0400-12-01-.02 IDENTIFICATION AND LISTING OF HAZARDOUS WASTE.

(1) General [40 CFR 261 Subpart A]

(a) Purpose and Scope [40 CFR 261.1]

1. This rule identifies those solid wastes which are subject to regulation as hazardous wastes under Rules 0400-12-01-.03 through .07 and .10. In this rule:

(i) Paragraph (1) defines the terms “solid waste” and “hazardous waste”, identifies those wastes which are excluded from regulation under Rules 0400-12-01-.03 through .07, .09 and .10 and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

(ii) Paragraph (2) sets forth the criteria used by the Board to identify characteristics of hazardous waste and to list particular hazardous wastes.

(iii) Paragraph (3) identifies characteristics of hazardous waste.

(iv) Paragraph (4) lists particular hazardous wastes.

2. (i) The definition of solid waste contained in this rule applies only to wastes that also are hazardous for purposes of the regulations implementing T.C.A. Title 68, Chapter 212. For example it does not apply to materials (such as non-hazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled.

(ii) This rule identifies only some of the materials which are solid wastes and hazardous wastes under T.C.A. Sections 68-212-105, 68-212-107, 68-212-111, 68-212-114 and 68-212-115. A material which is not defined as a solid waste in this rule, or is not a hazardous waste identified or listed in this rule, is still a solid waste and a hazardous waste for purposes of these statutory sections if:

(I) In the case of T.C.A. Section 68-212-107, the Commissioner has reason to believe that the material may be a solid waste within the meaning of T.C.A. Section 68-212-104(19) and a hazardous waste within the meaning of T.C.A. Section 68-212-104(8); or

(II) In the case of T.C.A. Sections 68-212-105, 68-212-111, 68-212-114 and 68-212-115, the statutory definition of a waste and a hazardous waste are established.

3. For the purposes of subparagraphs (b) and (f) of this paragraph:

(i) A “spent material” is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(Note: The term “spent material” includes any material that has been used and is no longer fit for use without being regenerated, reclaimed or otherwise reprocessed.)

(Rule 0400-12-01-.02, continued)

(Note: As used in the definition of spent materials, “contamination” includes any impurity, factor, or circumstance which causes the material to be taken out of service.)

(ii) “Sludge” has the same meaning used in Rule 0400-12-01-.01(2)(a).

(iii) A “by-product” is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public’s use and is ordinarily used in the form it is produced by the process.

(Note: The term “by-product” includes residues that result from manufacturing or other operations that are not one of the primary products that are produced.)

(Note: The term “co-product” means a material produced for use by the general public and suitable for end use essentially as-is.)

(iv) A material is “reclaimed” if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents. In addition, for purposes of subparts (d)1(xxiii) and (xxiv) of this paragraph, smelting, melting and refining furnaces are considered to be solely engaged in metals reclamation if the metal recovery from the hazardous secondary materials meets the same requirements as those specified for metals recovery from hazardous waste found in subparts (8)(a)4(i) through (iii) of Rule 0400-12-01-.09, and if the residuals meet the requirements specified in subparagraph (8)(m) of Rule 0400-12-01-.09.

(v) A material is “used or reused” if it is either:

(I) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(II) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(vi) “Scrap metal” is bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(vii) A material is “recycled” if it is used, reused, or reclaimed.

(viii) A material is “accumulated speculatively” if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable

(Rule 0400-12-01-.02, continued)

and has a feasible means of being recycled; and that – during the calendar year (commencing on January 1) – the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. Materials must be placed in a storage unit with a label indicating the first date that the material began to be accumulated. If placing a label on the storage unit is not practicable, the accumulation period must be documented through an inventory log or other appropriate method. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under subpart (d)3(i) of this paragraph are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

(Note: The speculative accumulation requirements contained in this subpart are only applicable when specifically referenced by the exclusion or exemption conditions contained in this rule and Rule 0400-12-01-.09. For example, subparts (d)1(viii), (xiii), and (xxvi) of this paragraph do not require compliance with this subpart as a condition of the exclusions; subparts (d)1(vi) and (vii) of this paragraph and part (6)(a)3 of Rule 0400-12-01-.09 do require compliance with the subpart as a condition of the exclusion or exemption.)

(ix) “Excluded scrap metal” is processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal.

(x) “Processed scrap metal” is scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated. (Note: shredded circuit boards being sent for recycling are not considered processed scrap metal. They are covered under the exclusion from the definition of solid waste for shredded circuit boards being recycled (Rule 0400-12-01-.02(1)(d)1(xiv).)

(xi) “Home scrap metal” is scrap metal as generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings.

(xii) “Prompt scrap metal” is scrap metal as generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Prompt scrap is also known as industrial or new scrap metal.

(b) Definition of Solid Waste [40 CFR 261.2]

1. (i) A “solid waste” is any discarded material that is not excluded by part (d)1 of this paragraph or that is not excluded by variance granted under subparagraphs (4)(b) and (c) of Rule 0400-12-01-.01 or that is not excluded by a non-waste determination under subparagraphs (4)(b) and (e) of Rule 0400-12-01-.01.

(ii) (I) A “discarded material” is any material which is:

I. “Abandoned”, as explained in part 2 of this paragraph; or

II. “Recycled”, as explained in part 3 of this paragraph; or

III. Considered “inherently waste-like”, as explained in part 4 of this subparagraph; or

IV. A military munition identified as a solid waste in subparagraph (13)(c) of Rule 0400-12-01-.09.

(II) Reserved

2. Materials are solid waste if they are “abandoned” by being:

(i) Disposed of; or

(ii) Burned or incinerated; or

(iii) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated; or

(iv) Sham recycled, as explained in part 7 of this subparagraph.

3. Materials are solid wastes if they are “recycled” – or accumulated, stored, or treated before recycling – as specified in subparts (i) through (iv) of this part:

(i) “Used in a manner constituting disposal”.

(I) Materials noted with a “*” in Column 1 of Table 1 are solid wastes when they are:

I. Applied to or placed on the land in a manner that constitutes disposal; or

II. Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

(II) However, commercial chemical products listed in subparagraph (4)(d) of this rule are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(ii) “Burning for energy recovery”

(I) Materials noted with a “*” in column 2 of Table 1 are solid wastes when they are:

I. Burned to recover energy;

II. Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

(Rule 0400-12-01-.02, continued)

(II) However, commercial chemical products listed in subparagraph (4)(d) of this rule are not solid wastes if they are themselves fuels.

(iii) "Reclaimed"

Materials noted with a "---" in column 3 of Table 1 are not solid wastes when reclaimed. Materials noted with a "*" in column 3 of Table 1 are solid wastes when reclaimed unless they meet the requirements of subparts (d)1(xvii), (xxiii), (xxiv) or (xxvii) of this paragraph.

(iv) "Accumulated speculatively"

Materials noted with a "*" in column 4 of Table 1 are solid wastes when accumulated speculatively.

Table 1

	Use constituting disposal (subpart (1)(b)3(i) of this rule)	Energy recovery/fuel (subpart (1)(b)3(ii) of this rule)	Reclamation (subpart (1)(b)3(iii) of this rule) except as provided in subpart (1)(d)1(xvii), (xxiii), (xxiv) or (xxvii) of this rule	Speculative accumulation (subpart (1)(b)3(iv) of this rule)
	(1)	(2)	(3)	(4)
Spent Materials	(*)	(*)	(*)	(*)
Sludges [listed in Rule 0400-12-01-.02(4)(b) or (c)]	(*)	(*)	(*)	(*)
Sludges exhibiting a characteristic of hazardous waste	(*)	(*)	–	(*)
By-products [listed in Rule 0400-12-01-.02(4)(b) or (c)]	(*)	(*)	(*)	(*)
By-products exhibiting a characteristic of hazardous waste	(*)	(*)	–	(*)
Commercial chemical products listed in Rule 0400-12-01-.02(4)(d)	(*)	(*)	–	–
Scrap metal that is not excluded under Rule 0400-12-01-.02(1)(d)1(xiii)	(*)	(*)	(*)	(*)

(Note: The terms "spent materials", "sludges", "by-products", "scrap metal" and "processed scrap metal" are defined in part (1)(a)3 of this rule.)

(Note: Unused commercial chemical products and unused manufactured articles, which are not listed in subparagraph (4)(d) of this rule, that exhibit a characteristic of hazardous waste in accordance with

(Rule 0400-12-01-.02, continued)
paragraph (3) of this rule shall have the same status as commercial chemical products listed in subparagraph (4)(d) of this rule when reclaimed. These non-listed commercial chemical products or manufactured articles are not solid waste when legitimately recycled except when they are recycled in ways that differ from their normal manner of use.)

4. “Inherently waste-like materials”

   The following materials are solid wastes when they are recycled in any manner:

   (i) Hazardous Waste Codes F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028.

   (ii) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in paragraph (3) or (4) of this rule, except for brominated material that meets the following criteria:

      (I) The material must contain a bromine concentration of at least 45%; and

      (II) The material must contain less than a total of 1% of toxic organic compounds listed in paragraph (30) Appendix VIII of this rule; and

      (III) The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping).

   (iii) The Board will use the following criteria to add wastes to that list:

      (I) I. The materials are ordinarily disposed of, burned, or incinerated; or

         II. The materials contain toxic constituents listed in paragraph (30) Appendix VIII of this rule and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

      (II) The material may pose a substantial hazard to human health and the environment when recycled.

5. “Materials that are not solid waste when recycled”

   (i) Materials are not solid wastes when they can be shown to be recycled by being:

      (I) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or

      (II) Used or reused as effective substitutes for commercial products; or

      (III) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no

placement on the land. In cases where the materials are generated and reclaimed within the primary mineral processing industry, the conditions of the exclusion found at subpart (d)1(xvii) of this paragraph apply rather than this item.

(ii) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in items (i)(I) through (III) of this part):

(I) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(II) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(III) Materials accumulated speculatively; or

(IV) Materials listed in subparts 4(i) and 4(ii) of this subparagraph.

6. “Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation”.

Respondents in actions to enforce regulations implementing the Act and Chapter 0400-12-01 who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

7. Sham recycling.

A hazardous secondary material found to be sham recycled is considered discarded and a solid waste. Sham recycling is recycling that is not legitimate recycling as defined in subparagraph (5)(d) of Rule 0400-12-01-.01.

(c) Definition of Hazardous Waste [40 CFR 261.3]

1. A solid waste, as defined in subparagraph (b) of this paragraph, is a hazardous waste if:

(i) It is not excluded from regulation as a hazardous waste under part (d)2 of this paragraph; and

(ii) It meets any of the following criteria:

(I) It exhibits any of the characteristics of hazardous waste identified in paragraph (3) of this rule. However, any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under subpart (d)2(vii) of this paragraph and any other solid waste exhibiting a characteristic of hazardous waste under paragraph (3) of this rule is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded

waste alone if such mixture had not occurred or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Toxicity Characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in Table 1 to subparagraph (3)(e) of this rule that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

(II) It is listed in paragraph (4) of this rule and has not been excluded from the lists in paragraph (4) of this rule under Rule 0400-12-01-.01(3)(a) and (c).

(III) (RESERVED) [261.3(a)(2)(iii)]

(IV) It is a mixture of solid waste and one or more hazardous wastes listed in paragraph (4) of this rule and has not been excluded from this subpart under Rule 0400-12-01-.01(3)(a) and (c), part 7 or 8 of this subparagraph; however, the following mixtures of solid wastes and hazardous wastes listed in paragraph (4) of this rule are not hazardous wastes (except by application of items (I) or (II) of this subpart) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under T.C.A. §§ 69-3-101 et seq. (including wastewater at facilities which have eliminated the discharge of wastewater) and:

I. One or more of the following spent solvents listed in subparagraph (4)(b) of this rule – benzene, carbon tetrachloride, tetrachloroethylene, trichloroethylene or the scrubber waters derived-from the combustion of these spent solvents – provided that (1) the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million or (2) the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR parts 60, 61, or 63, or the Tennessee Air Quality Act and Rule Division 1200-03 or at facilities subject to an enforceable limit in a federal or state operating permit that minimizes fugitive emissions), does not exceed 1 part per million on an average weekly basis. Any facility that uses benzene as a solvent and claims this exemption must use an aerated biological wastewater treatment system and must use only lined surface impoundments or tanks prior to secondary clarification in the wastewater treatment system. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Division Director, as defined in Rule 0400-12-01-.01(2)(a). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point

(Rule 0400-12-01-.02, continued)

location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

II. One or more of the following spent solvents listed in subparagraph (4)(b) of this rule – methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents, 2-ethoxyethanol, or the scrubber waters derived-from the combustion of these spent solvents – provided that (1) the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million or (2) the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR parts 60, 61, or 63, or the Tennessee Air Quality Act and Rule Division 1200-03 or at facilities subject to an enforceable limit in a federal or state operating permit that minimizes fugitive emissions) does not exceed 25 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Division Director, as defined in Rule 0400-12-01-.01(2)(a). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

(Rule 0400-12-01-.02, continued)

III. One of the following wastes listed in subparagraph (4)(c) of this rule, provided that the wastes are discharged to the refinery oil recovery sewer before primary oil/water/solids separation - heat exchanger bundle cleaning sludge from the petroleum refining industry (Hazardous Waste Code K050), crude oil storage tanks sediment from petroleum refining operations (Hazardous Waste Code K169), clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (Hazardous Waste Code K170), spent hydrotreating catalyst (Hazardous Waste Code K171), and spent hydrorefining catalyst (Hazardous Waste Code K172); or

IV. A discarded hazardous waste, commercial chemical product, or chemical intermediate listed in subparagraphs (4)(b) through (4)(d) of this rule, arising from de minimis losses of these materials. For purposes of this subitem, de minimis losses are inadvertent releases to a wastewater treatment system, including those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing. Any manufacturing facility that claims an exemption for de minimis quantities of wastes listed in subparagraphs (4)(b) through (4)(c) of this rule or any nonmanufacturing facility that claims an exemption for de minimis quantities of wastes listed in paragraph (4) of this rule must either have eliminated the discharge of wastewaters or have included in its Clean Water Act or Tennessee Water Quality Control Act permit application or submission to its pretreatment control authority the constituents for which each waste was listed in Appendix VII of paragraph (30) of this rule; and the constituents in the table “Treatment Standards for Hazardous Wastes” in Rule 0400-12-01-.10(3)(a) for which each waste has a treatment standard (i.e., Land Disposal Restriction constituents). A facility is eligible to claim the exemption once the permit writer or control authority has been notified of possible de minimis releases via the Clean Water Act or Tennessee Water Quality Control Act permit application or the pretreatment control authority submission. A copy of the Clean Water Act or Tennessee Water Quality Control Act permit application or the submission to the pretreatment control authority must be placed in the facility’s on-site files; or

V. Wastewater resulting from laboratory operations containing toxic (T) wastes listed in paragraph (4) of this rule, provided that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility’s wastewater treatment or pre-treatment system, or provided the wastes, combined annualized average concentration does not exceed one part

per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation; or

VI. One or more of the following wastes listed in subparagraph (4)(c) of this rule – wastewaters from the production of carbamates and carbamoyl oximes (Hazardous Waste Code No. K157) – provided that (1) the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that cannot be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilution into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight or (2) the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR parts 60, 61, or 63, or the Tennessee Air Quality Act and Rule Division 1200-03 or at facilities subject to an enforceable limit in a federal or state operating permit that minimizes fugitive emissions) does not exceed 5 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Division Director, as defined in Rule 0400-12-01-.01(2)(a). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or

VII. Wastewaters derived-from the treatment of one or more of the following wastes listed in subparagraph (4)(c) of this rule – organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (Hazardous Waste Code No. K156) – provided that (1) the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter or (2) the total measured concentration

of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR parts 60, 61, or 63, or the Tennessee Air Quality Act and Rule Division 1200-03 or at facilities subject to an enforceable limit in a federal or state operating permit that minimizes fugitive emissions) does not exceed 5 milligrams per liter on an average weekly basis. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Division Director, as defined in Rule 0400-12-01-.01(2)(a). A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Director. The Director may reject the sampling and analysis plan if he/she finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Director rejects the sampling and analysis plan or if the Director finds that the facility is not following the sampling and analysis plan, the Director shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected.

(V) Rebuttable presumption for used oil

Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in paragraph (4) of this rule. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in appendix VIII of paragraph (30) of this rule).

I. The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.

II. The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

2. A solid waste which is not excluded from regulation under part (d)2 of this paragraph becomes a hazardous waste when any of the following events occur:

(i) In the case of a waste listed in paragraph (4) of this rule, when the waste first meets the listing description set forth in paragraph (4) of this rule.

(ii) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in paragraph (4) of this rule is first added to the solid waste.

(iii) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in paragraph (3) of this rule.

3. Unless and until it meets the criteria of part 4 below:

(i) A hazardous waste will remain a hazardous waste.

(ii) (I) Except as otherwise provided in item (II) of this subpart, part 7 or part 8 of this subparagraph, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(II) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

I. Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

II. Waste from burning any of the materials exempted from regulation by items (f)1(iii)(III) and (IV) of this paragraph.

III. A. Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062 or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces (as defined in items (vi), (vii) and (xiii) of the definition for “Industrial furnace” in Rule 0400-12-01-.01(2)(a) that are disposed in a Class I or Class II Disposal Facility subject to a permit issued in accordance with Chapter 0400-11-01, provided that these residues meet the generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility’s waste analysis plan or a generator’s self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this

exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements.

Constituent	Maximum for any single composite sample-TCLP (mg/l)
Generic exclusion levels for K061 and K062 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70

Generic exclusion levels for F006 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020

Zinc	70

B. A one-time notification and certification must be placed in the facility's files and sent to the Division Director for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to a Class I or Class II Disposal Facility subject to a permit issued in accordance with Chapter 0400-11-01. The notification and certification that is placed in the generators or treaters files must be updated if the process or operation generating the waste changes and/or if the Class I or Class II Disposal Facility receiving the waste changes. However, the generator or treater need only notify the Division Director on an annual basis if such changes occur. Such notification and certification should be sent to the Division Director by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the Class I or Class II Disposal Facility receiving the waste shipments; the Hazardous Waste Code(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

IV. Biological treatment sludge from the treatment of one of the following wastes listed in subparagraph (4)(c) - organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (Hazardous Waste Code K156), and wastewaters from the production of carbamates and carbamoyl oximes (Hazardous Waste Code K157).

V. Catalyst inert support media separated from one of the following wastes listed in subparagraph (4)(c) of this rule – Spent hydrotreating catalyst (Hazardous Waste Code K171) and Spent hydrorefining catalyst (Hazardous Waste Code K172).

4. Any solid waste described in part 3 of this subparagraph is not a hazardous waste if it meets the following criteria:

(i) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in paragraph (3) of this rule. (However, wastes that exhibit a characteristic at the point of generation may still be

subject to the requirements of Rule 0400-12-01-.10, even if they no longer exhibit a characteristic at the point of land disposal.)

(ii) In the case of a waste which is a listed waste under paragraph (4) of this rule, contains a waste listed under paragraph (4) of this rule or is derived from a waste listed in paragraph (4) of this rule, it also has been excluded from part 3 of this subparagraph under Rule 0400-12-01-.01(3)(a) and (c).

5. (RESERVED) [40 CFR 261.3(e)]

6. Notwithstanding parts 1 through 4 of this subparagraph and provided the debris as defined in Rule 0400-12-01-.10 does not exhibit a characteristic identified at paragraph (3) of this rule, the following materials are not subject to regulation under Rules 0400-12-01-.01 through .07, .09 and .10:

(i) Hazardous debris as defined in Rule 0400-12-01-.10 that has been treated using one of the required extraction or destruction technologies specified in Table 1 of Rule 0400-12-01-.10(3)(f); persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements; or

(ii) Debris as defined in Rule 0400-12-01-.10 that the Commissioner, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

7. (i) A hazardous waste that is listed in paragraph (4) of this rule solely because it exhibits one or more characteristics of ignitability as defined under subparagraph (3)(b) of this rule, corrosivity as defined under subparagraph (3)(c) of this rule, or reactivity as defined under subparagraph (3)(d) of this rule is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste identified in paragraph (3) of this rule.

(ii) The exclusion described in subpart (i) of this part also pertains to:

(I) Any mixture of a solid waste and a hazardous waste listed in paragraph (4) of this rule solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under item 1(ii)(IV) of this subparagraph; and

(II) Any solid waste generated from treating, storing, or disposing of a hazardous waste listed in paragraph (4) of this rule solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under item 3(ii)(I) of this subparagraph.

(iii) Wastes excluded under this part are subject to Rule 0400-12-01-.10 (as applicable), even if they no longer exhibit a characteristic at the point of land disposal.

(iv) Any mixture of a solid waste excluded from regulation under subpart (d)2(vii) of this paragraph and a hazardous waste listed in paragraph (4) of this rule solely because it exhibits one or more of the characteristics of ignitability, corrosivity, or reactivity as regulated under item 1(ii)(IV) of this subparagraph is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in paragraph (3) of this rule for which the hazardous waste listed in paragraph (4) of this rule was listed.

8. (i) Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of paragraph (14) of Rule 0400-12-01-.09 (“eligible radioactive mixed waste”).

(ii) The exemption described in subpart (i) of this part also pertains to:

(I) Any mixture of a solid waste and an eligible radioactive waste; and

(II) Any solid waste generated from treating, storing, or disposing of an eligible radioactive mixed waste.

(iii) Waste exempted under this part must meet the eligibility criteria and specified conditions in part (14)(b)6 of Rule 0400-12-01-.09 and part (14)(b)11 of Rule 0400-12-01-.09 (for storage and treatment) and in part (14)(m)1 of Rule 0400-12-01-.09 and part (14)(n)1 of Rule 0400-12-01-.09 (for transportation and disposal). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

(d) Exclusions [40 CFR 261.4] & [40 CFR 262.70]

1. Materials which are not solid wastes. The following materials are not solid wastes for the purpose of this rule:

(i) (I) Domestic sewage; and

(II) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works (POTW) for treatment. “Domestic sewage” means untreated sanitary wastes that pass through a sewer system.

(Comment: This exclusion does not exclude waste/wastewaters while they are being generated, collected, stored, or treated before entering the sewer system. This exclusion applies when the material enters the sewer system where it will mix with sanitary wastes at any point before reaching the POTW whereupon this material is regulated under water pollution statutes and regulations. This material is subject to all applicable reporting, monitoring, and permitting requirements of the T.C.A. §§ 68-221-101, 69-3-101, et seq. and the associated regulations. Management of this material must be in compliance with all applicable authorization (permits, etc.) associated with disposal into a POTW for subsequent treatment.)

(ii) Industrial wastewater discharges that are point source discharges subject to regulation under section 402 of the Clean Water Act, as amended or under the Water Quality Control Act.

(Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.)

(iii) Irrigation return flows.

(iv) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.

(v) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(vi) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in subpart (a)3(viii) of this paragraph.

(vii) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in subpart (a)3(viii) of this paragraph.

(viii) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(I) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(II) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(III) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and

(IV) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(Note: As used in this subpart, “production process” includes those activities that tie directly into the manufacturing operation or those activities that are the primary operation at an establishment.)

(ix) (I) Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose;

(II) Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood; and

(III) Prior to reuse, the wood preserving wastewaters and spent wood preserving solutions described in item (I) and (II) of this subpart, so long as they meet all of the following conditions:

I. The wood preserving wastewaters and spent wood preserving solutions are reused on-site at water borne plants in the production process for their original intended purpose;

II. Prior to reuse, the wastewaters and spent wood preserving solutions are managed to prevent release to either land or groundwater or both;

III. Any unit used to manage wastewaters and/or spent wood preserving solutions prior to reuse can be visually or otherwise determined to prevent such releases;

IV. Any drip pad used to manage the wastewaters and/or spent wood preserving solutions prior to reuse complies with the

standards in Rule 0400-12-01-.05(23), regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste; and

V. Prior to operating pursuant to this exclusion, the plant owner or operator prepares a one-time notification stating that the plant intends to claim the exclusion, giving the date on which the plant intends to begin operating under the exclusion, and containing the following language: "I have read the applicable regulation establishing an exclusion for wood preserving wastewaters and spent wood preserving solutions and understand it requires me to comply at all times with the conditions set out in the regulation." The plant must maintain a copy of that document in its on-site records until closure of the facility. The exclusion applies only so long as the plant meets all of the conditions. If the plant goes out of compliance with any condition, it may apply to the Commissioner for reinstatement. The Commissioner may reinstate the exclusion upon finding that the plant has returned to compliance with all conditions and that violations are not likely to recur.

(x) Hazardous Waste Codes K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke by-products processes that are hazardous only because they exhibit the Toxicity Characteristic (TC) specified in subparagraph (3)(e) of this rule when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(xi) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(xii) (I) Oil-bearing hazardous secondary materials (i.e., sludges, byproducts, or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911 - including, but not limited to distillation, catalytic cracking, fractionation, or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this item provided that the coke product also does not exhibit a characteristic of hazardous waste. Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent directly to another petroleum refinery, and still be excluded under this provision. Except as provided in item (II) of this subpart, oil-bearing hazardous secondary materials generated elsewhere in the petroleum industry (i.e., from sources other than petroleum refineries) are not excluded under this subpart. Residuals generated from processing or recycling materials excluded under this item, where such materials as generated would have otherwise met a listing under paragraph (4) of this rule, are designated as F037 listed wastes when disposed of or intended for disposal.

(II) Recovered oil that is recycled in the same manner and with the same conditions as described in item (I) of this subpart. Recovered oil is oil that has been reclaimed from secondary materials (including wastewater generated from normal petroleum industry practices, including refining, exploration and production, bulk storage, and transportation incident thereto (SIC codes 1311, 1321, 1381, 1382, 1389, 2911, 4612, 4613, 4922, 4923, 4789, 5171, and 5172). Recovered oil does not include oil-bearing hazardous wastes listed in paragraph (4) of this rule; however, oil recovered from such wastes may be considered recovered oil. Recovered oil does not include used oil as defined in subparagraph (1)(a) of Rule 0400-12-01-.11.

(xiii) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal) being recycled.

(xiv) Shredded circuit boards being recycled provided that they are:

(I) Stored in containers sufficient to prevent a release to the environment prior to recovery; and

(II) Free of mercury switches, mercury relays and nickel-cadmium batteries and lithium batteries.

(xv) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e). The exemption applies only to combustion at the mill generating the condensates.

(xvi) Reserved.

(xvii) Spent materials (as defined in subparagraph (a) of this paragraph) (other than hazardous wastes listed in paragraph (4) of this rule) generated within the primary mineral processing industry from which minerals, acids, cyanide, water or other values are recovered by mineral processing or by beneficiation, provided that:

(I) The spent material is legitimately recycled to recover minerals, acids, cyanide, water or other values.

(II) The spent material is not accumulated speculatively.

(III) Except as provided in item (IV) of this subpart, the spent material is stored in tanks, containers, or buildings meeting the following minimum integrity standards: a building must be an engineered structure with a floor, walls, and a roof all of which are made of non-earthen materials providing structural support (except smelter buildings may have partially earthen floors provided the secondary material is stored on the non-earthen portion), and have a roof suitable for diverting rainwater away from the foundation; a tank must be free standing, not be a surface impoundment (as defined in subparagraph (2)(a) of Rule 0400-12-01-.01), and be manufactured of a material suitable for containment of its contents; a container must be free standing and be manufactured of a material suitable for containment of its contents. If tanks or containers contain any particulate which may be subject to wind dispersal, the

owner/operator must operate these units in a manner which controls fugitive dust. Tanks, containers, and buildings must be designed, constructed and operated to prevent significant releases to the environment of these materials.

(IV) The Commissioner may make a site-specific determination, after public review and comment, that only solid mineral processing spent materials may be placed on pads, rather than in tanks, containers, or buildings. Solid mineral processing spent materials do not contain any free liquid. The decision-maker must affirm that pads are designed, constructed and operated to prevent significant releases of the spent material into the environment. Pads must provide the same degree of containment afforded by the tanks, containers and buildings eligible for exclusion as provided in item (III) of this subpart.

I. The decision-maker must also consider if storage on pads poses the potential for significant releases via groundwater, surface water, and air exposure pathways. Factors to be considered for assessing the groundwater, surface water, air exposure pathways are: the volume and physical and chemical properties of the spent material, including its potential for migration off the pad; the potential for human or environmental exposure to hazardous constituents migrating from the pad via each exposure pathway, and the possibility and extent of harm to human and environmental receptors via each exposure pathway.

