) of this subparagraph;

III. Total feed rate of chlorine and chloride in total feed streams, measured and specified as prescribed in subpart 5(vi) of this subparagraph;

IV. Maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in subpart 5(vi) of this subparagraph;

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 HCl and Cl_2 standards under subpart (h)2(ii) or part (h)3 of this paragraph are met.

(vi) Measuring Parameters and Establishing Limits Based on Trial Burn Data

(I) General Requirements

As specified in subpart 5(ii) through 5(v) of this subparagraph, 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:

(A) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(B) An hourly rolling average is the arithmetic mean of the 60 most recent 1-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.

(II) 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 item 5(vi)(I) of this subparagraph or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an average period from 2 to 24 hours:

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 15 seconds, and computes and records the average value at least every 60 seconds.

B. The rolling average for the selected averaging period is defined as 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 60-minute period beginning at one minute after the beginning of preceding clock hour; and

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

(III) 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/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of items 5(vi)(I) and(II) of this subparagraph.

(IV) Conduct of Trial Burn Testing

I. If compliance with all applicable emissions standards of subparagraphs (8)(e) through (8)(h) of this Rule is not demonstrated simultaneously during a set of test runs, the

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operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards must be as close as possible to the original operating conditions.

II. Prior to obtaining test data for purposes of demonstrating compliance with the emissions standards of subparagraphs (8)(e) through (8)(h) or establishing limits on operating parameters under this section, the facility must operate under trial burn conditions for a sufficient period to reach steady-state operations. The Commissioner may determine, however, that industrial furnaces that recycle collected particulate matter back into the furnace and that comply with an alternative implementation approach for metals under part (g)6 of this paragraph need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals emissions.

III. Trial burn data on the level of an operating parameter for which a limit must be established in the permit must be obtained during emissions sampling for the pollutant(s) (i.e., metals, PM, HCl/Cl_2, organic compounds) for which the parameter must be established as specified by part 5 of this subparagraph.

(vii) General Requirements

(I) Fugitive Emissions

Fugitive emissions must 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.

(II) Automatic Waste Feed Cutoff

A boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this section. The Commissioner 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 must be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber;

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II. Exhaust gases must 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 must 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 Commissioner will establish a minimum period of time after a waste feed cutoff during which the parameter must not exceed the permit limit before the hazardous waste feed may be restarted.

(III) Changes

A boiler or industrial furnace must 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.

(viii) Monitoring and Inspections

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

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

II. If specified by the permit, carbon monoxide (CO), hydrocarbons (HC), 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 item 5(ii)(II) of this subparagraph. CO, HC, and oxygen monitors must be installed, operated, and maintained in accordance with methods specified in Appendix IX of this Rule; and

III. Upon the request of the Commissioner, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues, and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the applicable standards of subparagraphs (8)(e), (8)(f), (8)(g), and (8)(h) of this Rule.

(II) All monitors shall record data in units corresponding to the permit limit unless otherwise specified in the permit.

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

(IV) The automatic hazardous waste feed cutoff system and associated alarms must be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the applicant demonstrates to the Commissioner that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least once every 30 days.

(V) These monitoring and inspection data must be recorded and the records must be placed in the operating record required by Rules 1200-1-11-.06(5)(d).

(ix) 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 must comply with subparagraph (l) of this paragraph.

(x) Recordkeeping

The owner or operator must maintain in the operating record of the facility all information and data required by this subparagraph for five (5) years or until new analyses and characterization are made, whichever is longer.

(xi) Closure

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

(d) Interim Status Standards for Burners [40 CFR 266.103]

1. Purpose, Scope, Applicability

(i) General

(I) The purpose of this section is to establish minimum national 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 during the period of interim status. The standards of this section apply to owners and operators of existing facilities until either a permit is issued under part (c)4 of this paragraph or until closure responsibilities identified in this section are fulfilled.

(II) "Existing or in existence" means a boiler or industrial furnace that on or before August 21, 1991 is either in operation burning or processing hazardous waste or for which construction (including the ancillary facilities to burn or to process the hazardous waste) has 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; or

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.

(III) If a boiler or industrial furnace is located at a facility that already has a permit or interim status, then the facility must comply with the applicable regulations dealing with permit modifications in Rule 1200-1-11-.07(9)5 or changes in interim status in Rule 1200-1-11-.07(3)(c).

(ii) Exemptions

The requirements of this section do not apply to hazardous waste and facilities exempt under part (a)2 or subparagraph (i) of this paragraph.

(iii) 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 interim status: F020, F021, F022, F023, F026, and F027.

(iv) Applicability of Rule 1200-1-11-.05 Standards

Owners and operators of boilers and industrial furnaces that burn hazardous waste and are operating under interim status are subject to the following provisions of Rule 1200-1-11-.05, except as provided otherwise by this subparagraph:

(I) In paragraph (1) (General), Rule 1200-1-11-.05;

(II) In paragraph (2) (General facility standards), Rules 1200-1-11-.05(2)(b)-(h);

(III) In paragraph (3) (Preparedness and prevention), Rules 1200-1-11-.05(3)(b)-(h);

(IV) In paragraph (4) (Contingency plan and emergency procedures), Rules 1200-1-11-.05(4)(b)-(g);

(V) In paragraph (5) (Manifest system, recordkeeping, and reporting), Rules 1200-1-11-.05(5)(b)-(h), except that Rules 1200-1-11-.05(5)(b), (c), and (g) do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources;

(VI) In paragraph (7) (Closure and post-closure), Rules 1200-1-11-.05(7)(b)-(f);

(VII) In paragraph (8) (Financial requirements), Rules 1200-1-11-.05(8)(b), (c), (d), (k), and (l), except that States and the Federal government are exempt from the requirements of paragraph (8); and

(VIII) In paragraph (28) (Air emission standards for equipment leaks), except Rule 1200-1-11-.05(28)(a)1.

(v) Special Requirements for Furnaces

The following controls apply during interim status to industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see item 2(v)(II) of this subparagraph) at any location other than the hot end where products are normally discharged or where fuels are normally fired:

(I) Controls

I. The hazardous waste shall be fed at a location where combustion gas temperatures are at least 1800 °F;

II. The owner or operator must determine that adequate oxygen is present in combustion gases to combust organic constituents in the waste and retain documentation of such determination in the facility record;

III. For cement kiln systems, the hazardous waste shall be fed into the kiln; and

IV. The hydrocarbon controls of part (e)3 or subpart (d)3(v) of this paragraph apply upon certification of compliance under part 3 of this subparagraph irrespective of the CO level achieved during the compliance test.

(II) Burning Hazardous Waste Solely as an Ingredient

A hazardous waste is burned for a purpose other than solely as an ingredient if it meets either of these criteria:

I. The hazardous waste has a total concentration of nonmetal compounds listed in Appendix VIII of Rule 1200-11-.02(5) exceeding 500 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 500 ppm limit by bona fide treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the facility record; or

II. The hazardous waste has a heating value of 5,000 Btu/lb 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 5,000 Btu/lb limit by bona fide treatment that removes or destroys organic constituents. Blending to

augment the heating value to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly blended must be retained in the facility record.

(vi) Restrictions on Burning Hazardous Waste That Is not a Fuel

Prior to certification of compliance under part 3 of this subparagraph, owners and operators shall not feed hazardous waste that has a heating value less than 5,000 Btu/lb, as-generated, (except that the heating value of a waste as-generated may be increased to above the 5,000 Btu/lb limit by bona fide treatment; however, blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited and records must be kept to document that impermissible blending has not occurred) in a boiler or industrial furnace, except that:

(I) Hazardous waste may be burned solely as an ingredient; or

(II) 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 720 hours; or

(III) Such waste may be burned if the Commissioner has documentation to show that, prior to August 21, 1991:

I. The boiler or industrial furnace is operating under the interim status standards for incinerators provided by paragraph (15) of Rule 1200-1-11-.05, or the interim status standards for thermal treatment units provided by paragraph (16) of Rule 1200-1-11-.05; and

II. The boiler or industrial furnace met the interim status eligibility requirements under Rule 1200-1-11-.07(3)(a) for paragraph (15) or (16) of Rule 1200-1-11-.05; and

III. Hazardous waste with a heating value less than 5,000 Btu/lb was burned prior to that date; or

(IV) Such waste may be burned in a halogen acid furnace if the waste was burned as an excluded ingredient under Rule 1200-1-11-.02(1)(b)5 prior to February 21, 1991 and documentation is kept on file supporting this claim.

(vii) 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 must comply with subparagraph (l) of this paragraph.

2. Certification of Precompliance

(i) General

The owner or operator must provide complete and accurate information specified in subpart 2(ii) of this subparagraph to the Commissioner on or before

August 21, 1991, and must establish limits for the operating parameters specified in subpart 2(iii) of this subparagraph. 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 subpart 2(iii) of this subparagraph, the owner or operator believes that, using best engineering judgment, emissions of particulate matter, metals, and HCl and Cl_2 are not likely to exceed the limits provided by subparagraphs (f), (g), and (h). The facility may burn hazardous waste only under the operating conditions that the owner or operator establishes under subpart 2(iii) of this subparagraph until the owner or operator submits a revised certification of precompliance under subpart 2(viii) of this subparagraph or a certification of compliance under part 3 of this subparagraph, or until a permit is issued.

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(ii) Information Required

The following information must be submitted with the certification of precompliance to support the determination that the limits established for the operating parameters identified in subpart 2(iii) of this subparagraph are not likely to result in an exceedance of the allowable emission rates for particulate matter, metals, and HCl and Cl_2:

(I) General Facility Information:

I. EPA facility ID 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; and

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.

(II) Except for facilities complying with the Tier I or Adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by parts (g)2 or (g)5 and subpart (h)2(i) or part (h)5 of this paragraph, respectively, the estimated uncontrolled (at the inlet to the air pollution control system) emissions of particulate matter, each metal controlled by subparagraph (g) of this paragraph, and hydrogen chloride and chlorine, and the following information to support such determinations:

I. The feed rate (lb/hr) 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. The estimated partitioning factor to the combustion gas for the materials identified in subitem 2(ii)(II)I of this subparagraph

and the basis for the estimate and an estimate of the partitioning to HCl and Cl_2 of total chloride and chlorine in feed materials. To estimate the partitioning factor, the owner or operator must use either best engineering judgment or the procedures specified in Appendix IX of paragraph (30) of this Rule;

III. For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under subitem 3(iii)(II)I, the estimated enrichment factor for each metal. To estimate the enrichment factor, the owner or operator must use either best engineering judgment or the procedures specified in "Alternative Methodology for Implementing Metals Controls" in Appendix IX of paragraph (30) of this Rule; and

IV. If best engineering judgment is used to estimate partitioning factors or enrichment factors under subitems 2(ii)(II)II or III of this subparagraph respectively, the basis for the judgment. When best engineering judgment is used to develop or evaluate data or information and make determinations under this subparagraph, the determinations must be made by a qualified, registered professional engineer and a certification of his/her determinations in accordance with Rule 1200-1-11-.07(2)(a)10 must be provided in the certification of precompliance.

(III) For facilities complying with the Tier I or Adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by parts (g)2 or (g)5 and subpart (h)2(i) or part (h)5 of this paragraph, the feed rate (lb/hr) of total chloride and chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feed stream (hazardous waste, other fuels, industrial furnace feedstocks).

(IV) For facilities complying with the Tier II or Tier III emission limits for metals or HCl and Cl_2 (under parts (g)3 or (g)4 or subpart (h)2(ii) or part (h)3 of this paragraph), the estimated controlled (outlet of the air pollution control system) emissions rates of particulate matter, each metal controlled by subparagraph (g), and HCl and Cl_2, and the following information to support such determinations:

I. The estimated air pollution control system (APCS) removal efficiency for particulate matter, HCl, Cl_2, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium;

II. To estimate APCS removal efficiency, the owner or operator must use either best engineering judgment or the procedures prescribed in Appendix IX of paragraph (30) of this Rule; and

III. If best engineering judgment is used to estimate APCS removal efficiency, the basis for the judgment. Use of best

engineering judgment must be in conformance with provisions of subitem 2(ii)(II)IV of this subparagraph.

(V) Determination of allowable emissions rates for HCl, Cl_2, 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 by 40 CFR 51.100(ii);

C. Maximum flue gas flow rate;

D. Maximum flue gas temperature;

E. Attach a US Geological Service topographic map (or equivalent) showing the facility location and surrounding land within 5 km of the facility;

F. Identify terrain type: complex or noncomplex; and

G. Identify land use: urban or rural.

II. For owners and operators using Tier III site specific dispersion modeling to determine allowable levels under part (g)4 or (h)3 of this subparagraph, or adjusted Tier I feed rate screening limits under part (g)5 or (h)5 of this subparagraph:

A. Dispersion model and version used;

B. Source of meterological 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); and

D. Indicate the MEI location on the map required under section 2(ii)(V)I E of this subparagraph.

(VI) For facilities complying with the Tier II or III emissions rate controls for metals or HCl and Cl_2, a comparison of the estimated controlled emissions rates determined under item 2(ii)(IV) of this subparagraph with the allowable emission rates determined under item 2(ii)(V) of this subparagraph.