II. Pads must meet the following minimum standards: be designed of non-earthen material that is compatible with the chemical nature of the mineral processing spent material, capable of withstanding physical stresses associated with placement and removal, have run-on/runoff controls, be operated in a manner which controls fugitive dust, and have integrity assurance through inspections and maintenance programs.

III. Before making a determination under this subpart, the Commissioner must provide public notice and the opportunity for comment to all persons potentially interested in the determination. This shall be accomplished by the owner or operator placing a notice as prepared and required by the Commissioner, of this action in local newspapers, or broadcasting notice over local radio stations. The owner or operator shall provide proof of the completion of all notice requirements to the Commissioner within ten days following conclusion of the public notice procedures.

(V) The owner or operator provides notice to the Commissioner, providing the following information: the types of materials to be recycled; the type and location of the storage units and recycling processes; and the annual quantities expected to be placed in land-based units. This notification must be updated when there is a change in the type of materials recycled or the location of the recycling process.

(Rule 0400-12-01-.02, continued)

(VI) For purposes of subpart 2(vii) of this subparagraph, mineral processing spent materials must be the result of mineral processing and may not include any listed hazardous wastes. Listed hazardous wastes and characteristic hazardous wastes generated by non-mineral processing industries are not eligible for the conditional exclusion from the definition of solid waste.

(xviii) Petrochemical recovered oil from an associated organic chemical manufacturing facility, where the oil is to be inserted into the petroleum refining process (SIC code 2911) along with normal petroleum refinery process streams, provided:

(I) The oil is hazardous only because it exhibits the characteristic of ignitability (as defined in subparagraph (3)(b) of this rule) and/or toxicity for benzene (subparagraph (3)(e) of this rule, waste code D018); and

(II) The oil generated by the organic chemical manufacturing facility is not placed on the land, or speculatively accumulated before being recycled into the petroleum refining process. An “associated organic chemical manufacturing facility” is a facility where the primary SIC code is 2869, but where operations may also include SIC codes 2821, 2822, and 2865; and is physically co-located with a petroleum refinery; and where the petroleum refinery to which the oil being recycled is returned also provides hydrocarbon feedstocks to the organic chemical manufacturing facility. “Petrochemical recovered oil” is oil that has been reclaimed from secondary materials (i.e., sludges, byproducts, or spent materials, including wastewater) from normal organic chemical manufacturing operations, as well as oil recovered from organic chemical manufacturing processes.

(xix) Spent caustic solutions from petroleum refining liquid treating processes used as a feedstock to produce cresylic or naphthenic acid unless the material is placed on the land, or accumulated speculatively as defined in subpart (1)(a)3(viii) of this rule.

(xx) Hazardous secondary materials used to make zinc fertilizers, provided that the conditions specified below are satisfied:

(I) Hazardous secondary materials used to make zinc micronutrient fertilizers must not be accumulated speculatively, as defined in subpart (1)(a)3(viii) of this rule.

(II) Generators and intermediate handlers of zinc-bearing hazardous secondary materials that are to be incorporated into zinc fertilizers must:

I. Submit a one-time notice to the Commissioner which contains the name, address and installation identification number of the generator or intermediate handler facility, provides a brief description of the secondary material that will be subject to the exclusion, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this subpart.

(Rule 0400-12-01-.02, continued)

II. Store the excluded secondary material in tanks, containers, or buildings that are constructed and maintained in a way that prevents releases of the secondary materials into the environment. At a minimum, any building used for this purpose must be an engineered structure made of non-earthen materials that provide structural support, and must have a floor, walls and a roof that prevent wind dispersal and contact with rainwater. Tanks used for this purpose must be structurally sound and, if outdoors, must have roofs or covers that prevent contact with wind and rain. Containers used for this purpose must be kept closed except when it is necessary to add or remove material, and must be in sound condition. Containers that are stored outdoors must be managed within storage areas that:

A. Have containment structures or systems sufficiently impervious to contain leaks, spills and accumulated precipitation; and

B. Provide for effective drainage and removal of leaks, spills and accumulated precipitation; and

C. Prevent run-on into the containment system.

III. With each off-site shipment of excluded hazardous secondary materials, provide written notice to the receiving facility that the material is subject to the conditions of this subpart.

IV. Maintain at the generator's or intermediate handler's facility for no less than three years records of all shipments of excluded hazardous secondary materials. For each shipment these records must at a minimum contain the following information:

A. Name of the transporter and date of the shipment;

B. Name and address of the facility that received the excluded material, and documentation confirming receipt of the shipment; and

C. Type and quantity of excluded secondary material in each shipment.

(III) Manufacturers of zinc fertilizers or zinc fertilizer ingredients made from excluded hazardous secondary materials must:

I. Store excluded hazardous secondary materials in accordance with the storage requirements for generators and intermediate handlers, as specified in subitem (II)II of this subpart.

II. Submit a one-time notification to the Commissioner that, at a minimum, specifies the name, address and installation identification number of the manufacturing facility, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this subpart.

(Rule 0400-12-01-.02, continued)

III. Maintain for a minimum of three (3) years records of all shipments of excluded hazardous secondary materials received by the manufacturer, which must at a minimum identify for each shipment the name and address of the generating facility, name of the transporter and the date the materials were received, the quantity received, and a brief description of the industrial process that generated the material.

IV. Submit to the Commissioner an annual report that identifies the total quantities of all excluded hazardous secondary materials that were used to manufacture zinc fertilizers or zinc fertilizer ingredients in the previous year, the name and address of each generating facility, and the industrial process(es) from which they were generated.

(IV) Nothing in this subpart preempts, overrides or otherwise negates the provision in subparagraph (1)(b) of Rule 0400-12-01-.03 which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

(V) Interim status and permitted storage units that have been used to store only zinc-bearing hazardous wastes prior to the submission of the one-time notice described in subitem (II)I of this subpart, and that afterward will be used only to store hazardous secondary materials excluded under this subpart, are not subject to the closure requirements of Rules 0400-12-01-.05 and .06.

(xxi) Zinc fertilizers made from hazardous wastes, or hazardous secondary materials that are excluded under subpart (xx) of this part, provided that:

(I) The fertilizers meet the following contaminate limits:

I. For metal contaminants:

Constituent	Maximum Allowable Total Concentration in Fertilizer, per Unit (1%) of Zinc (ppm)
Arsenic	0.3
Cadmium	1.4
Chromium	0.6
Lead	2.8
Mercury	0.3

II. For dioxin contaminants the fertilizer must contain no more than eight (8) parts per trillion of dioxin, measured as toxic equivalent (TEQ).

(II) The manufacturer performs sampling and analysis of the fertilizer product to determine compliance with the contaminant limits for metals no less than every six months, and for dioxins no less than every twelve months. Testing must also be performed whenever changes occur to manufacturing processes or ingredients that could significantly affect the amounts of contaminants in the fertilizer product. The manufacturer may use any reliable analytical method to

(Rule 0400-12-01-.02, continued)

demonstrate that no constituent of concern is present in the product at concentrations above the applicable limits. It is the responsibility of the manufacturer to ensure that the sampling and analysis are unbiased, precise, and representative of the product(s) introduced into commerce.

(III) The manufacturer maintains for no less than three years records of all sampling and analyses performed for purposes of determining compliance with the requirements of item (II) of this subpart. Such records must at a minimum include:

I. The dates and times product samples were taken, and the dates the samples were analyzed;

II. The names and qualifications of the person(s) taking the samples;

III. A description of the methods and equipment used to take the samples;

IV. The name and address of the laboratory facility at which analyses of the samples were performed;

V. A description of the analytical methods used, including any cleanup and sample preparation methods; and

VI. All laboratory analytical results used to determine compliance with the contaminant limits specified in this subpart.

(xxii) Used cathode ray tubes (CRTs)

(I) Used, intact CRTs as defined in subparagraph (2)(a) of Rule 0400-12-01-.01 are not solid wastes within the United States unless they are disposed, or unless they are speculatively accumulated as defined in subpart (1)(a)3(viii) of this rule by CRT collectors or glass processors.

(II) Used, intact CRTs as defined in subparagraph (2)(a) of Rule 0400-12-01-.01 are not solid wastes when exported for recycling provided that they meet the requirements of subparagraph (5)(c) of this rule.

(III) Used, broken CRTs as defined in subparagraph (2)(a) of Rule 0400-12-01-.01 are not solid wastes provided that they meet the requirements of subparagraph (5)(b) of this rule.

(IV) Glass removed from CRTs is not a solid waste provided that it meets the requirements of part (5)(b)3 of this rule.

(xxiii) Hazardous secondary material generated and legitimately reclaimed within the United States or its territories and under the control of the generator, provided that the material complies with items (I) and (II) of this subpart:

(I) I. The hazardous secondary material is generated and reclaimed at the generating facility (for purposes of this definition, generating facility means all contiguous property owned,

leased, or otherwise controlled by the hazardous secondary material generator); or

II. The hazardous secondary material is generated and reclaimed at different facilities, if the reclaiming facility is controlled by the generator or if both the generating facility and the reclaiming facility are controlled by a person as defined in subparagraph (2)(a) of Rule 0400-12-01-.01, and if the generator provides one of the following certifications: “on behalf of [insert generator facility name], I certify that this facility will send the indicated hazardous secondary material to [insert reclaimer facility name], which is controlled by [insert generator facility name] and that [insert name of either facility] has acknowledged full responsibility for the safe management of the hazardous secondary material; and as specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury,” or “on behalf of [insert generator facility name], I certify that this facility will send the indicated hazardous secondary material to [insert reclaimer facility name], that both facilities are under common control, and that [insert name of either facility] has acknowledged full responsibility for the safe management of the hazardous secondary material; and as specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.” For purposes of this subitem, “control” means the power to direct the policies of the facility, whether by the ownership of stock, voting rights, or otherwise, except that contractors who operate facilities on behalf of a different person as defined in subparagraph (2)(a) of Rule 0400-12-01-.01 shall not be deemed to “control” such facilities. The generating and receiving facilities must both maintain at their facilities for no less than three years records of hazardous secondary materials sent or received under this exclusion. In both cases, the records must contain the name of the transporter, the date of the shipment, and the type and quantity of the hazardous secondary material shipped or received under the exclusion. These requirements may be satisfied by routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations); or

III. The hazardous secondary material is generated pursuant to a written contract between a tolling contractor and a toll manufacturer and is reclaimed by the tolling contractor, if the tolling contractor certifies the following: “On behalf of [insert tolling contractor name], I certify that [insert tolling contractor name] has a written contract with [insert toll manufacturer name] to manufacture [insert name of product or intermediate] which is made from specified unused materials, and that [insert tolling contractor name] will reclaim the hazardous secondary materials generated during this manufacture. On behalf of [insert tolling contractor name], I also certify that [insert tolling contractor name] retains ownership of, and responsibility for, the hazardous secondary materials that are generated during the course of the manufacture, including any releases of hazardous secondary materials that occur during

the manufacturing process. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury." The tolling contractor must maintain at its facility for no less than three years records of hazardous secondary materials received pursuant to its written contract with the tolling manufacturer, and the tolling manufacturer must maintain at its facility for no less than three years records of hazardous secondary materials shipped pursuant to its written contract with the tolling contractor. In both cases, the records must contain the name of the transporter, the date of the shipment, and the type and quantity of the hazardous secondary material shipped or received pursuant to the written contract. These requirements may be satisfied by routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations). For purposes of this subitem, tolling contractor means a person who arranges for the production of a product or intermediate made from specified unused materials through a written contract with a toll manufacturer. Toll manufacturer means a person who produces a product or intermediate made from specified unused materials pursuant to a written contract with a tolling contractor.

(II) I. The hazardous secondary material is contained as defined in subparagraph (2)(a) of Rule 0400-12-01-.01. A hazardous secondary material released to the environment is discarded and a solid waste unless it is immediately recovered for the purpose of reclamation. Hazardous secondary material managed in a unit with leaks or other continuing or intermittent unpermitted releases is discarded and a solid waste.

II. The hazardous secondary material is not speculatively accumulated, as defined in subpart (a)3(viii) of this paragraph.

III. Notice is provided as required by subparagraph (5)(c) of Rule 0400-12-01-.01.

IV. The material is not otherwise subject to material-specific management conditions under part 1 of this subparagraph when reclaimed, and it is not a spent lead-acid battery (see subparagraph (7)(a) of Rule 0400-12-01-.09 and subparagraph (1)(d) of Rule 0400-12-01-.12).

V. Persons performing the recycling of hazardous secondary materials under this exclusion must maintain documentation of their legitimacy determination on-site. Documentation must be a written description of how the recycling meets all three factors in part (5)(d)1 of Rule 0400-12-01-.01 and how the factor in part (5)(d)2 of Rule 0400-12-01-.01 was considered. Documentation must be maintained for three years after the recycling operation has ceased.

VI. The emergency preparedness and response requirements found in paragraph (13) of this rule are met.

(Rule 0400-12-01-.02, continued)

(xxiv) Hazardous secondary material that is generated and then transferred to another person for the purpose of reclamation is not a solid waste, provided that:

(I) The material is not speculatively accumulated, as defined in subpart (a)3(viii) of this paragraph;

(II) The material is not handled by any person or facility other than the hazardous secondary material generator, the transporter, an intermediate facility or a reclaimer, and, while in transport, is not stored for more than 10 days at a transfer facility, as defined in subparagraph (2)(a) of Rule 0400-12-01-.01, and is packaged according to applicable Department of Transportation regulations at 49 CFR parts 173, 178, and 179 while in transport;

(III) The material is not otherwise subject to material-specific management conditions under part 1 of this subparagraph when reclaimed, and it is not a spent lead-acid battery (see subparagraph (7)(a) of Rule 0400-12-01-.09 and subparagraph (1)(d) of Rule 0400-12-01-.12);

(IV) The reclamation of the material is legitimate, as specified under subparagraph (5)(d) of Rule 0400-12-01-.01;

(V) The hazardous secondary material generator satisfies all of the following conditions:

I. The material must be contained as defined in subparagraph (2)(a) of Rule 0400-12-01-.01. A hazardous secondary material released to the environment is discarded and a solid waste unless it is immediately recovered for the purpose of recycling. Hazardous secondary material managed in a unit with leaks or other continuing releases is discarded and a solid waste.

II. Prior to arranging for transport of hazardous secondary materials to a reclamation facility (or facilities) where the management of the hazardous secondary materials is not addressed under a Part B permit issued under Rule 0400-12-01-.07 or interim status standards under Rule 0400-12-01-.05 or, if not in Tennessee, not addressed under a RCRA Part B permit or interim status standards in another state, the hazardous secondary material generator must make reasonable efforts to ensure that each reclaimer intends to properly and legitimately reclaim the hazardous secondary material and not discard it, and that each reclaimer will manage the hazardous secondary material in a manner that is protective of human health and the environment. If the hazardous secondary material will be passing through an intermediate facility where the management of the hazardous secondary materials is not addressed under a Part B permit issued under Rule 0400-12-01-.07 or interim status standards under Rule 0400-12-01-.05, or, if not in Tennessee, not addressed under a RCRA Part B permit or interim status standards in another state, the hazardous secondary material generator must make contractual arrangements with the

(Rule 0400-12-01-.02, continued)

intermediate facility to ensure that the hazardous secondary material is sent to the reclamation facility identified by the hazardous secondary material generator, and the hazardous secondary material generator must perform reasonable efforts to ensure that the intermediate facility will manage the hazardous secondary material in a manner that is protective of human health and the environment. Reasonable efforts must be repeated at a minimum of every three years for the hazardous secondary material generator to claim the exclusion and to send the hazardous secondary materials to each reclaimer and any intermediate facility. In making these reasonable efforts, the generator may use any credible evidence available, including information gathered by the hazardous secondary material generator, provided by the reclaimer or intermediate facility, and/or provided by a third party. The hazardous secondary material generator must affirmatively answer all of the following questions for each reclamation facility and any intermediate facility:

A. Does the available information indicate that the reclamation process is legitimate pursuant to subparagraph (5)(d) of Rule 0400-12-01-.01? In answering this question, the hazardous secondary material generator can rely on their existing knowledge of the physical and chemical properties of the hazardous secondary material, as well as information from other sources (e.g., the reclamation facility, audit reports, etc.) about the reclamation process.

B. Does the publicly available information indicate that the reclamation facility and any intermediate facility that is used by the hazardous secondary material generator notified the appropriate authorities of hazardous secondary materials reclamation activities pursuant to subparagraph (5)(c) of Rule 0400-12-01-.01 and have they notified the appropriate authorities that the financial assurance condition is satisfied per subitem (VI)VII of this subpart? In answering these questions, the hazardous secondary material generator can rely on the available information documenting the reclamation facility's and any intermediate facility's compliance with the notification requirements per subparagraph (5)(c) of Rule 0400-12-01-.01, including the requirement in subpart (5)(c)1(v) of Rule 0400-12-01-.01 to notify the appropriate authorities whether the reclaimer or intermediate facility has financial assurance.

C. Does publicly available information indicate that the reclamation facility or any intermediate facility that is used by the hazardous secondary material generator has not had any formal enforcement actions taken against the facility in the previous three years for violations of the RCRA hazardous waste regulations and has not been classified as a significant non-complier with RCRA Subtitle C? In answering this question, the hazardous secondary material generator can rely on the

publicly available information from EPA or the department. If the reclamation facility or any intermediate facility that is used by the hazardous secondary material generator has had a formal enforcement action taken against the facility in the previous three years for violations of the RCRA hazardous waste regulations and has been classified as a significant non-complier with RCRA Subtitle C, does the hazardous secondary material generator have credible evidence that the facilities will manage the hazardous secondary materials properly? In answering this question, the hazardous secondary material generator can obtain additional information from EPA, the department, or the facility itself that the facility has addressed the violations, taken remedial steps to address the violations and prevent future violations, or that the violations are not relevant to the proper management of the hazardous secondary materials.

D. Does the available information indicate that the reclamation facility and any intermediate facility that is used by the hazardous secondary material generator have the equipment and trained personnel to safely recycle the hazardous secondary material? In answering this question, the generator may rely on a description by the reclamation facility or by an independent third party of the equipment and trained personnel to be used to recycle the generator's hazardous secondary material.

E. If residuals are generated from the reclamation of the excluded hazardous secondary materials, does the reclamation facility have the permits required (if any) to manage the residuals? If not, does the reclamation facility have a contract with an appropriately permitted facility to dispose of the residuals? If not, does the hazardous secondary material generator have credible evidence that the residuals will be managed in a manner that is protective of human health and the environment? In answering these questions, the hazardous secondary material generator can rely on publicly available information from EPA or the department, or information provided by the facility itself.

III. The hazardous secondary material generator must maintain for a minimum of three years documentation and certification that reasonable efforts were made for each reclamation facility and, if applicable, intermediate facility where the management of the hazardous secondary materials is not addressed under a Part B permit issued under Rule 0400-12-01-.07 or interim status standards under Rule 0400-12-01-.05, or, if not in Tennessee, not addressed under a RCRA Part B permit or interim status standards in another state prior to transferring hazardous secondary material. Documentation and certification must be made available upon request by the Commissioner within 72 hours, or within a longer period of

time as specified by the Commissioner. The certification statement must:

A. Include the printed name and official title of an authorized representative of the hazardous secondary material generator company, the authorized representative's signature, and the date signed;

B. Incorporate the following language: “I hereby certify in good faith and to the best of my knowledge that, prior to arranging for transport of excluded hazardous secondary materials to [insert name(s) of reclamation facility and any intermediate facility], reasonable efforts were made in accordance with subitem (1)(d)1(xxiv)(V)II of Rule 0400-12-01-.02 to ensure that the hazardous secondary materials would be recycled legitimately, and otherwise managed in a manner that is protective of human health and the environment, and that such efforts were based on current and accurate information.”.

IV. The hazardous secondary material generator must maintain at the generating facility for no less than three years records of all off-site shipments of hazardous secondary materials. For each shipment, these records must, at a minimum, contain the following information:

A. Name of the transporter and date of the shipment;

B. Name and address of each reclaimer and, if applicable, the name and address of each intermediate facility to which the hazardous secondary material was sent; and

C. The type and quantity of hazardous secondary material in the shipment.

V. The hazardous secondary material generator must maintain at the generating facility for no less than three years confirmations of receipt from each reclaimer and, if applicable, each intermediate facility for all off-site shipments of hazardous secondary materials. Confirmations of receipt must include the name and address of the reclaimer (or intermediate facility), the type and quantity of the hazardous secondary materials received and the date which the hazardous secondary materials were received. This requirement may be satisfied by routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations of receipt);

VI. The hazardous secondary material generator must comply with the emergency preparedness and response conditions in paragraph (13) of this rule.

(VI) Reclaimers of hazardous secondary material excluded from regulation under this exclusion and intermediate facilities, as defined in subparagraph (2)(a) of Rule 0400-12-01-.01, satisfy all of the following conditions:

I. The reclaimer and intermediate facility must maintain at its facility for no less than three years records of all shipments of hazardous secondary material that were received at the facility and, if applicable, for all shipments of hazardous secondary materials that were received and subsequently sent off-site from the facility for further reclamation. For each shipment, these records must at a minimum contain the following information:

A. Name of the transporter and date of the shipment;

B. Name and address of the hazardous secondary material generator and, if applicable, the name and address of the reclaimer or intermediate facility which the hazardous secondary materials were received from;

C. The type and quantity of hazardous secondary material in the shipment; and

D. For hazardous secondary materials that, after being received by the reclaimer or intermediate facility, were subsequently transferred off-site for further reclamation, the name and address of the (subsequent) reclaimer and, if applicable, the name and address of each intermediate facility to which the hazardous secondary material was sent.

II. The intermediate facility must send the hazardous secondary material to the reclaimer(s) designated by the hazardous secondary materials generator.

III. The reclaimer and intermediate facility must send to the hazardous secondary material generator confirmations of receipt for all off-site shipments of hazardous secondary materials, within 30 days of receipt. Confirmations of receipt must include the name and address of the reclaimer (or intermediate facility), the type and quantity of the hazardous secondary materials received and the date which the hazardous secondary materials were received. This requirement may be satisfied by routine business records (e.g., financial records, bills of lading, copies of DOT shipping papers, or electronic confirmations of receipt).

IV. The reclaimer and intermediate facility must manage the hazardous secondary material in a manner that is at least as protective as that employed for analogous raw material and must be contained as defined in subparagraph (2)(a) of Rule 0400-12-01-.01. An “analogous raw material”' is a raw material for which a hazardous secondary material is a substitute and serves the same function and has similar physical and chemical properties as the hazardous secondary material.

V. The intermediate or reclamation facility must comply with the emergency preparedness and response conditions of paragraph (13) of this rule.

VI. Any residuals that are generated from reclamation processes will be managed in a manner that is protective of human health and the environment. If any residuals exhibit a hazardous characteristic according to paragraph (3) of this rule, or if they themselves are specifically listed in paragraph (4) of this rule, such residuals are hazardous wastes and must be managed in accordance with the applicable requirements of Rules 0400-12-01-.01 through 0400-12-01-.10.

VII. The reclaimer and intermediate facility have financial assurance as required under paragraph (8) of this rule.

(VII) In addition, all persons claiming the exclusion under this subpart must provide notification as required under subparagraph (5)(c) of Rule 0400-12-01-.01.

(xxv) Hazardous secondary material that is exported from the United States and reclaimed at a reclamation facility located in a foreign country is not a solid waste, provided that the hazardous secondary material generator complies with the applicable requirements of 40 CFR § 261.4(a)(24)(i)-(v) (excepting 40 CFR § 261.4(a)(24)(v)(B)(2) for foreign reclaimers and foreign intermediate facilities), and that the hazardous secondary material generator also complies with the following requirements:

(I) Notify EPA of an intended export before the hazardous secondary material is scheduled to leave the United States. A complete notification must be submitted at least 60 days before the initial shipment is intended to be shipped off-site. This notification may cover export activities extending over a 12-month or lesser period. The notification must be in writing, signed by the hazardous secondary material generator, and include the following information:

I. Name, mailing address, telephone number and EPA ID number (if applicable) of the hazardous secondary material generator;

II. A description of the hazardous secondary material and the EPA hazardous waste number that would apply if the hazardous secondary material was managed as hazardous waste and the U.S. DOT proper shipping name, hazard class and ID number (UN/NA) for each hazardous secondary material as identified in 49 CFR parts 171 through 177;

III. The estimated frequency or rate at which the hazardous secondary material is to be exported and the period of time over which the hazardous secondary material is to be exported;

IV. The estimated total quantity of hazardous secondary material;

V. All points of entry to and departure from each foreign country through which the hazardous secondary material will pass;

VI. A description of the means by which each shipment of the hazardous secondary material will be transported (e.g., mode

of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.));

VII. A description of the manner in which the hazardous secondary material will be reclaimed in the country of import;

VIII. The name and address of the reclaimer, any intermediate facility and any alternate reclaimer and intermediate facilities; and

IX. The name of any countries of transit through which the hazardous secondary material will be sent and a description of the approximate length of time it will remain in such countries and the nature of its handling while there (for purposes of this subpart, the terms “EPA Acknowledgement of Consent”, “country of import”, and “country of transit” are used as defined in 40 CFR 262.81 with the exception that the terms in this subpart refer to hazardous secondary materials, rather than hazardous waste).

(II) Notifications must be submitted electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.

(III) Except for changes to the telephone number in subitem (I)I of this subpart and decreases in the quantity of hazardous secondary material indicated pursuant to subitem (I)IV of this subpart, when the conditions specified on the original notification change (including any exceedance of the estimate of the quantity of hazardous secondary material specified in the original notification), the hazardous secondary material generator must provide EPA with a written re-notification of the change. The shipment cannot take place until consent of the country of import to the changes (except for changes to subitem (I)IX of this subpart and in the ports of entry to and departure from countries of transit pursuant to subitem (I)V of this subpart) has been obtained and the hazardous secondary material generator receives from EPA an EPA Acknowledgment of Consent reflecting the country of import's consent to the changes.

(IV) Upon request by EPA, the hazardous secondary material generator shall furnish to EPA any additional information which a country of import requests in order to respond to a notification.

(V) EPA will provide a complete notification to the country of import and any countries of transit. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of item (I) of this subpart. Where a claim of confidentiality is asserted with respect to any notification information required by item (I) of this subpart, EPA may find the notification not complete until any such claim is resolved in accordance with 40 CFR 260.2.

(VI) The export of hazardous secondary material under this subpart is prohibited unless the country of import consents to the intended export. When the country of import consents in writing to the receipt of the hazardous secondary material, EPA will send an EPA Acknowledgment of Consent to the hazardous secondary material

generator. Where the country of import objects to receipt of the hazardous secondary material or withdraws a prior consent, EPA will notify the hazardous secondary material generator in writing. EPA will also notify the hazardous secondary material generator of any responses from countries of transit.

(VII) For exports to OECD Member countries, the receiving country may respond to the notification using tacit consent. If no objection has been lodged by any country of import or countries of transit to a notification provided pursuant to item (I) of this subpart within 30 days after the date of issuance of the acknowledgement of receipt of notification by the competent authority of the country of import, the transboundary movement may commence. In such cases, EPA will send an EPA Acknowledgment of Consent to inform the hazardous secondary material generator that the country of import and any relevant countries of transit have not objected to the shipment, and are thus presumed to have consented tacitly. Tacit consent expires one calendar year after the close of the 30-day period; re-notification and renewal of all consents is required for exports after that date.

(VIII) A copy of the EPA Acknowledgment of Consent must accompany the shipment. The shipment must conform to the terms of the EPA Acknowledgment of Consent.

(IX) If a shipment cannot be delivered for any reason to the reclaimer, intermediate facility or the alternate reclaimer or alternate intermediate facility, the hazardous secondary material generator must re-notify EPA of a change in the conditions of the original notification to allow shipment to a new reclaimer in accordance with item (III) of this subpart and obtain another EPA Acknowledgment of Consent.

(X) Hazardous secondary material generators must keep a copy of each notification of intent to export and each EPA Acknowledgment of Consent for a period of three years following receipt of the EPA Acknowledgment of Consent. They may satisfy this recordkeeping requirement by retaining electronically submitted notifications or electronically generated Acknowledgements in their account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that such copies are readily available for viewing and production if requested by any EPA or department inspector. No hazardous secondary material generator may be held liable for the inability to produce a notification or Acknowledgement for inspection under this subpart if they can demonstrate that the inability to produce such copies are due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system for which the hazardous secondary material generator bears no responsibility.

(XI) Hazardous secondary material generators must file with the Administrator no later than March 1 of each year, a report summarizing the types, quantities, frequency and ultimate destination of all hazardous secondary materials exported during the previous calendar year. Annual reports must be submitted electronically using EPA's Waste Import Export Tracking System

(Rule 0400-12-01-.02, continued)

(WIETS), or its successor system. Such reports must include the following information:

I. Name, mailing and site address, and EPA ID number (if applicable) of the hazardous secondary material generator;

II. The calendar year covered by the report;

III. The name and site address of each reclaimer and intermediate facility;

IV. By reclaimer and intermediate facility, for each hazardous secondary material exported, a description of the hazardous secondary material and the EPA hazardous waste number that would apply if the hazardous secondary material was managed as hazardous waste, the DOT hazard class, the name and U.S. EPA ID number (where applicable) for each transporter used, the total amount of hazardous secondary material shipped and the number of shipments pursuant to each notification;

V. A certification signed by the hazardous secondary material generator which states: “I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.”

(XII) All persons claiming an exclusion under this subpart must provide notification as required by 40 CFR 260.42.

(xxvi) Solvent-contaminated wipes that are sent for cleaning and reuse are not solid wastes from the point of generation, provided that:

(I) The solvent-contaminated wipes, when accumulated, stored, and transported, are contained in non-leaking, closed containers that are labeled “Excluded Solvent-Contaminated Wipes.” The containers shall be able to contain free liquids, should free liquids occur. During accumulation, a container is considered closed when there is complete contact between the fitted lid and the rim, except when it is necessary to add or remove solvent-contaminated wipes. When the container is full, or when the solvent-contaminated wipes are no longer being accumulated, or when the container is being transported, the container shall be sealed with all lids properly and securely affixed to the container and all openings tightly bound or closed sufficiently to prevent leaks and emissions;

(II) The solvent-contaminated wipes are accumulated by the generator for no more than 180 days from the start date of accumulation for each container prior to being sent for cleaning;

(III) At the point of being sent for cleaning on-site or at the point of being transported off-site for cleaning, the solvent-contaminated wipes

(Rule 0400-12-01-.02, continued)

must contain no free liquids as defined in paragraph (2) of Rule 0400-12-01-.01;

(IV) Free liquids removed from the solvent-contaminated wipes or from the container holding the wipes shall be managed according to the applicable regulations found in Rules 0400-12-01-.01 through 0400-12-01-.12;

(V) Generators shall maintain at their site the following documentation:

I. Name and address of the laundry or dry cleaner that is receiving the solvent-contaminated wipes;

II. Documentation that the 180-day accumulation time limit in item (II) of this subpart is being met;

III. Description of the process the generator is using to ensure the solvent-contaminated wipes contain no free liquids at the point of being laundered or dry cleaned on-site or at the point of being transported off-site for laundering or dry cleaning; and

(VI) The solvent-contaminated wipes are sent to a laundry or dry cleaner whose discharge, if any, is regulated under T.C.A. §§ 69-3-101 et seq., or sections 301 and 402 or section 307 of the Clean Water Act.

(xxvii) Hazardous secondary material that is generated and then transferred to another person for the purpose of remanufacturing is not a solid waste, provided that:

(I) The hazardous secondary material consists of one or more of the following spent solvents: Toluene, xylenes, ethylbenzene, 1,2,4-trimethylbenzene, chlorobenzene, n-hexane, cyclohexane, methyl tert-butyl ether, acetonitrile, chloroform, chloromethane, dichloromethane, methyl isobutyl ketone, NN-dimethylformamide, tetrahydrofuran, n-butyl alcohol, ethanol, and/or methanol;

(II) The hazardous secondary material originated from using one or more of the solvents listed in item (I) of this subpart in a commercial grade for reacting, extracting, purifying, or blending chemicals (or for rinsing out the process lines associated with these functions) in the pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and/or the paints and coatings manufacturing sectors (NAICS 325510).

(III) The hazardous secondary material generator sends the hazardous secondary material spent solvents listed in item (I) of this subpart to a remanufacturer in the pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and/or the paints and coatings manufacturing sectors (NAICS 325510).

(IV) After remanufacturing one or more of the solvents listed in item (I) of this subpart, the use of the remanufactured solvent shall be limited to reacting, extracting, purifying, or blending chemicals (or for rinsing out the process lines associated with these functions) in the

(Rule 0400-12-01-.02, continued)

pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and the paints and coatings manufacturing sectors (NAICS 325510) or to using them as ingredients in a product. These allowed uses correspond to chemical functional uses enumerated under the Chemical Data Reporting Rule of the Toxic Substances Control Act (40 CFR parts 704, 710-711), including Industrial Function Codes U015 (solvents consumed in a reaction to produce other chemicals) and U030 (solvents become part of the mixture);

(V) After remanufacturing one or more of the solvents listed in item (I) of this subpart, the use of the remanufactured solvent does not involve cleaning or degreasing oil, grease, or similar material from textiles, glassware, metal surfaces, or other articles. (These disallowed continuing uses correspond to chemical functional uses in Industrial Function Code U029 under the Chemical Data Reporting Rule of the Toxics Substances Control Act.); and

(VI) Both the hazardous secondary material generator and the remanufacturer must:

I. Notify EPA or the State Director, if the state is authorized for the program, and update the notification every two years per subparagraph (5)(c) of Rule 0400-12-01-.01;

II. Develop and maintain an up-to-date remanufacturing plan which identifies:

A. The name, address and EPA ID number of the generator(s) and the remanufacturer(s);

B. The types and estimated annual volumes of spent solvents to be remanufactured;

C. The processes and industry sectors that generate the spent solvents;

D. The specific uses and industry sectors for the remanufactured solvents; and

E. A certification from the remanufacturer stating “on behalf of [insert remanufacturer facility name], I certify that this facility is a remanufacturer under pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), and/or the paints and coatings manufacturing sectors (NAICS 325510), and will accept the spent solvent(s) for the sole purpose of remanufacturing into commercial-grade solvent(s) that will be used for reacting, extracting, purifying, or blending chemicals (or for rinsing out the process lines associated with these functions) or for use as product ingredient(s). I also certify that the remanufacturing equipment, vents, and tanks are equipped with and are operating air emission controls in compliance with the

appropriate Tennessee Air Quality Act regulations under Rule Division 1200-03, or, absent such Air Quality Act standards for the particular operation or piece of equipment covered by the remanufacturing exclusion, are in compliance with the appropriate standards in paragraphs (27) (vents), (28) (equipment) and (29) (tank storage).";

III. Maintain records of shipments and confirmations of receipts for a period of three years from the dates of the shipments;

IV. Prior to remanufacturing, store the hazardous spent solvents in tanks or containers that meet technical standards found in paragraphs (9) and (10) of this rule, with the tanks and containers being labeled or otherwise having an immediately available record of the material being stored;

V. During remanufacturing, and during storage of the hazardous secondary materials prior to remanufacturing, the remanufacturer certifies that the remanufacturing equipment, vents, and tanks are equipped with and are operating air emission controls in compliance with the appropriate Tennessee Air Quality Act regulations under Rule Division 1200-03; or, absent such Air Quality Act standards for the particular operation or piece of equipment covered by the remanufacturing exclusion, are in compliance with the appropriate standards in paragraphs (27) (vents), (28) (equipment) and (29) (tank storage); and

VI. Meet the requirements prohibiting speculative accumulation per subpart (a)3(viii) of this paragraph.

2. Wastes Which Are Not Hazardous Wastes

The following wastes are not hazardous wastes:

(i) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused. "Household waste" means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). A resource recovery facility managing municipal waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under Chapter 0400-12-01, if such facility:

(I) Receives and burns only

I. Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and

II. Waste from commercial or industrial sources that does not contain hazardous waste; and

(Rule 0400-12-01-.02, continued)

(II) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

(ii) The following wastes generated within a farm and incidental to the operation of that farm:

(I) Wastes from the growing and harvesting of agricultural crops or from the raising of animals (including animal manures), which are returned to the soil as fertilizers; and [40 CFR 261.4(b)(2)]

(II) Waste pesticides, provided the farmer triple-rinses each emptied pesticide container (using a capable solvent) and disposes of the pesticide residues on his own farm in a manner consistent with the disposal instructions on the pesticide label. [40 CFR 262.70]

(iii) Mining overburden returned to the mine site.

(iv) (I) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste, generated primarily from the combustion of coal or other fossil fuels, except as provided by subparagraph (8)(m) of Rule 0400-12-01-.09 for facilities that burn or process hazardous waste.

(II) The following wastes generated primarily from processes that support the combustion of coal or other fossil fuels that are co-disposed with the wastes in item (I) of this subpart, except as provided by subparagraph (8)(m) of Rule 0400-12-01-.09 for facilities that burn or process hazardous waste:

I. Coal pile run-off. For purposes of this subitem, coal pile run-off means any precipitation that drains off coal piles.

II. Boiler cleaning solutions. For purposes of this subitem, boiler cleaning solutions means water solutions and chemical solutions used to clean the fire-side and water-side of the boiler.

III. Boiler blowdown. For purposes of this subitem, boiler blowdown means water purged from boilers used to generate steam.

IV. Process water treatment and demineralizer regeneration wastes. For purposes of this subitem, process water treatment and demineralizer regeneration wastes means sludges, rinses, and spent resins generated from processes to remove dissolved gases, suspended solids, and dissolved chemical salts from combustion system process water.

V. Cooling tower blowdown. For purposes of this subitem, cooling tower blowdown means water purged from a closed cycle cooling system. Closed cycle cooling systems include cooling towers, cooling ponds, or spray canals.

(Rule 0400-12-01-.02, continued)

VI. Air heater and precipitator washes. For purposes of this subitem, air heater and precipitator washes means wastes from cleaning air preheaters and electrostatic precipitators.

VII. Effluents from floor and yard drains and sumps. For purposes of this subitem, effluents from floor and yard drains and sumps means wastewaters, such as wash water, collected by or from floor drains, equipment drains, and sumps located inside the power plant building; and wastewaters, such as rain runoff, collected by yard drains and sumps located outside the power plant building.

VIII. Wastewater treatment sludges. For purposes of this subitem, wastewater treatment sludges refers to sludges generated from the treatment of wastewaters specified in subitems I through VI of this item.

(v) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

(vi) (I) Wastes which fail the test for the Toxicity Characteristic because chromium is present or are listed in paragraph (4) of this rule due to the presence of chromium, which do not fail the test for the Toxicity Characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if a waste generator demonstrates to the satisfaction of the Director, by submitting an evaluation request and supporting documentation, that:

I. The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

II. The waste generated from an industrial process is trivalent chromium exclusively (or nearly exclusively) and the process does not contain more than minimal amounts of hexavalent chromium[1]; and

III. The waste is managed by the waste generator in non-oxidizing environments.

(II) The waste generator shall also submit to the Department a Chromium Evaluation Review Fee identified in Rule 0400-12-01-.08(11) prior to the Director's review of the submitted documentation.

(III) This exemption shall be effective only after approval in writing by the Director. Waste generators who obtain this exemption shall:

I. Annually recertify the accuracy of the information in a letter to the Director that there has been no change in the waste stream or the process generating the waste since the Director determined that waste satisfies the conditions for the exemption;

[1] Hexavalent chromium concentrations below 5 mg/l currently are considered minimal.

(Rule 0400-12-01-.02, continued)

II. Submit all recertifications as required by subitem I of this item by March 1 of each succeeding year following the Director's determination that the waste satisfies the conditions of the exemption; and

III. Submit a new evaluation and review fee to the Director within 30 days, if a change in the waste stream or the process generating the waste has occurred since the Director's determination.

(IV) Specific wastes which meet the standard in item (I) of this subpart (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are:

I. Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

II. Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; shearling.

III. Buffing dust generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

IV. Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

V. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

VI. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

VII. Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

VIII. Wastewater treatment sludges from the production of $Ti0_2$ pigment using chromium-bearing ores by the chloride process.

(Rule 0400-12-01-.02, continued)

(vii) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock and overburden from the mining of uranium ore), except as provided by Rule 0400-12-01-.09(8)(m) for facilities that burn or process hazardous waste.

(I) For purposes of this subpart, beneficiation of ores and minerals is restricted to the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and in situ leaching.

(II) For the purpose of this subpart, solid waste from the processing of ores and minerals includes only the following wastes as generated:

I. Slag from primary copper processing;

II. Slag from primary lead processing;

III. Red and brown muds from bauxite refining;

IV. Phosphogypsum from phosphoric acid production;

V. Slag from elemental phosphorus production;

VI. Gasifier ash from coal gasification;

VII. Process wastewater from coal gasification;

VIII. Calcium sulfate wastewater treatment plant sludge from primary copper processing;

IX. Slag tailings from primary copper processing;

X. Fluorogypsum from hydrofluoric acid production;

XI. Process wastewater from hydrofluoric acid production;

XII. Air pollution control dust/sludge from iron blast furnaces;

XIII. Iron blast furnace slag;

XIV. Treated residue from roasting/leaching of chrome ore;

XV. Process wastewater from primary magnesium processing by the anhydrous process;

XVI. Process wastewater from phosphoric acid production;

(Rule 0400-12-01-.02, continued)

XVII. Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;

XVIII. Basic oxygen furnace and open hearth furnace slag from carbon steel production;

XIX. Chloride process waste solids from titanium tetrachloride production;

XX. Slag from primary zinc processing.

(III) A residue derived from co-processing mineral processing secondary materials with normal beneficiation raw materials or with normal mineral processing raw materials remains excluded under this part if the owner or operator:

I. Processes at least 50 percent by weight normal beneficiation raw materials or normal mineral processing raw materials; and,

II. Legitimately reclaims the secondary mineral processing materials.

(viii) Cement kiln dust waste, except as provided by Rule 0400-12-01-.09(8)(m) for facilities that burn or process hazardous waste.

(ix) Waste which consists of discarded arsenical-treated wood or wood products which fails the test for the Toxicity Characteristic for Hazardous Waste Codes D004 through D017 and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(x) Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of subparagraph (3)(e) of this rule (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under 40 CFR Part 280 or Chapter 0400-18-01 (as these regulations exist on the effective date of these rules).

(xi) Injected groundwater that is hazardous only because it exhibits the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) in subparagraph (3)(e) of this rule that is reinjected through an underground injection well pursuant to free phase hydrocarbon recovery operations undertaken at petroleum refineries, petroleum marketing terminals, petroleum bulk plants, petroleum pipelines, and petroleum transportation spill sites until January 25, 1993. This extension applies to recovery operations in existence, or for which contracts have been issued, on or before March 25, 1991. New operations involving injection wells (beginning after March 25, 1991) will qualify for this compliance date extension (until January 25, 1993) only if operations are performed pursuant to a written state agreement issued under the Tennessee Water Quality Control Act (T.C.A. §§ 69-3-101 et seq.) that includes a provision to assess the groundwater and the need for further remediation once the free phase recovery is completed.

(xii) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration,

(Rule 0400-12-01-.02, continued)

and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use.

(xiii) Non-terne plated used oil filters that are not mixed with wastes listed in paragraph (4) of this rule if these oil filters have been gravity hot-drained using one of the following methods:

(I) Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;

(II) Hot-draining and crushing;

(III) Dismantling and hot-draining; or

(IV) Any other equivalent hot-draining method which will remove used oil.

(xiv) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

(xv) Leachate or gas condensate collected from landfills where certain solid wastes have been disposed, provided that:

(I) The solid wastes disposed would meet one or more of the listing descriptions for hazardous Waste Codes K169, K170, K171, K172, K174, K175, K176, K177, K178, and K181 if these wastes had been generated after the effective date of the listing;

(II) The solid wastes described in item (I) of this subpart were disposed prior to the effective date of the listing;

(III) The leachate or gas condensate do not exhibit any characteristic of hazardous waste nor are derived from any other listed hazardous waste;

(IV) Discharge of the leachate or gas condensate, including leachate or gas condensate transferred from the landfill to a POTW by truck, rail, or dedicated pipe, is subject to regulation under sections 307(b) or 402 of the Clean Water Act, as amended or under the Water Quality Control Act; and

(V) As of February 13, 2001, leachate or gas condensate derived from K169-K172 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. As of November 21, 2003, leachate or gas condensate derived from K176, K177, and K178 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. After February 26, 2007, leachate or gas condensate derived from K181 will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. There is one exception: if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (e.g., shutdown of wastewater treatment system), provided the impoundment has a double liner, and provided the leachate or gas condensate is removed from the impoundment and continues to be managed in compliance with the conditions of this item (V) after the emergency ends.

(Rule 0400-12-01-.02, continued)

(xvi) Reserved

(xvii) Reserved

(xviii) Solvent-contaminated wipes, except for wipes that are hazardous waste due to the presence of trichloroethylene, that are sent for disposal are not hazardous wastes from the point of generation provided that:

(I) The solvent-contaminated wipes, when accumulated, stored, and transported, are contained in non-leaking, closed containers that are labeled “Excluded Solvent-Contaminated Wipes.” The containers shall be able to contain free liquids, should free liquids occur. During accumulation, a container is considered closed when there is complete contact between the fitted lid and the rim, except when it is necessary to add or remove solvent-contaminated wipes. When the container is full, or when the solvent-contaminated wipes are no longer being accumulated, or when the container is being transported, the container shall be sealed with all lids properly and securely affixed to the container and all openings tightly bound or closed sufficiently to prevent leaks and emissions;

(II) The solvent-contaminated wipes are accumulated by the generator for no more than 180 days from the start date of accumulation for each container prior to being sent for disposal;

(III) At the point of being transported for disposal, the solvent-contaminated wipes must contain no free liquids as defined in paragraph (2) of Rule 0400-12-01-.01;

(IV) Free liquids removed from the solvent-contaminated wipes or from the container holding the wipes shall be managed according to the applicable regulations found in Rules 0400-12-01-.01 through 0400-12-01-.12;

(V) Generators shall maintain at their site the following documentation:

I. Name and address of the landfill or combustor that is receiving the solvent-contaminated wipes;

II. Documentation that the 180 day accumulation time limit in item (II) of this subpart is being met;

III. Description of the process the generator is using to ensure solvent-contaminated wipes contain no free liquids at the point of being transported for disposal; and

(VI) The solvent-contaminated wipes are sent for disposal:

I. To a municipal solid waste landfill regulated under Chapter 0400-11-01, including Rule 0400-11-01-.04 regarding a Class I disposal facility, or to a hazardous waste landfill regulated under Rules 0400-12-01-.05 or 0400-12-01-.06; or

II. To a municipal waste combustor or other combustion facility regulated under T.C.A. §§ 68-201-101 et seq. or to a

hazardous waste combustor, boiler, or industrial furnace regulated under Rules 0400-12-01-.05 or 0400-12-01-.06 or paragraph (8) of Rule 0400-12-01-.09.

3. Hazardous Wastes Which Are Exempted From Certain Regulations

(i) A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment manufacturing unit, is not subject to regulation under these rules except as specified in subpart (ii) of this part until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(ii) A hazardous waste as described in subpart (i) of this part shall be subject to the generator notification requirement of Rule 0400-12-01-.03(2), and shall be subject to such requirement irrespective of how the waste is managed after it exits the units in which it was generated (e.g., even if it exits directly into a domestic sewer system), except as provided otherwise in Rule 0400-12-01-.03(2)(a)2. Such a waste shall also be subject to the annual reporting requirements of Rule 0400-12-01-.03(5)(b) for the years in which it is removed from the units in which it was generated.

4. Samples

(i) Except as provided in subpart (ii) of this part, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of these rules when:

(I) The sample is being transported to a laboratory for the purpose of testing; or

(II) The sample is being transported back to the sample collector after testing; or

(III) The sample is being stored by the sample collector before transport to a laboratory for testing; or

(IV) The sample is being stored in a laboratory before testing; or

(V) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(VI) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until the conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(ii) In order to qualify for the exemption in items (i)(I) and (II) of this part a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(Rule 0400-12-01-.02, continued)

(I) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(II) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

I. Assure that the following information accompanies the sample:

A. The sample collector's name, mailing address, and telephone number;

B. The laboratory's name, mailing address, and telephone number;

C. The quantity of the sample;

D. The date of shipment; and

E. A description of the sample.

II. Package the sample so that it does not leak, spill, or vaporize from its packaging.

(iii) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in subpart (i) of this part.

5. Treatability Study Samples

(i) Except as provided in subpart (ii) of this part, persons who generate or collect samples for the purpose of conducting treatability studies as defined in Rule 0400-12-01-.01(2)(a), are not subject to any requirement of Rule 0400-12-01-.02, .03 and .04, nor are such samples included in the quantity determinations of paragraph (e) of this rule and Rule 0400-12-01-.03(4)(e)6 when:

(I) The sample is being collected and prepared for transportation by the generator or sample collector; or

(II) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(III) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(ii) The exemption in subpart (i) of this part is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

(I) The generator or sample collector uses (in "treatability studies") no more than 10,000 kg of media contaminated with non-acute hazardous waste, 1000 kg of non-acute hazardous waste other than contaminated media, 1 kg of acute hazardous waste, 2500 kg of

(Rule 0400-12-01-.02, continued)

media contaminated with acute hazardous waste for each process being evaluated for each generated waste stream; and

(II) The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with non-acute hazardous waste, or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of hazardous waste, and 1 kg of acute hazardous waste; and

(III) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of subitem I or II of this part are met.

I. The transportation of each sample shipment complies with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

II. If the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

A. The name, mailing address, and telephone number of the originator of the sample;

B. The name, address, and telephone number of the facility that will perform the treatability study;

C. The quantity of the sample;

D. The date of shipment; and

E. A description of the sample, including its Hazardous Waste Code.

(IV) The sample is shipped to a laboratory or testing facility which is exempt under part 6 of this subparagraph or has an appropriate permit or interim status.

(V) The generator or sample collector maintains the following records for a period ending 3 years after completion of the treatability study:

I. Copies of the shipping documents;

II. A copy of the contract with the facility conducting the treatability study;

III. Documentation showing:

A. The amount of waste shipped under this exemption;

B. The name, address, and Installation Identification Number of the laboratory or testing facility that received the waste;

C. The date the shipment was made; and

(Rule 0400-12-01-.02, continued)

D. Whether or not unused samples and residues were returned to the generator.

(VI) The generator reports the information required under subitem (V)III of this subpart in its annual report.

(iii) The Commissioner may grant requests on a case-by-case basis for up to an additional two years for treatability studies involving bioremediation. The Commissioner may grant requests on a case-by-case basis for quantity limits in excess of those specified in items (ii)(I) and (II) of this part and subpart 6(iv) of this subparagraph, for up to an additional 5000 kg of media contaminated with non-acute hazardous waste, 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste:

(I) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing such requests include the nature of the technology, the type of process (e.g., batch versus continuous), size of the unit undergoing testing (particularly in relation to scale-up considerations), the time/quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

(II) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when: There has been an equipment or mechanical failure during the conduct of a treatability study; there is a need to verify the results of a previously conducted treatability study; there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

(III) The additional quantities and timeframes allowed in items (I) and (II) of this subpart are subject to all the provisions in subpart (i) and items (III) through (VI) of subpart (ii) of this part. The generator or sample collector must apply to the Commissioner and provide in writing the following information:

I. The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed;

II. Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results on each treatability study;

(Rule 0400-12-01-.02, continued)

III. A description of the technical modifications or change in specifications which will be evaluated and the expected results;

IV. If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

V. Such other information that the Commissioner considers necessary.

6. Samples Undergoing Treatability Studies at Laboratories and Testing Facilities

Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to the requirements under this Chapter) are not subject to any requirement of this Chapter provided that the conditions of subparts (i) through (xi) of this part are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to subparts (i) through (xi) of this part. Where a group of MTUs are located at the same site, the limitations specified in subparts (i) through (xi) of this part apply to the entire group of MTUs collectively as if the group were one MTU.

(i) No less than 45 days before conducting treatability studies, unless a shorter period is approved by the Commissioner, the facility notifies the Commissioner, in writing that it intends to conduct treatability studies under this paragraph.

(ii) The laboratory or testing facility conducting the treatability study has an Installation Identification Number.

(iii) No more than a total of 10,000 kg of “as received” media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other “as received” hazardous waste is subject to initiation of treatment in all treatability studies in any single day. “As received” waste refers to the waste as received in the shipment from the generator or sample collector.

(iv) The quantity of “as received” hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of non-acute hazardous wastes other than contaminated media, and 1 kg of acute hazardous waste. This quantity limitation does not include treatment materials (including nonhazardous solid waste) added to “as received” hazardous waste.

(v) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year (two years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future

(Rule 0400-12-01-.02, continued)

evaluation up to five years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(vi) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(vii) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(I) The name, address, and Installation Identification Number of the generator or sample collector of each waste sample;

(II) The date the shipment was received;

(III) The quantity of waste accepted;

(IV) The quantity of “as received” waste in storage each day;

(V) The date the treatment study was initiated and the amount of “as received” waste introduced to treatment each day;

(VI) The date the treatability study was concluded;

(VII) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the Installation Identification Number.

(viii) The facility keeps, on-site, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(ix) The facility prepares and submits a report to the Commissioner by March 15 of each year that includes the following information for the previous calendar year:

(I) The name, address, and Installation Identification Number of the facility conducting the treatability studies;

(II) The types (by process) of treatability studies conducted;

(III) The names and addresses of persons for whom studies have been conducted (including their Installation Identification Numbers);

(IV) The total quantity of waste in storage each day;

(V) The quantity and types of waste subjected to treatability studies;

(VI) When each treatability study was conducted;

(VII) The final disposition of residues and unused sample from each treatability study.

(Rule 0400-12-01-.02, continued)

(x) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under subparagraph (1)(c) of this rule and, if so, are subject to Chapter 0400-12-01, unless the residues and unused samples are returned to the sample originator under exemption under part 5 of this subparagraph.

(xi) The facility notifies the Commissioner by letter when the facility is no longer planning to conduct any treatability studies at the site.

7. Dredged material that is not a hazardous waste. Dredged material that is subject to the requirements of a permit that has been issued under 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344) or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413) is not a hazardous waste. For this part 7, the following definitions apply:

(i) The term “dredged material” has the same meaning as defined in 40 CFR 232.2;

(ii) The term “permit” means:

(I) A permit issued by the U.S. Army Corps of Engineers (Corps) or an approved State under section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344);

(II) A permit issued by the Corps under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413); or

(III) In the case of Corps civil works projects, the administrative equivalent of the permits referred to in items (ii)(I) and (II) of this part, as provided for in Corps regulations (for example, see 33 CFR 336.1, 336.2, and 337.6).

8. Carbon dioxide stream injected for geologic sequestration. Carbon dioxide streams that are captured and transported for purposes of injection into an underground injection well subject to the requirements for Class VI Underground Injection Control wells, including the requirements in 40 CFR Parts 144 and 146 of the Underground Injection Control Program of the Safe Drinking Water Act and Chapter 0400-45-06 Underground Injection Control, are not a hazardous waste, provided the following conditions are met:

(i) Transportation of the carbon dioxide stream shall be in compliance with U.S. Department of Transportation requirements, including the pipeline safety laws (49 U.S.C. 60101 et seq.) and regulations (49 CFR Parts 190-199) of the U.S. Department of Transportation, and pipeline safety regulations adopted and administered by a state authority pursuant to a certification under 49 U.S.C. 60105, as applicable;

(ii) Injection of the carbon dioxide stream shall be in compliance with the applicable requirements for Class VI Underground Injection Control wells, including the applicable requirements in 40 CFR Parts 144 and 146 and Tennessee Chapter 0400-45-06;

(iii) No hazardous wastes shall be mixed with, or otherwise co-injected with, the carbon dioxide stream; and

(Rule 0400-12-01-.02, continued)

(iv) (I) Any generator of a carbon dioxide stream, who claims that a carbon dioxide stream is excluded under this part, shall have an authorized representative (as defined in subparagraph (2)(a) of Rule 0400-12-01-.01) sign a certification statement worded as follows:

"I certify under penalty of law that the carbon dioxide stream that I am claiming to be excluded under part (1)(d)8 of Rule 0400-12-01-.02 has not been mixed with hazardous wastes, and I have transported the carbon dioxide stream in compliance with (or have contracted with a pipeline operator or transporter to transport the carbon dioxide stream in compliance with) Department of Transportation requirements, including the pipeline safety laws (49 U.S.C. 60101 et seq.) and regulations (49 CFR Parts 190-199) of the U.S. Department of Transportation, and the pipeline safety regulations adopted and administered by a state authority pursuant to a certification under 49 U.S.C. 60105, as applicable, for injection into a well subject to the requirements for the Class VI Underground Injection Control Program of the Safe Drinking Water Act and Tennessee Chapter 0400-45-06. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

(II) Any Class VI Underground Injection Control well owner or operator, who claims that a carbon dioxide stream is excluded under this part, shall have an authorized representative (as defined in subparagraph (2)(a) of Rule 0400-12-01-.01) sign a certification statement worded as follows:

"I certify under penalty of law that the carbon dioxide stream that I am claiming to be excluded under part (1)(d)8 of Rule 0400-12-01-.02 has not been mixed with, or otherwise co-injected with, hazardous waste at the Underground Injection Control (UIC) Class VI permitted facility, and that injection of the carbon dioxide stream is in compliance with the applicable requirements for UIC Class VI wells, including the applicable requirements in 40 CFR Parts 144 and 146 and Tennessee Chapter 0400-45-06. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

(III) The signed certification statement shall be kept on-site for no less than three years, and shall be made available within 72 hours of a written request from the Commissioner. The signed certification statement shall be renewed every year that the exclusion is claimed, by having an authorized representative (as defined in subparagraph (2)(a) of Rule 0400-12-01-.01) annually prepare and sign a new copy of the certification statement within one year of the date of the previous statement. The signed certification statement shall also be readily accessible on the facility's publicly-available website (if such website exists) as a public notification with the title of "Carbon Dioxide Stream Certification" at the time the exclusion is claimed.