(VII) 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

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determined under item 2(ii)(III) of this subparagraph to the Tier I allowable feed rates.

(VIII) For industrial furnaces that feed hazardous waste for any purpose other than solely as an ingredient (as defined by item 1(v)(II) of this subparagraph) at any location other than the product discharge end of the device, documentation of compliance with the requirements of subitems 1(v)(I)I, II, and III of this subparagraph.

(IX) For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under subitem 3(iii)(II)I of this subparagraph:

I. The applicable particulate matter standard in lb/hr; and

II. The precompliance limit on the concentration of each metal in collected PM.

(iii) Limits on Operating Conditions

The owner and operator shall establish limits on the following parameters consistent with the determinations made under subpart 2(ii) of this subparagraph and certify (under provisions of subpart 2(ix) of this subparagraph) to the Commissioner that the facility will operate within the limits during interim status when there is hazardous waste in the unit until revised certification of precompliance under subpart 2(viii) of this subparagraph or certification of compliance under part 3 of this subparagraph:

(I) Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under part (g)2 or 5 of this paragraph) pumpable hazardous waste;

(II) Feed rate of each metal in the following feed streams:

I. Total feed streams, except that industrial furnaces that comply with the alternative metals implementation approach under subpart 2(iv) of this subparagraph must 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 part (g)2 or 5 of this subparagraph; and

III. Total pumpable hazardous waste feed, unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under part (g)2 or 5 of this subparagraph;

(III) Total feed rate of chlorine and chloride in total feed streams;

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

(V) 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 subpart (h)2(i) or part (h)5 of this paragraph and for all metals under part (g)2 or 5 of this subparagraph, and the uncontrolled particulate emissions do not exceed the standard under subparagraph (f).

(iv) Operating Requirements for Furnaces That Recycle PM

Owners and operators of furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions controls under subitem 3(iii)(II)I of this subparagraph must comply with the special operating requirements provided in "Alternative Methodology for Implementing Metals Controls" in Appendix IX of paragraph (30) of this Rule.

(v) Measurement of feed rates and production rate

(I) General Requirements

Limits on each of the parameters specified in subpart 2(iii) of this subparagraph (except for limits on metals concentrations in collected particulate matter (PM) for industrial furnaces that recycle collected PM) 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; or

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 15 seconds, and computes and records the average value at least every 60 seconds.

B. An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

(II) 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 subitem 2(v)(I)II of this

subparagraph or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 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 a 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 15 seconds, and computes and records the average value at least every 60 seconds.

B. The rolling average for the selected averaging period is defined as 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 60-minute period beginning at one minute after the beginning of preceding clock hour.

(III) 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/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of items 2(v)(I) and (II) of this subparagraph.

(vi) Public Notice Requirements at Precompliance

On or before August 21, 1991 the owner or operator must 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 and operator must provide to the Commissioner with the certification of precompliance evidence of submitting the notice for publication. The notice, which shall be entitled "Notice of Certification of Precompliance with Hazardous Waste Burning Requirements of part (d)2 of this paragraph", must 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 the Commissioner;

(III) Brief description of the regulatory process required to comply with the interim status requirements of this section including required emissions

testing to demonstrate conformance with emissions standards for organic compounds, particulate matter, metals, and HCl and Cl_2;

(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 device(s) 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 subpart 2(ii) of this subparagraph;

(VIII) Locations where the record for the facility can be viewed and copied by interested parties. These records and locations shall at a minimum include:

I. The administrative record kept by the Agency office where the supporting documentation was submitted or another location designated by the Commissioner; and

II. The BIF correspondence file kept at the facility site where the device is located. The correspondence file must include all correspondence between the facility and the Commissioner, 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 EPA and State site visit reports submitted to the owner or operator;

(IX) Notification of the establishment of a facility mailing list whereby interested parties shall notify the Agency that they wish to be placed on the mailing list to receive future information and notices about this facility; and

(X) Location (mailing address) of the applicable EPA Regional Office, Hazardous Waste Division, and/or the Tennessee Department of Environment and Conservation (TDEC), Division of Solid Waste Management, as appropriate where further information can be obtained on the regulation of hazardous waste burning.

(vii) Monitoring Other Operating Parameters

When the monitoring systems for the operating parameters listed in items 3(i)(V)-(VIII) of this subparagraph) of this section are installed and operating in conformance with vendor specifications or (for CO, HC, and oxygen) specifications provided by Appendix IX of paragraph (30) of this Rule, as appropriate, the parameters shall be continuously monitored and records shall be maintained in the operating record.

(viii) Revised Certification of Precompliance

The owner or operator may revise at any time the information and operating conditions documented under subparts 2(ii) and 2(iii) of this subparagraph in the certification of precompliance by submitting a revised certification of precompliance under procedures provided by those subparts.

(I) The public notice requirements of subpart 2(iv) of this subparagraph do not apply to recertifications.

(II) The owner and operator must operate the facility within the limits established for the operating parameters under subpart 2(iii) of this subparagraph until a revised certification is submitted under this subpart or a certification of compliance is submitted under part 3 of this subparagraph.

(ix) Certification of Precompliance Statement

The owner or operator must include the following signed statement with the certification of precompliance submitted to the Commissioner:

"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 Rule 1200-1-11-.09(8)(d)2 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 Rule 1200-1-11-.09(8)2(iii) and (iv) are enforceable limits at which the facility can legally operate during interim status until: (1) A revised certification of precompliance is submitted, (2) a certification of compliance is submitted, or (3) an operating permit is issued."

3. Certification of Compliance

The owner or operator shall conduct emissions testing to document compliance with the emissions standards of parts (e)2 through 5, subparagraphs (f), (g), and (h), and subitem 1(v)(I)IV. of this subparagraph, under the procedures prescribed by this part, except under extensions of time provided by subpart 3(vii) of this subparagraph. Based on the compliance test, the owner or operator shall submit to the Commissioner on or before August 21, 1992 a complete and accurate "certification of compliance" (under subpart 3(iv) of this subparagraph) with those emission standards establishing limits on the operating parameters specified in subpart 3(i) of this subparagraph.

(i) 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 item 3(iv)(IV) of this subparagraph) or as otherwise specified and include these limits with the certification of compliance. The boiler or industrial furnace must be operated in accordance with these operating limits and the applicable emissions standards of parts (e)2 through 5, subparagraphs (f), (g), and (h) of this paragraph, and subitem 1(v)(I)IV. of this subparagraph at all times when there is hazardous waste in the unit:

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(I) Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under part (g)2 or 5 of this subparagraph), pumpable hazardous waste;

(II) 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 their operating limits at the metals feed rate screening limits determined under part (g)2 or 5 of this paragraph; and

B. Industrial furnaces that must comply with the alternative metals implementation approach under item 3(iii)II of this subparagraph must 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 part (g)2 or 5 of this paragraph); and

III. Total pumpable hazardous waste feed (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under part (g)2 or 5 of this paragraph);

(III) Total feed rate of chlorine and chloride in total feed streams, except that facilities that comply with Tier I or Adjusted Tier I feed rate screening limits may set their operating limits at the total chlorine and chloride feed rate screening limits determined under subpart (h)2(i) or part (h)5 of this paragraph;

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

(V) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas. When complying with the CO controls of part (e)2 of this paragraph, the CO limit is 100 ppmv, and when complying with the HC controls of part (e)3 of this paragraph, the HC limit is 20 ppmv. When complying with the CO controls of part (e)3 of this paragraph, the CO limit is established based on the compliance test;

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(VI) 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 subpart (h)2(i) or part (h)5 of this paragraph and for all metals under part (g)2 or (g)5 of this paragraph, and the uncontrolled particulate emissions do not exceed the standard under subparagraph (f) of this paragraph;

(VII) 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 part (g)2 or (g)5 of this paragraph);

(VIII) 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 part (g)2 or (g)5 of this paragraph and the total chlorine and chloride feed rate screening limits under part (h)2 or (h)5 of this paragraph);

(IX) For systems using wet scrubbers, including wet ionizing scrubbers (unless complying with Tier I or Adjusted Tier I metals feed rate screening limits under part (g)2 or (g)5 of this paragraph and the total chlorine and chloride feed rate screening limits under subpart (h)2(i) or part (h)5 of this paragraph):

I. Minimum liquid to flue gas ration;

II. Minimum scrubber blowdown from the system or maximum suspended solids content of scrubber water; and

III. Minimum pH level of the scrubber water;

(X) 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 part (g)2 or (g)5 of this paragraph and the total chlorine and chloride feed rate screening limits under subpart (h)2(i) or part (h)5 of this paragraph);

(XI) For systems using dry scrubbers (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under part (g)2 or (g)5 of this paragraph and the total chlorine and chloride feed rate screening limits under subpart (h)2(i) or part (h)5 of this paragraph):

I. Minimum caustic feed rate; and

II. Maximum flue gas flow rate;

(XII) 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 part (g)2 or (g)5 of this paragraph and the total chlorine and chloride feed rate screening limits under subpart (h)2(i) or part (h)5 of this paragraph):

I. Minimum electrical power in kilovolt amperes (kVA) to the precipitator plates; and

II. Maximum flue gas flow rate;

(XIII) 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 part (g)2 or (g)5 of this paragraph and the total chlorine and chloride feed rate screening limits under subpart (h)2(i) or part (h)5 of this paragraph).

(ii) Prior Notice of Compliance Testing

At least 30 days prior to the compliance testing required by subpart 3(iii) of this subparagraph, the owner or operator shall notify the Commissioner and submit the following information:

(I) General facility information including:

I. EPA facility ID 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;

(II) 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 150 °C, an explanation of why a heated system is not used (see subpart 3(v) of this subparagraph) 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;

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VI. Other information useful to an understanding of the system design or operation.

(III) Information on the testing planned, including a complete copy of the test protocol and Quality Assurance/Quality Control (QA/QC) plan, and a summary description for each test providing the following information at a minimum:

I. Purpose of the test (e.g., demonstrate compliance with emissions of particulate matter); and

II. Planned operating conditions, including levels for each pertinent parameter specified in subpart 3(i) of this subparagraph.

(iii) Compliance Testing

(I) General

Compliance testing must be conducted under conditions for which the owner or operator has submitted a certification of precompliance under pat 2 of this of this subparagraph and under conditions established in the notification of compliance testing required by subpart 3(ii) of this subparagraph. 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 onsite unit. To support the request, the owner or operator must 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 Commissioner shall provide a written approval to use compliance test data in lieu of testing a similar unit if he 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 part 3 of this subparagraph.

(II) Special Requirements for Industrial Furnaces that Recycle Collected PM

Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system must comply with one of the following procedures for testing to determine compliance with the metals standards of part (g)3 or (g)4 of this subparagraph:

I. The special testing requirements prescribed in "Alternative Method for Implementing Metals Controls" in Appendix IX of paragraph (30) of this Rule; or

II. Stack emissions testing for a minimum of 6 hours each day while hazardous waste is burned during interim status. The testing must 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

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conditions. During interim status, hazardous waste analysis for metals content must 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 part (g)3 or (g)4 of this subparagraph. Under this option, operating limits (under subpart 3(i) of this subparagraph) must be established during compliance testing under subpart 3(iii) of this subparagraph only on the following parameters:

A. Feed rate of total hazardous waste;

B. Total feed rate of chlorine and chloride in total feed streams;

C. Total feed rate of ash in total feed streams, 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; or

III. Conduct compliance testing to determine compliance with the metals standards to establish limits on the operating parameters of subpart 3(i) of this subparagraph only after the kiln system has been conditioned to enable it 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 must be fed at the feed rates that will be fed during the compliance test.

(III) Conduct of Compliance Testing

I. If compliance with all applicable emissions standards of subparagraphs (e) through (h) of this paragraph is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards must be as close as possible to the original operating conditions.

II. Prior to obtaining test data for purposes of demonstrating compliance with the applicable emissions standards of subparagraphs (e) through (h) of this paragraph or establishing limits on operating parameters under this subparagraph, the facility must operate under compliance test conditions for a sufficient period to reach steady-state operations. Industrial furnaces that recycle collected particulate matter back into the furnace and that comply with subitems 3(iii)I or II of this subparagraph, 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 must be established in the certification of compliance must be obtained during emissions sampling for the pollutant(s) (i.e., metals, PM, HCl/Cl_2, organic compounds) for which the parameter must be established as specified by subpart 3(i) of this subparagraph.