(e) Special Requirements For Hazardous Waste Generated By Conditionally Exempt Small Quantity Generators [40 CFR 261.5]

(Rule 0400-12-01-.02, continued)

1. A generator is a conditionally exempt small quantity generator in a calendar month if he generates no more than 100 kilograms of hazardous waste in that month.

2. Except for those wastes identified in parts 5, 6, 7, and 10 of this subparagraph, a conditionally exempt small quantity generator's hazardous wastes are not subject to regulation under Rules 0400-12-01-.03 through .10, provided the generator complies with the requirements of parts 6, 7 and 10 of this subparagraph.

3. When making the quantity determinations of this rule and Rule 0400-12-01-.03, the generator must include all hazardous waste that it generates, except hazardous waste that:

   (i) Is exempt from regulation under parts (d)3 through 6 subparts (f)1(iii), subpart (g)1(i), or subparagraph (h) of this paragraph; or

   (ii) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities as defined in Rule 0400-12-01-.01(2)(a); or

   (iii) Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under subpart (f)3(ii) of this paragraph; or

   (iv) Is used oil managed under the requirements of subpart (f)1(iv) of this paragraph and Rule 0400-12-01-.11; or

   (v) Is spent lead-acid batteries managed under the requirements of Rule 0400-12-01-.09(7); or

   (vi) Is universal waste managed under Rule 0400-12-01-.02(1)(j) and Rule 0400-12-01-.12; or

   (vii) Is a hazardous waste that is an unused commercial chemical product (listed in Paragraph (4) of this rule or exhibiting one or more characteristics in paragraph (3) of this rule) that is generated solely as a result of a laboratory clean-out conducted at an eligible academic entity pursuant to paragraph (12) of Rule 0400-12-01-.03. For purposes of this provision, the term eligible academic entity shall have the meaning as defined in paragraph (12) of Rule 0400-12-01-.03.

   (viii) Is managed immediately upon generation in a collection system (sewer system) where the wastewaters will mix with sanitary wastes at any point before reaching a publicly owned treatment works (POTW).

4. In determining the quantity of hazardous waste generated, a generator need not include:

   (i) Hazardous waste when it is removed from on-site storage; or

   (ii) Hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or

   (iii) Spent materials that are generated, reclaimed, and subsequently reused on-site, so long as such spent materials have been counted once.

(Rule 0400-12-01-.02, continued)

5. If a generator generates acute hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acute hazardous waste are subject to full regulation under Chapter 0400-12-01:

   (i) A total of one kilogram of acute hazardous wastes listed in subparagraph (4)(b) or part (4)(d)5 of this rule.

   (ii) A total of 100 kilograms of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous wastes listed in subparagraph (4)(b) or part (4)(d)5 of this rule.

   (Comment: “Full regulation” means those regulations applicable to generators of 1000 kg or greater of hazardous waste in a calendar month.)

6. In order for acute hazardous wastes generated by a generator of acute hazardous wastes in quantities equal to or less than those set forth in subparts 5(i) or (ii) of this subparagraph to be excluded from full regulation under this subparagraph, the generator must comply with the following requirements:

   (i) The generator must perform the hazardous waste determination of Rule 0400-12-01-.03(1)(b) and keep records thereof as required by Rule 0400-12-01-.03(5)(a)3;

   (ii) The generator may accumulate acute hazardous waste on-site. If he accumulates at any time acute hazardous wastes in quantities greater than those set forth in subparts 5(i) or 5(ii) of this subparagraph, all of those accumulated wastes are subject to regulation under Chapter 0400-12-01. The time period of Rule 0400-12-01-.03(4)(e)2, for accumulation of wastes on-site, begins when the accumulated wastes exceed the applicable exclusion limit.

   (iii) A conditionally exempt small quantity generator may either treat or dispose of his acute hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is:

      (I) Permitted under Rule 0400-12-01-.07;

      (II) In interim status under Rule 0400-12-01-.05 and 0400-12-01-.07;

      (III) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR Part 271;

      (IV) Permitted, licensed, or registered by a State to manage municipal solid waste and, if managed in a municipal solid waste landfill, is subject to 40 CFR Part 258;

      (V) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in 40 CFR Parts 257.5 through 257.30; or

      (VI) A facility which:

(Rule 0400-12-01-.02, continued)

I. Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

II. Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or

(VII) For universal waste managed under Rule 0400-12-01-.12, a universal waste handler or destination facility subject to the requirements of Rule 0400-12-01-.12.

7. In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of 100 kilograms or less of hazardous waste during a calendar month to be excluded from full regulation under this subparagraph, the generator must comply with the following requirements:

(i) The conditionally exempt small quantity generator must perform the hazardous waste determination of Rule 0400-12-01-.03(1)(b) and keep records thereof as required by Rule 0400-12-01-.03(5)(a)3.

(ii) The conditionally exempt small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1000 kilograms of his hazardous wastes, all of those accumulated wastes are subject to regulation under the special provisions of Rule 0400-12-01-.03 applicable to generators of greater than 100 kg and less than 1000 kg of hazardous waste in a calendar month as well as the requirements of Rule 0400-12-01-.04 through 0400-12-01-.10. The time period of Rule 0400-12-01-.03(4)(e)6 for accumulation of wastes on-site begins for a conditionally exempt small quantity generator when the accumulated wastes exceed 1000 kilograms;

(iii) A conditionally exempt small quantity generator may either treat or dispose of his hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is:

(I) Permitted under Rule 0400-12-01-.07;

(II) In interim status under Rules 0400-12-01-.05 and 0400-12-01-.07;

(III) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR Part 271;

(IV) Permitted, licensed, or registered by a State to manage municipal solid waste and, if managed in a municipal solid waste landfill, is subject to 40 CFR Part 258;

(V) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in 40 CFR Parts 257.5 through 257.30; or

(VI) A facility which:

I. Beneficially uses or reuses or legitimately recycles or reclaims its waste; or

(Rule 0400-12-01-.02, continued)

II. Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or

(VII) For universal waste managed under Rule 0400-12-01-.12, a universal waste handler or destination facility subject to the requirements of Rule 0400-12-01-.12.

(iv) Management of Containers with Liquids

(I) A container holding hazardous waste volatile liquids must always be closed during storage, except when it is necessary to add or remove waste.

(II) A container holding hazardous waste liquids must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(III) The facility may take reasonable measures that deviate from this standard if required for safety due to the intrinsic nature of the container's contents.

8. Hazardous waste subject to the reduced requirements of this subparagraph may be mixed with non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this subparagraph, unless the mixture meets any of the characteristics of hazardous waste identified in paragraph (3) of this rule.

9. If any person mixes a solid waste with a hazardous waste that exceeds a quantity exclusion level of this subparagraph, the mixture is subject to full regulation.

10. If a conditionally exempt small quantity generator's wastes are mixed with used oil, the mixture is subject to Rule 0400-12-01-.11 provided the resultant mixture does not exhibit the characteristic of ignitability, corrosivity or reactivity in accordance with subparagraphs (3)(b), (c) or (d) of this rule.

(i) Any material derived from such non-hazardous mixture by processing, blending, or other treatment is also regulated under part (2)(a)5 of Rule 0400-12-01-.11; and

(ii) If the resultant mixture exhibits the characteristic of ignitability, corrosivity or reactivity, in accordance with subparagraphs (3)(b), (c) or (d) of this rule, and if the resultant hazardous waste mixture exceeds the quantity limitations identified in this subparagraph, then the mixture is no longer conditionally exempt under this subparagraph and is subject to regulation under Rules 0400-12-01-.03 through .10.

(NOTE: Any used oil that is not recycled is a solid waste subject to a hazardous waste determination per Rule 0400-12-01-.03(1)(b).)

(f) Requirements for recyclable material [40 CFR 261.6]

1. (i) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of parts 2 and 3 of this subparagraph, except for the materials listed in subparts (ii) and (iii) of this

(Rule 0400-12-01-.02, continued)

part. Hazardous wastes that are recycled will be known as "recyclable materials."

(ii) The following recyclable materials are not subject to the requirements of this subparagraph but are regulated under paragraphs (3), (6), (7), (8), (13) and (14) of Rule 0400-12-01-.09 and all applicable provisions in Rules 0400-12-01-.07 and 0400-12-01-.10:

(I) Recyclable materials used in a manner constituting disposal (Rule 0400-12-01-.09(3);

(II) Hazardous wastes burned (as defined in Rule 0400-12-01-.09(8)(a)1) in boilers and industrial furnaces that are not regulated under paragraph (15) of Rule 0400-12-01-.05 or Rule 0400-12-01-.06;

(III) Recyclable materials from which precious metals are reclaimed (Rule 0400-12-01-.09(6));

(IV) Spent lead-acid batteries that are being reclaimed (Rule 0400-12-01-.09(7)).

(iii) The following recyclable materials are not subject to regulation under Chapter 0400-12-01:

(I) Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement as specified in Rule 0400-12-01-.03(6)(i):

I. A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in Rule 0400-12-01-.03(6)(d), (g)1(i) through (iv) and (vi), (g)2, and (h), export such materials only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as defined in Rule 0400-12-01-.03(6), and provide a copy of the EPA Acknowledgment of Consent to the shipment to the transporter transporting the shipment for export;

II. Transporters transporting a shipment for export may not accept a shipment if he knows the shipment does not conform to the EPA Acknowledgment of Consent, must ensure that a copy of the EPA Acknowledgment of Consent accompanies the shipment and must ensure that it is delivered to the facility designated by the person initiating the shipment.

(II) Scrap metal that is not excluded under subpart (d)1(xiii) of this paragraph;

(III) Fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste,

where such recovered oil is already excluded under Rule 0400-12-01-.02(1)(d)1(xii));

(IV) I. Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under Rule 0400-12-01-.11(2)(b) and so long as no other hazardous wastes are used to produce the hazardous waste fuel;

II. Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under Rule 0400-12-01-.11(2)(b); and

III. Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under Rule 0400-12-01-.11(2)(b).

(iv) Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to the requirements of Rule 0400-12-01-.01 through .06, .09, and .10, but is regulated under Rule 0400-12-01-.11. Used oil that is recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery, or reprocessed.

(v) (Reserved) [40 CFR 261.6(a)(5)]

2. Generators and transporters of recyclable materials are subject to the applicable requirements of Rule 0400-12-01-.03 and .04, except as provided in part 1 of this subparagraph.

3. (i) Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of paragraphs (1) through (12), (27), (28) and (29) of Rule 0400-12-01-.05 and paragraphs (1) through (12), (30), (31) and (32) of Rule 0400-12-01-.06, and under Rules 0400-12-01-.07, .09, and .10, and the notification requirements under Rule 0400-12-01-.07(2)(b) and (d), except as provided in part 1 of this subparagraph. (The recycling process itself is exempt from regulation except as provided in part 4 of this subparagraph.)

(ii) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in part 1 of this subparagraph:

(Rule 0400-12-01-.02, continued)

(I) Such owners or operators must notify the Division Director of their activities using forms provided by the Department and completed per accompanying instructions;

(II) Such owners or operators must comply with Rule 0400-12-01-.05(5)(b) and (c) (dealing with the use of the manifest and manifest discrepancies);

(III) Rule 0400-12-01-.02(1)(f)4.

4. Owners or operators of facilities subject to the permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of paragraphs (27) and (28) of Rule 0400-12-01-.05 and paragraphs (30) and (31) of Rule 0400-12-01-.06.

5. Generators of recyclable materials must notify the Department describing the recyclable materials they generate, how such materials are generated, and how they are managed. Such notifications must be filed with the Department within 90 days of the effective date of this part (for existing generators) or within 90 days of the date a generator first becomes subject to this subparagraph (for new generators). Such notification must be submitted on forms provided by the Department. The form must be completed according to the accompanying instructions.

(g) Residues of hazardous waste in empty containers [40 CFR 261.7]

1. (i) Any hazardous waste remaining in either (1) an empty container or (2) an inner liner removed from an empty container, as defined in part 2 of this subparagraph, is not subject to regulation under these rules.

(ii) Any hazardous waste in either (1) a container that is not empty or (2) an inner liner removed from a container that is not empty, as defined in part 2 of this subparagraph, is subject to regulation under these rules.

2. (i) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of this rule is empty if:

(I) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and

(II) No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or

(III) I. No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons in size, or

II. No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 119 gallons in size.

(ii) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(iii) A container or an inner liner removed from a container that has held an acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of this subparagraph is empty if:

(I) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(II) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(III) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

(h) PCB wastes regulated under Toxic Substance Control Act [40 CFR 261.8]

The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under part 761 and that are hazardous only because they fail the test for the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) are exempt from regulation under Rule 0400-12-01-.02 through .08 and .10.

(i) Management of Excluded Wastes

Nothing in these rules shall exclude persons whose waste is nonhazardous or otherwise excluded from these rules from the requirements of the “Tennessee Solid Waste Disposal Act” (T.C.A. §§ 68-211-101 et seq.) and applicable regulations or from other applicable State, local or Federal laws.

(j) Requirements for Universal Waste [40 CFR 261.9]

The wastes listed in Rule 0400-12-01-.12(1)(a) are exempt from regulation under Rules 0400-12-01-.03 through .07, .09 and .10 except as specified in Rule 0400-12-01-.12 and, therefore, are not fully regulated as hazardous waste.

(2) Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste [40 CFR 261 Subpart B]

(a) Criteria for Identifying the Characteristics of Hazardous Waste [40 CFR 261.10]

1. The Board shall identify and define a characteristic of hazardous waste in paragraph (3) only upon determining that:

(i) A solid waste that exhibits the characteristic may:

(I) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(II) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(Rule 0400-12-01-.02, continued)

(ii) The characteristic can be:

(I) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(II) Reasonably detected by generators of solid waste through their knowledge of their waste.

(b) Criteria for Listing Hazardous Waste [40 CFR 261.11]

1. The Board shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in paragraph (3).

(ii) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(iii) It contains any of the toxic constituents listed in paragraph (5) Appendix VIII and, after considering the following factors, the Commissioner concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

(I) The nature of the toxicity presented by the constituent;

(II) The concentration of the constituent in the waste;

(III) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in item (VII) below;

(IV) The persistence of the constituent or any toxic degradation product of the constituent;

(V) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation;

(VI) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems;

(VII) The plausible types of improper management to which the waste could be subjected;

(VIII) The quantities of the waste generated at individual generation sites or on a regional or national basis;

(IX) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent;

(X) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent; and

(XI) Such other factors as may be appropriate.

(Note: Substances will be listed on Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.)

(Note: Wastes listed in accordance with these criteria will be designated Toxic wastes.)

2. The Board may list classes or types of solid waste as hazardous waste if it has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in Section 68-212-104 of the Act.

3. The Board will use the criteria for listing specified in this subparagraph to establish the exclusion limits referred to in part (1)(e)3 of this rule.

(3) Characteristics of Hazardous Waste [40 CFR 261 Subpart C]

(a) General [40 CFR 261.20]

1. A solid waste, as defined in subparagraph (1)(b) of this rule, which is not excluded from regulation as a hazardous waste under part (1)(d)2 of this rule, is a hazardous waste if it exhibits any of the characteristics identified in this paragraph.

(Comment: Rule 0400-12-01-.03(1)(b) sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in this paragraph.)

2. A hazardous waste which is identified by a characteristic in this paragraph is assigned every Hazardous Waste Code that is applicable as set forth in this paragraph. This code must be used in complying with the notification requirements of Rule 0400-12-01-.03(2) and all applicable recordkeeping and reporting requirements under Rules 0400-12-01-.03 through .07 and Rule 0400-12-01-.10.

3. For purposes of this paragraph, the Commissioner will consider a sample obtained using any of the applicable sampling methods specified in paragraph (5) Appendix I to be a representative sample within the meaning of Rule 0400-12-01-.01.

(Comment: Since the appendix I sampling methods are not being formally adopted by the Board, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in Rule 0400-12-01-.01(3).)

(Rule 0400-12-01-.02, continued)

(b) Characteristic of Ignitability [40 CFR 261.21]

1. A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(i) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D 93-79 or D 93-80 (see 40 CFR 260.11; Rule 0400-12-01-.01(2)(b)1), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D 3278-78 (see 40 CFR 260.11; Rule 0400-12-01-.01(2)(b)1).

(ii) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(iii) It is an ignitable compressed gas.

(I) The term “compressed gas” shall designate any material or mixture having in the container an absolute pressure exceeding 40 p.s.i. at 70 [deg] F or, regardless of the pressure at 70 [deg] F, having an absolute pressure exceeding 104 p.s.i. at 130 [deg] F; or any liquid flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100 [deg] F as determined by ASTM Test D-323.

(II) A compressed gas shall be characterized as ignitable if any one of the following occurs:

I. Either a mixture of 13 percent or less (by volume) with air forms a flammable mixture or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be acceptable to the Bureau of Explosives and approved by the director, Pipeline and Hazardous Materials Technology, U.S. Department of Transportation (see Note 2).

II. Using the Bureau of Explosives’ Flame Projection Apparatus (see Note 1), the flame projects more than 18 inches beyond the ignition source with valve opened fully or the flame flashes back and burns at the valve with any degree of valve opening.

III. Using the Bureau of Explosives’ Open Drum Apparatus (see Note 1), there is any significant propagation of flame away from the ignition source.

IV. Using the Bureau of Explosives’ Closed Drum Apparatus (see Note 1), there is any explosion of the vapor-air mixture in the drum.

(iv) It is an oxidizer.

An oxidizer for the purpose of this rule is a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter (see Note 4).

(I) An organic compound containing the bivalent – O – O – structure and which may be considered a derivative of hydrogen peroxide where one or more of the hydrogen atoms have been replaced by organic radicals must be classed as an organic peroxide unless:

I. The material meets the definition of a Class A explosive or a Class B explosive, as defined in subpart (3)(d)1(viii) of this rule, in which case it must be classed as an explosive,

II. The material is forbidden to be offered for transportation according to 49 CFR 172.101 and 49 CFR 173.21,

III. It is determined that the predominant hazard of the material containing an organic peroxide is other than that of an organic peroxide, or

IV. According to data on file with the Pipeline and Hazardous Materials Safety Administration in the U.S. Department of Transportation (see Note 3), it has been determined that the material does not present a hazard in transportation.

2. A solid waste that exhibits the characteristic of ignitability has the Hazardous Waste Code of D001.

Note 1: A description of the Bureau of Explosives' Flame Projection Apparatus, Open Drum Apparatus, Closed Drum Apparatus, and method of tests may be procured from the Bureau of Explosives.

Note 2: As part of a U.S. Department of Transportation (DOT) reorganization, the Office of Hazardous Materials Technology (OHMT), which was the office listed in the 1980 publication of 49 CFR 173.300 for the purposes of approving sampling and test procedures for a flammable gas, ceased operations on February 20, 2005. OHMT programs have moved to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the DOT.

Note 3: As part of a U.S. Department of Transportation (DOT) reorganization, the Research and Special Programs Administration (RSPA), which was the office listed in the 1980 publication of 49 CFR 173.151a for the purposes of determining that a material does not present a hazard in transport, ceased operations on February 20, 2005. RSPA programs have moved to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the DOT.

Note 4: The DOT regulatory definition of an oxidizer was contained in Sec. 173.151 of 49 CFR, and the definition of an organic peroxide was contained in paragraph 173.151a. An organic peroxide is a type of oxidizer.

(c) Characteristic of Corrosivity [40 CFR 261.22]

1. A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(Rule 0400-12-01-.02, continued)

(i) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040C in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. (See 40 CFR 260.11; Rule 0400-12-01-.01(2)(b)1.)

(ii) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by Method 1110A in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. (See 40 CFR 260.11; Rule 0400-12-01-.01(2)(b)1.)

2. A solid waste that exhibits the characteristic of corrosivity has the Hazardous Waste Code of D002.

(d) Characteristic of Reactivity [40 CFR 261.23]

1. A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(i) It is normally unstable and readily undergoes violent change without detonating.

(ii) It reacts violently with water.

(iii) It forms potentially explosive mixtures with water.

(iv) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(v) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(vi) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(vii) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(viii) It is a forbidden explosive as defined in 49 CFR 173.54, or is a Division 1.1, 1.2 or 1.3 explosive as defined in 49 CFR 173.50 and 173.53.

2. A solid waste that exhibits the characteristic of reactivity has the Hazardous Waste Code of D003.

(e) Toxicity Characteristic [40 CFR 261.24]

1. A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (see 40 CFR 260.11; Rule 0400-12-01-.01(2)(b)1) the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology

(Rule 0400-12-01-.02, continued)

outlined in Method 1311, is considered to be the extract for the purpose of this subparagraph.

2. A solid waste that exhibits the characteristic of toxicity has the Hazardous Waste Code specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous.

Table 1. – Maximum Concentration of Contaminants for the Toxicity Characteristic

HW Code No. [1]	Contaminant	CAS No. [2]	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	[4] 200.0
D024	m-Cresol	108-39-4	[4] 200.0
D025	p-Cresol	106-44-5	[4] 200.0
D026	Cresol		[4] 200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	[3] 0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	[3] 0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0

(Rule 0400-12-01-.02, continued)

D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	[3] 5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

FOOTNOTE: [1]Hazardous waste number.
FOOTNOTE: [2]Chemical abstracts service number.
FOOTNOTE: [3]Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
FOOTNOTE: [4]If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

(4) Lists of Hazardous Wastes [40 CFR 261 Subpart D]

(a) General [40 CFR 261.30]

1. A solid waste is a hazardous waste if it is listed in this paragraph, unless it has been excluded from this list under Rule 0400-12-01-.01(3).

2. The Board will indicate its basis for listing the classes or types of wastes listed in this paragraph by employing one or more of the following Hazard Codes:

Ignitable Waste (I)

Corrosive Waste (C)

Reactive Waste (R)

Toxicity Characteristic Waste (E)

Acute Hazardous Waste (H)

Toxic Waste (T)

Paragraph (5) Appendix VII identifies the constituent which caused the Board to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in subparagraphs (b) and (c) of this paragraph.

(Rule 0400-12-01-.02, continued)

3. Each hazardous waste listed in this paragraph is assigned a Hazardous Waste Code which precedes the name of the waste. This Code must be used in complying with the notification requirements of Rule 0400-12-01-.03(2) and certain recordkeeping and reporting requirements under Rules 0400-12-01-.03 through .07 and Rules 0400-12-01-.09 and 0400-12-01-.10.

4. The following hazardous wastes listed in subparagraph (b) of this paragraph are subject to the exclusion limits for acutely hazardous wastes established in subparagraph (1)(e) of this rule: Hazardous Wastes Codes F020, F021, F022, F023, F026, and F027.

(b) Hazardous Wastes from Non-specific Sources [40 CFR 261.31]

1. The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under subparagraphs (a) and (c) of Rule 0400-12-01-.01(3) and listed in paragraph (5) Appendix IX.

Industry and Hazardous Waste Code	Hazardous Waste	Hazard Code
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following	(T)

	processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	
F007	Spent cyanide plating bath solutions from electroplating operations.	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either: disposed in a Subtitle D municipal or industrial landfill unit, or a Class I or Class II Disposal Facility subject to a permit issued in accordance with Chapter 0400-11-01, that is equipped with a single clay liner and is permitted, licensed or otherwise authorized by the state; or disposed in a landfill unit subject to, or otherwise meeting, the landfill requirements in 40 CFR 258.40 or the state equivalent, or, if in Tennessee, Chapter 0400-11-01, Rule 0400-12-01-.06(14)(b) or Rule 0400-12-01-.05(14)(b). For the purposes of this listing, motor vehicle manufacturing is defined in item 2(iv)(I) of this subparagraph and item 2(iv)(II) of this subparagraph describes the recordkeeping requirements for motor vehicle manufacturing facilities.	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having	(T)

	carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in subparagraph (b) or (c) of this paragraph.).	
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	(T)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.).	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with Hazardous Waste Codes F020, F021, F022, F023, F026, and F027.	(T)
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with subparagraph (f) of this paragraph or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F037	Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in subpart 2(ii) of this subparagraph (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under item (1)(d)1(xii)(I) of this rule, if those residuals are to be disposed of.	(T)

(Rule 0400-12-01-.02, continued)

F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in subpart 2(ii) of this paragraph (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under item (1)(d)1(xii)(I) of this rule, if those residuals are to be disposed of.	(T)
F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under this paragraph. (Leachate resulting from the disposal of one or more of the following Hazardous Wastes and no other Hazardous Wastes retains its Hazardous Waste Code(s): F020, F021, F022, F026, F027, and/or F028.).	(T)

* (I, T) should be used to specify mixtures that are ignitable and contain toxic constituents.
(R, T) should be used to specify mixtures that are reactive and contain toxic constituents.

2. Listing Specific Definitions:

(i) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.

(ii) (I) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (I) the units employs a minimum of 6 hp per million gallons of treatment volume; and either (II) the hydraulic retention time of the unit is no longer than 5 days; or (III) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(II) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that: (I) the unit is an aggressive biological treatment unit as defined in this part; and (II) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually treated in the aggressive biological treatment unit.

(iii) (I) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(II) For the purposes of the F038 listing,

I. Sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and

II. Floats are considered to be generated at the moment they are formed in the top of the unit.

(iv) For the purposes of the F019 listing, the following apply to wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process.

(I) Motor vehicle manufacturing is defined to include the manufacture of automobiles and light trucks/utility vehicles (including light duty vans, pick-up trucks, minivans, and sport utility vehicles). Facilities must be engaged in manufacturing complete vehicles (body and chassis or unibody) or chassis only.

(II) Generators must maintain in their on-site records documentation and information sufficient to prove that the wastewater treatment sludges to be exempted from the F019 listing meet the conditions of the listing. These records must include: the volume of waste generated and disposed of off site; documentation showing when the waste volumes were generated and sent off site; the name and address of the receiving facility; and documentation confirming receipt of the waste by the receiving facility. Generators must maintain these documents on site for no less than three years. The retention period for the documentation is automatically extended during the course of any enforcement action or as requested by the Commissioner.

(c) Hazardous Wastes from Specific Sources [40 CFR 261.32]

1. The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under subparagraphs (a) and (c) of Rule 0400-12-01-.01(3) and listed in paragraph (5) Appendix IX of this rule.

Industry and Hazardous Waste Code	Hazardous Waste	Hazard Code
Wood preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	(T)

(Rule 0400-12-01-.02, continued)

K004	Wastewater treatment sludge from the production of zinc yellow pigments.	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments.	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments.	(T)
K008	Oven residue from the production of chrome oxide green pigments.	(T)
Organic chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	(T)
K015	Still bottoms from the distillation of benzyl chloride.	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production.	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	(T)

(Rule 0400-12-01-.02, continued)

K026	Stripping still tails from the production of methyl ethyl pyridines.	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production.	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
K083	Distillation bottoms from aniline production.	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)
K103	Process residues from aniline extraction from the production of aniline.	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(C,T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(I,T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)

(Rule 0400-12-01-.02, continued)

K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups, (This waste does not include still bottoms from the distillation of benzyl chloride.).	(T)
K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K159	Organics from the treatment of thiocarbamate wastes.	(T)
K161	Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.)	(R,T)

(Rule 0400-12-01-.02, continued)

K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (i) they are disposed of in a Subtitle C or non-hazardous landfill licensed or permitted by the state or federal government; (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the requirements of Subtitle C must, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (e.g., contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met.	(T)
K175	Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.	(T)
K181	Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in part 3 of this subparagraph that are equal to or greater than the corresponding part 3 levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (i) disposed in a Subtitle D landfill unit subject to the design criteria in 40 CFR 258.40, (ii) disposed in a Subtitle C landfill unit subject to either Rule 0400-12-01-.06(14)(b) or Rule 0400-12-01-.05(14)(b); (iii) disposed in other Subtitle D landfill units that meet the design criteria in 40 CFR 258.40, Rule 0400-12-01-.06(14)(b), or Rule 0400-12-01-.05(14)(b); or (iv) treated in a combustion unit that is permitted under Subtitle C, or an onsite combustion unit that is permitted under the Clean Air Act. For the purposes of this listing, dyes and/or pigments production is defined in subpart 2(i) of this subparagraph. Part 4 of this subparagraph describes the process for demonstrating that a facility's nonwastewaters are not K181. This listing does not apply to wastes that are otherwise identified as hazardous under subparagraphs (b) through (e) of paragraph (3) of this rule and subparagraphs (b) through (d) of paragraph (4) of this rule at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met.	(T)
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)

(Rule 0400-12-01-.02, continued)

K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	(T)
K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide).	(E)
K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide).	(T)
K178	Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process.	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid.	(T)
K032	Wastewater treatment sludge from the production of chlordane.	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosote.	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	(T)
K037	Wastewater treatment sludges from the production of disulfoton.	(T)
K038	Wastewater from the washing and stripping of phorate production.	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate.	(T)
K041	Wastewater treatment sludge from the production of toxaphene.	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D.	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)
K098	Untreated process wastewater from the production of toxaphene.	(T)
K099	Untreated wastewater from the production of 2,4-D.	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	(T)

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K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	(C,T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	(C,T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(R)
K045	Spent carbon from the treatment of wastewater containing explosives.	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations.	(R)
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	(T)
K049	Slop oil emulsion solids from the petroleum refining industry.	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	(T)
K051	API separator sludge from the petroleum refining industry.	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry.	(T)
K169	Crude oil storage tank sediment from petroleum refining operations.	(T)
K170	Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations.	(T)
K171	Spent Hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	(I,T)
K172	Spent Hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media).	(I,T)
Iron and steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(T)

(Rule 0400-12-01-.02, continued)

K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C,T)
Primary aluminum:		
K088	Spent potliners from primary aluminum reduction.	(T)
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting. (Note: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the Federal Register).	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceu-ticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations.	(T)
K087	Decanter tank tar sludge from coking operations.	(T)
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).	(T)

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K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	(T)
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.	(T)
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	(T)
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	(T)
K147	Tar storage tank residues from coal tar refining.	(T)
K148	Residues from coal tar distillation, including but not limited to, still bottoms.	(T)

2. Listing Specific Definitions

(i) For the purposes of the K181 listing, dyes and/or pigments production is defined to include manufacture of the following product classes: dyes, pigments, or FDA certified colors that are classified as azo, triarylmethane, perylene or anthraquinone classes. Azo products include azo, monoazo, diazo, triazo, polyazo, azoic, benzidine, and pyrazolone products. Triarylmethane products include both triarylmethane and triphenylmethane products. Wastes that are not generated at a dyes and/or pigments manufacturing site, such as wastes from the offsite use, formulation, and packaging of dyes and/or pigments, are not included in the K181 listing.

3. K181 Listing Levels

Nonwastewaters containing constituents in amounts equal to or exceeding the following levels during any calendar year are subject to the K181 listing, unless the conditions in the K181 listing are met.

Constituent	Chemical Abstracts No.	Mass levels (kg/yr)
Aniline	62-53-3	9,300
o-Anisidine	90-04-0	110
4-Chloroaniline	106-47-8	4,800
p-Cresidine	120-71-8	660
2, 4-dimethylaniline	95-68-1	100
1, 2-Phenylenediamine	95-54-5	710
1, 3-Phenylenediamine	108-45-2	1,200

4. Procedures for demonstrating that dyes and/or pigment nonwastewaters are not K181

The procedures described in subparts (i) through (iii) and (v) of this part establish when nonwastewaters from the production of dyes/pigments would not be hazardous (these procedures apply to wastes that are not disposed in landfill units or treated in combustion units as specified in part 1 of this subparagraph). If the nonwastewaters are disposed in landfill units or treated in combustion units as described in part 1 of this subparagraph, then the nonwastewaters are not hazardous. In order to demonstrate that it is meeting the landfill disposal or

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combustion conditions contained in the K181 listing description, the generator must maintain documentation as described in subpart (iv) of this part.

(i) Determination based on no K181 constituents

Generators that have knowledge (e.g., knowledge of constituents in wastes based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed) that their wastes contain none of the K181 constituents (see part 3 of this subparagraph) can use their knowledge to determine that their waste is not K181. The generator must document the basis for all such determinations on an annual basis and keep each annual documentation for three years.

(ii) Determination for generated quantities of 1,000 MT/yr or less for wastes that contain K181 constituents

If the total annual quantity of dyes and/or pigment nonwastewaters generated is 1,000 metric tons or less, the generator can use knowledge of the wastes (e. g., knowledge of constituents in wastes based on prior analytical data and/or information about raw materials used, production processes used, and reaction and degradation products formed) to conclude that annual mass loadings for the K181 constituents are below the listing levels of part 3 of this subparagraph. To make this determination, the generator must:

(I) Each year document the basis for determining that the annual quantity of nonwastewaters expected to be generated will be less than 1,000 metric tons.

(II) Track the actual quantity of nonwastewaters generated from January 1 through December 31 of each year. If, at any time within the year, the actual waste quantity exceeds 1,000 metric tons, the generator must comply with the requirements of subpart (iii) of this part for the remainder of the year.

(III) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(IV) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

I. The quantity of dyes and/or pigment nonwastewaters generated.

II. The relevant process information used.

III. The calculations performed to determine annual total mass loadings for each K181 constituent in the nonwastewaters during the year.

(iii) Determination for generated quantities greater than 1,000 MT/yr for wastes that contain K181 constituents

If the total annual quantity of dyes and/or pigment nonwastewaters generated is greater than 1,000 metric tons, the generator must perform all

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of the steps described in items (I) through (XI) of this subpart in order to make a determination that its waste is not K181.

(I) Determine which K181 constituents of this subparagraph are reasonably expected to be present in the wastes based on knowledge of the wastes (e.g., based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed).

(II) If 1, 2-phenylenediamine is present in the wastes, the generator can use either knowledge or sampling and analysis procedures to determine the level of this constituent in the wastes. For determinations based on use of knowledge, the generator must comply with the procedures for using knowledge described in subpart (ii) of this part and keep the records described in item (ii)(IV) of this part. For determinations based on sampling and analysis, the generator must comply with the sampling and analysis and recordkeeping requirements described below in this subpart.

(III) Develop a waste sampling and analysis plan (or modify an existing plan) to collect and analyze representative waste samples for the K181 constituents reasonably expected to be present in the wastes. At a minimum, the plan must include:

I. A discussion of the number of samples needed to characterize the wastes fully;

II. The planned sample collection method to obtain representative waste samples;

III. A discussion of how the sampling plan accounts for potential temporal and spatial variability of the wastes; and

IV. A detailed description of the test methods to be used, including sample preparation, clean up (if necessary), and determinative methods.

(IV) Collect and analyze samples in accordance with the waste sampling and analysis plan.

I. The sampling and analysis must be unbiased, precise, and representative of the wastes.

II. The analytical measurements must be sufficiently sensitive, accurate and precise to support any claim that the constituent mass loadings are below the listing levels of part 3 of this subparagraph.

(V) Record the analytical results.

(VI) Record the waste quantity represented by the sampling and analysis results.

(VII) Calculate constituent-specific mass loadings (product of concentrations and waste quantity).

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(VIII) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(IX) Determine whether the mass of any of the K181 constituents listed in part 3 of this subparagraph generated between January 1 and December 31 of any year is below the K181 listing levels.

(X) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

I. The sampling and analysis plan.

II. The sampling and analysis results (including QA/QC data).

III. The quantity of dyes and/or pigments nonwastewaters generated.

IV. The calculations performed to determine annual mass loadings.

(XI) Nonhazardous waste determinations must be conducted annually to verify that the wastes remain nonhazardous.

I. The annual testing requirements are suspended after three consecutive successful annual demonstrations that the wastes are nonhazardous. The generator can then use knowledge of the wastes to support subsequent annual determinations.

II. The annual testing requirements are reinstated if the manufacturing or waste treatment processes generating the wastes are significantly altered, resulting in an increase of the potential for the wastes to exceed the listing levels.

III. If the annual testing requirements are suspended, the generator must keep records of the process knowledge information used to support a nonhazardous determination. If testing is reinstated, a description of the process change must be retained.

(iv) Recordkeeping for the landfill disposal and combustion exemptions

For the purposes of meeting the landfill disposal and combustion condition set out in the K181 listing description, the generator must maintain on site for three years documentation demonstrating that each shipment of waste was received by a landfill unit that is subject to or meets the landfill design standards set out in the listing description, or was treated in combustion units as specified in the listing description.

(v) Waste holding and handling

During the interim period, from the point of generation to completion of the hazardous waste determination, the generator is responsible for storing the wastes appropriately. If the wastes are determined to be hazardous and the generator has not complied with the requirements of this Chapter during the interim period, the generator could be subject to an enforcement action for improper management.

(d) Discarded Commercial Chemical Products, Off-specifications Species, Container Residues, and Spill Residues Thereof [40 CFR 261.33]

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in item (1)(b)1(ii)(I) of this rule, when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

1. Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in part 5 or 6 of this subparagraph.

2. Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in part 5 or 6 of this subparagraph.

3. Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in part 5 or 6 of this subparagraph, unless the container is empty as defined in Rule 0400-12-01-.02(1)(g)2.

(Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, Department considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.)

4. Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in part 5 or 6 of this subparagraph, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in part 5 or 6 of this subparagraph.

(Comment: The phrase “commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . .” refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in part 5 or 6 of this subparagraph. Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in part 5 or 6 of this subparagraph, such waste will be listed in either subparagraphs (b) or (c) of this paragraph or will be

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identified as a hazardous waste by the characteristics set forth in paragraph (3) of this rule.)

5. The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in parts 1 through 4 of this subparagraph, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in part (1)(e)5 and 6 of this rule.

(Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.)

These wastes and their corresponding Hazardous Waste Codes are:

Hazardous Waste No.	Chemical Abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P203	1646-88-4	Aldicarb sulfone.
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H_3AsO_4
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-

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P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-09-8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108-98-5	Benzenethiol
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1).
P001	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium powder
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P189	55285-14-8	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester.
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester.
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester.
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester.
P127	1563-66-2	Carbofuran.
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P189	55285-14-8	Carbosulfan.
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile

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P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P202	64-00-6	m-Cumenyl methylcarbamate.
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	[1]72-20-8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P191	644-64-4	Dimetilan.
P047	[1]534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramide, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)- carbonyl]oxime.
P050	115-29-7	Endosulfan
P088	145-73-3	Endothall

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P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P194	23135-22-0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.
P066	16752-77-5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P198	23422-53-9	Formetanate hydrochloride.
P197	17702-57-7	Formparanate.
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P192	119-38-0	Isolan.
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate.
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S')-,
P196	15339-36-3	Manganese dimethyldithiocarbamate.
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro- (R)

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P118	75-70-7	Methanethiol, trichloro-
P198	23422-53-9	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride.
P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-
P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10- hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro- 3a,4,7,7a-tetrahydro-
P199	2032-65-7	Methiocarb.
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyllactonitrile
P071	298-00-0	Methyl parathion
P190	1129-41-5	Metolcarb.
P128	315-18-4	Mexacarbate.
P072	86-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide $Ni(CN)_2$
P075	[1]54-11-5	Nicotine, & salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramide
P087	20816-12-0	Osmium oxide OsO_4, (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	23135-22-0	Oxamyl.
P089	56-38-2	Parathion

(Rule 0400-12-01-.02, continued)

P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P048	51-28-5	Phenol, 2,4-dinitro-
P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate.
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P204	57-47-6	Physostigmine.
P188	57-64-7	Physostigmine salicylate.
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P201	2631-37-0	Promecarb
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-

(Rule 0400-12-01-.02, continued)

P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P067	75-55-8	1,2-Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P204	57-47-6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P108	[1]57-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$

(Rule 0400-12-01-.02, continued)

P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P185	26419-73-8	Tirpate.
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	[1]81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	137-30-4	Zinc, bis(dimethylcarbamodithioato-S,S')-,
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide $Zn(CN)_2$
P122	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P205	137-30-4	Ziram.

FOOTNOTE: [1]CAS Number given for parent compound only.

6. The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in parts 1 through 4 of this subparagraph, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in parts (1)(e) 1 and 7 of this rule.

(Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.)

These wastes and their corresponding Hazardous Waste Codes are:

Hazardous Waste No.	Chemical Abstracts No.	Substance
U394	30558-43-1	A2213.
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-

(Rule 0400-12-01-.02, continued)

U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-
U240	[1]94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid, ethyl ester (I)
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium(1+) salt
see F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amitrole
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-8	Auramine
U015	115-02-6	Azaserine
U010	50-07-7	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U280	101-27-9	Barban.
U278	22781-23-3	Bendiocarb.
U364	22961-82-6	Bendiocarb phenol.
U271	17804-35-2	Benomyl.
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride

(Rule 0400-12-01-.02, continued)

U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	108-90-7	Benzene, chloro-
U221	25376-45-8	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U017	98-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (I)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-88-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-

(Rule 0400-12-01-.02, continued)

U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- methoxy-
U023	98-07-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	92-87-5	Benzidine
U278	22781-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.
U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U064	189-55-9	Benzo[rst]pentaphene
U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene
U197	106-51-4	p-Benzoquinone
U023	98-07-7	Benzotrichloride (C,R,T)
U085	1464-53-5	2,2'-Bioxirane
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)

(Rule 0400-12-01-.02, continued)

U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy- 2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]- 2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Cacodylic acid
U032	13765-19-0	Calcium chromate
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester.
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2- yl]-, methyl ester.
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester.
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester.
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester.
U097	79-44-7	Carbamic chloride, dimethyl-
U114	[1]111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester.
U279	63-25-2	Carbaryl.
U372	10605-21-7	Carbendazim.
U367	1563-38-8	Carbofuran phenol.
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbonic difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U026	494-03-1	Chlornaphazin
U037	108-90-7	Chlorobenzene
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform

(Rule 0400-12-01-.02, continued)

U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt
U050	218-01-9	Chrysene
U051		Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	506-68-3	Cyanogen bromide (CN)Br
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U056	110-82-7	Cyclohexane (I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	108-94-1	Cyclohexanone (I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	[1]94-75-7	2,4-D, salts & esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene

(Rule 0400-12-01-.02, continued)

U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-91-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	87-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropene
U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
U395	5952-26-1	Diethylene glycol, dicarbamate.
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U086	1615-80-1	N,N'-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine

(Rule 0400-12-01-.02, continued)

U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U404	121-44-8	Ethanamine, N,N-diethyl-
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis-(I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U410	59669-26-0	Ethanimidothioic acid, N,N'- [thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester.
U359	110-80-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate.
U004	98-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethene, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	51-79-6	Ethyl carbamate (urethane)
U117	60-29-7	Ethyl ether (I)

(Rule 0400-12-01-.02, continued)

U114	[1]111-54-6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I,T)
U116	96-45-7	Ethylenethiourea
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro-(I)
U125	98-01-1	Furfural (I)
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)- carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)

(Rule 0400-12-01-.02, continued)

U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H_2S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U190	85-44-9	1,3-Isobenzofurandione
U140	78-83-1	Isobutyl alcohol (I,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I, T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-9	Methane, bromo-
U045	74-87-3	Methane, chloro- (I, T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-93-1	Methanethiol (I, T)

(Rule 0400-12-01-.02, continued)

U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-80-5	Methapyrilene
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)
U045	74-87-3	Methyl chloride (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U226	71-55-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Mitomycin C
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione

(Rule 0400-12-01-.02, continued)

U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'- dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U279	63-25-2	1-Naphthalenol, methylcarbamate.
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
See F027	87-86-5	Pentachlorophenol
U161	108-10-1	Pentanol, 4-methyl-
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U039	59-50-7	Phenol, 4-chloro-3-methyl-

(Rule 0400-12-01-.02, continued)

U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314-80-3	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide

(Rule 0400-12-01-.02, continued)

U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U373	122-42-9	Propham.
U411	114-26-1	Propoxur.
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U387	52888-80-9	Prosulfocarb.
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2- chloroethyl)amino]-
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U203	94-59-7	Safrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS_2 (R,T)
U015	115-02-6	L-Serine, diazoacetate (ester)
See F027	93-72-1	Silvex (2,4,5-TP)
U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane

(Rule 0400-12-01-.02, continued)

U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride TlCl
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U410	59669-26-0	Thiodicarb.
U153	74-93-1	Thiomethanol (I,T)
U244	137-26-8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-
U409	23564-05-8	Thiophanate-methyl.
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U389	2303-17-5	Triallate.
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U226	71-55-6	1,1,1-Trichloroethane
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U404	121-44-8	Triethylamine.
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate

(Rule 0400-12-01-.02, continued)

U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	[1]81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less

FOOTNOTE: [1] CAS Number given for parent compound only.

(e) (RESERVED) [40 CFR 261.34]

(f) Deletion of Certain Hazardous Waste Codes Following Equipment Cleaning and Replacement [40 CFR 261.35]

1. Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of parts 2 and 3 of this subparagraph. These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one or more of the hazardous waste characteristics.

2. Generators must either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts, and trams, in a manner that minimizes or eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage, or hazardous waste decomposition products to the ground water, surface water, or atmosphere.

(i) Generators shall do one of the following:

(I) Prepare and follow an equipment cleaning plan and clean equipment in accordance with this part;

(II) Prepare and follow an equipment replacement plan and replace equipment in accordance with this part; or

(III) Document cleaning and replacement in accordance with this part, carried out after termination of use of chlorophenolic preservations.

(ii) Cleaning Requirements:

(I) Prepare and sign a written equipment cleaning plan that describes:

I. The equipment to be cleaned;

II. How the equipment will be cleaned;

III. The solvent to be used in cleaning;

IV. How solvent rinses will be tested; and

V. How cleaning residues will be disposed.

(II) Equipment must be cleaned as follows:

I. Remove all visible residues from process equipment;

II. Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

(III) Analytical requirements:

I. Rinses must be tested by using an appropriate method;

II. “Not detected” means at or below the following lower method calibration limits (MCLs): The 2, 3, 7, 8-TCDD-based MCL–0.01 parts per trillion (ppt), sample weight of 1000 g, IS spiking level of 1 ppt, final extraction volume of 10-50 µL. For other congeners–multiply the values by 1 for TCDF/PeCDD/PeCDF, by 2.5 for HxCDD/HxCDF/HpCDD/HpCDF, and by 5 for OCDD/OCDF.

(IV) The generator must manage all residues from the cleaning process as F032 waste.

(iii) Replacement requirements:

(I) Prepare and sign a written equipment replacement plan that describes:

I. The equipment to be replaced;

II. How the equipment will be replaced; and

III. How the equipment will be disposed.

(II) The generator must manage the discarded equipment as F032 waste.

(iv) Documentation requirements:

(I) Document that previous equipment cleaning and/or replacement was performed in accordance with this part and occurred after cessation of use of chlorophenolic preservatives.

3. The generator must maintain the following records documenting the cleaning and replacement as part of the facility’s operating record:

(i) The name and address of the facility;

(Rule 0400-12-01-.02, continued)

(ii) Formulations previously used and the date on which their use ceased in each process at the plant;

(iii) Formulations currently used in each process at the plant;

(iv) The equipment cleaning or replacement plan;

(v) The name and address of any persons who conducted the cleaning and replacement;

(vi) The dates on which cleaning and replacement were accomplished;

(vii) The dates of sampling and testing;

(viii) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples;

(ix) A description of the tests performed, the date the tests were performed, and the results of the tests;

(x) The name and model numbers of the instrument(s) used in performing the tests;

(xi) QA/QC documentation; and

(xii) The following statement signed by the generator or his authorized representative:

"I certify under penalty of law that all process equipment required to be cleaned or replaced under Rule 0400-12-01-.02(4)(f) was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment."

(g) (RESERVED) [40 CFR 261.36]

(h) (RESERVED) [40 CFR 261.37]

(5) Exclusion/Exemptions [40 CFR 261 Subpart E]

(a) Reserved. [40 CFR 261.38]

(b) Conditional Exclusion for Used, Broken Cathode Ray Tubes (CRTs) and Processed CRT Glass Undergoing Recycling [40 CFR 261.39]

Used, broken CRTs are not solid wastes if they meet the following conditions:

1. Prior to processing:

These materials are not solid wastes if they are destined for recycling and if they meet the following requirements:

(i) Storage

(Rule 0400-12-01-.02, continued)

The broken CRTs must be either:

(I) Stored in a building with a roof, floor, and walls, or

(II) Placed in a container (i.e., a package or a vehicle) that is constructed, filled, and closed to minimize releases to the environment of CRT glass (including fine solid materials).

(ii) Labeling

Each container in which the used, broken CRT is contained must be labeled or marked clearly with one of the following phrases: “Used cathode ray tube(s)-contains leaded glass” or “Leaded glass from televisions or computers.” It must also be labeled: “Do not mix with other glass materials.”

(iii) Transportation

The used, broken CRTs must be transported in a container meeting the requirements (i)(II) and subpart (ii) of this part.

(iv) Speculative accumulation and use constituting disposal

The used, broken CRTs are subject to the limitations on speculative accumulation as defined in subpart (1)(a)3(viii) of this rule. If they are used in a manner constituting disposal, they must comply with the applicable requirements of Rule 0400-12-01-.09(3) instead of the requirements of this subparagraph.

(v) Exports

[Note: The implementation of this subpart (Rule 0400-12-01-.02(5)(b)1(v) Exports) remains the responsibility of EPA.]

In addition to the applicable conditions specified in subparts (i) through (iv) of this part, exporters of used, broken CRTs must comply with the following requirements:

(I) Notify EPA of an intended export before the CRTs are scheduled to leave the United States. A complete notification should be submitted sixty (60) days before the initial shipment is intended to be shipped off-site. This notification may cover export activities extending over a twelve (12) month or lesser period. The notification must be in writing, signed by the exporter, and include the following information:

I. Name, mailing address, telephone number and EPA ID number (if applicable) of the exporter of the CRTs.

II. The estimated frequency or rate at which the CRTs are to be exported and the period of time over which they are to be exported.

III. The estimated total quantity of CRTs specified in kilograms.

IV. All points of entry to and departure from each foreign country through which the CRTs will pass.

V. A description of the means by which each shipment of the CRTs will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.)).

VI. The name and address of the recycler or recyclers and the estimated quality of used CRTs to be sent to each facility, as well as the names of any alternate recycler.

VII. A description of the manner in which the CRTs will be recycled in the foreign country that will be receiving the CRTs.

VIII. The name of any transit country through which the CRTs will be sent and a description of the approximate length of time the CRTs will remain in such country and the nature of their handling while there.

(II) Notifications submitted by mail should be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, 1200 Pennsylvania Ave., N.W., Washington, D.C. 20460. Hand-delivered notifications should be sent to: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, Ariel Rios Bldg., Room 6144, 1200 Pennsylvania Ave., N.W., Washington, D.C. In both cases, the following shall be prominently displayed on the front of the envelope: “Attention: Notification of Intent to Export CRTs.”

(III) Upon request by EPA, the exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

(IV) EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of item (I) of this subpart. Where a claim of confidentiality is asserted with respect to any notification information required by item (I) of this subpart, EPA may find the notification not complete until any such claim is resolved in accordance with 40 CFR 260.2.

(V) The export of CRTs is prohibited unless the receiving country consents to the intended export. When the receiving country consents in writing to the receipt of the CRTs, EPA will forward an Acknowledgment of Consent to Export CRTs to the exporter. Where the receiving country objects to receipt of the CRTs or withdraws a prior consent, EPA will notify the exporter in writing. EPA will also notify the exporter of any responses from transit countries.

(VI) When the conditions specified on the original notification change, the exporter must provide EPA with a written renotification of the change, except for changes to the telephone number in subitem (I)I of this subpart and decreases in the quantity indicated pursuant to subitem (I)III of this subpart. The shipment cannot take place until

consent of the receiving country to the changes has been obtained (except for changes to information about points of entry and departure and transit countries pursuant to subitems IV and VIII of this subpart and the exporter of CRTs receives from EPA a copy of the Acknowledgment of Consent to Export CRTs reflecting the receiving country's consent to the changes.

(VII) A copy of the Acknowledgment of Consent to Export CRTs must accompany the shipment of CRTs. The shipment must conform to the terms of the Acknowledgment.

(VIII) If a shipment of CRTs cannot be delivered for any reason to the recycler or the alternate recycler, the exporter of CRTs must renotify EPA of a change in the conditions of the original notification to allow shipment to a new recycler in accordance with item (VI) of this subpart and obtain another Acknowledgment of Consent to Export CRTs.

(IX) Exporters must keep copies of notifications and Acknowledgments of Consent to Export CRTs for a period of three years following receipt of the Acknowledgment.

(X) CRT exporters must file with EPA no later than March 1 of each year, an annual report summarizing the quantities (in kilograms), frequency of shipment, and ultimate destination(s) (i.e., the facility or facilities where the recycling occurs) of all used CRTs exported during the previous calendar year. Such reports must also include the following:

I. The name, EPA ID number (if applicable), and mailing and site address of the exporter;

II. The calendar year covered by the report; and

III. A certification signed by the CRT exporter that states:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(XI) Annual reports must be submitted to the office specified in item (II) of this subpart. Exporters must keep copies of each annual report for a period of at least three years from the due date of the report.

2. Requirements for used CRT processing

Used, broken CRTs undergoing CRT processing as defined in subparagraph (2)(a) of Rule 0400-12-01-.01 are not solid wastes if they meet the following requirements:

(i) Storage

Used, broken CRTs undergoing processing are subject to the requirement of subpart 1(iv) of this subparagraph.

(ii) Processing

(I) All activities specified in parts 2 and 3 of the definition of "CRT processing" in subparagraph (2)(a) of Rule 0400-12-01-.01 must be performed within a building with a roof, floor, and walls; and

(II) No activities may be performed that use temperatures high enough to volatilize lead from CRTs.

3. Processed CRT glass sent to CRT glass making or lead smelting

Glass from used CRTs that is destined for recycling at a CRT glass manufacturer or a lead smelter after processing is not a solid waste unless it is speculatively accumulated as defined in subpart (1)(a)3(viii) of this rule.

4. Use constituting disposal

Glass from used CRTs that is used in a manner constituting disposal must comply with the requirements of paragraph (3) of Rule 0400-12-01-.09 instead of the requirements of this subparagraph.

(c) Conditional Exclusion for Used, Intact Cathode Ray Tubes (CRTs) Exported for Recycling [40 CFR 261.40]

[Note: The implementation of this subparagraph remains the responsibility of EPA.]

Used, intact CRTs exported for recycling are not solid wastes if they meet the notice and consent conditions of subpart (b)1(v) of this paragraph, and if they are not speculatively accumulated as defined in subpart (1)(a)3(viii) of this rule.

(d) Notification and Recordkeeping for Used, Intact Cathode Ray Tubes (CRTs) Exported for Reuse [40 CFR 261.41]

[Note: The implementation of this subparagraph remains the responsibility of EPA.]

1. CRT exporters who export used, intact CRTs for reuse must send a notification to EPA. This notification may cover export activities extending over a twelve (12) month or lesser period.

(i) The notification must be in writing, signed by the exporter, and include the following information:

(I) Name, mailing address, telephone number, and EPA ID number (if applicable) of the exporter of the used, intact CRTs;

(II) The estimated frequency or rate at which the used, intact CRTs are to be exported for reuse and the period of time over which they are to be exported;

(III) The estimated total quantity of used, intact CRTs specified in kilograms;

(Rule 0400-12-01-.02, continued)

(IV) All points of entry to and departure from each transit country through which the used, intact CRTs will pass, a description of the approximate length of time the used, intact CRTs will remain in such country, and the nature of their handling while there;

(V) A description of the means by which each shipment of the used, intact CRTs will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.));

(VI) The name and address of the ultimate destination facility or facilities where the used, intact CRTs will be reused, refurbished, distributed, or sold for reuse and the estimated quantity of used, intact CRTs to be sent to each facility, as well as the name of any alternate destination facility or facilities;

(VII) A description of the manner in which the used, intact CRTs will be reused (including reuse after refurbishment) in the foreign country that will be receiving the used, intact CRTs; and

(VIII) A certification signed by the CRT exporter that states:

"I certify under penalty of law that the CRTs described in this notice are intact and fully functioning or capable of being functional after refurbishment and that the used CRTs will be reused or refurbished and reused. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(ii) Notifications submitted by mail should be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, 1200 Pennsylvania Ave. N.W., Washington, D.C. 20460. Hand-delivered notifications should be sent to: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, William Jefferson Clinton Building, Room 6144, 1200 Pennsylvania Ave. N.W., Washington, D.C. 20004. In both cases, the following shall be prominently displayed on the front of the envelope: "Attention: Notification of Intent to Export CRTs."