(iv) Certification of Compliance

Within 90 days of completing compliance testing, the owner or operator must certify to the Commissioner compliance with the emissions standards of part (e)2, 3, and 5, subparagraphs (f), (g), and (h) of this paragraph, and subitem 1(v)(I)IV of this subparagraph. The certification of compliance must include the following information:

(I) General facility and testing information including:

I. EPA facility ID 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. Date(s) of each compliance test;

V. Description of boiler or industrial furnace tested;

VI. Person responsible for quality assurance/quality control (QA/QC), title, and telephone number, and statement that procedures prescribed in the QA/QC plan submitted under item 3(ii)(III) of this subparagraph 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 subpart 3(ii) of this subparagraph, 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 subpart 3(ii) of this subparagraph, and an explanation of why the changes were necessary; and

IX. The complete report on results of emissions testing.

(II) Specific information on each test including:

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I. Purpose(s) of test (e.g., demonstrate conformance with the emissions limits for particulate matter, metals, HCl, Cl_2, and CO);

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 CO level for each run and for the test;

D. Highest hourly rolling average HC level, if HC monitoring is required for each run and for the test;

E. If dioxin and furan testing is required under part (e)5 of this paragraph subparagraph, 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 HCl and Cl_2 emissions for each run and for the test;

H. Time-weighted average emissions for the metals subject to regulation under subparagraph (g) of this paragraph for each run and for the test; and

I. QA/QC results.

(III) Comparison of the actual emissions during each test with the emissions limits prescribed by parts (e)2, 3, and 5 and subparagraphs (f), (g), and (h) of this paragraph and established for the facility in the certification of precompliance under part 2 of this subparagraph.

(IV) Determination of operating limits based on all valid runs of the compliance test for each applicable parameter listed in subpart 3(i) of this subparagraph using 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 operating limit specified as the time-weighted average during all runs of the compliance test; or

II. Hourly rolling average basis

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A. The 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 15 seconds, and computes and records the average value at least every 60 seconds.

(B) An hourly rolling average is the arithmetic mean of the 60 most recent 1-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; or

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 subitem 3(iv)(IV)II of this subparagraph or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 hours:

A. The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on a hourly rolling average basis;

B. 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 15 seconds, and computes and records the average value at least every 60 seconds;

(B) The rolling average for the selected averaging period is defined as 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 60-minute period beginning at one minute after the beginning of preceding clock hour; and

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; or

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/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of subitems 3(iv)(IV)I through III of this subparagraph.

(V) 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 Rule 1200-1-11-.09(d)3 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 Rule 1200-11-.09(d)3(iv)(IV) are enforceable limits at which the facility can legally operate during interim status until a revised certification of compliance is submitted."

(v) Special Requirements for HC Monitoring Systems

When an owner or operator is required to comply with the hydrocarbon (HC) controls provided by part (e)3 of this paragraph or subitem 1(v)(I)IV of this subparagraph, a conditioned gas monitoring system may be used in conformance with specifications provided in Appendix IX of paragraph (30) of this Rule provided that the owner or operator submits a certification of compliance without using extensions of time provided by subpart 3(vii) of this subparagraph.

(vi) Special Operating Requirements for Industrial Furnaces that Recycle Collected PM

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Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system must:

(I) When complying with the requirements of subitem 3(iii)(II)I of this subparagraph, comply with the operating requirements prescribed in "Alternative Method to Implement the Metals Controls" in Appendix IX of paragraph (30) of this Rule; and

(II) When complying with the requirements of subitem 3(iii)(II)II of this subparagraph, comply with the operating requirements prescribed by that subitem.

(vii) Extensions of Time

(I) If the owner or operator does not submit a complete certification of compliance for all of the applicable emissions standards of subparagraph (e), (f), (g), and (h) of this paragraph by August 21, 1992, he/she must either:

I. Stop burning hazardous waste and begin closure activities under part 12 of this subparagraph for the hazardous waste portion of the facility; or

II. Limit hazardous waste burning only for purposes of compliance testing (and pretesting to prepare for compliance testing) a total period of 720 hours for the period of time beginning August 21, 1992, submit a notification to the Commissioner by August 21, 1992 stating that the facility is operating under restricted interim status and intends to resume burning hazardous waste, and submit a complete certification of compliance by August 23, 1993; or

III. Obtain a case-by-case extension of time under item 3(vii)(II) of this subparagraph.

(II) The owner or operator may request a case-by-case extension of time to extend any time limit provided by part 3 of this subparagraph 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 Commissioner may apply conditions as the facts warrant to ensure timely compliance with the requirements of this section 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 part (e)6 of this paragraph and obtain a operating permit because the facility cannot meet the HC limit of part (e)3 of this paragraph:

A. The Commissioner shall, in considering whether to grant the extension:

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(A) Determine whether the owner and operator have submitted in a timely manner a complete part B permit application that includes information required under Rule 1200-1-11-.07(2); and

(B) Consider whether the owner and operator have made a good faith effort to certify compliance with all other emission controls, including the controls on dioxins and furans of part (e)5 of this paragraph and the controls on PM, metals, and HCl/Cl_2.

B. If an extension is granted, the Director shall, as a condition of the extension, require the facility to operate under flue gas concentration limits on CO and HC that, based on available information, including information in the part B permit application, are baseline CO and HC levels as defined by subpart (e)6(i) of this paragraph.

(viii) Revised Certification of Compliance

The owner or operator may submit at any time a revised certification of compliance (recertification of compliance) under the following procedures:

(I) Prior to submittal of a revised certification of compliance, hazardous waste may not be burned for more than a total of 720 hours under operating conditions that exceed those established under a current certification of compliance, and such burning may be conducted only for purposes of determining whether the facility can operate under revised conditions and continue to meet the applicable emissions standards of subparagraphs (e), (f), (g), and (h) of this paragraph;

(II) At least 30 days prior to first burning hazardous waste under operating conditions that exceed those established under a current certification of compliance, the owner or operator shall notify the Commissioner and submit the following information:

I. EPA facility ID number, and facility name, contact person, telephone number, and address;

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 subparagraphs (e), (f), (g), and (h) of this paragraph are not likely to be exceeded. To document this determination, the owner or operator shall submit the applicable information required under subpart 2(ii) of this subparagraph; and

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IV. Complete emissions testing protocol for any pretesting and for a new compliance test to determine compliance with the applicable emissions standards of subparagraphs (e), (f), (g), and (h) of this paragraph when operating under revised operating conditions. The protocol shall include a schedule of pre-testing and compliance testing. If the owner and operator revises the scheduled date for the compliance test, he/she shall notify the Commissioner in writing at least 30 days prior to the revised date of the compliance test;

(III) Conduct a compliance test under the revised operating conditions and the protocol submitted to the Commissioner to determine compliance with the applicable emissions standards of subparagraphs (e), (f), (g), and (h) of this paragraph; and

(IV) Submit a revised certification of compliance under subpart 3(iv) of this subparagraph.

4. Periodic Recertifications

The owner or operator must conduct compliance testing and submit to the Commissioner a recertification of compliance under provisions of part 3 of this subparagraph within five (5) years from submitting the previous certification or recertification. If the owner or operator seeks to recertify compliance under new operating conditions, he/she must comply with the requirements of subpart 3(viii) of this subparagraph.

5. Noncompliance with Certification Schedule

If the owner or operator does not comply with the interim status compliance schedule provided by parts 2, 3, and 4 of this subparagraph, hazardous waste burning must terminate on the date that the deadline is missed, closure activities must begin under part 12 of this subparagraph, and hazardous waste burning may not resume except under an operating permit issued under Rule 1200-1-11-.07(1)(j). For purposes of compliance with the closure provisions of part 12 of this subparagraph and Rules 1200-1-11-.05(7)(c)4(ii) and .05(7)(d) the boiler or industrial furnace has received "the known final volume of hazardous waste" on the date that the deadline is missed.

6. 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/chlorine) must 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.

7. Automatic Waste Feed Cutoff

During the compliance test required by subpart 3(iii) of this subparagraph, and upon certification of compliance under part 3 of this subparagraph, a boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when the applicable operating conditions specified in items 3(i)(I) and (V) through (XIII) of this subparagraph deviate from those established in the certification of compliance. In addition:

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(i) To minimize emissions of organic compounds, the minimum combustion chamber temperature (or the indicator of combustion chamber temperature) that occurred during the compliance test must be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber, with the minimum temperature during the compliance test defined as either:

(I) If compliance with the combustion chamber temperature limit is based on a 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

(II) 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

(ii) Operating parameters limited by the certification of compliance must 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.

8. Fugitive Emissions

Fugitive emissions must 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 that the owner or operator can demonstrate provide 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.

9. Changes

A boiler or industrial furnace must 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.

10. Monitoring and Inspections

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

(I) Feed rates and composition of hazardous waste, other fuels, and industrial furnace feed stocks, 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;

(II) Carbon monoxide (CO), oxygen, and if applicable, hydrocarbons (HC), 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. CO, HC, and oxygen monitors must be installed, operated, and maintained in accordance with methods specified in Appendix IX of this Rule;

(III) Upon the request of the Commissioner, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feed stocks as appropriate) and the stack gas emissions must be conducted to verify that the operating conditions established in the certification of precompliance or certification of compliance achieve the applicable standards of subparagraphs (e), (f), (g), and (h) of this paragraph.

(ii) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) must be subjected to thorough visual inspection when they contain hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

(iii) The automatic hazardous waste feed cutoff system and associated alarms must be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the owner or operator can demonstrate that weekly inspections 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 must be conducted at least once every 30 days.

(iv) These monitoring and inspection data must be recorded and the records must be placed in the operating log.

11. Recordkeeping

The owner or operator must keep in the operating record of the facility all information and data required by this subparagraph for five (5) years or until new analyses and characterization are made, whichever is longer.

12. Closure

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace and must comply with Rules 1200-1-11-.05(7)(b)-(f).

(e) Standards to Control Organic Emissions [40 CFR 266.104]

1. DRE Standard

(i) General

Except as provided in subpart 1(iii) of this subparagraph, a boiler or industrial furnace burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for all organic hazardous constituents in the waste feed. To demonstrate conformance with this requirement, 99.99% DRE must be demonstrated during a trial burn for each principal organic hazardous constituent (POHC) designated (under subpart 1(ii) of this subparagraph) in its

permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \left[1 - \frac{W_{out}}{W_{in}} \times 100 \right]$$

where:

W_{in} = Mass feed rate of one principal organic hazardous constituent (POHC) in the hazardous waste fired to the boiler or industrial furnace; and

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

(ii) Designation of POHCs

Principal organic hazardous constituents (POHCs) are those compounds for which compliance with the DRE requirements of this section shall be demonstrated in a trial burn in conformance with procedures prescribed in Rule 1200-1-11-.07(1)(j). One or more POHCs shall be designated by the Commissioner 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 their 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 Appendix VIII of Rule 1200-1-11-.02 that are also present in the normal waste feed. However, if the applicant demonstrates to the Commissioner's satisfaction that a compound not listed in Appendix VIII or not present in the normal waste feed is a suitable indicator of compliance with the DRE requirements of this section, that compound may be designated as a POHC. Such POHCs need not be toxic or organic compounds.

(iii) Dioxin-listed Waste

A boiler or industrial furnace burning hazardous waste containing (or derived from) Hazardous Wastes Codes F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each POHC designated (under subpart 1(ii) of this subparagraph) in its permit. This performance must 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 subpart 1(ii) of this subparagraph. In addition, the owner or operator of the boiler or industrial furnace must notify the Commissioner of intent to burn Hazardous Waste Codes F020, F021, F022, F023, F026, or F027.

(iv) Automatic Waiver of DRE Trial Burn

Owners and operators of boilers operated under the special operating requirements provided by subparagraph (k) of this paragraph are considered to

be in compliance with the DRE standard of subpart 1(ii) of this subparagraph and are exempt from the DRE trial burn.

(v) Low Risk Waste

Owners and operators of boilers or industrial furnaces that burn hazardous waste in compliance with the requirements of part (j)1 of this paragraph are considered to be in compliance with the DRE standard of subpart 1(ii) of this subparagraph and are exempt from the DRE trial burn.

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2. Carbon Monoxide Standard

(i) Except as provided in part 3 of this subparagraph, the stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste cannot exceed 100 ppmv on an hourly rolling average basis (i.e., over any 60 minute period), continuously corrected to 7 percent oxygen, dry gas basis.

(ii) CO and oxygen shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in Appendix IX of paragraph (30) of this Rule.

(iii) Compliance with the 100 ppmv CO limit must be demonstrated during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). To demonstrate compliance, the highest hourly rolling average CO level during any valid run of the trial burn or compliance test must not exceed 100 ppmv.

3. Alternative Carbon Monoxide Standard

(i) The stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste may exceed the 100 ppmv limit provided that stack gas concentrations of hydrocarbons (HC) do not exceed 20 ppmv, except as provided by part 6 of this subparagraph for certain industrial furnaces.

(ii) HC limits must be established under this section on an hourly rolling average basis (i.e., over any 60 minute period), reported as propane, and continuously corrected to 7 percent oxygen, dry gas basis.

(iii) HC 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 Appendix IX of paragraph (30) of this Rule. CO and oxygen shall be continuously monitored in conformance with subpart 2(ii) of this subparagraph.

(iv) The alternative CO standard is established based on CO data during the trial burn (for a new facility) and the compliance test (for an interim status facility). The alternative CO standard is the average over all valid runs of the highest hourly average CO level for each run. The CO limit is implemented on an hourly rolling average basis, and continuously corrected to 7 percent oxygen, dry gas basis.

4. 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 item (d)1(v)(II) of this paragraph) at any location other than the end where products are normally discharged and where fuels are normally fired must comply with the hydrocarbon limits provided by parts 3 or 6 of this subparagraph irrespective of whether stack gas CO concentrations meet the 100 ppmv limit of part 2 of this subparagraph.

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5. 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 450-750 °F, and industrial furnaces operating under an alternative hydrocarbon limit established under part 6 of this subparagraph must 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 (MEI) exceeding 1 in 100,000:

(i) During the trial burn (for new facilities or an interim status facility applying for a permit) or compliance test (for interim status facilities), determine emission rates of the tetra-octa congeners of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs/CDFs) using Method 0023A. Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans Emissions from Stationary Sources, EPA Publication SW-846, as listed in Rule 1200-1-11-.01(2)(b);

(ii) Estimate the 2,3,7,8-TCDD toxicity equivalence of the tetra-octa CDDs/CDFs congeners using "Procedures for Estimating the Toxicity Equivalence of Chlorinated Dibenzo-p-Dioxin and Dibenzofuran Congeners" in Appendix IX of paragraph (30) of this Rule. Multiply the emission rates of CDD/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;

(iii) Conduct dispersion modeling using methods recommended in appendix W of part 51 of this chapter ("Guideline on Air Quality Models (Revised)" (1986) and its supplements), the "Hazardous Waste Combustion Air Quality Screening Procedure", provided in Appendix IX of paragraph (30) of this Rule, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised (listed in Rule 1200-1-11-.01(2)(b)) to predict the maximum annual average off-site ground level concentration of 2,3,7,8-TCDD equivalents determined under subpart 5(ii) of this subparagraph. The maximum annual average concentration must be used when a person resides on-site; and

(iv) 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 V of this Rule (2.2×10^{-7}) shall not exceed 1.0.

6. Monitoring CO and HC in the By-pass Duct of a Cement Kiln

Cement kilns may comply with the carbon monoxide and hydrocarbon limits provided by parts 2, 3, and 4 of this subparagraph by monitoring in the by-pass duct provided that:

(i) 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; and

(ii) The by-pass duct diverts a minimum of 10% of kiln off-gas into the duct.

7. Use of Emissions Test Data to Demonstrate Compliance and Establish Operating Limits

Compliance with the requirements of this subparagraph must be demonstrated simultaneously by emissions testing or during separate runs under identical operating conditions. Further, data to demonstrate compliance with the CO and HC limits of this subparagraph or to establish alternative CO or HC limits under this subparagraph must be obtained during the time that DRE testing, and where applicable, CDD/CDF testing under part 5 of this subparagraph and comprehensive organic emissions testing under part 6 of this subparagraph is conducted.

8. Enforcement

For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under subparagraph (c) of this paragraph) will be regarded as compliance with this subparagraph. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and re-issuance of a permit under Rule 1200-1-11-.07(9).

(f) Standards to Control Particulate Matter [40 CFR 266.105]

1. A boiler or industrial furnace burning hazardous waste may not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) after correction to a stack gas concentration of 7% oxygen, using procedures prescribed in 40 CFR part 60, appendix A, methods 1 through 5, and Appendix IX of paragraph (30) of this Rule.

2. An owner or operator meeting the requirements of part (j)2 of this paragraph for the low risk waste exemption is exempt from the particulate matter standard.

3. Oxygen correction

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

$$Pc = Pm \times 14/(E-Y)$$

Where:

Pc is the corrected concentration of the pollutant in the stack gas;

Pm 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; and

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

(ii) For devices that feed normal combustion air, E will equal 21 percent.

For devices that feed oxygen-enriched air for combustion (that is, air with an oxygen concentration exceeding 21 percent), the value of E will be the concentration of oxygen in the enriched air.

(iii) Compliance with all emission standards provided by this paragraph must be based on correcting to 7 percent oxygen using this procedure.

4. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under subparagraph (c) of this paragraph) will be regarded as compliance with this subparagraph. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this subparagraph may be "information" justifying modification or revocation and re-issuance of a permit under Rule 1200-1-11-.07(9).

(g) Standards to Control Metals Emissions [40 CFR 266.106]

1. General

The owner or operator must comply with the metals standards provided by parts 2, 3, 4, 5, or 6 of this subparagraph for each metal listed in part 2 of this subparagraph that is present in the hazardous waste at detectable levels using appropriate analytical procedures.

2. Tier I Feed Rate Screening Limits

Feed rate screening limits for metals are specified in Appendix I of 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 subpart 2(vii) of this subparagraph.

(i) Noncarcinogenic Metals

The feed rates of antimony, barium, lead, mercury, thallium, and silver in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the screening limits specified in Appendix I of this Rule.

(I) The feed rate screening limits for antimony, barium, mercury, thallium, and silver are based on either:

I. An hourly rolling average as defined in subitem (c)5(vi)(I)II of this paragraph; or

II. An instantaneous limit not to be exceeded at any time.

(II) The feed rate screening limit for lead is based on one of the following:

I. An hourly rolling average as defined in subitem (c)5(vi)(I)II of this paragraph;

II. An averaging period of 2 to 24 hours as defined in item (c)5(vi)(II) of this paragraph with an instantaneous feed rate limit not to exceed 10 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.

(ii) Carcinogenic Metals

(I) The feed rates of arsenic, cadmium, beryllium, and chromium in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed values derived from the screening limits specified in Appendix I of 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 I 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 I of this part for metal "i".

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

I. An hourly rolling average; or

II. An averaging period of 2 to 24 hours as defined in item (c)5(vi)(II) of this paragraph with an instantaneous feed rate limit not to exceed 10 times the feed rate that would be allowed on an hourly rolling average basis.

(iii) TESH

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

TESH = Ha+H1-Tr

where:

Ha = Actual physical stack height

H1 = Plume rise as determined from Appendix VI of this Rule as a function of stack flow rate and stack gas exhaust temperature.

Tr = Terrain rise within five kilometers of the stack.

(II) The stack height may not exceed good engineering practice as specified in 40 CFR 51.100(ii).

(III) If the TESH for a particular facility is not listed in the table in the appendices, the nearest lower TESH listed in the table shall be used. If the TESH is four meters or less, a value of four meters shall be used.

(iv) 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 5 kilometers of the stack equals or exceeds the elevation of the physical stack height 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.

(v) 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 Appendix IX or Appendix X of this Rule shall be used.

(vi) 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 an operating permit or interim status controls must 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/second); and

T = exhaust temperature (°K).

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

(vii) Criteria for Facilities Not Eligible for Screening Limits

If any criteria below are met, the Tier I and Tier II screening limits do not apply. Owners and operators of such facilities must comply with either the Tier III standards provided by part 4 of this subparagraph or with the adjusted Tier I feed rate screening limits provided by part 5 of this subparagraph.

(I) The device is located in a narrow valley less than one kilometer wide;

(II) The device has a stack taller than 20 meters and is located such that the terrain rises to the physical height within one kilometer of the facility;

(III) The device has a stack taller than 20 meters and is located within five kilometers of a shoreline of a large body of water such as an ocean or large lake;

(IV) 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; or

(V) The Commissioner determines that standards based on site-specific dispersion modeling are required.

(viii) Implementation

The feed rate of metals in each feedstream must be monitored to ensure that the feed rate screening limits are not exceeded.

3. Tier II Emission Rate Screening Limits

Emission rate screening limits are specified in Appendix I 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 subpart 2(vii) of this subparagraph.

(i) Noncarcinogenic Metals

The emission rates of antimony, barium, lead, mercury, thallium, and silver shall not exceed the screening limits specified in Appendix I of this Rule.

(ii) Carcinogenic Metals

The emission rates of arsenic, cadmium, beryllium, and chromium shall not exceed values derived from the screening limits specified in Appendix I of 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 I shall not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^{n} \frac{AER_{(i)}}{ERSL_{(i)}} \leq 1.0$$

where:

n = number of carcinogenic metals

AER = actual emission rate for metal “i”

ERSL = emission rate screening limit provided by appendix I of this part for metal “i”.

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(iii) Implementation

The emission rate limits must be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by items 2(i)(I) and (II) and 2(ii)(II) of this subparagraph. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate limits for the feedstreams specified under subparagraphs (c) or (d) of this paragraph are not exceeded.

(iv) Definitions and Limitations

The definitions and limitations provided by part 2 of this subparagraph for the following terms also apply to the Tier II emission rate screening limits provided by part 3 of this subparagraph: 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.

(v) Multiple Stacks

(I) Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a operating permit or interim status controls must 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.

(II) The worst-case stack is determined by procedures provided in subpart 2(vi) of this subparagraph.

(III) For each metal, the total emissions of the metal from those stacks shall not exceed the screening limit for the worst-case stack.

4. Tier III and Adjusted Tier I Site-specific Risk Assessment

The requirements of this part apply to facilities complying with either the Tier III or Adjusted Tier I controls, except where specified otherwise.

(i) General

Conformance with the Tier III metals controls must 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 must be demonstrated by air dispersion modeling to predict the maximum annual average off-site ground level concentration for each 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.

(ii) Acceptable Ambient Levels

Appendices IV and V of this Rule 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 subpart 4(iii) of this subparagraph.

(iii) 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 must be considered if a person resides on site) to the risk-specific dose (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

(iv) 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 (RAC).

(v) 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 operating permit or interim status controls must 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.

(vi) Implementation

Under Tier III, the metals controls must be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by items 2(i)(I) and (II) and 2(ii)(II) of this subparagraph. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate limits for the feedstreams specified under subparagraph (c) or (d) of this paragraph are not exceeded.

5. Adjusted Tier I Feed Rate Screening Limits

The owner or operator may adjust the feed rate screening limits provided by appendix I of this part to account for site-specific dispersion modeling. Under this approach, the

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adjusted feed rate screening limit for a metal is determined by back-calculating from the acceptable ambient level provided by Appendices IV and V of this Rule 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 subpart 2(ii) of this subparagraph.

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6. Alternative Implementation Approaches

(i) The Commissioner may approve on a case-by-case basis approaches to implement the Tier II or Tier III metals emission limits provided by parts 3 or 4 of this subparagraph alternative to monitoring the feed rate of metals in each feedstream.

(ii) The emission limits provided by part 4 of this subparagraph must be determined as follows:

(I) For each noncarcinogenic metal, by back-calculating from the RAC provided in Appendix IV of this Rule 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 part 8 of this subparagraph; and

(II) For each carcinogenic metal by:

I. Back-calculating from the RSD provided in Appendix V of this Rule 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 part 8 of this subparagraph; 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 subitem 6(ii)(II)I of this subparagraph such that the sum for all carcinogenic metals of the ratios of the selected emission limit to the emission rate determined by that part does not exceed 1.0.

7. Emission Testing

(i) General

Emission testing for metals shall be conducted using Method 0060, Determinations of Metals in Stack Emissions, EPA Publication SW-846, listed in Rule 1200-1-11-.01(2)(b).

(ii) 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, EPA Publication SW-846, listed in Rule 1200-1-11-.01(2)(b).

8. Dispersion Modeling

Dispersion modeling required under this section shall be conducted according to methods recommended in appendix W of part 51 of this chapter ("Guideline on Air Quality Models (Revised)" (1986) and its supplements), the "Hazardous Waste Combustion Air Quality Screening Procedure", provided in Appendix IX of this Rule, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised (listed in Rule 1200-1-11-.01(2)(b)) to predict the maximum annual average off-site ground level concentration. However, on-site concentrations must be considered when a person resides on-site.

9. Enforcement

For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under subparagraph (c) of this paragraph) will be regarded as compliance with this subparagraph. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this subparagraph may be "information" justifying modification or revocation and re-issuance of a permit under Rule 1200-1-11-.07(9).

(h) Standards to Control Hydrogen Chloride (HCl) and Chlorine Gas (Cl_2) Emissions [40 CFR 266.107]

1. General

The owner or operator must comply with the hydrogen chloride (HCl) and chlorine (Cl_2) controls provided by part 2, 3, or 5 of this subparagraph.

2. Screening Limits

(i) Tier I Feed Rate Screening Limits

Feed rate screening limits are specified for total chlorine in Appendix II of 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, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the levels specified.

(ii) Tier II Emission Rate Screening Limits

Emission rate screening limits for HCl and Cl_2 are specified in Appendix III of 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 HCl and Cl_2 shall not exceed the levels specified.

(iii) Definitions and Limitations

The definitions and limitations provided by part (g)2 of this paragraph for the following terms also apply to the screening limits provided by this subpart: 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.

(iv) 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 HCl or Cl_2 emissions under a operating permit or interim status controls must 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.

(I) The worst-case stack is determined by procedures provided in subpart (g)2(vi) of this paragraph.

(II) 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.

(III) Under Tier II, the total emissions of HCl and Cl_2 from all subject stacks shall not exceed the screening limit for the worst-case stack.