2. CRT exporters of used, intact CRTs sent for reuse must keep copies of normal business records, such as contracts, demonstrating that each shipment of exported used, intact CRTs will be reused. This documentation must be retained for a period of at least three years from the date the CRTs were exported. If the documents are written in a language other than English, CRT exporters of used, intact CRTs sent for reuse must provide both the original, non-English version of the normal business records as well as a third-party translation of the normal business records into English within 30 days upon request by EPA.

(6)–(7) Reserved [40 CFR Subparts F–G]

(8) Financial Requirements for Management of Excluded Hazardous Secondary Material [40 CFR 261 Subpart H]

(a) Applicability. [40 CFR 261.140]

1. The requirements of this paragraph apply to owners or operators of reclamation and intermediate facilities managing hazardous secondary materials excluded under subpart (1)(d)1(xxiv) of this rule, except as provided otherwise in part 2 of this subparagraph.

2. States and the federal government are exempt from the financial assurance requirements of this subpart.

(b) Definitions of terms as used in this paragraph. [40 CFR 261.141]

The terms defined in parts (8)(b)5, 7, 8 and 9 of Rule 0400-12-01-.05 have the same meaning in this paragraph as they do in subparagraph (8)(b) of Rule 0400-12-01-.05.

(c) Cost estimate. [40 CFR 261.142]

1. The owner or operator must have a detailed written estimate, in current dollars, of the cost of disposing of any hazardous secondary material as listed or characteristic hazardous waste, and the potential cost of closing the facility as a treatment, storage, and disposal facility.

(Note: To determine the potential cost of closing the facility as a treatment, storage and disposal facility, the Commissioner expects the owner or operator to develop and provide the information consistent with information required in a closure plan developed in accordance with part (7)(c)2 of Rule 0400-12-01-.05.)

(i) The estimate must equal the cost of conducting the activities described in this part at the point when the extent and manner of the facility's operation would make these activities the most expensive; and

(ii) The cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct these activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in part (8)(b)5 of Rule 0400-12-01-.05.) The owner or operator may use costs for on-site disposal in accordance with applicable requirements if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(iii) The cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous secondary materials, or hazardous or non-hazardous wastes if applicable under part (7)(d)4 of Rule 0400-12-01-.05, facility structures or equipment, land, or other assets associated with the facility.

(iv) The owner or operator may not incorporate a zero cost for hazardous secondary materials, or hazardous or non-hazardous wastes if applicable under (7)(d)4 of Rule 0400-12-01-.05 that might have economic value.

2. During the active life of the facility, the owner or operator must adjust the cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with subparagraph

(Rule 0400-12-01-.02, continued)

(d) of this paragraph. For owners and operators using the financial test or corporate guarantee, the cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Commissioner as specified in subpart (d)5(iii) of this paragraph. The adjustment may be made by recalculating the cost estimate in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business, as specified in subparts (i) and (ii) of this part. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(i) The first adjustment is made by multiplying the cost estimate by the inflation factor. The result is the adjusted cost estimate.

(ii) Subsequent adjustments are made by multiplying the latest adjusted cost estimate by the latest inflation factor.

3. During the active life of the facility, the owner or operator must revise the cost estimate no later than 30 days after a change in a facility's operating plan or design that would increase the costs of conducting the activities described in part 1 of this subparagraph or no later than 60 days after an unexpected event which increases the cost of conducting the activities described in part 1 of this subparagraph. The revised cost estimate must be adjusted for inflation as specified in part 2 of this subparagraph.

4. The owner or operator must keep the following at the facility during the operating life of the facility: The latest cost estimate prepared in accordance with parts 1 and 3 and, when this estimate has been adjusted in accordance with part 2 of this subparagraph, the latest adjusted cost estimate.

(d) Financial assurance condition. [40 CFR 261.143]

Per subitem (1)(d)1(xxiv)(VI)VII of this rule, an owner or operator of a reclamation or intermediate facility must have financial assurance as a condition of the exclusion as required under subpart (1)(d)1(xxiv). He must choose from the options as specified in parts 1 through 7 of this subparagraph. The Commissioner may accept alternative financial assurance mechanisms proposed by the owner or operator in writing, if the Commissioner determines that such mechanisms will provide protection to human health and the environment that is equivalent to other allowable financial assurance mechanisms.

1. Trust fund.

(i) An owner or operator may satisfy the requirements of this subparagraph by establishing a trust fund which conforms to the requirements of this part and submitting an originally signed duplicate of the trust agreement to the Commissioner. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(ii) The wording of the trust agreement must be identical to the wording specified in subpart (I)1(i) of this paragraph, and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see subpart (I)1(ii) of this paragraph). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current cost estimate covered by the agreement.

(Rule 0400-12-01-.02, continued)

(iii) The trust fund must be funded for the full amount of the current cost estimate before it may be relied upon to satisfy the requirements of this part.

(iv) Whenever the current cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current cost estimate, or obtain other financial assurance as specified in this subparagraph to cover the difference.

(v) If the value of the trust fund is greater than the total amount of the current cost estimate, the owner or operator may submit a written request to the Commissioner for release of the amount in excess of the current cost estimate.

(vi) If an owner or operator substitutes other financial assurance as specified in this subparagraph for all or part of the trust fund, he may submit a written request to the Commissioner for release of the amount in excess of the current cost estimate covered by the trust fund.

(vii) Within 60 days after receiving a request from the owner or operator for release of funds as specified in subpart (v) or (vi) of this part, the Commissioner will instruct the trustee to release to the owner or operator such funds as the Commissioner specifies in writing. If the owner or operator begins final closure under paragraph (7) of Rules 0400-12-01-.05 or 0400-12-01-.06, an owner or operator may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Commissioner. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days after receiving bills for partial or final closure activities, the Commissioner will instruct the trustee to make reimbursements in those amounts as the Commissioner specifies in writing, if the Commissioner determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Commissioner has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with part (8)(d)3 of Rule 0400-12-01-.05 that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Commissioner does not instruct the trustee to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(viii) The Commissioner will agree to termination of the trust when:

(I) An owner or operator substitutes alternate financial assurance as specified in this subparagraph; or

(Rule 0400-12-01-.02, continued)

(II) The Commissioner releases the owner or operator from the requirements of this part in accordance with part 11 of this subparagraph.

2. Surety bond guaranteeing payment.

(i) An owner or operator may satisfy the requirements of this subparagraph by obtaining a surety bond which conforms to the requirements of this part and submitting the bond to the Commissioner. The surety company issuing the bond must, at a minimum, be licensed to do business as a surety in Tennessee and must be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(ii) The wording of the surety bond must be identical to the wording specified in part (I)2 of this paragraph.

(iii) Under the terms of the bond, the surety will become liable on the bond obligation when the operator fails to perform as guaranteed by the bond. Following a determination by the Commissioner that the hazardous secondary materials do not meet the conditions of the exclusion under subpart (1)(d)1(xxiv) the surety will forfeit the amount of the penal sum to the Commissioner.

(iv) The bond must guarantee that the owner or operator will provide alternate financial assurance as specified in this part, and obtain the Commissioner's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Commissioner of a notice of cancellation of the bond from the surety:

(v) The penal sum of the bond must be in an amount at least equal to the current cost estimate, except as provided in part 8 of this subparagraph.

(vi) Whenever the current cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Commissioner, or obtain other financial assurance as specified in this part to cover the increase. Whenever the current cost estimate decreases, the penal sum may be reduced to the amount of the current cost estimate following written approval by the Commissioner.

(vii) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Commissioner, as evidenced by the return receipts.

(viii) The owner or operator may cancel the bond if the Commissioner has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this part.

3. Letter of credit.

(i) An owner or operator may satisfy the requirements of this subparagraph by obtaining an irrevocable standby letter of credit which conforms to the

(Rule 0400-12-01-.02, continued)

requirements of this part and submitting the letter to the Commissioner. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(ii) The wording of the letter of credit must be identical to the wording specified in part (I)3 of this paragraph.

(iii) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number (if any issued), name, and address of the facility, and the amount of funds assured for the facility by the letter of credit.

(iv) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Commissioner by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Commissioner have received the notice, as evidenced by the return receipts.

(v) The letter of credit must be issued in an amount at least equal to the current cost estimate, except as provided in part 8 of this subparagraph.

(vi) Whenever the current cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current cost estimate and submit evidence of such increase to the Commissioner, or obtain other financial assurance as specified in this subparagraph to cover the increase. Whenever the current cost estimate decreases, the amount of the credit may be reduced to the amount of the current cost estimate following written approval by the Commissioner.

(vii) Following a determination by the Commissioner that the hazardous secondary materials do not meet the conditions of the exclusion under subpart (1)(d)1(xxiv), the Commissioner may draw on the letter of credit.

(viii) If the owner or operator does not establish alternate financial assurance as specified in this part and obtain written approval of such alternate assurance from the Commissioner within 90 days after receipt by both the owner or operator and the Commissioner of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Commissioner may draw on the letter of credit. The Commissioner may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Commissioner will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this subparagraph and obtain written approval of such assurance from the Commissioner.

(ix) The Commissioner will return the letter of credit to the issuing institution for termination when:

(I) An owner or operator substitutes alternate financial assurance as specified in this subparagraph; or

(ii) The Commissioner releases the owner or operator from the requirements of this part in accordance with part 11 of this subparagraph.

4. Insurance.

(i) An owner or operator may satisfy the requirements of this subparagraph by obtaining insurance which conforms to the requirements of this part. The owner or operator must submit a signed duplicate original of the Hazardous Secondary Material Facility Endorsement to the Commissioner. If requested by the Commissioner, the owner or operator must provide a signed duplicate original of the insurance policy. The insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in the State of Tennessee and have an A. M. Best rating of at least A or A- or have special approval from the Commissioner. An insurer that is a “captive insurance company”, as that term is used in T.C.A. §§ 56-13-106 through 56-13-133, may not be utilized unless the Commissioner determines that such captive insurance company offers coverage that is equivalent in protection to other insurance companies or other allowable financial assurance mechanisms.

(ii) Each insurance policy must be amended by attachment of the Hazardous Secondary Material Facility Endorsement. The wording of the endorsement must be identical to the wording specified in part (I)4 of this paragraph.

(iii) The insurance policy must be issued for a face amount at least equal to the current cost estimate, except as provided in part 8 of this subparagraph. The term “face amount” means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer’s future liability will be lowered by the amount of the payments.

(iv) The insurance policy must guarantee that funds will be available whenever needed to pay the cost of removal of all hazardous secondary materials from the unit, to pay the cost of decontamination of the unit, to pay the costs of the performance of activities required under paragraph (7) of Rule 0400-12-01-.05 or 0400-12-01-.06, as applicable, for the facilities covered by this policy. The policy must also guarantee that once funds are needed, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Commissioner, to such party or parties as the Commissioner specifies.

(v) After beginning partial or final closure under Rule 0400-12-01-.05 or 0400-12-01-.06, as applicable, an owner or operator or any other authorized person may request reimbursements for closure expenditures by submitting itemized bills to the Commissioner. The owner or operator may request reimbursements only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Commissioner will instruct the insurer to make reimbursements in such amounts as the Commissioner specifies in writing if the Commissioner determines that the expenditures are in accordance

(Rule 0400-12-01-.02, continued)

with the approved plan or otherwise justified. If the Commissioner has reason to believe that the maximum cost over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with part 11 of this subparagraph, that the owner or operator is no longer required to maintain financial assurance for the particular facility. If the Commissioner does not instruct the insurer to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(vi) The owner or operator must maintain the policy in full force and effect until the Commissioner consents to termination of the policy by the owner or operator as specified in subpart (x) of this part. Failure to pay the premium, without substitution of alternate financial assurance as specified in this part, will constitute a significant violation of these regulations warranting such remedy as the Commissioner deems necessary. Such violation will be deemed to begin upon receipt by the Commissioner of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(vii) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(viii) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Commissioner. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Commissioner and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(I) The Commissioner deems the facility abandoned; or

(II) Conditional exclusion or interim status is lost, terminated, or revoked; or

(III) Closure is ordered by the Commissioner or a U.S. district court or other court of competent jurisdiction; or

(IV) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(V) The premium due is paid.

(ix) Whenever the current cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Commissioner, or obtain other financial assurance as specified in this subparagraph to cover the increase. Whenever the current

cost estimate decreases, the face amount may be reduced to the amount of the current cost estimate following written approval by the Commissioner.

(x) The Commissioner will give written consent to the owner or operator that he may terminate the insurance policy when:

(I) An owner or operator substitutes alternate financial assurance as specified in this subparagraph; or

(ii) The Commissioner releases the owner or operator from the requirements of this subparagraph in accordance with part 11 of this subparagraph.

5. Financial test and corporate guarantee.

(i) An owner or operator may satisfy the requirements of this subparagraph by demonstrating that he passes a financial test as specified in this part. To pass this test the owner or operator must meet the criteria of either item (I) or (II) of this subpart:

(I) The owner or operator must have:

I. Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

II. Net working capital and tangible net worth each at least six times the sum of the current cost estimates; and

III. Tangible net worth of at least $10 million; and

IV. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current cost estimates.

(II) The owner or operator must have:

I. A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor’s or Aaa, Aa, A, or Baa as issued by Moody’s; and

II. Tangible net worth at least six times the sum of the current cost estimates; and

III. Tangible net worth of at least $10 million; and

IV. Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current cost estimates.

(ii) The phrase “current cost estimates” as used in subpart (i) of this part refers to the cost estimates required to be shown in paragraphs 1 through 9 of

(Rule 0400-12-01-.02, continued)

the letter from the owner's or operator's chief financial officer (part (I)5 of this paragraph).

(iii) To demonstrate that he meets this test, the owner or operator must submit the following items to the Commissioner:

(I) A letter signed by the owner's or operator's chief financial officer and worded as specified in part (I)5 of this paragraph; and

(II) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(III) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies item 5(i)(I) of this subparagraph that are different from the data in the audited financial statements referred to in item (II) of this subpart or any other audited financial statement or data filed with the SEC, then a special report from the owner's or operator's independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of the comparison, and the reasons for any differences.

(iv) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in subpart (iii) of this part if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these rules, a letter to the Commissioner. This letter from the chief financial officer must:

(I) Request the extension;

(II) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(III) Specify for each facility to be covered by the test the EPA Identification Number (if any issued), name, address, and current cost estimates to be covered by the test;

(IV) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these rules in this paragraph;

(V) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in subpart (iii) of this part; and

(Rule 0400-12-01-.02, continued)

(VI) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(v) After the initial submission of items specified in subpart (iii) of this part, the owner or operator must send updated information to the Commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in subpart (iii) of this part.

(vi) If the owner or operator no longer meets the requirements of subpart (i) of this part, he must send notice to the Commissioner of intent to establish alternate financial assurance as specified in this subparagraph. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(vii) The Commissioner may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subpart (i) of this part, require reports of financial condition at any time from the owner or operator in addition to those specified in subpart (iii) of this part. If the Commissioner finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subpart (i) of this part, the owner or operator must provide alternate financial assurance as specified in this subparagraph within 30 days after notification of such a finding.

(viii) The Commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see item (iii)(II) of this part). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Commissioner will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this subparagraph within 30 days after notification of the disallowance.

(ix) The owner or operator is no longer required to submit the items specified in subpart (iii) of this part when:

(I) An owner or operator substitutes alternate financial assurance as specified in this subparagraph; or

(II) The Commissioner releases the owner or operator from the requirements of this part in accordance with part 11 of this subparagraph.

(x) An owner or operator may meet the requirements of this part by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in subparts (i) through (viii) of this part and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording

(Rule 0400-12-01-.02, continued)

specified in subpart (I)7(i) of this paragraph. A certified copy of the guarantee must accompany the items sent to the Commissioner as specified in subpart (iii) of this part. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee must provide that:

(I) Following a determination by the Commissioner that the hazardous secondary materials at the owner or operator's facility covered by this guarantee do not meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of this rule, the guarantor will dispose of any hazardous secondary material as hazardous waste and close the facility in accordance with closure requirements found in Rule 0400-12-01-.05 or 0400-12-01-.06, as applicable, or establish a trust fund as specified in part 1 of this subparagraph in the name of the owner or operator in the amount of the current cost estimate.

(II) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Commissioner. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Commissioner, as evidenced by the return receipts.

(III) If the owner or operator fails to provide alternate financial assurance as specified in this subparagraph and obtain the written approval of such alternate assurance from the Commissioner within 90 days after receipt by both the owner or operator and the Commissioner of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

6. Personal Bond Supported by Certificate of Deposit

(i) An owner or operator may satisfy the requirements of this subparagraph by filing his or her personal performance guarantee accompanied by collateral in the form of a certificate of deposit.

(ii) The wording of the personal bond must be identical to the wording specified in subparagraph (I) of this paragraph.

(iii) The certificate of deposit must be in an amount at least equal to the current cost estimate, except as provided in part 8 of this subparagraph.

(iv) The certificate of deposit shall meet the following requirements:

(I) The certificate of deposit shall be registered as follows, except that the phrase "Corporation XYZ" should be replaced by the name of the owner/operator: "Corporation XYZ and Tennessee Department of Environment and Conservation or Tennessee Department of Environment and Conservation".

(Rule 0400-12-01-.02, continued)

(II) The institution holding the funds shall be a commercial financial institution regulated by a federal agency or regulated by the Tennessee Department of Financial Institutions.

(III) The certificate of deposit shall be automatically annually renewed with the earned interest released to the principal as accrued.

(IV) The original certificate of deposit or safekeeping receipt of the deposit shall be submitted to and held by the Division of Financial Responsibility of the Tennessee Department of Environment and Conservation.

(V) Accompanying the certificate of deposit or safekeeping receipt shall be a letter from an officer of the issuing financial institution on the institution's letterhead that contains the certificate of deposit number, the name of the owner/operator, the date the certificate of deposit was issued, and the following statement:

"Notwithstanding any contrary term or condition of the above described Certificate of Deposit, [INSERT NAME OF FINANCIAL INSTITUTION] (the "Financial Institution") hereby covenants, warrants and represents that said Certificate of Deposit shall not be subject to any right, charge, security interest, lien or claim of any kind in favor of the Financial Institution. The Financial Institution further agrees that it shall not release the Certificate of Deposit or the proceeds thereof to anyone other than to the Tennessee Department of Environment and Conservation (the "Department") without the written consent of the Department."

7. Personal Bond Supported by Cash

(i) An owner or operator may satisfy the requirements of this subparagraph by filing his or her personal performance guarantee accompanied by collateral in the form of cash deposited with the treasurer of the state of Tennessee.

(ii) The cash deposit must be in an amount at least equal to the current cost estimate, except as provided in part 8 of this subparagraph.

(iii) The wording of the personal bond must be identical to the wording specified in subparagraph (I) of this paragraph.

8. Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this subparagraph by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, insurance, and personal bonds. The mechanisms must be as specified in parts 1 through 4, 6 or 7 of this subparagraph, respectively, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current cost estimate. The Commissioner may use any or all of the mechanisms to provide for the facility.

9. Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this subparagraph to meet the requirements of this subparagraph for more than one facility. Evidence of financial assurance submitted to the Commissioner must include a list showing, for each facility, the EPA Identification Number (if any issued), name, address,

(Rule 0400-12-01-.02, continued)

and the amount of funds assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for any of the facilities covered by the mechanism, the Commissioner may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

10. Removal and Decontamination Plan for Release

(i) An owner or operator of a reclamation facility or an intermediate facility who wishes to be released from his financial assurance obligations under subitem (1)(d)1(xxiv)(VI)VII of this rule must submit a plan for removing all hazardous secondary material residues to the Commissioner at least 180 days prior to the date on which he expects to cease to operate under the exclusion.

(ii) The plan must include, at least:

(I) For each hazardous secondary materials storage unit subject to financial assurance requirements under subitem (1)(d)1(xxiv)(VI)VII of this rule, a description of how all excluded hazardous secondary materials will be recycled or sent for recycling, and how all residues, contaminated containment systems (liners, etc.), contaminated soils, subsoils, structures, and equipment will be removed or decontaminated as necessary to protect human health and the environment, and

(II) A detailed description of the steps necessary to remove or decontaminate all hazardous secondary material residues and contaminated containment system components, equipment, structures, and soils including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to protect human health and the environment; and

(III) A detailed description of any other activities necessary to protect human health and the environment during this timeframe, including, but not limited to, leachate collection, run-on and run-off control, etc.; and

(IV) A schedule for conducting the activities described which, at a minimum, includes the total time required to remove all excluded hazardous secondary materials for recycling and decontaminate all units subject to financial assurance under subitem (1)(d)1(xxiv)(VI)VII of this rule and the time required for intervening activities which will allow tracking of the progress of decontamination.

(iii) The Commissioner will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning the plan. The Commissioner will give public

notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Commissioner will approve, modify, or disapprove the plan within 90 days of its receipt. If the Commissioner does not approve the plan, he shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Commissioner will approve or modify this plan in writing within 60 days. If the Commissioner modifies the plan, this modified plan becomes the approved plan. The Commissioner must assure that the approved plan is consistent with this part. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(iv) Within 60 days of completion of the activities described for each hazardous secondary materials management unit, the owner or operator must submit to the Commissioner, by registered mail, a certification that all hazardous secondary materials have been removed from the unit and the unit has been decontaminated in accordance with the specifications in the approved plan. The certification must be signed by the owner or operator and by a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification must be furnished to the Commissioner, upon request, until he releases the owner or operator from the financial assurance requirements for subitem (1)(d)1(xxiv)(VI)VII of this rule.

11. Release of the owner or operator from the requirements of this subparagraph. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that all hazardous secondary materials have been removed from the facility or a unit at the facility and the facility or a unit has been decontaminated in accordance with the approved plan per part 10 of this subparagraph, the Commissioner will notify the owner or operator in writing that he is no longer required under subitem (1)(d)1(xxiv)(VI)VII of this rule to maintain financial assurance for that facility or a unit at the facility, unless the Commissioner has reason to believe that all hazardous secondary materials have not been removed from the facility or unit at a facility or that the facility or unit has not been decontaminated in accordance with the approved plan. The Commissioner shall provide the owner or operator a detailed written statement of any such reason to believe that all hazardous secondary materials have not been removed from the unit or that the unit has not been decontaminated in accordance with the approved plan.

12. In meeting the requirements of this paragraph, an owner or operator may substitute alternate financial assurance meeting the requirements of this paragraph for the financial assurance already filed with the Commissioner for the facility. However, the existing financial assurance shall not be released by the Commissioner until the substitute financial assurance has been received and approved by him or her.

13. When a transfer of ownership or operational control occurs, the previous owner or operator of the facility shall comply with the financial security requirements of this paragraph until the new owner or operator has demonstrated that he or she is complying with the requirements of this paragraph. Upon demonstration to the Commissioner by the new owner or operator of compliance with this paragraph,

(Rule 0400-12-01-.02, continued)

the Commissioner shall notify the previous owner or operator that he or she no longer needs to comply with this rule as of the date of demonstration.

14. Procedures for Forfeiture of Financial Assurance

(i) Upon receipt of a notice of cancelation or non-renewal of a financial instrument from the issuing institution, the owner or operator will have 90 days from the Commissioner's and the owner's or operator's receipt of such notice to provide alternate financial assurance. If the owner or operator has failed to provide alternate financial assurance and obtain written approval of such financial assurance from the Commissioner during the 90 days following receipt of such notice by the Commissioner, the financial institution will forfeit the amount of such financial assurance to the Department as directed by the Commissioner; or

(ii) Upon his or her determination that the hazardous secondary materials at the facility covered by financial assurance do not meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02, the Division Director shall cause a notice of non-compliance to be served upon the owner or operator. Such notice shall be hand delivered or forwarded by certified mail. The notice of non-compliance shall specify in what respects the owner or operator has failed to perform as required, and shall establish a schedule of compliance leading to compliance as soon as possible.

(iii) If the Division Director determines that the owner or operator has failed to perform as specified in the notice of non-compliance, or as specified in any subsequent compliance agreement which may have been reached by the owner or operator and the Division Director, the Division Director shall cause a notice of show cause meeting to be served upon the owner or operator. Such notice shall be signed by the Division Director and either hand-delivered or forwarded by certified mail to the owner or operator. The notice of show cause meeting shall establish the date, time, and location of a meeting scheduled to provide the owner or operator with the opportunity to show cause why the Division Director should not pursue forfeiture of the financial assurance filed to guarantee such performance.

(iv) If no mutual compliance agreement is reached at the show cause meeting, or upon the Division Director's determination that the owner or operator has failed to perform as specified in the mutual compliance agreement, the Division Director shall request the Commissioner or Board, as appropriate, to order forfeiture of the financial assurance filed to guarantee such performance.

(v) The Commissioner or Board, as appropriate, shall order forfeiture of the financial assurance upon his/her or its validation of the Division Director's determinations and upon his/her or its determination that the procedures of this subparagraph have been followed. The Commissioner or Board may, however, at his/her or its discretion, provide opportunity for the owner or operator to be heard before issuing such order. Upon issuance, a copy of the order shall be hand delivered or forwarded by certified mail to the owner or operator. Any such order issued by the Commissioner or Board shall become effective 30 days after receipt by the owner or operator unless it is appealed to the Board as provided in T.C.A. § 68-212-113 of the Act.

(Rule 0400-12-01-.02, continued)

(vi) If necessary, upon the effective date of the order of forfeiture, the Commissioner shall give notice to the State Attorney General who shall collect the forfeiture.

(vii) All forfeited funds shall be deposited in a special account entitled “the hazardous waste trust fund,” for use by the Commissioner as set forth in T.C.A. § 68-212-108(c)(6) of the Act.

(e) - (g) Reserved [40 CFR 261.144-261.146]

(h) Liability requirement. [40 CFR 261.147]

1. Coverage for sudden accidental occurrences

An owner or operator of a hazardous secondary material reclamation facility or an intermediate facility subject to financial assurance requirements under subitem (1)(d)1(xxiv)(VI)VII of this rule, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in subpart (i), (ii), (iii), (iv), (v) or (vi) of this part:

(i) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subpart.

(I) Each insurance policy must be amended by attachment of the Hazardous Secondary Material Facility Liability Endorsement. The wording of the endorsement must be identical to the wording specified in part (l)8 of this paragraph. The owner or operator must submit a signed duplicate original of the endorsement to the Commissioner. If requested by the Commissioner, the owner or operator must provide a signed duplicate original of the insurance policy.

(II) The insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in the state of Tennessee and have an A. M. Best rating of at least A or A- or have special approval from the Commissioner. An insurer that is a “captive insurance company”, as that term is used in T.C.A. §§ 56-13-106 through 56-13-133, may not be utilized unless the Commissioner determines that such captive insurance company offers coverage that is equivalent in protection to other insurance companies or other allowable financial assurance mechanisms.

(ii) An owner or operator may meet the requirements of this part by passing a financial test or using the guarantee for liability coverage as specified in parts 6 and 7 of this subparagraph.

(iii) An owner or operator may meet the requirements of this part by obtaining a letter of credit for liability coverage as specified in part 8 of this subparagraph.

(Rule 0400-12-01-.02, continued)

(iv) An owner or operator may meet the requirements of this part by obtaining a surety bond for liability coverage as specified in part 9 of this subparagraph.

(v) An owner or operator may meet the requirements of this part by obtaining a trust fund for liability coverage as specified in part 10 of this subparagraph.

(vi) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this part. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subpart, the owner or operator shall specify at least one such assurance as “primary” coverage and shall specify other assurance as “excess” coverage.

(vii) An owner or operator shall notify the Commissioner in writing within 30 days whenever:

(I) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in subparts (i) through (vi) of this part; or

(II) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material reclamation facility or intermediate facility is entered between the owner or operator and third-party claimant for liability coverage under subparts (i) through (vi) of this part; or

(III) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material reclamation facility or intermediate facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under subparts (i) through (vi) of this part.