3. Tier III Site-specific Risk Assessments

(i) General

Conformance with the Tier III controls must be demonstrated by emissions testing to determine the emission rate for HCl and Cl_2, 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.

(ii) Acceptable Ambient Levels

Appendix IV of this Rule lists the reference air concentrations (RACs) for HCl (7 micrograms per cubic meter) and Cl_2 (0.4 micrograms per cubic meter).

(iii) 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 HCl or Cl_2 emissions under a operating permit or interim status controls must 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 HCl and Cl_2.

4. Averaging Periods

The HCl and Cl_2 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. 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 an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate limits are based on either:

(i) An hourly rolling average as defined in subpart (c)5(vi) of this paragraph; or

(ii) An instantaneous basis not to be exceeded at any time.

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5. Adjusted Tier I Feed Rate Screening Limits

The owner or operator may adjust the feed rate screening limit provided by Appendix II of 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 Cl_2 provided by Appendix IV of this Rule using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit.

6. Emissions Testing

Emissions testing for HCl and Cl_2 shall be conducted using the procedures described in Methods 0050 or 0051, EPA Publication SW-846, listed in Rule 1200-1-11-.01(2)(b).

7. Dispersion Modeling

Dispersion modeling shall be conducted according to the provisions of part (g)8 of this paragraph.

8. Enforcement

For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under subparagraph (c) of this paragraph) will be regarded as compliance with this subparagraph. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this subparagraph may be "information" justifying modification or revocation and re-issuance of a permit under Rule 1200-1-11-.07(9).

(i) Small Quantity On-site Burner Exemption [40 CFR 266.108]

1. Exempt Quantities

Owners and operators of facilities that burn hazardous waste in an on-site boiler or industrial furnace are exempt from the requirements of this subpart provided that:

(i) The quantity of hazardous waste burned in a device for a calendar month does not exceed the limits provided in the following table based on the terrain-adjusted effective stack height as defined in subpart (g)2(iii) of this paragraph:

Exempt Quantities for Small Quantity Burner Exemption

Terrain-adjusted Effective Stack Height of Device (meters)	Allowable Hazardous Waste Burning Rate (gallons/month)	Terrain-adjusted Effective Stack Height of Device (meters)	Allowable Hazardous Waste Burning Rate (Gallons/month)
0 to 3.9	0	40.0 to 44.9	210
4.0 to 5.9	13	45.0 to 49.9	260
6.0 to 7.9	18	50.0 to 54.9	330
8.0 to 9.9	27	55.0 to 59.9	400
10.0 to 11.9	40	60.0 to 64.9	490

12.0 to 13.9	48	65.0 to 69.9	610
14.0 to 15.9	59	70.0 to 74.9	680
16.0 to 17.9	69	75.0 to 79.9	760
18.0 to 19.9	76	80.0 to 84.9	850
20.0 to 21.9	84	85.0 to 89.9	960
22.0 to 23.9	93	90.0 to 94.9	1,100
24.0 to 25.9	100	95.0 to 99.9	1,200
26.0 to 27.9	110	100.0 to 104.9	1,300
28.0 to 29.9	130	105.0 to 109.9	1,500
30.0 to 34.9	140	110.0 to 114.9	1,700
35.0 to 39.9	170	115.0 or greater	1,900

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(ii) The maximum hazardous waste firing rate does not exceed at any time 1 percent 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.

(iii) The hazardous waste has a minimum heating value of 5,000 Btu/lb, as generated; and

(iv) The hazardous waste fuel does not contain (and is not derived from) Hazardous Waste Codes F020, F021, F022, F023, F026, or F027.

2. 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 part 1 of this subparagraph.

3. Multiple Stacks

If an owner or operator burns hazardous waste in more than one on-site boiler or industrial furnace exempt under this subparagraph, the quantity limits provided by subpart 1(i) of this subparagraph 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 means the number of stacks;

Actual Quantity Burned means the waste quantity burned per month in device “i”;

Allowed Quantity Burned means the maximum allowable exempt quantity for stack “i” from the table in subpart 1(i) of this subparagraph above.

(Note: Hazardous wastes that are subject to the special requirements for small quantity generators under Rule 1200-1-11-.02(1)(e) may be burned in an off-site device under the exemption provided by subparagraph (i) of this paragraph, but must be included in the quantity determination for the exemption.)

4. Notification Requirements

The owner or operator of facilities qualifying for the small quantity burner exemption under this subparagraph must provide a one-time signed, written notice to the Department indicating the following:

(i) The combustion unit is operating as a small quantity burner of hazardous waste;

(ii) The owner and operator are in compliance with the requirements of this subparagraph; and

(iii) The maximum quantity of hazardous waste that the facility may burn per month as provided by subpart 1(i) of this subparagraph.

5. Recordkeeping Requirements

The owner or operator must 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 subparagraph. At a minimum, these records must indicate the quantity of hazardous waste and other fuel burned in each unit per calendar month, and the heating value of the hazardous waste.

(j) Low Risk Waste Exemption [40 CFR 266.109]

1. Waiver of DRE Standard

The DRE standard of part (e)1 of this paragraph does not apply if the boiler or industrial furnace is operated in conformance with subpart 1(i) of this subparagraph and the owner or operator demonstrates by procedures prescribed in subpart 1(ii) of this subparagraph that the burning will not result in unacceptable adverse health effects.

(i) The device shall be operated as follows:

(I) A minimum of 50 percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the Commissioner 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 subparagraph. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50 percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;

(II) Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb;

(III) The hazardous waste is fired directly into the primary fuel flame zone of the combustion chamber; and

(IV) The device operates in conformance with the carbon monoxide controls provided by subpart (e)2(i) of this paragraph. Devices subject to the exemption provided by this subparagraph are not eligible for the alternative carbon monoxide controls provided by part (e)3 of this paragraph.

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

(I) Identify and quantify those nonmetal compounds listed in Appendix VIII of Rule 1200-1-11-.02(5) that could reasonably be expected to be present in the hazardous waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained;

(II) Calculate reasonable, worst case emission rates for each constitutent identified in item 1(ii)(I) of this subparagraph by assuming the device achieves 99.9 percent destruction and removal efficiency. That is, assume that 0.1 percent of the mass weight of each constituent fed to the device is emitted;

(III) For each constituent identified in item 1(ii)(I) of this subparagraph, use emissions dispersion modeling to predict the maximum annual average ground level concentration of the constituent.

I. Dispersion modeling shall be conducted using methods specified in part (g)8 of this paragraph.

II. Owners and operators of facilities with more than one on-site stack from a boiler or industrial furnace that is exempt under this subparagraph must conduct dispersion modeling of emissions from all stacks exempt under this subparagraph to predict ambient levels prescribed by this item;

(IV) Ground level concentrations of constituents predicted under item 1(ii)(III) of this subparagraph must not exceed the following levels:

I. For the noncarcinogenic compounds listed in Appendix IV of this Rule, the levels established in Appendix IV;

II. For the carcinogenic compounds listed in Appendix V of this Rule, the sum for all constituents of the ratios of the actual ground level concentration to the level established in Appendix V cannot exceed 1.0; and

III. For constituents not listed in Appendix IV or V, 0.1 micrograms per cubic meter.

2. Waiver of Particulate Matter Standard

The particulate matter standard of subparagraph (f) of this paragraph does not apply if:

(i) The DRE standard is waived under part 1 of this subparagraph; and

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(ii) The owner or operator complies with the Tier I or adjusted Tier I metals feed rate screening limits provided by part (g)2 or (g)5 of this paragraph.

(k) Waiver of DRE Trial Burn for Boilers [40 CFR 266.110]

Boilers that operate under the special requirements of this subparagraph, and that do not burn hazardous waste containing (or derived from) Hazardous Waste Codes F020, F021, F022, F023, F026, or F027, are considered to be in conformance with the DRE standard of part (e)1 of this paragraph, and a trial burn to demonstrate DRE is waived. When burning hazardous waste:

1. A minimum of 50 percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the Commissioner 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 section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50 percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;

2. Boiler load shall not be less than 40 percent. Boiler load is the ratio at any time of the total heat input to the maximum design heat input;

3. Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb, and each material fired in a burner where hazardous waste is fired must have a heating value of at least 8,000 Btu/lb, as-fired;

4. The device shall operate in conformance with the carbon monoxide standard provided by subpart (e)2(i) of this paragraph. Boilers subject to the waiver of the DRE trial burn provided by this subparagraph are not eligible for the alternative carbon monoxide standard provided by part (e)3 of this paragraph;

5. The boiler must be a watertube type boiler that does not feed fuel using a stoker or stoker type mechanism; and

6. The hazardous waste shall 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:

(i) Viscosity

The viscosity of the hazardous waste fuel as-fired shall not exceed 300 SSU;

(ii) Particle Size

When a high pressure air or steam atomizer, low pressure atomizer, or mechanical atomizer is used, 70% of the hazardous waste fuel must pass through a 200 mesh (74 micron) screen, and when a rotary cup atomizer is used, 70% of the hazardous waste must pass through a 100 mesh (150 micron) screen;

(iii) Mechanical Atomization Systems

Fuel pressure within a mechanical atomization system and fuel flow rate shall be maintained within the design range taking into account the viscosity and volatility of the fuel;

(iv) 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.

(l) Standards for Direct Transfer [40 CFR 266.111]

1. Applicability

The regulations in this subparagraph apply to owners and operators of boilers and industrial furnaces subject to subparagraphs (c) or (d) of this paragraph if hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit.

2. Definitions

(i) When used in this subparagraph, the following terms have the meanings given below:

"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.

"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.

(ii) This subparagraph references several requirements provided in paragraph (9) and (10) of Rules 1200-1-11-.05 and .06. For purposes of this subparagraph, the term "tank systems" in those referenced requirements means direct transfer equipment as defined in subpart 2(i) of this subparagraph.

3. General Operating Requirements

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

(ii) 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.

(iii) The direct transfer of hazardous waste to a boiler or industrial furnace shall be conducted so that it does not:

(I) Generate extreme heat or pressure, fire, 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 or direct transfer equipment containing the waste;

(V) Adversely affect the capability of the boiler or industrial furnace to meet the standards provided by subparagraph (e) through (h) of this paragraph; or

(VI) Threaten human health or the environment.

(iv) Hazardous waste shall not be placed in direct transfer equipment, if it could cause the equipment or its secondary containment system to rupture, leak, corrode, or otherwise fail.

(v) 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 secondary containment systems. These include at a minimum:

(I) Spill prevention controls (e.g., check valves, dry discount couplings); and

(II) Automatic waste feed cutoff to use if a leak or spill occurs from the direct transfer equipment.

4. Areas Where Direct Transfer Vehicles (containers) are Located

Applying the definition of container under this subparagraph, owners and operators must comply with the following requirements:

(i) The containment requirements of Rule 1200-1-11-.06(9)(f);

(ii) The use and management requirements of Rule 1200-1-11-.05(9), except for Rule 1200-1-11-.05(9)(a) and (9)(e), and except that in lieu of the special requirements of Rule 1200-1-11-.05(9)(g) for ignitable 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 Tables 2-1 through 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code," (1977 or 1981) (listed in Rule 1200-1-11-.01(2)(b)). The owner or operator must obtain and keep on file at the facility a written certification by the local Fire Marshall that the installation meets the subject NFPA codes; and

(iii) The closure requirements of Rule 1200-1-11-.06(9)(i).

5. Direct Transfer Equipment

Direct transfer equipment must meet the following requirements:

(i) Secondary Containment

Owners and operators shall comply with the secondary containment requirements of Rule 1200-1-11-.05(10)(d), except for parts 4, 5, and 9 of that Rule as follows:

(I) For all new direct transfer equipment, prior to their being put into service; and

(II) For existing direct transfer equipment within 2 years after August 21, 1991.

(ii) Requirements Prior to Meeting Secondary Containment Requirements

(I) 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, registered professional engineer in accordance with Rule 1200-1-11-.07(2)(a)10 that attests to the equipment's integrity by August 21, 1992.

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

I. Design standard(s), if available, according to which the direct transfer equipment was constructed;

II. Hazardous characteristics of the waste(s) 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); and

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.

(III) If, as a result of the assessment specified above, the direct transfer equipment is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of Rules 1200-1-11-.05(10)(g)1 and 2.

(iii) Inspections and Recordkeeping

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

I. Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

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

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 design.

(II) The owner or operator must inspect cathodic protection systems, if used, to ensure that they are functioning properly according to the schedule provided by Rule 1200-1-11-.05(10)(f)2.

(III) Records of inspections made under this subpart shall be maintained in the operating record at the facility, and available for inspection for at least 3 years from the date of the inspection.

(iv) Design and Installation of New Ancillary Equipment

Owners and operators must comply with the requirements of Rule 1200-1-11-.05(10)(c).

(v) Response to Leaks or Spills

Owners and operators must comply with the requirements of Rule 1200-1-11-.05(10)(g).

(vi) Closure

Owners and operators must comply with the requirements of Rule 1200-1-11-.05(10)(h), except for subparts 3(ii) through 3(iv) of that Rule.

(m) Regulation of Residues [40 CFR 266.112]

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 subparts 2(xiii), (xv), or (xvi) of Rule 1200-1-11-.02(1)(d) unless the device and the owner or operator meet the following requirements:

1. The device meets the following criteria:

(i) Boilers

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

(ii) Ore or Mineral Furnaces

Industrial furnaces subject to Rule 1200-1-11-.02(1)(d)2(xv) must process at least 50% by weight normal, nonhazardous raw materials;

(iii) Cement Kilns

Cement kilns must process at least 50% by weight normal cement-production raw materials;

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

(i) Comparison of Waste-derived Residue With Normal Residue

The waste-derived residue must not contain Appendix VIII, Rule 1200-1-11-.02(5) constituents (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 VIII of this Rule that may be generated as products of incomplete combustion. 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 appendix IX of this Rule.

(I) Normal Residue

Concentrations of toxic constituents of concern in normal residue shall be determined based on analyses of a minimum of 10 samples representing a minimum of 10 days of operation. Composite samples may be used to develop a sample for analysis provided that the compositing period does not exceed 24 hours. The upper tolerance limit (at 95% confidence with a 95% proportion of the sample distribution) of the concentration in the normal residue shall 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 shall use statistical procedures prescribed in "Statistical Methodology for Bevill Residue Determinations" in Appendix IX of this Rule.

(II) Waste-derived Residue

Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the concentrations established for the normal residue under item 2(i)(I) of this subparagraph. If so, hazardous waste burning has significantly affected the residue and the residue shall not be excluded from the definition of a hazardous waste. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed 24 hours. If more than one sample is analyzed

to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results may be disregarded; or

(ii) Comparison of Waste-derived Residue Concentrations With Health-based Limits

(I) Nonmetal Constituents

The concentration of each nonmetal toxic constituent of concern (specified in subpart 2(i) of this subparagraph) in the waste-derived residue must not exceed the health-based level specified in Appendix VII of this Rule, or the level of detection, whichever is higher. If a health-based limit for a constituent of concern is not listed in Appendix VII of this Rule, then a limit of 0.002 micrograms per kilogram or the level of detection (which must be determined by using appropriate analytic procedures), whichever is higher, must be used. The levels specified in Appendix VII of 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 VII of this Rule) are administratively stayed under the condition, for those constituents specified in subpart 2(i) of this subparagraph, that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in Rule 1200-1-11-.10(3)(d) for F039 nonwastewaters. In complying with those alternative levels, if an owner or operator is unable to detect a constituent despite documenting use of best good-faith efforts as defined by applicable Department guidance or standards, the owner or operator is deemed to be in compliance for that constituent. Until new guidance or standards are developed, the owner or operator may demonstrate such good-faith efforts by achieving a detection limit for the constituent that does not exceed an order of magnitude above the level provided by Rule 1200-1-11-.10(3)(d) for F039 nonwastewaters. In complying with the Rule 1200-1-11-.10(3)(d) F039 nonwastewater levels for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses must be performed for total hexachlorodibenzo-p-dioxins, total hexachlorodibenzofurans, total pentachlorobibenzo-p-dioxins, total pentachlorodibenzofurans, total tetrachlorodibenzo-p-dioxins, and total tetrachlorodibenzofurans.

Note to this paragraph: The administrative stay, under the condition that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in § 268.43 of this chapter for F039 nonwastewaters, remains in effect until further administrative action is taken and notice is published in the Federal Register and the Code of Federal Regulations.

(II) Metal Constituents

The concentration of metals in an extract obtained using the Toxicity Characteristic Leaching Procedure of Rule 1200-1-11-.02(3)(e) must not exceed the levels specified in Appendix VII of this Rule; and

(III) Sampling and Analysis

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

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3. Records sufficient to document compliance with the provisions of this subparagraph shall be retained until closure of the boiler or industrial furnace unit. At a minimum, the following shall be recorded.

(i) Levels of constituents in Appendix VIII of Rule 1200-1-11-.02(5), that are present in waste-derived residues;

(ii) If the waste-derived residue is compared with normal residue under subpart 2(i) of this subparagraph:

(I) The levels of constituents in Appendix VIII of Rule 1200-1-11-.02(5), that are present in normal residues; and

(II) 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.

(9) - (12) (RESERVED) [40 CFR 266 Subparts I-L]

(13) Military Munitions [40 CFR 266 Subpart M]

(a) Applicability [40 CFR 266.200]

1. The regulations in this paragraph identify when military munitions become a solid waste, and, if these wastes are also hazardous under this paragraph or Rule 1200-1-11-.02, the management standards that apply to these wastes.

2. Unless otherwise specified in this paragraph, all applicable requirements in Rule 1200-1-11-.01 through .10 apply to waste military munitions.

(b) Definitions [40 CFR 266.201]

In addition to the definitions in Rule 1200-1-11-.01(2)(a), the following definitions apply to this paragraph:

“Active range” means a military range that is currently in service and is being regularly used for range activities.

“Chemical agents and munitions” are defined as in 50 U.S.C. section 1521(j)(1).

"Explosives or munitions emergency response specialist" is as defined in Rule 1200-1-11-.01(2)(a).

"Explosives or munitions emergency" is as defined in Rule 1200-1-11-.01(2)(a).

"Explosives or munitions emergency response" is as defined in Rule 1200-1-11-.01(2)(a).

"Inactive range" means a military range that is not currently being used, 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.

"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.

"Military munitions" is as defined in Rule 1200-1-11-.01(2)(a).

"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 their use and handling. 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.

"Unexploded ordnance (UXO)" 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.

(c) Definition of Solid Waste [40 CFR 266.202]

1. A military munition is not a solid waste when:

(i) Used for its intended purpose, including:

(I) Use in training military personnel or explosives and munitions emergency response specialists (including training in proper destruction of unused propellant or other munitions); or

(II) Use in research, development, testing, and evaluation of military munitions, weapons, or weapon systems; or

(III) 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.

(ii) 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 defined in Rule 1200-1-11-.02(1)(b)3(i), or burning for energy recovery as defined in Rule 1200-1-11-.02(1)(b)3(ii).

2. An unused military munition is a solid waste when any of the following occurs:

(i) The munition is abandoned by being disposed of, burned, detonated (except during intended use as specified in part 1 of this subparagraph), incinerated, or treated prior to disposal; or

(ii) 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

(iii) 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 it cannot be put into serviceable condition, and cannot reasonably be recycled or used for other purposes; or

(iv) The munition has been declared a solid waste by an authorized military official.

3. A used or fired military munition is a solid waste:

(i) 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

(ii) If recovered, collected, and then disposed of by burial, or landfilling either on or off a range.

4. For purposes of Tennessee Code Annotated (T.C.A.) §68-212-104(17), a used or fired military munition is a solid waste, and, therefore, is potentially subject to corrective action authorities under T.C.A. §§68-212-108(l), and 68-212-111, or imminent and substantial endangerment authorities under T.C.A. §68-212-105, T.C.A. §68-212-111, T.C.A. §68-212-114, and T.C.A. §68-212-115, if the munition lands off-range and is not promptly rendered safe and/or retrieved. Any imminent and substantial threats associated with any remaining material must be addressed. If remedial action is infeasible, the operator of the range must maintain a record of the event for as long as any threat remains. The record must include the type of munition and its location (to the extent the location is known).

(d) Standards Applicable to the Transportation of Solid Waste Military Munition [40 CFR 266.203]

1. Criteria for hazardous waste regulation of waste non-chemical military munitions in transportation.

(i) Waste military munitions that are being transported and that exhibit a hazardous waste characteristic or are listed as hazardous waste under Rule 1200-1-11-.02, are listed or identified as a hazardous waste (and thus are subject to regulation under Rule 1200-1-11-.01 through .10), unless all the following conditions are met:

(I) The waste military munitions are not chemical agents or chemical munitions;

(II) The waste military munitions must be transported in accordance with the Department of Defense shipping controls applicable to the transport of military munitions;

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(III) The waste military munitions must be transported from a military owned or operated installation to a military owned or operated treatment, storage, or disposal facility; and

(IV) The transporter of the waste must provide oral notice to the Division Director within 24 hours from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of subpart 1(i) of this subparagraph that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of subpart 1(i) of this subparagraph.

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(ii) If any waste military munitions shipped under subpart 1(i) of this subparagraph are not received by the receiving facility within 45 days of the day the waste was shipped, the owner or operator of the receiving facility must report this non-receipt to the Director within 5 days.

(iii) The exemption in subpart 1(i) of this subparagraph from regulation as hazardous waste shall apply only to the transportation of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to storage, treatment or disposal.

(iv) The conditional exemption in subpart 1(i) of this subparagraph applies only so long as all of the conditions in subpart 1(i) of this subparagraph are met.

2. Reinstatement of exemption. If any waste military munition loses its exemption under subpart 1(i) of this subparagraph, an application may be filed with the Commissioner 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 subpart 1(i) of this subparagraph. If the Commissioner 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 Commissioner may reinstate the exemption under subpart 1(i) of this subparagraph. If the Commissioner does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the Commissioner may terminate a conditional exemption reinstated by default in the preceding sentence if the Commissioner 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 subpart 1(i) of this subparagraph, the Commissioner may specify additional conditions as are necessary to ensure and document proper transportation to protect human health and the environment.

3. Amendments to DOD shipping controls. The Department of Defense shipping controls applicable to the transport of military munitions referenced in item 1(i)(II) of this subparagraph are Government Bill of Lading (GBL) (GSA Standard Form 1109), requisition tracking form DD Form 1348, the Signature and Talley Record (DD Form 1907), Special Instructions for Motor Vehicle Drivers (DD Form 836), and the Motor Vehicle Inspection Report (DD Form 626) in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the Department of Defense

shipping controls shall become effective for purposes of subpart 1(i) of this subparagraph on the date the Department of Defense publishes notice in the Federal Register that the shipping controls referenced in item 1(i)(II) of this subparagraph have been amended.

(e) Standards Applicable to Emergency Responses [40 CFR 266.204]

Explosives and munitions emergencies involving military munitions or explosives are subject to Rules 1200-1-11-.03(1)(a)10, .04(1)(a)6, .06(1)(b)2(vii), .05(1)(b)2(vii), and .07(1)(b)5, or alternatively to .07(1)(d).

(f) Standards Applicable to the Storage of Solid Waste Military Munitions [40 CFR 266.205]

1. Criteria for hazardous waste regulation of waste non-chemical military munitions in storage.

(i) Waste military munitions in storage that exhibit a hazardous waste characteristic or are listed as hazardous waste under Rule 1200-1-11-.02 are listed or identified as a hazardous waste (and thus are subject to regulation under Rules 1200-1-11-.01 through .10), unless all the following conditions are met:

(I) The waste military munitions are not chemical agents or chemical munitions.

(II) The waste military munitions must be subject to the jurisdiction of the Department of Defense Explosives Safety Board (DDESB).

(III) The waste military munitions must be stored in accordance with the DDESB storage standards applicable to waste military munitions.

(IV) Within 90 days of August 12, 1997 or within 90 days of when a storage unit is first used to store waste military munitions, whichever is later, the owner or operator must notify the Commissioner of the location of any waste storage unit used to store waste military munitions for which the conditional exemption in subpart 1(i) of this subparagraph is claimed.

(V) The owner or operator must provide oral notice to the Commissioner within 24 hours from 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 subpart 1(i) of this subparagraph that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from 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 subpart 1(i) of this subparagraph.

(VI) The owner or operator must inventory the waste military munitions at least annually, must inspect the waste military munitions at least quarterly for compliance with the conditions of subpart 1(i) of this subparagraph, and must maintain records of the findings of these inventories and inspections for at least three years.

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(VII) Access to the stored waste military munitions must be limited to appropriately trained and authorized personnel.

(ii) The conditional exemption in subpart 1(i) of this subparagraph from regulation as hazardous waste shall apply only to the storage of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to transportation, treatment or disposal.

(iii) The conditional exemption in subpart 1(i) of this subparagraph applies only so long as all of the conditions in subpart 1(i) of this subparagraph are met.

2. Notice of termination of waste storage. The owner or operator must notify the Commissioner when a storage unit identified in subpart 1(i) of this subparagraph will no longer be used to store waste military munitions.

3. Reinstatement of conditional exemption. If any waste military munition loses its conditional exemption under subpart 1(i) of this subparagraph, an application may be filed with the Commissioner 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 subpart 1(i) of this subparagraph. If the Commissioner 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 Commissioner may reinstate the conditional exemption under subpart 1(i) of this subparagraph. If the Commissioner does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the Commissioner may terminate a conditional exemption reinstated by default in the preceding sentence if he/she 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 subpart 1(i) of this subparagraph, the Commissioner may specify additional conditions as are necessary to ensure and document proper storage to protect human health and the environment.

4. Waste chemical munitions.

(i) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under Rule 1200-1-11-.02, are listed or identified as a hazardous waste and shall be subject to the applicable regulatory requirements of Rule Chapter 1200-1-11.