2. Coverage for nonsudden accidental occurrences

An owner or operator of a hazardous secondary material reclamation facility or intermediate facility with land-based units, as defined in subparagraph (2)(a) of Rule 0400-12-01-.01, which are used to manage hazardous secondary materials excluded under subpart (1)(d)1(xxiv) of this rule or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this part may combine the required per-occurrence coverage

(Rule 0400-12-01-.02, continued)

levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in subpart (i), (ii), (iii), (iv), (v), or (vi) of this part:

(i) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this part.

(I) Each insurance policy must be amended by attachment of the Hazardous Secondary Material Facility Liability Endorsement. The wording of the endorsement must be identical to the wording specified in part (I)8 of this paragraph. The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Commissioner. If requested by the Commissioner, the owner or operator must provide a signed duplicate original of the insurance policy.

(II) The insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in the state of Tennessee and have an A. M. Best rating of at least A or A- or have special approval from the Commissioner. An insurer that is a “captive insurance company”, as that term is used in T.C.A. §§ 56-13-106 through 56-13-133, may not be utilized unless the Commissioner determines that such captive insurance company offers coverage that is equivalent in protection to other insurance companies or other allowable financial assurance mechanisms.

(ii) An owner or operator may meet the requirements of this part by passing a financial test or using the guarantee for liability coverage as specified in parts 6 and 7 of this subparagraph.

(iii) An owner or operator may meet the requirements of this part by obtaining a letter of credit for liability coverage as specified in part 8 of this subparagraph.

(iv) An owner or operator may meet the requirements of this part by obtaining a surety bond for liability coverage as specified in part 9 of this subparagraph.

(v) An owner or operator may meet the requirements of this part by obtaining a trust fund for liability coverage as specified in part 10 of this subparagraph.

(vi) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this part. If the owner or operator demonstrates the required coverage through the use of a combination of

(Rule 0400-12-01-.02, continued)

financial assurances under this subpart, the owner or operator shall specify at least one such assurance as “primary” coverage and shall specify other assurance as “excess” coverage.

(vii) An owner or operator shall notify the Commissioner in writing within 30 days whenever:

(I) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in subparts (i) through (vi) of this part; or

(II) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material treatment and/or storage facility is entered between the owner or operator and third-party claimant for liability coverage under subparts (i) through (vi) of this part; or

(III) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous secondary material treatment and/or storage facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under parts (i) through (vi) of this part.

3. Request for variance

If an owner or operator can demonstrate to the satisfaction of the Commissioner that the levels of financial responsibility required by part 1 or 2 of this subparagraph are not consistent with the degree and duration of risk associated with treatment and/or storage at the facility or group of facilities, the owner or operator may obtain a variance from the Commissioner. The request for a variance must be submitted in writing to the Commissioner. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Commissioner’s assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Commissioner may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Commissioner to determine a level of financial responsibility other than that required by part 1 or 2 of this subparagraph.

4. Adjustments by the Commissioner

If the Commissioner determines that the levels of financial responsibility required by part 1 or 2 of this subparagraph are not consistent with the degree and duration of risk associated with treatment and/or storage at the facility or group of facilities, the Commissioner may adjust the level of financial responsibility required under part 1 or 2 of this subparagraph as may be necessary to protect human health and the environment. This adjusted level will be based on the Commissioner’s assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Commissioner determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, pile, or land treatment facility, he may require that an owner or operator of the facility comply with part 2 of this subparagraph. An owner or operator must furnish to the Commissioner,

(Rule 0400-12-01-.02, continued)

within a reasonable time, any information which the Commissioner requests to determine whether cause exists for such adjustments of level or type of coverage.

5. Period of coverage

Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that all hazardous secondary materials have been removed from the facility or a unit at the facility and the facility or a unit has been decontaminated in accordance with the approved plan per part (d)8 of this paragraph, the Commissioner will notify the owner or operator in writing that he is no longer required under item (1)(d)1(xxiv)(VI)VII of this rule to maintain liability coverage for that facility or a unit at the facility, unless the Commissioner has reason to believe that that all hazardous secondary materials have not been removed from the facility or unit at a facility or that the facility or unit has not been decontaminated in accordance with the approved plan.

6. Financial test for liability coverage

(i) An owner or operator may satisfy the requirements of this subparagraph by demonstrating that he passes a financial test as specified in this part. To pass this test the owner or operator must meet the criteria of item (I) or (II) of this subpart:

(I) The owner or operator must have:

I. Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

II. Tangible net worth of at least $10 million; and

III. Assets in the United States amounting to either:

A. At least 90 percent of his total assets; or

B. At least six times the amount of liability coverage to be demonstrated by this test.

(II) The owner or operator must have:

I. A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor’s, or Aaa, Aa, A, or Baa as issued by Moody’s; and

II. Tangible net worth of at least $10 million; and

III. Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

IV. Assets in the United States amounting to either:

A. At least 90 percent of his total assets; or

B. At least six times the amount of liability coverage to be demonstrated by this test.

(ii) The phrase “amount of liability coverage” as used in subpart (i) of this part refers to the annual aggregate amounts for which coverage is required under parts 1 and 2 of this subparagraph and the annual aggregate amounts for which coverage is required under parts (8)(n)1 and 2 of Rules 0400-12-01-.05 and 0400-12-01-.06.

(iii) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Commissioner:

(I) A letter signed by the owner’s or operator’s chief financial officer and worded as specified in part (l)6 of this paragraph. If an owner or operator is using the financial test to demonstrate both assurance as specified by part (d)5 of this paragraph, and liability coverage, he must submit the letter specified in part (l)6 of this paragraph to cover both forms of financial responsibility; a separate letter as specified in part (l)5 of this paragraph is not required.

(II) A copy of the independent certified public accountant’s report on examination of the owner’s or operator’s financial statements for the latest completed fiscal year.

(III) If the chief financial officer’s letter providing evidence of financial assurance includes financial data showing that the owner or operator satisfies item (i)(I) of this part that are different from the data in the audited financial statements referred to in item (II) of this subpart or any other audited financial statement or data filed with the SEC, then a special report from the owner’s or operator’s independent certified public accountant to the owner or operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer’s letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of the comparison, and the reasons for any difference.

(iv) The owner or operator may obtain a one-time extension of the time allowed for submission of the documents specified in subpart (iii) of this part if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these rules and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner’s or operator’s fiscal year. To obtain the extension, the owner’s or operator’s chief financial officer must send, by the effective date of these rules, a letter to the Commissioner. This letter from the chief financial officer must:

(I) Request the extension;

(II) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(III) Specify for each facility to be covered by the test the EPA Identification Number, name, address, the amount of liability

coverage and, when applicable, current closure and post-closure cost estimates to be covered by the test;

(IV) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

(V) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in subpart (iii) of this part; and

(VI) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(v) After the initial submission of items specified in subpart (iii) of this part, the owner or operator must send updated information to the Commissioner within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in subpart (iii) of this part.

(vi) If the owner or operator no longer meets the requirements of subpart (i) of this part, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this part. Evidence of liability coverage must be submitted to the Commissioner within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(vii) The Commissioner may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see item (iii)(II) of this part). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Commissioner will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this part within 30 days after notification of disallowance.

7. Guarantee for liability coverage

(i) Subject to subpart (ii) of this part, an owner or operator may meet the requirements of this subparagraph by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in subparts 7(i) through (vi) of this subparagraph. The wording of the guarantee must be identical to the wording specified in subpart (I)7(ii) of this paragraph. A certified copy of the guarantee must accompany the items sent to the Commissioner as specified in subpart 7(iii) of this subparagraph. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this

letter must describe this “substantial business relationship” and the value received in consideration of the guarantee.

(I) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(II) Reserved

(ii) (I) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this part only if the Attorneys General or Insurance Commissioners of:

I. The state in which the guarantor is incorporated; and

II. Each state in which a facility covered by the guarantee is located has submitted a written statement to the Commissioner and the EPA that a guarantee executed as described in this part and subpart (l)7(ii) of this paragraph is a legally valid and enforceable obligation in that state.

(II) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if:

I. The non-U.S. corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located and in the state in which it has its principal place of business; and if

II. The Attorney General or Insurance Commissioner of each state in which a facility covered by the guarantee is located and the state in which the guarantor corporation has its principal place of business, has submitted a written statement to the Commissioner and the EPA that a guarantee executed as described in this part and subpart (l)7(ii) of this paragraph is a legally valid and enforceable obligation in that state.

8. Letter of credit for liability coverage

(i) An owner or operator may satisfy the requirements of this subparagraph by obtaining an irrevocable standby letter of credit that conforms to the requirements of this part and submitting a copy of the letter of credit to the Commissioner.

(ii) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(iii) The wording of the letter of credit must be identical to the wording specified in part (l)9 of this paragraph.

9. Surety bond for liability coverage

(i) An owner or operator may satisfy the requirements of this subparagraph by obtaining a surety bond that conforms to the requirements of this part and submitting a copy of the bond to the Commissioner.

(ii) The surety company issuing the bond must be licensed to do business as a surety in Tennessee and must be among those listed as acceptable sureties on federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(iii) The wording of the surety bond must be identical to the wording specified in part (l)10 of this paragraph.

(iv) A surety bond may be used to satisfy the requirements of this subparagraph only if the Attorneys General or Insurance Commissioners of:

(I) The state in which the surety is incorporated; and

(II) Each state in which a facility covered by the surety bond is located has submitted a written statement to the Commissioner and the EPA that a surety bond executed as described in this part and part (l)10 of this paragraph is a legally valid and enforceable obligation in that state.

10. Trust fund for liability coverage

(i) An owner or operator may satisfy the requirements of this subparagraph by establishing a trust fund that conforms to the requirements of this part and submitting an originally signed duplicate of the trust agreement to the Commissioner.

(ii) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(iii) The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this subparagraph. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the Fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this subparagraph to cover the difference. For purposes of this paragraph, “the full amount of the liability coverage to be provided” means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this subparagraph, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(iv) The wording of the trust fund must be identical to the wording specified in part (l)11 of this paragraph.

(Rule 0400-12-01-.02, continued)

(i) Incapacity of owners or operators, guarantors, or financial institutions

1. An owner or operator must notify the Commissioner by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in part (d)5 of this paragraph must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee.

2. An owner or operator who fulfills the requirements of subparagraph (d) or (h) by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

(j) Reserved [40 CFR 261.149]

(k) Reserved [40 CFR. 261.150]

(l) Wording of the instruments

The wording of the financial instruments must be as follows or otherwise approved for use by the Commissioner:

1. (i) A trust agreement for a trust fund, as specified in part (d)1 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust Agreement, the “Agreement,” entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert “corporation,” “partnership,” “association,” or “proprietorship”], the “Grantor,” and [name of corporate trustee], [insert “incorporated in the State of _____” or “a national bank”], the “Trustee.”

Whereas, the Underground Storage Tanks and Solid Waste Disposal Control Board, an agency of the State of Tennessee, has established certain rules applicable to the Grantor, requiring that an owner or operator of a facility regulated under Rule 0400-12-01-.05, or 0400-12-01-.06, or satisfying the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02 shall provide assurance that funds will be available if needed for care of the facility under paragraph (7) of Rule 0400-12-01-.05 or 0400-12-01-.06, as applicable,

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions.

(Rule 0400-12-01-.02, continued)
As used in this Agreement:

(a) The term “Grantor” means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term “Trustee” means the Trustee who enters into this Agreement and any successor Trustee.

(c) The term “Commissioner” means the Commissioner of the Tennessee Department of Environment and Conservation.

Section 2. Identification of Facilities and Cost Estimates.

This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number (if available), name, address, and the current cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund.

The Grantor and the Trustee hereby establish a trust fund, the “Fund,” for the benefit of the Tennessee Department of Environment and Conservation in the event that the hazardous secondary materials of the grantor no longer meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Commissioner.

Section 4. Payments from the Fund.

The Trustee shall make payments from the Fund as the Commissioner shall direct, in writing, to provide for the payment of the costs of the performance of activities required under paragraph (7) of Rules 0400-12-01-.05 or 0400-12-01-.06 for the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the Commissioner from the Fund for expenditures for such activities in such amounts as the beneficiary shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Commissioner specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund.

Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management.

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(Rule 0400-12-01-.02, continued)

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a state government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a state government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment.

The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee.

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or a state government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses.

(Rule 0400-12-01-.02, continued)

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation.

The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Commissioner a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Commissioner shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel.

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation.

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee.

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Commissioner, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee.

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Commissioner to the Trustee shall be in writing, signed by the Commissioner or their designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Commissioner hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Commissioner, except as provided for herein.

Section 15. Amendment of Agreement.

(Rule 0400-12-01-.02, continued)

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Commissioner, or by the Trustee and the Commissioner if the Grantor ceases to exist.

Section 16. Irrevocability and Termination.

Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Commissioner, or by the Trustee and the Commissioner, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 17. Immunity and Indemnification.

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Commissioner issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 18. Choice of Law.

This Agreement shall be administered, construed, and enforced according to the laws of the state of [insert name of state].

Section 19. Interpretation.

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in subpart (8)(l)1(i) of Rule 0400-12-01-.02 as such rules were constituted on the date first above written.

[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]
[Signature of Trustee]
Attest:
[Title]
[Seal]

(ii) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in part (d)1 of this paragraph.

State of _____ County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation

(Rule 0400-12-01-.02, continued)

described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

2. A surety bond, as specified in part (d)2 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Financial Guarantee Bond

Date bond executed:
Effective date:
Principal: [legal name and business address of owner or operator]
Type of Organization: [insert “individual,” “joint venture,” “partnership,” or “corporation”]
State of incorporation:_____
Surety(ies): [name(s) and business address(es)]
EPA Identification Number, name, address and amount(s) for each facility guaranteed by this bond:
_____
Total penal sum of bond: $ _____ Surety’s bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) are firmly bound to the Tennessee Department of Environment and Conservation in the event that the hazardous secondary materials at the reclamation or intermediate facility listed below no longer meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02, in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum “jointly and severally” only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Tennessee Hazardous Waste Management Act, to have a permit or interim status in order to own or operate each facility identified above, or to meet conditions under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02; and

Whereas said Principal is required to provide financial assurance as a condition of permit or interim status or as a condition of an exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully satisfy all the conditions established for exclusion of hazardous secondary materials from coverage as solid waste under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02,

Or, if the Principal shall provide alternate financial assurance, as specified in paragraph (8) of Rule 0400-12-01-.02, as applicable, and obtain the Commissioner’s written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Commissioner from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Commissioner that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall forfeit all or a portion of the penal sum of this bond to the Department.

(Rule 0400-12-01-.02, continued)
Upon notification by the Commissioner that the Principal has failed to provide alternate financial assurance as specified in paragraph (8) of rule 0400-12-01-.02, and obtain written approval of such assurance from the Commissioner during the 90 days following receipt by both the Principal and the Commissioner of a notice of cancellation of the bond, the Surety(ies) shall forfeit the penal sum of this bond to the Department.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Commissioner, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Commissioner, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Commissioner.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Commissioner.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in part (8)(l)2 of Rule 0400-12-01-.02 as such rules were constituted on the date this bond was executed.

Principal

[Signature(s)]

_____

[Name(s)]

_____

[Title(s)]

_____

[Corporate seal] _____

Corporate Surety(ies)

[Name and address]

State of incorporation:_____

(Rule 0400-12-01-.02, continued)
Liability limit:

$ _____

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $ _____

3. A letter of credit, as specified in part (d)3 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Commissioner

Tennessee Department of Environment and Conservation

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No._____ in your favor, in the event that the hazardous secondary materials at the covered reclamation or intermediary facility(ies) no longer meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars $_____, available upon presentation of

(1) your sight draft, bearing reference to this letter of credit No._____, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to rules issued under authority of T.C.A §§ 68-212-101 et seq."

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall pay the amount of the draft to the State of Tennessee in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in part (8)(l)3 of Rule 0400-12-01-.02 as such rules were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce," or "the Uniform Commercial Code"].

(Rule 0400-12-01-.02, continued)

4. A hazardous secondary material reclamation/intermediate facility endorsement, as specified in part (d)5 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Secondary Material Reclamation/Intermediate Facility Endorsement

This endorsement certifies that the policy to which the endorsement is attached provides insurance to provide financial assurance so that in accordance with applicable rules all hazardous secondary materials can be removed from the facility or any unit at the facility and the facility or any unit at the facility can be decontaminated at the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of part (8)(d)4 of Rule 0400-12-01-.02 as applicable and as such rules were constituted on the effective date of this endorsement. It is agreed that any provision of the policy inconsistent with such rules is hereby amended to eliminate such inconsistency. The coverage applies at [list EPA Identification Number (if any issued), name, and address for each facility]. The limits of liability are [insert the dollar amount], exclusive of legal defense costs.

Whenever requested by the Commissioner of the Tennessee Department of Environment and Conservation, the Insurer agrees to furnish to the Commissioner a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this endorsement is identical to the wording specified in part (8)(l)4 of Rule 0400-12-01-.02 as such rules were constituted on the date shown immediately below.

[Authorized signature for Insurer]

[Name of person signing]

[Title of person signing]

Signature of witness or notary: _____

[Date]

5. A letter from the chief financial officer, as specified in part (d)5 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Letter From Chief Financial Officer

[Address to the Commissioner of the Tennessee Department of Environment and Conservation].

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in paragraph (8) of Rule 0400-12-01-.02.

[Fill out the following nine paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number (if any issued), name, address, and current cost estimates.]

1. This firm is the owner or operator of the following facilities for which financial assurance is demonstrated through the financial test specified in paragraph (8) of Rule 0400-12-01-.02. The current cost estimates covered by the test are shown for each facility: _____.

(Rule 0400-12-01-.02, continued)

2. This firm guarantees, through the guarantee specified in paragraph (8) of Rule 0400-12-01-.02, the following facilities owned or operated by the guaranteed party. The current cost estimates so guaranteed are shown for each facility: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____, or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

3. In states other than Tennessee, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in paragraph (8) of Rule 0400-12-01-.02. The current cost estimates covered by such a test are shown for each facility: _____.

4. This firm is the owner or operator of the following hazardous secondary materials management facilities for which financial assurance is required but has not been demonstrated either to EPA or a state through the financial test or any other financial assurance mechanism specified in paragraph (8) of Rule 0400-12-01-.02 or equivalent or substantially equivalent state mechanisms. The current cost estimates not covered by such financial assurance are shown for each facility: _____.

5. In states other than Tennessee, this firm, as owner and/or operator or guarantor, is demonstrating financial assurance to the EPA or other federal agency under federal statute or rules, or to a state under substantially equivalent state rules, for the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified herein, including but not limited to hazardous waste Treatment, Storage and Disposal Facilities (“TSDF”) under 40 CFR Part 265, Solid Waste Landfill (“SWLF”) facilities under 40 CFR Part 264, Underground Storage Tank (“UST”) facilities under 40 CFR Part 280, Underground Injection Control (“UIC”) sites under 40 CFR Part 144, the decommissioning of materials facilities licensed by the Nuclear Regulatory Commission under 10 CFR Parts 30, 40, 70, and 72 (“NRC”), and CERCLA settlements under CERCLA § 108(b). The total dollar amount of such financial assurance covered by a financial test is equal, in the aggregate, to [$_____], and is shown for each facility as follows: _____.

6. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____.

7. This firm guarantees, through the guarantee specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06, the closure or post-closure care of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

8. In states other than Tennessee, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____.

(Rule 0400-12-01-.02, continued)

9. This firm is the owner or operator of the following SWLF, TSDF, UST, UIC, CERCLA, or NRC facilities for which financial assurance is required but has not been demonstrated either to the EPA or other federal agency or to a state through the financial test or any other financial assurance mechanism. The total dollar amount not covered by such financial assurance is shown for each facility: _____.

This firm [insert “is required” or “is not required”] to file a Form 10-K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm’s independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of item (d)5(i)(I) of Rule 0400-12-01-.02 are used. Fill in Alternative II if the criteria of item (d)5(i)(II) of Rule 0400-12-01-.02 are used.]

Alternative I

1. Sum of current cost estimates [total of all cost estimates shown in the nine paragraphs above] $_____

*2. Total liabilities [if any portion of the cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4] $_____

*3. Tangible net worth $ _____

*4. Net worth $ _____

*5. Current assets $_____

*6. Current liabilities $ _____

7. Net working capital [line 5 minus line 6] $ _____

*8. The sum of net income plus depreciation, depletion, and amortization $ _____

*9. Total assets in U.S. (required only if less than 90% of firm’s assets are located in the U.S.) $ _____

10. Is line 3 at least $10 million? (Yes/No) _____

11. Is line 3 at least 6 times line 1? (Yes/No) _____

12. Is line 7 at least 6 times line 1? (Yes/No) _____

*13. Are at least 90% of firm’s assets located in the U.S.? If not, complete line 14 (Yes/No) _____

14. Is line 9 at least 6 times line 1? (Yes/No) _____

15. Is line 2 divided by line 4 less than 2.0? (Yes/No) _____

16. Is line 8 divided by line 2 greater than 0.1? (Yes/No) _____

17. Is line 5 divided by line 6 greater than 1.5? (Yes/No) _____

Alternative II

(Rule 0400-12-01-.02, continued)

1. Sum of current cost estimates [total of all cost estimates shown in the eight paragraphs above] $_____

2. Current bond rating of most recent issuance of this firm and name of rating service _____

3. Date of issuance of bond _____

4. Date of maturity of bond _____

*5. Tangible net worth [if any portion of the cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line] $ _____

*6. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.) $_____

7. Is line 5 at least $10 million? (Yes/No) _____

8. Is line 5 at least 6 times line 1? (Yes/No) _____

*9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10 (Yes/No) _____

10. Is line 6 at least 6 times line 1? (Yes/No) _____

I hereby certify that the wording of this letter is identical to the wording specified in part (8)(l)5 of Rule 0400-12-01-.02 as such rules were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____

6. A letter from the chief financial officer, as specified in part (h)6 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

Letter from Chief Financial Officer

[Address to the Commissioner of the Tennessee Department of Environment and Conservation].

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage under subparagraph (h) [insert "and costs assured under part (d)5" if applicable] as specified in paragraph (8) of Rule 0400-12-01-.02.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number (if any issued), name, and address].

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in paragraph (8) of Rule 0400-12-01-.02:_____

(Rule 0400-12-01-.02, continued)
The firm identified above guarantees, through the guarantee specified in paragraph (8) of Rule 0400-12-01-.02, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06: _____

The firm identified above guarantees, through the guarantee specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden] accidental occurrences at the following facilities owned or operated by the following: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

[If you are using the financial test to demonstrate coverage of both liability and costs assured under part (8)(d)5 of Rule 0400-12-01-.02 or closure or post-closure care costs under subparagraph (8)(g) of Rule 0400-12-01-.05 or 0400-12-01-.06, fill in the following nine paragraphs regarding facilities and associated cost estimates. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA identification number (if any issued), name, address, and current cost estimates.]

1. This firm is the owner or operator of the following facilities for which financial assurance is demonstrated through the financial test specified in paragraph (8) of Rule 0400-12-01-.02. The current cost estimates covered by the test are shown for each facility: _____.

2. This firm guarantees, through the guarantee specified in paragraph (8) of Rule 0400-12-01-.02, the following facilities owned or operated by the guaranteed party. The current cost estimates so guaranteed are shown for each facility: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____, or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

3. In states other than Tennessee, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in paragraph (8) of Rule 0400-12-01-.02. The current cost estimates covered by such a test are shown for each facility: _____.

4. This firm is the owner or operator of the following hazardous secondary materials management facilities for which financial assurance is required but has not been demonstrated either to EPA or a state through the financial test or any other financial assurance mechanism specified in paragraph (8) of Rule 0400-12-01-.02 or equivalent or substantially equivalent State mechanisms. The current cost estimates not covered by such financial assurance are shown for each facility: _____.

(Rule 0400-12-01-.02, continued)

5. In states other than Tennessee, this firm, as owner and/or operator or guarantor, is demonstrating financial assurance to the EPA or other federal agency under federal statute or rules, or to a state under substantially equivalent state rules, for the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified herein, including but not limited to hazardous waste Treatment, Storage and Disposal Facilities ("TSDF") under 40 CFR Part 265, Solid Waste Landfill ("SWLF") facilities under 40 CFR Part 264, Underground Storage Tank ("UST") facilities under 40 CFR Part 280, Underground Injection Control ("UIC") sites under 40 CFR Part 144, the decommissioning of materials facilities licensed by the Nuclear Regulatory Commission under 10 CFR Parts 30, 40, 70, and 72 ("NRC"), and CERCLA settlements under CERCLA § 108(b). The total dollar amount of such financial assurance covered by a financial test is equal, in the aggregate, to [$_____], and is shown for each facility as follows: _____.

6. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: _____.

7. This firm guarantees, through the guarantee specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06, the closure or post-closure care of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____].

[Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

8. In states other than Tennessee, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in paragraph (8) of Rules 0400-12-01-.05 and 0400-12-01-.06. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility: _____.

9. This firm is the owner or operator of the following SWLF, TSDF, UST, UIC, CERCLA, or NRC facilities for which financial assurance is required but has not been demonstrated either to the EPA or other federal agency or to a state through the financial test or any other financial assurance mechanism. The total dollar amount not covered by such financial assurance is shown for each facility: _____.

This firm [insert "is required" or "is not required"] to file a Form 10-K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of item (h)6(i)(I) of Rule 0400-12-01-.02 are used. Fill in Alternative II if the criteria of item (h)6(i)(II) of Rule 0400-12-01-.02 are used.]

Alternative I

(Rule 0400-12-01-.02, continued)

1. Amount of annual aggregate liability coverage to be demonstrated $ _____.

*2. Current assets $ _____.

*3. Current liabilities $ _____.

4. Net working capital (line 2 minus line 3) $ _____.

*5. Tangible net worth $ _____.

*6. If less than 90% of assets are located in the U.S., give total U.S. assets $ _____.

7. Is line 5 at least $10 million? (Yes/No) _____.

8. Is line 4 at least 6 times line 1? (Yes/No) _____.

9. Is line 5 at least 6 times line 1? (Yes/No) _____.

*10. Are at least 90% of assets located in the U.S.? (Yes/No) _____. If not, complete line 11.

11. Is line 6 at least 6 times line 1? (Yes/No) _____.

Alternative II

1. Amount of annual aggregate liability coverage to be demonstrated $ _____.

2. Current bond rating of most recent issuance and name of rating service _____.

3. Date of issuance of bond _____.

4. Date of maturity of bond _____.

*5. Tangible net worth $ _____.

*6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) $ _____.

7. Is line 5 at least $10 million? (Yes/No) _____.

8. Is line 5 at least 6 times line 1? _____.

9. Are at least 90% of assets located in the U.S.? If not, complete line 10. (Yes/No) _____.

10. Is line 6 at least 6 times line 1? _____.

[Fill in part B if you are using the financial test to demonstrate assurance of both liability coverage and costs assured under part (8)(d)5 of Rule 0400-12-01-.02 or closure or post-closure care costs under subparagraph (g) of Rule 0400-12-01-.05 or 0400-12-01-.06.]

Part B. Facility Care and Liability Coverage

[Fill in Alternative I if the criteria of item (8)(d)5(i)(I) and item (8)(h)6(i)(I) of Rule 0400-12-01-.02 are used. Fill in Alternative II if the criteria of item (8)(d)5(i)(II) and item (8)(h)6(i)(II) of Rule 0400-12-01-.02 are used.]

Alternative I

(Rule 0400-12-01-.02, continued)

1. Sum of current cost estimates (total of all cost estimates listed above) $ _____

2. Amount of annual aggregate liability coverage to be demonstrated $ _____

3. Sum of lines 1 and 2 $ _____

*4. Total liabilities (if any portion of your cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6) $ _____

*5. Tangible net worth $ _____

*6. Net worth $ _____

*7. Current assets $ _____

*8. Current liabilities $ _____

9. Net working capital (line 7 minus line 8) $ _____

*10. The sum of net income plus depreciation, depletion, and amortization $ _____

*11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) $ _____

12. Is line 5 at least $10 million? (Yes/No) _____

13. Is line 5 at least 6 times line 3? (Yes/No) _____

14. Is line 9 at least 6 times line 3? (Yes/No) _____

*15. Are at least 90% of assets located in the U.S.? (Yes/No) If not, complete line 16. _____

16. Is line 11 at least 6 times line 3? (Yes/No) _____

17. Is line 4 divided by line 6 less than 2.0? (Yes/No) _____

18. Is line 10 divided by line 4 greater than 0.1? (Yes/No) _____

19. Is line 7 divided by line 8 greater than 1.5? (Yes/No) _____

Alternative II

1. Sum of current cost estimates (total of all cost estimates listed above) $ _____

2. Amount of annual aggregate liability coverage to be demonstrated $ _____

3. Sum of lines 1 and 2 $ _____

4. Current bond rating of most recent issuance and name of rating service _____

5. Date of issuance of bond _____

6. Date of maturity of bond _____

*7. Tangible net worth (if any portion of the cost estimates is included in “total liabilities” on your financial statements you may add that portion to this line) $ _____

(Rule 0400-12-01-.02, continued)

*8. Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.) $ _____

9. Is line 7 at least $10 million? (Yes/No) _____

10. Is line 7 at least 6 times line 3? (Yes/No) _____
*11. Are at least 90% of assets located in the U.S.? (Yes/No) If not complete line 12. _____

12. Is line 8 at least 6 times line 3? (Yes/No) _____

I hereby certify that the wording of this letter is identical to the wording specified in part (8)(l)6 of Rule 0400-12-01-.02 as such rules were constituted on the date shown immediately below.