(ii) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under Rule 1200-1-11-.02 are not subject to the storage prohibition in Rule 1200-1-11-.10(4)(a).

5. Amendments to DDESB storage standards. The DDESB storage standards applicable to waste military munitions, referenced in item 1(i)(III) of this subparagraph, are DOD 6055.9-STD (``DOD Ammunition and Explosive Safety Standards''), in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the DDESB storage standards shall become effective for purposes of subpart 1(i) of this subparagraph on the date the Department of Defense publishes notice in the Federal

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Register that the DDESB standards referenced in subpart 1(i) of this subparagraph have been amended.

(g) Standards Applicable to the Treatment and Disposal of Waste Military Munitions [40 CFR 266.206]

The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in Rules 1200-1-11-.01 through .10.

(14) Conditional Exemption for Low-Level Mixed Waste Storage and Disposal (40 CRF 266 Supbart N)

(a) Definitions

1. What definitions apply to this subpart? (266.210)
This part uses the following special definitions:

"Agreement State" means a state that has entered into an agreement with the NRC under subsection 274b of the Atomic Energy Act of 1954, as amended (68 Stat. 919), to assume responsibility for regulating within its borders byproduct, source, or special nuclear material in quantities not sufficient to form a critical mass.

"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.

"Commissioner" refers to the definition in Rule 1200-1-11-.01(2)(a).

"Eligible Naturally Occurring and/or Accelerator-produced Radioactive Material (NARM)" is NARM that is eligible for the Transportation and Disposal Conditional Exemption. It is a NARM waste that contains hazardous waste, meets the waste acceptance criteria of, and is allowed by Sate NARM regulations to be disposed of at a low-level radioactive waste disposal facility (LLRWDF) licensed in accordance with 10 CFR part 61 or NRC Agreement State equivalent regulations.

"Exempted Waste" means a waste that meets the eligibility criteria in part (b)6 of this paragraph and meets all of the conditions in part (b)11 of this paragraph, or meets the eligibility criteria in part (m)1 of this paragraph and complies with all the conditions in part (n)1 of this paragraph. Such waste is conditionally exempted from the regulatory definition of hazardous waste described in Rule 1200-1-11-.02(1)(c).

"Hazardous Waste" means any material which is defined to be hazardous waste in accordance with Rule 1200-1-11-.02(1)(c), "Definition of Hazardous Waste".

"Land Disposal Restriction (LDR) Treatment Standards" means treatment standards, under Rule 1200-1-11-.10, that a hazardous waste must meet before it can be disposed of in a hazardous waste land disposal unit.

"License" means a license issued by the Nuclear Regulatory Commission, or NRC Agreement State, to users that manage radionuclides regulated by NRC, or NRC Agreement States, under authority of the Atomic Energy Act of 1954, as mended.

"Low-Level Mixed Waste (LLMW)" is a waste that contains both low-level radioactive waste and hazardous waste.

"Low-Level Radioactive Waste (LLW) is a radioactive waste which contains source, special nuclear, or byproduct material, and which is not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act. (See also NRC definition of "waste" at 10 CRF 61.2)

"Mixed Waste" means a waste that contains both hazardous waste and source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended.
"Naturally Occurring and/or Accelerator-produced Radioactive Material (NARM)" means radioactive materials that:

(1) Are naturally occurring and are not source, special nuclear, or byproduct materials (as defined by the AEA) or

(2) Are produced by an accelerator. NARM is regulated by the States under State law, or by DOE (as authorized by the AEA) under DOE orders.

"NRC" means the U.S. Nuclear Regulatory Commission.

"We" or "Us" within this paragraph means the Commissioner as defined in Rule 1200-1-11-.01(2)(a).

"You" means a generator, treater, or other handler of low-level mixed waste or eligible NARM.

2.-5. (RESERVED)

(b) Storage and Treatment Conditional Exemption and Eligibility

1. What does a storage and treatment conditional exemption do? (266.220)

The storage and treatment conditional exemption exempts your low-level mixed Waste from the regulatory definition of hazardous waste in Rule 1200-1-11-.02(1)(c) if your waste meets the eligibility criteria in part 6 of this subparagraph and you meet the conditions in part 11 of this subparagraph.

2.-5. (RESERVED)

6. What wastes are eligible for the storage and treatment conditional exemption? (266.225)

Low-level mixed waste (LLMW), defined in part (a)1 of this paragraph 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 this exemption.)

7.-10. (RESERVED)

11. What conditions must you meet for your LLMW to qualify for and maintain a Storage and treatment exemption? (266.230)

(i) 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, installation identification number, NRC or NRC Agreement State license number,

the hazardous waste code(s) and storage unit(s) for which you are seeking an exemption, and a statement that you meet the conditions of this paragraph. 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 90 days of the effective date of this rule or within 90 days of when a storage unit is first used to store conditionally exempt LLMW.

(ii) To qualify for and maintain an exemption for your LLMW you must:

(I) Store your LLMW waste in tanks or containers in compliance with the requirements of your license that apply to the proper storage of low-level radioactive waste (not including those license requirements that relate solely to recordkeeping);

(II) Store your LLMW in tanks or containers in compliance with chemical compatibility requirements of a tank or container in subparagraph (9)(h) or (10)(j) of Rule 1200-1-11-.05 or subparagraph (9)(h) or (10)(j) or Rule 1200-11-.06;

(III) 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 subpart (2)(g)1(iii) of Rule 1200-1-11-.05;

(IV) Conduct an inventory of your stored conditionally exempt LLMW at least annually and inspect it at least quarterly for compliance with paragraph (14) of this Rule; and

(V) 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.

12.-15. (RESERVED)

(c) Treatment

1. What waste treatment does the storage and treatment conditional exemption allow? (266.235)

You may treat your low-level mixed waste 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 a permit (such as incineration) is not allowed under this exemption.

2.-5. (RESERVED)

(d) Loss of Conditional Exemption

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1. How could you lose the conditional exemption for your LLMW and what action must you take? (266.240)

(i) Your LLMW will automatically lose the storage and treatment conditional exemption if you fail to meet any of the conditions specified in part (b)11 of this paragraph. When your LLMW loses the exemption, you must 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.

(I) If you fail to meet any of the conditions specified in part (b)11 of this paragraph you must report to us and the NRC, or the oversight agency in the NRC Agreement State, in writing by certified delivery within 30 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) you failed to meet;

II. A description of the LLMW (including the waste name, hazardous waste codes and quantity) and storage location at the facility; and

III. The date(s) on which you failed to meet the condition(s).

(II) If the failure to meet any of the conditions may endanger human health or the environment, you must also immediately notify us orally within 24 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 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 environmental, you must follow the provisions of your emergency plan.

(ii) We 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) of this paragraph.

2.-5. (RESERVED)

6. If you lose the storage and treatment conditional exemption for your LLMW, can the exemption be reclaimed? (266.245)

(i) You may reclaim the storage and treatment for your LLMW if:

(I) You again meet the conditions specified in part (b)11 of this paragraph;

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

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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 to consider when we review your notice reclaiming the exemption.

(ii) We may terminate a reclaimed conditional exemption if we find 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 part (b)11 of this paragraph.

In reviewing a reclaimed conditional exemption under this section, we 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.

(e) Recordkeeping

1. What records must you keep at your facility and for how long? (266.250)

(i) In addition to those records required by your NRC or NRC Agreement State license, you must keep records as follows:

(I) 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;

(II) Records of your LLMW annual inventories, and quarterly inspections;

(III) 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

(IV) Your emergency plan as specified in subpart (b)11(ii) of this paragraph.

(ii) 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.

2.-5. (RESERVED)

(f) Reentry Into RCRA

1. When is your LLMW no longer eligible for the storage and treatment conditional exemption? (266.255)

(i) When your LLMW has met the requirements of your 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 relevant sections of Rules 1200-1-11-.01 through .10, and the time period for accumulation of a hazardous waste as specified in subparagraph (4)(e) of Rule 1200-1-11-.03 begins.

(ii) 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 is no longer eligible for the storage and treatment exemption. However, your waste may be eligible for the transportation and disposal conditional exemption at part (l)1 of this paragraph.

(g) Storage Unit Closure

1. Do closure requirements apply to units that stored LLMW prior to the effective date of paragraph (14) of this Rule? (266.260)

Interim status and permitted storage units that have been used to store only LLMW prior to the effective date of subpart N of this part and, after that date, store only LLMW which becomes exempt under this subpart N, are not subject to the closure requirements of Rules 1200-1-11-.05 and .06. Storage units (or portions of units) that have been used to store both LLMW and non-mixed hazardous waste prior to the effective date of paragraph (14) of this Rule or are used to store both after that date remain subject to closure requirements with respect to the non-mixed hazardous waste.

2.-5. (RESERVED)

(h)-(k) (RESERVED)

(l) Transportation and Disposal Conditional Exemption

1. What does the transportation and disposal conditional exemption do? (266.305)

This conditional exemption exempts your waste from the regulatory definition of hazardous waste in Rule 1200-1-11-.02(1)(c) if your waste meets the eligibility criteria under part (m)1 of this paragraph, and you meet the conditions in part (n)1 of this paragraph.

(m) Eligibility

1. What wastes are eligible for the transportation and disposal conditional exemption? (266.310)

Eligible waste must be:

(i) A low-level mixed waste (LLMW), as defined in part (a)1 of this paragraph that meets the waste acceptance criteria of a LLRWDF; and/or

(ii) An eligible NARM waste, defined in part (a)1 of this paragraph

2.-5. (RESERVED)

(n) Conditions

1. What are the conditions you must meet for your waste to qualify for and maintain the transportation and disposal conditional exemption? (266.315)

You must meet the following conditions for your eligible waste to qualify for and maintain the exemption:

(i) The eligible waste must meet or be treated to meet LDR treatment standards as described in part (n)6 of this paragraph.

(ii) 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 part (n)11 of this paragraph.

(iii) The exempted waste must be in containers when it is disposed of in the LLRWDF as described in part (n)26 of this paragraph.

(iv) The exempted waste must be disposed of at a designated LLRWDF as described in part (n)21 of this paragraph.

2.-5. (RESERVED)

6. What treatment standards must your eligible waste meet? (266.320)

Your LLMW or eligible NARM waste must meet Land Disposal Restriction (LDR) treatment standards specified in paragraph (3) of Rule 1200-1-11-.10.

7.-10. (RESERVED)

11. Are you subject to the manifest and transportation condition in subpart (n)1(ii) of this paragraph? (266.325)

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.

12.-15. (RESERVED)

16. When does the transportation and disposal exemption take effect? (266.330)

The exemption becomes effective once all the following have occurred:

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(i) Your eligible waste meets the applicable LDR treatment standards.

(ii) You have received return receipts that you have notified us and the LLRWDF as described in part (o)1 of this paragraph.

(iii) 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

(iv) You have placed your waste on a transportation vehicle destined for a LLRWDF licensed by NRC or an NRC Agreement State.

17.-20. (RESERVED)

21. Where must your exempted waste be disposed of? (266.335)

Your exempted waste must be disposed of in a LLRWDF 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.

22.-25. (RESERVED)

26. What type of container must be used for disposal of exempted waste? (266.340)

Your exempted waste must be placed in containers before it is disposed. The container must be:

(i) A carbon steel drum; or

(ii) An alternative container with equivalent containment performance in the disposal environment as a carbon steel drum; or

(iii) A high integrity container as defined by NRC.

27.-30. (RESERVED)

(o) Notification

1. Whom must you notify? (266.345)

(i) 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 LLRWDF. Your dated written notice must include your facility name, address, phone number, and installation ID number, and be sent by certified delivery.

(ii) You must notify the LLRWDF 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 LLRWDF. This notification must include the following:

(I) A statement that you have claimed the exemption for the waste.

(II) A statement that the eligible waste meets applicable LDR treatment standards.

(III) Your facility's name, address, and installation number.

(IV) The hazardous waste codes prior to the exemption of the waste streams.

(V) A statement that the exempted waste must be placed in a container according to part (n)26 of this paragraph prior to disposal in order for the waste to remain exempt under the transportation and disposal conditional exemption of paragraph (14) of this Rule.

(VI) The manifest number of the shipment that will contain the exempted waste.

(VII) A certification that all the information provided is true, complete, and accurate. The statement must be signed by your authorized representative.

2.-5. (RESERVED)

(p) Recordkeeping

1. What records must you keep at your facility and for how long? (266.350)

In addition to those records required by your NRC or NRC Agreement State license, you must keep records as follows:

(i) You must follow the applicable existing recordkeeping requirements under subparagraph (5)(d) of Rule 1200-1-11-05, subparagraph (5)(d) of Rule 1200-1-11-.06, and subparagraph (1)(g) of Rule 1200-1-11-.10 to demonstrate that your waste has met LDR treatment standards prior to your claiming the exemption.

(ii) You must keep a copy of all notifications and return receipts required under parts (q)1 and (q)6 of this paragraph for three years after the exempted waste is sent for disposal.

(iii) You must keep a copy of all notification and return receipts required under subpart (o)1(i) of this paragraph for three years after the last exempted waste is sent for disposal.

(iv) You must keep a copy of the notification and return receipt required under subpart (o)1(ii) of this paragraph for three years after the exempted waste is sent for disposal.

(v) 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 subpart (p)1(i) through subpart (p)1(iv) of this paragraph.

(q) Loss of Transportation and Disposal Conditional Exemption

1. How could you lose the transportation and disposal conditional exemption for your waste and what action must you take? (266.355)

(i) 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 part (n)1 of this paragraph.

(I) When you fail to meet any of the conditions specified in part (n)1 of this paragraph for any of your wastes, you must report to us, in writing by certified delivery, within 30 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, hazardous waste codes and quantity) that lost the exemption; and

III. The date(s) on which you failed to meet the condition(s) for the waste.

(II) If the failure to meet any of the conditions may endanger human health or the environment, you must also immediately notify us orally within 24 hours and follow up with a written notification within 5 days.

(ii) 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 paragraph (14) of this Rule.

2.-5. (RESERVED)

6. If you lose the transportation and disposal conditional exemption for a waste, can the exemption be reclaimed? (266.360)

(i) 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 subpart (q)1(i) of this paragraph and if:

(I) You again meet the conditions specified in part (n)1 of this paragraph for the waste; and

(II) 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.

(ii) 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 part (n)1 of this paragraph.

In reviewing a reclaimed conditional exemption under this section, we may add conditions to the exemption to ensure that transportation and disposal activities will protect human health and the environment.

(15) - (26) (RESERVED) [40 CFR 266 Subpart O-Z]

(27) - (29) (RESERVED) [40 CFR 266 Subpart AA-CC]

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(30) APPENDICES TO RULE 1200-1-11-.09 [40 CFR 266 APPENDICES]

Appendix I-Tier I and Tier II Feed Rate and Emissions Screening Limits for Metals [40 CFR 266 APPENDIX I]

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Table I-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

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Table I-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

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Table I-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

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Table I-D.-Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Noncomplex Terrain

	Values for Use in Urban Areas				Values for Use in Rural Areas			
Terrain-adjusted Eff. Stack Ht. (m)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Bery-llium (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

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Table I-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

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Appendix II - Tier I Feed Rate Screening Limits for Total Chlorine [40 CFR 266 APPENDIX II]

Tier I Feed Rate Screening Limits for Total Chlorine

Terrain-adjusted Effective Stack Height (m)	Noncomplex Terrain		Complex Terrain
	Urban (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

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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 III - Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride [40 CFR 266 APPENDIX III]

Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride

Terrain-adjusted Effective Stack Height (m)	Noncomplex Terrain				Complex Terrain	
	Values for Urban Areas		Values for Rural Areas		Values for Use in Urban and Rural Areas	
	$C1_2$ (g/hr)	HC1 (g/hr)	$C1_2$ (g/hr)	HC1 (g/hr)	$C1_2$ (g/hr)	HC1 (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

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Appendix IV - Reference Air Concentrations [40 CFR 266 APPENDIX IV]

Appendix IV-Reference Air Concentrations*

Constituent	CAS No.	RAC (ug/m^3)
Acetaldehyde	75-07-0	10
Acetonitrile	75-05-8	10
Acetophenone	98-86-2	100
Acrolein	107-02-8	20
Aldicarb	116-06-3	1
Aluminum Phosphide	20859-73-8	0.3
Allyl Alcohol	107-18-6	5
Antimony	7440-36-0	0.3
Barium	7440-39-3	50
Barium Cyanide	542-62-1	50
Bromomethane	74-83-9	0.8
Calcium Cyanide	592-01-8	30
Carbon Disulfide	75-15-0	200
Chloral	75-87-6	2
Chlorine (free)		0.4
2-Chloro-1,3-butadiene	126-99-8	3

Chromium III	16065-83-1	1000
Copper Cyanide	544-92-3	5
Cresols	1319-77-3	50
Cumene	98-82-8	1
Cyanide (free)	57-12-15	20
Cyanogen	460-19-5	30
Cyanogen Bromide	506-68-3	80
Di-n-butyl Phthalate	84-74-2	100
o-Dichlorobenzene	95-50-1	10
p-Dichlorobenzene	106-46-7	10
Dichlorodifluoromethane	75-71-8	200
2,4-Dichlorophenol	120-83-2	3
Diethyl Phthalate	84-66-2	800
Dimethoate	60-51-5	0.8
2,4-Dinitrophenol	51-28-5	2
Dinoseb	88-85-7	0.9
Diphenylamine	122-39-4	20
Endosulfan	115-29-1	0.05
Endrin	72-20-8	0.3
Fluorine	7782-41-4	50
Formic Acid	64-18-6	2000
Glycidyaldehyde	765-34-4	0.3
Hexachlorocyclopentadiene	77-47-4	5
Hexachlorophene	70-30-4	0.3
Hydrocyanic Acid	74-90-8	20
Hydrogen Chloride	7647-01-1	7
Hydrogen Sulfide	7783-06-4	3
Isobutyl Alcohol	78-83-1	300
Lead	7439-92-1	0.09
Maleic Anyhdride	108-31-6	100
Mercury	7439-97-6	0.3
Methacrylonitrile	126-98-7	0.1
Methomyl	16752-77-5	20

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Methoxychlor	72-43-5	50
Methyl Chlorocarbonate	79-22-1	1000
Methyl Ethyl Ketone	78-93-3	80
Methyl Parathion	298-00-0	0.3
Nickel Cyanide	557-19-7	20
Nitric Oxide	10102-43-9	100
Nitrobenzene	98-95-3	0.8
Pentachlorobenzene	608-93-5	0.8
Pentachlorophenol	87-86-5	30
Phenol	108-95-2	30
M-Phenylenediamine	108-45-2	5
Phenylmercuric Acetate	62-38-4	0.075
Phosphine	7803-51-2	0.3
Phthalic Anhydride	85-44-9	2000
Potassium Cyanide	151-50-8	50
Potassium Silver Cyanide	506-61-6	200
Pyridine	110-86-1	1
Selenious Acid	7783-60-8	3
Selenourea	630-10-4	5
Silver	7440-22-4	3
Silver Cyanide	506-64-9	100
Sodium Cyanide	143-33-9	30
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
Tetraethyl Lead	78-00-2	0.0001
Tetrahydrofuran	109-99-9	10
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

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Thallium Selenite	12039-52-0	0.5
Thallium (I) Sulfate	7446-18-6	0.075
Thiram	137-26-8	5
Toluene	108-88-3	300
1,2,4-Trichlorobenzene	120-82-1	20
Trichloromonofluoromethane	75-69-4	300
2.4.5-Trichlorophenol	95-95-4	100
Vanadium Pentoxide	1314-62-1	20
Warfarin	81-81-2	0.3
Xylenes	1330-20-7	80
Zinc Cyanide	557-21-1	50
Zinc Phosphide	1314-84-7	0.3

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FOOTNOTE: *The RAC for other Appendix VIII Rule 1200-1-11-.02(5) constituents not listed herein or in Appendix V of this Rule is 0.1 ug/m^3.

Appendix V - Risk Specific Doses [40 CFR 266 APPENDIX V]

Risk Specific Doses (10^{-5})

Constituent	CAS No.	Unit Risk (m^3/ug)	RsD (ug/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
Benxene	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
1,3-Dichloropropene	542-75-6	3.5E-01	2.9E-05
Dieldrin	60-57-1	4.6E-03	2.2E-03
Diethylstilbestrol	56-53-1	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-hexachlorocyclo-hexane	319-84-6	1.8E-03	5.6E-03
Beta-hexachlorocyclohexane	319-85-7	5.3E-04	1.9E-02
Gamma-hexachlorocyclo-hexane	58-89-9	3.8E-04	2.6E-02

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Hexachlorocyclohexane, Technical		5.1E-04	2.0E-02
Hexachlorodibenxo-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
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	79-00-5	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

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Appendix VI-Stack Plume Rise [40 CFR 266 APPENDIX VI]

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

Flow rate (m3/s)	Exhaust Temperature (K°)										
	<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
30.0-34.9	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
40.0-49.9	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-	14	22	27	33	36	39	42	43	45	47	49

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69.9											
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
180.0-199.9	26	32	40	48	52	56	60	63	65	67	70
>199.9	26	33	41	49	54	58	62	65	67	69	73

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Appendix VII-Health-Based Limits for Exclusion of Waste-derived Residues* [40 CFR 266 APPENDIX VII]

Metals-TCLP Extract Concentration Limits

Constituent	CAS No.	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 No.	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
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

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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
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

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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
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

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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

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*Note 1: The health-based concentration limits for Appendix VIII of Rule 1200-1-11-.02(5) constituents for which a health-based concentration is not provided below is 2xE-06 mg/kg.
Note 2: The levels specified in this appendix and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in Note 1 of this appendix are administratively stayed under the condition, for those constituents specified in subpart (8)(m)2(i) of this Rule, that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in Rule 1200-1-11-.10(3)(d) for F039 nonwastewaters. See item (8)(m)2(ii)(I) of this Rule.

Appendix VIII-Organic Compounds For Which Residues Must Be Analyzed [40 CFR 266 APPENDIX VIII]

Volatiles	Semivolatiles
Benzene	Bis(2-ethylhexyl)phthalate
Toluene	Naphthalene
Carbon tetrachloride	Phenol
Chloroform	Diethyl phthalate
Methylene chloride	Butyl benzyl phthalate
Trichloroethylene	2,4-Dimethylphenol
Tetrachloroethylene	o-Dichlorobenzene
1,1,1-Trichloroethane	m-Dichlorobenzene
Chlorobenzene	p-Dichlorobenzene
cis-1,4-Dichloro-2-butene	Hexachlorobenzene
Bromochloromethane	2,4,6-Trichlorophenol
Bromodichloromethane	Fluoranthene
Bromoform	o-Nitrophenol
Bromomethane	1,2,4-Trichlorobenzene
Methylene bromide	o-Chlorophenol

Methyl ethyl ketone	Pentachlorophenol Pyrene Dimethyl phthalate Mononitrobenzene 2,6-Toluene diisocyanate Polychlorinated dibenzo-p-dioxins[1] Polychlorinated dibenzo-furans[1]

[1] Analyses for polychlorinated dibenso-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.).

NOTE TO THE TABLE: Analysis is not required for those compounds that do not have an established F039 nonwastewater concentration limit.

Appendix IX - Methods Manual for Compliance With the BIF Regulations

The Methods Manual for Compliance with the BIF Regulations presents required methods for demonstrating compliance with Tennessee's Hazardous Waste Regulations for boilers and industrial furnaces (BIFs) burning hazardous waste.

(Note: A copy of this Methods Manual may be obtained by contacting the Division Director at the following address:

Division Director
Division of Solid Waste Management
Tennessee Department of Environment
and Conservation
L & C Tower, 5th Floor
401 Church Street
Nashville, Tennessee 37243-1535

or calling 615-532-0780. The Methods Manual may also be found at 40 CFR 266 Appendix IX.)

Appendix X - (RESERVED)

Appendix XI - Lead-Bearing Materials That May Be Processed in Exempt Lead Smelters [40 CFR 266 APPENDIX XI]

A. Exempt Lead-Bearing Materials When Generated or Originally Produced By Lead-Associated Industries:
Acid dump/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

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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

Appendix XII -Nickel or Chromium-bearing Material That May Be Processed in Exempt Nickel-chromium Recovery Furnaces [40 CFR 266 APPENDIX XII]

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 and/or chromium-coating 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

Appendix XIII -Mercury Bearing Wastes That May Be Processed in Exempt Mercury Recovery Units [40 CFR 266 APPENDIX XIII]

These are exempt mercury-bearing materials with less than 500 ppm of Rule 1200-1-11-.02(5), Appendix VIII organic constituents when generated by manufacturers or users of mercury or mercury products.

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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 or mercury contained in soil

Authority: T.C.A. §§4-5-202 and 68-212-101 et seq. Administrative History: Original rule filed January 16, 1981; effective March 2, 1981. Amendment filed November 29, 1984; effective December 29, 1984. Amendment filed January 3, 1986; effective February 2, 1986. Amendment filed November 20, 1987; effective January 4, 1988. Amendment filed October 12, 1989; effective November 26, 1989. Amendment filed December 31, 1991; effective February 14, 1992. Amendment filed March 19, 1993; effective May 3, 1993. Amendment filed November 30, 1993; effective February 13, 1994. Amendment filed June 5, 1995; effective August 19, 1995. Amendment filed January 29, 1997; effective April 14, 1997. Amendment filed August 28, 1997; effective November 11, 1997. Amendment filed June 29, 1998; effective September 12, 1998. Amendment filed May 7, 1999; effective July 19, 1999. Amendment filed September 14, 2000; effective November 28, 2000. Amendment filed August 3, 2001; effective October 17, 2001. Amendment filed May 8, 2002; effective July 22, 2002. Amendment filed October 29, 2003; effective January 12, 2004. Amendment filed June 23, 2004; effective September 6, 2004. Amendment filed June 9, 2005; effective August 23, 2005.