[Signature] _____

[Name] _____

[Title] _____

[Date] _____

7. (i) A corporate guarantee, as specified in part (d)5 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Corporate Guarantee for Facility Care

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the state of Tennessee, herein referred to as guarantor. This guarantee is made on behalf of the [owner or operator] of [business address], which is [one of the following: “our subsidiary”; “a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary”; or “an entity with which guarantor has a substantial business relationship, as defined in part (8)(b)9 of Rules 0400-12-01-.05 and 0400-12-01-.06” to the Tennessee Department of Environment and Conservation.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in part (8)(d)5 of Rule 0400-12-01-.02.

2. [Owner or operator] owns or operates the following facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number (if any issued), name, and address].

3. “Closure plans” as used below refer to the plans maintained as required by paragraph (8) of Rule 0400-12-01-.02 for the care of facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees that in the event of a determination by the Commissioner that the hazardous secondary materials at the owner or operator’s facility covered by this guarantee do not meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02, the guarantor will dispose of any hazardous secondary material as hazardous waste, and close the facility in accordance with closure requirements found in Rule 0400-12-01-.05 or 0400-12-01-.06, as applicable, or establish a trust fund as specified in part (8)(d)1 of Rule 0400-12-01-.02 in the name of the owner or operator in the amount of the current cost estimate.

(Rule 0400-12-01-.02, continued)

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Commissioner and to [owner or operator] that he intends to provide alternate financial assurance as specified in paragraph (8) of Rule 0400-12-01-.02, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the Commissioner by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the Commissioner of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate financial assurance as specified in Rule 0400-12-01-.05, Rule 0400-12-01-.06, or paragraph (8) of Rule 0400-12-01-.02, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure plan, the extension or reduction of the time of performance, or any other modification or alteration of an obligation of the owner or operator pursuant to Rule 0400-12-01-.05, Rule 0400-12-01-.06, or paragraph (8) of Rule 0400-12-01-.02.

9. Guarantor agrees to remain bound under this guarantee for as long as [owner or operator] must comply with the applicable financial assurance requirements of Rules 0400-12-01-.05 and 0400-12-01-06 or the financial assurance condition of subitem (1)(d)1(xxiv)(IV)IV of Rule 0400-12-01-.02 for the above-listed facilities, except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

    Guarantor may terminate this guarantee by sending notice by certified mail to the Commissioner and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the Commissioner approves, alternate coverage complying with subparagraph (8)(d) of Rule 0400-12-01-.02.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its “substantial business relationship” with the owner or operator]

Guarantor may terminate this guarantee 120 days following the receipt of notification, through certified mail, by the Commissioner and by [the owner or operator].

11. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in Rule 0400-12-01-.05, 0400-12-01-.06, or paragraph (8) of Rule 0400-12-01-.02, as applicable, and obtain written approval of such assurance from the Commissioner within 90 days after a notice of cancellation by the guarantor is received by Commissioner from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

12. Guarantor expressly waives notice of acceptance of this guarantee by the Commissioner or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure plan and of amendments or modifications of the applicable requirements of Rule 0400-12-01-.05, 0400-12-01-.06, or paragraph (8) of Rule 0400-12-01-.02.

I hereby certify that the wording of this guarantee is identical to the wording specified in subpart (8)(I)7(i) of Rule 0400-12-01-.02 as such rules were constituted on the date first above written.

Effective date:_____

(Rule 0400-12-01-.02, continued)

[Name of guarantor] _____

[Authorized signature for guarantor] _____

[Name of person signing] _____

[Title of person signing] _____

Signature of witness or notary: _____

(ii) A guarantee, as specified in part (8)(h)7 of Rule 0400-12-01-.02, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Guarantee for Liability Coverage

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert "the state of _____" and insert name of state; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the state of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of [owner or operator] of [business address], which is one of the following: "our subsidiary;" "a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary;" or "an entity with which guarantor has a substantial business relationship, as defined in [either part (8)(b)9 of Rule 0400-12-01-.05 or part (8)(b)9 of Rule 0400-12-01-.06], to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in part (8)(h)7 of Rule 0400-12-01-.02.

2. [Owner or operator] owns or operates the following facility(ies) covered by this guarantee: [List for each facility:

   EPA identification number (if any issued), name, and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor's registered agent in each state.] This corporate guarantee satisfies the paragraph (8) of Rule 0400-12-01-.02 third-party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above-named owner or operator facilities for overage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s) or settlement agreement(s) up to the limits of coverage identified above.

4. Such obligation does not apply to any of the following:

(Rule 0400-12-01-.02, continued)

(a) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert owner or operator]. This exclusion applies:

(A) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert owner or operator];

(2) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert owner or operator];

(4) Personal property in the care, custody or control of [insert owner or operator];

(5) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Commissioner and to [owner or operator] that he intends to provide alternate liability coverage as specified in subparagraph (8)(h) of Rule 0400-12-01-.02, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.

6. The guarantor agrees to notify the Commissioner by certified mail of a voluntary or involuntary proceeding under title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding. Guarantor agrees that within 30 days after being notified by the Commissioner of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in subparagraph (8)(h) of Rule 0400-12-01-.02 in the name of [owner or operator], unless [owner or operator] has done so.

(Rule 0400-12-01-.02, continued)

7. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by subparagraph (8)(h) of Rule 0400-12-01-.02, provided that such modification shall become effective only if the Commissioner does not disapprove the modification within 30 days of receipt of notification of the modification.

8. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of subparagraph (8)(h) of Rule 0400-12-01-.02 for the above-listed facility(ies), except as provided in paragraph 10 of this agreement.

9. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

10. Guarantor may terminate this guarantee by sending notice by certified mail to the Commissioner and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the Commissioner approves, alternate liability coverage complying with subparagraph (8)(h) of Rule 0400-12-01-.02.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with the owner or operator]:

Guarantor may terminate this guarantee 120 days following receipt of notification, through certified mail, by the Commissioner and by [the owner or operator].

11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

13. The Guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents:

    (a) Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

    Certification of Valid Claim

    The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] facility should be paid in the amount of $ _____.

    [Signatures] _____

    Principal _____

    (Notary) Date _____

    [Signatures] _____

    Claimant(s) _____

    (Notary) Date _____

(Rule 0400-12-01-.02, continued)

(b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

14. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert "primary" or "excess"] coverage.

I hereby certify that the wording of the guarantee is identical to the wording specified in subpart (8)(l)7(ii) of Rule 0400-12-01-.02 as such rules were constituted on the date shown immediately below.

Effective date: _____

[Name of guarantor] _____

[Authorized signature for guarantor] _____

[Name of person signing] _____

[Title of person signing] _____

Signature of witness or notary: _____

8. A hazardous waste facility liability endorsement as required in subparagraph (h) of this paragraph must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Hazardous Secondary Material Reclamation/Intermediate Facility Liability Endorsement

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under subparagraph (8)(h) of Rule 0400-12-01-.02. The coverage applies at [list EPA Identification Number (if any issued), name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

   (a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

   (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in part (8)(h)6 of Rule 0400-12-01-.02.

   (c) Whenever requested by the Commissioner of the Tennessee Department of Environment and Conservation, the Insurer agrees to furnish to the Commissioner a signed duplicate original of the policy and all endorsements.

(Rule 0400-12-01-.02, continued)

(d) Cancellation of this endorsement or the policy, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Commissioner.

(e) Any other termination of this endorsement or the policy will be effective only upon written notice and only after the expiration of 30 days after a copy of such written notice is received by the Commissioner.

Attached to and forming part of policy No. _____ issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this _____ day of _____, _____. The effective date of said policy is _____ day of _____, _____.

I hereby certify that the wording of this endorsement is identical to the wording specified in part (8)(l)8 of Rule 0400-12-01-.02 as such rule was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer in Tennessee.

[Signature of Authorized Representative of Insurer] _____

[Type name] _____

[Title], Authorized Representative of [name of Insurer] _____

[Address of Representative] _____

9. A letter of credit, as specified in part (h)8 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Irrevocable Standby Letter of Credit

Name and Address of Issuing Institution _____

Commissioner _____

Tennessee Department of Environment and Conservation

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in the favor of [“any and all third-party liability claimants”], at the request and for the account of [owner or operator’s name and address] for third-party liability awards or settlements up to [in words] U.S. dollars $ _____ per occurrence and the annual aggregate amount of [in words] U.S. dollars $ _____, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars $ _____ per occurrence, and the annual aggregate amount of [in words] U.S. dollars $ _____, for nonsudden accidental occurrences available upon presentation of a sight draft bearing reference to this letter of credit No. _____, and (1) a signed certificate reading as follows:

Certificate of Valid Claim

The undersigned, as parties [insert principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of [principal’s] facility should be paid in the amount of $[ ]. We hereby certify that the claim does not apply to any of the following:

(Rule 0400-12-01-.02, continued)

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures] _____

Grantor _____

[Signatures] _____

Claimant(s) _____

or (2) a valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify you, the Commissioner of the Tennessee Department of Environment and Conservation, and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

(Rule 0400-12-01-.02, continued)

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert “primary” or “excess” coverage].

We certify that the wording of this letter of credit is identical to the wording specified in part (8)(l)9 of Rule 0400-12-01-.02 as such rules were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]

[Date].

This credit is subject to [insert “the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce,” or “the Uniform Commercial Code”].

10. A surety bond, as specified in part (h)9 of this paragraph, must be worded as follows: except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Payment Bond

Surety Bond No. [Insert number]

Parties [Insert name and address of owner or operator],

Principal, incorporated in [Insert State of incorporation] of [Insert city and State of principal place of business] and [Insert name and address of surety company(ies)], Surety Company(ies), of [Insert surety(ies) place of business].

EPA Identification Number (if any issued), name, and address for each facility guaranteed by this bond: _____

	Nonsudden accidental occurrence	Sudden accidental occurrences
Penal Sum Per Occurrence	[Insert amount]	[Insert amount]
Annual Aggregate	[Insert amount]	[Insert amount]

Purpose: This is an agreement between the Surety(ies) and the Principal under which the Surety(ies), its(their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by [“sudden” and/or “nonsudden”] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

(1) Tennessee Hazardous Waste Management Act, as amended.

(2) Rule Chapter 0400-12-01, particularly Rule 0400-12-01-.05, Rule 0400-12-01-.06, and paragraph (8) of Rule 0400-12-01-.02 (if applicable).

Conditions:

(Rule 0400-12-01-.02, continued)

(1) The Principal is subject to the applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert Principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Principal] under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert Principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Principal]. This exclusion applies:

(A) Whether [insert Principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Principal];

(2) Premises that are sold, given away or abandoned by [insert Principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Principal];

(4) Personal property in the care, custody or control of [insert Principal];

(5) That particular part of real property on which [insert Principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert Principal] are performing operations, if the property damage arises out of these operations.

(2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition (1).

(3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.

(4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:

(a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

(Rule 0400-12-01-.02, continued)

Certification of Valid Claim

The undersigned, as parties [insert name of Principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] facility should be paid in the amount of $[ ].

[Signature] _____

Principal _____

[Notary] Date _____

[Signature(s)] _____

Claimant(s) _____

[Notary] Date _____

or

(b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

(6) The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the Commissioner of the Tennessee Department of Environment and Conservation forthwith of all claims filed and payments made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the Commissioner of the Tennessee Department of Environment and Conservation, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal and the Commissioner, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the Commissioner.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

(10) This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

(Rule 0400-12-01-.02, continued)
The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in part (8)(l)10 of Rule 0400-12-01-.02, as such rules were constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate Seal]

CORPORATE SURETY[IES]

[Name and address]

State of incorporation:_____

Liability Limit: $ _____

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $ _____

11. (i) A trust agreement, as specified in part (h)10 of this paragraph, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Trust Agreement

Trust Agreement, the “Agreement,” entered into as of [date] by and between [name of the owner or operator] a [name of state] [insert “corporation,” “partnership,” “association,” or “proprietorship”], the “Grantor,” and [name of corporate trustee], [insert, “incorporated in the state of _____” or “a national bank”], the “Trustee.”

Whereas, the Underground Storage Tanks and Solid Waste Disposal Control Board, an agency of the State of Tennessee, has established certain regulations applicable to the Grantor, requiring that an owner or operator must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

(Rule 0400-12-01-.02, continued)
Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions.

As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities.

This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number (if any issued), name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund.

The Grantor and the Trustee hereby establish a trust fund, hereinafter the "Fund," for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____ [up to $1 million] per occurrence and [up to $2 million] annual aggregate for sudden accidental occurrences and _____ [up to $3 million] per occurrence and _____ [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor]. This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(Rule 0400-12-01-.02, continued)

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the Fund shall be considered [insert “primary” or “excess”] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 4. Payment for Bodily Injury or Property Damage.

The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents;

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor’s] facility or group of facilities should be paid in the amount of $[ ].

[Signatures]

Grantor

[Signatures]

Claimant(s)

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor’s facility or group of facilities.

Section 5. Payments Comprising the Fund.

Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

(Rule 0400-12-01-.02, continued)

Section 6. Trustee Management.

The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held unless they are securities or other obligations of the Federal or a state government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a state government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment.

The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common commingled, or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee.

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(Rule 0400-12-01-.02, continued)

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or a state government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses.

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuations.

The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Commissioner of the Tennessee Department of Environment and Conservation a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Commissioner shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel.

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation.

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee.

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee’s acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Commissioner of the Tennessee Department of Environment and Conservation, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee.

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may

(Rule 0400-12-01-.02, continued)
designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Commissioner of the Tennessee Department of Environment and Conservation to the Trustee shall be in writing, signed by the Commissioner, or designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Tennessee Department of Environment and Conservation hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Commissioner of the Tennessee Department of Environment and Conservation, except as provided for herein.

Section 15. Notice of Nonpayment.

If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within 5 working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equaling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within 10 working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the Commissioner.

Section 16. Amendment of Agreement.

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Commissioner of the Tennessee Department of Environment and Conservation, or by the Trustee and the Commissioner if the Grantor ceases to exist.

Section 17. Irrevocability and Termination.

Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Commissioner of the Tennessee Department of Environment and Conservation, or by the Trustee and the Commissioner, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The Commissioner of the Tennessee Department of Environment and Conservation will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. Immunity and Indemnification.

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Commissioner of the Tennessee Department of Environment and Conservation issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law.

This Agreement shall be administered, construed, and enforced according to the laws of the state of [enter name of state].

(Rule 0400-12-01-.02, continued)

Section 20. Interpretation.

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in part (8)(l)11 of Rule 0400-12-01-.02 as such regulations were constituted on the date first above written.

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]

(ii) The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in part (h)10 of this paragraph.

State of _____ County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/ his name thereto by like order.

[Signature of Notary Public]

12. Reserved

13. (i) A personal bond supported by certificate of deposit, as specified in part 6 of this paragraph, shall include the following information and use the language provided in subpart (ii) of this part:

(I) Effective date;

(II) Principal (legal name and address of owner/operator);

(Rule 0400-12-01-.02, continued)

(III) Type of organization (insert “individual,” “joint venture,” “partnership” or “corporation”);

(IV) State of incorporation;

(V) Permit number;

(VI) Name and address of facility;

(VII) Total penal sum of the bond;

(VIII) Name and address of the financial institution issuing the certificate of deposit; and

(IX) Serial number(s) of certificate of deposit.

(ii) The personal bond must use the language that follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Personal Bond

Know All Persons By These Presents, That I, the Principal am firmly bound to the Tennessee Department of Environment and Conservation in the event that the hazardous secondary materials at the reclamation or intermediate facility listed below no longer meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02, in the above penal sum for the payment of which I bind myself, my heirs, executors, administrators, successors, and assigns jointly and severally for the payment of the full amount of the penal sum.

Whereas said Principal is required, under the Tennessee Hazardous Waste Management Act, to have a permit or interim status in order to own or operate each facility identified above, or to meet conditions under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02; and

Whereas said Principal is required to provide financial assurance as a condition of permit or interim status or as a condition of an exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully satisfy all the conditions established for exclusion of hazardous secondary materials from coverage as solid waste under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02,

Or, if the Principal shall provide alternate financial assurance, as specified in paragraph (8) of Rule 0400-12-01-.02, as applicable, and obtain the Commissioner’s written approval of such assurance, then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Principal shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Commissioner that the Principal has failed to perform as guaranteed by this bond, the Principal shall forfeit all or a portion of the penal sum of this bond to the Department.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

(Rule 0400-12-01-.02, continued)
The Principal has this day irrevocably assigned the deposit to the Department and has submitted to the Department the original of Certificate of Deposit #_____ or an original safekeeping receipt of the deposit.

The person whose signature appears below hereby certifies that he/she is authorized to execute this surety bond on behalf of the Principal and that the wording of this surety bond is identical to the wording specified in Rule 0400-12-01-.02(8)(l)13(ii) as such rules were constituted on the date this bond was executed.

Principal

[Signature(s)]

_____

[Name(s)]

_____

[Title(s)]

_____

Subscribed and sworn to before me this the _____ day of _____, 20_____.

_____
Notary Public

My commission expires on the _____ day of _____, 20_____.

14. (i) A personal bond supported by cash, as specified in part 7 of this paragraph, shall include the following information and use the language provided in subpart (ii) of this part:

(I) Effective date;

(II) Principal (legal name and address of owner/operator);

(III) Type of organization (insert “individual,” “joint venture,” “partnership” or “corporation”);

(IV) State of incorporation;

(V) Permit number;

(VI) Name and address of facility;

(VII) Total penal sum of the bond;

(Rule 0400-12-01-.02, continued)

(ii) The personal bond must use the language that follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Personal Bond

Know All Persons By These Presents, That I, the Principal am firmly bound to the Tennessee Department of Environment and Conservation in the event that the hazardous secondary materials at the reclamation or intermediate facility listed below no longer meet the conditions of the exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02, in the above penal sum for the payment of which I bind myself, my heirs, executors, administrators, successors, and assigns jointly and severally for the payment of the full amount of the penal sum.

Whereas said Principal is required, under the Tennessee Hazardous Waste Management Act, to have a permit or interim status in order to own or operate each facility identified above, or to meet conditions under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02, and

Whereas said Principal is required to provide financial assurance as a condition of permit or interim status or as a condition of an exclusion under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully satisfy all the conditions established for exclusion of hazardous secondary materials from coverage as solid waste under subpart (1)(d)1(xxiv) of Rule 0400-12-01-.02,

Or, if the Principal shall provide alternate financial assurance, as specified in paragraph (8) of Rule 0400-12-01-.02, as applicable, and obtain the Commissioner's written approval of such assurance, then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Principal shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Commissioner that the Principal has failed to perform as guaranteed by this bond, the Principal shall forfeit all or a portion of the penal sum of this bond to the Department.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Principal has this day deposited funds equal to the penal sum of the bond with the treasurer of the state of Tennessee in support of this personal bond.

The person whose signature appears below hereby certifies that he/she is authorized to execute this surety bond on behalf of the Principal and that the wording of this surety bond is identical to the wording specified in Rule 0400-12-01-.02(8)(l)14(ii) as such rules were constituted on the date this bond was executed.

Principal

[Signature(s)]

_____

[Name(s)]

_____

(Rule 0400-12-01-.02, continued)
[Title(s)]

_____

Subscribed and sworn to before me this the _____ day of _____, 20_____.

_____
Notary Public

My commission expires on the _____ day of _____, 20_____.

(9) Use and Management of Containers [40 CFR 261 Subpart I]

(a) Applicability [40 CFR 261.170]

This paragraph applies to hazardous secondary materials excluded under the remanufacturing exclusion at subpart (1)(d)1(xxvii) of this rule and stored in containers.

(b) Condition of containers [40 CFR 261.171]

If a container holding hazardous secondary material is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the hazardous secondary material must be transferred from this container to a container that is in good condition or managed in some other way that complies with the requirements of this rule.

(c) Compatibility of hazardous secondary materials with containers [40 CFR 261.172]

The container must be made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous secondary material to be stored, so that the ability of the container to contain the material is not impaired.

(d) Management of containers [40 CFR 261.173]

1. A container holding hazardous secondary material must always be closed during storage, except when it is necessary to add or remove the hazardous secondary material.

2. A container holding hazardous secondary material must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(e) Reserved

(f) Containment [40 CFR 261.175]

1. Container storage areas must have a containment system that is designed and operated in accordance with part 2 of this subparagraph.

2. A containment system must be designed and operated as follows:

(Rule 0400-12-01-.02, continued)

(i) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(ii) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(iii) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater;

(iv) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in subpart (iii) of part to contain any run-on which might enter the system; and

(v) Spilled or leaked material and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(g) Special requirements for ignitable or reactive hazardous secondary material [40 CFR 261.176]

Containers holding ignitable or reactive hazardous secondary material must be located at least 15 meters (50 feet) from the facility's property line.

(h) Special requirements for incompatible materials [40 CFR 261.177]

1. Incompatible materials must not be placed in the same container.

2. Hazardous secondary material must not be placed in an unwashed container that previously held an incompatible material.

3. A storage container holding a hazardous secondary material that is incompatible with any other materials stored nearby must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

(i) Reserved

(j) Air emission standards [40 CFR 261.179]

The remanufacturer or other person that stores or treats the hazardous secondary material shall manage all hazardous secondary material placed in a container in accordance with the applicable requirements of paragraphs (27), (28) and (29) of this rule.

(10) Tank Systems [40 CFR 261 Subpart J]

(a) Applicability [40 CFR 261.190]

1. The requirements of this paragraph apply to tank systems for storing or treating hazardous secondary material excluded under the remanufacturing exclusion at subpart (1)(d)1(xxvii) of this rule.

(Rule 0400-12-01-.02, continued)

2. Tank systems, including sumps, as defined in subparagraph (2)(a) of Rule 0400-12-01-.01, that serve as part of a secondary containment system to collect or contain releases of hazardous secondary materials are exempted from the requirements in part (d)1 of this paragraph.

(b) Assessment of existing tank system's integrity [40 CFR 261.191]

1. Tank systems must meet the secondary containment requirements of subparagraph (d) of this paragraph, or the remanufacturer or other person that handles the hazardous secondary material must determine that the tank system is not leaking and is fit for use. Except as provided in part 3 of the subparagraph, a written assessment reviewed and certified by a qualified Professional Engineer must be kept on file at the remanufacturer's facility or other facility that stores or treats the hazardous secondary material that attests to the tank system's integrity.

2. This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the material(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(i) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(ii) Hazardous characteristics of the material(s) that have been and will be handled;

(iii) Existing corrosion protection measures;

(iv) Documented age of the tank system, if available (otherwise, an estimate of the age); and

(v) Results of a leak test, internal inspection, or other tank integrity examination such that:

(I) For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects; and

(II) For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described in item (I) of this subpart, or other integrity examination that is certified by a qualified Professional Engineer that addresses cracks, leaks, corrosion, and erosion.

(Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.)

3. If, as a result of the assessment conducted in accordance with part 1 of this subparagraph, a tank system is found to be leaking or unfit for use, the remanufacturer or other person that stores or treats the hazardous secondary

(Rule 0400-12-01-.02, continued)

material must comply with the requirements of subparagraph (g) of this paragraph.

(c) Reserved [40 CFR 261.192]

(d) Containment and detection of releases [40 CFR 261.193]

1. Secondary containment systems must be:

(i) Designed, installed, and operated to prevent any migration of materials or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(ii) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(Note: If the collected material is a hazardous waste under this rule, it is subject to management as a hazardous waste in accordance with all applicable requirements of Rule 0400-12-01-.03 through Rule 0400-12-01-.10. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of Tennessee Water Quality Control Act, as amended. If discharged to a Publicly Owned Treatment Works (POTW), it is subject to the requirements of the Tennessee Water Quality Control Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR part 302.)

2. To meet the requirements of part 1 of this subparagraph, secondary containment systems must be at a minimum:

(i) Constructed of or lined with materials that are compatible with the materials(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the material to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);

(ii) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(iii) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous secondary material or accumulated liquid in the secondary containment system at the earliest practicable time; and

(iv) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked material and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment.

3. Secondary containment for tanks must include one or more of the following devices:

(Rule 0400-12-01-.02, continued)

(i) A liner (external to the tank);

(ii) A vault; or

(iii) A double-walled tank.

4. In addition to the requirements of parts 1, 2 and 3 of this subparagraph, secondary containment systems must satisfy the following requirements:

(i) External liner systems must be:

(I) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(II) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

(III) Free of cracks or gaps; and

(IV) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the material if the material is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the material).

(ii) Vault systems must be:

(I) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(II) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(III) Constructed with chemical-resistant water stops in place at all joints (if any);

(IV) Provided with an impermeable interior coating or lining that is compatible with the stored material and that will prevent migration of material into the concrete;

(V) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the material being stored or treated is ignitable or reactive; and

(VI) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(iii) Double-walled tanks must be:

(Rule 0400-12-01-.02, continued)

(I) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;

(II) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

(III) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time.

(Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.)

5. Reserved

6. Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of parts 1 and 2 of this subparagraph except for:

(i) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

(ii) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

(iii) Sealless or magnetic coupling pumps and sealless valves that are visually inspected for leaks on a daily basis; and

(iv) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(e) General operating requirements [40 CFR 261.194]

1. Hazardous secondary materials or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

2. The remanufacturer or other person that stores or treats the hazardous secondary material must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

(i) Spill prevention controls (e.g., check valves, dry disconnect couplings);

(ii) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(iii) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(Rule 0400-12-01-.02, continued)

3. The remanufacturer or other person that stores or treats the hazardous secondary material must comply with the requirements of subparagraph (g) of this paragraph if a leak or spill occurs in the tank system.

(f) Reserved [40 CFR 261.195]

(g) Response to leaks or spills and disposition of leaking or unfit-for-use tank systems [40 CFR 261.196]

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the remanufacturer or other person that stores or treats the hazardous secondary material must satisfy the following requirements:

1. Cessation of use; prevent flow or addition of materials. The remanufacturer or other person that stores or treats the hazardous secondary material must immediately stop the flow of hazardous secondary material into the tank system or secondary containment system and inspect the system to determine the cause of the release.

2. Removal of material from tank system or secondary containment system

(i) If the release was from the tank system, the remanufacturer or other person that stores or treats the hazardous secondary material must, within 24 hours after detection of the leak or, if the remanufacturer or other person that stores or treats the hazardous secondary material demonstrates that it is not possible, at the earliest practicable time, remove as much of the material as is necessary to prevent further release of hazardous secondary material to the environment and to allow inspection and repair of the tank system to be performed.

(ii) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

3. Containment of visible releases to the environment. The remanufacturer or other person that stores or treats the hazardous secondary material must immediately conduct a visual inspection of the release and, based upon that inspection:

(i) Prevent further migration of the leak or spill to soils or surface water; and

(ii) Remove, and properly dispose of, any visible contamination of the soil or surface water.

4. Notifications, reports

(i) Any release to the environment, except as provided in subpart (ii) of this part, must be reported to the Commissioner within 24 hours of its detection. If the release has been reported pursuant to 40 CFR part 302. that report will satisfy this requirement.

(ii) A leak or spill of hazardous secondary material is exempted from the requirements of this paragraph if it is:

(I) Less than or equal to a quantity of 1 pound; and

(II) Immediately contained and cleaned up.

(iii) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Commissioner:

(I) Likely route of migration of the release;

(II) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(III) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Commissioner as soon as they become available;

(IV) Proximity to downgradient drinking water, surface water, and populated areas; and

(V) Description of response actions taken or planned.

5. Provision of secondary containment, repair, or closure

(i) Unless the remanufacturer or other person that stores or treats the hazardous secondary material satisfies the requirements of subparts (ii) through (iv) of this part, the tank system must cease to operate under the remanufacturing exclusion at subpart (1)(d)1(xxvii) of the rule.

(ii) If the cause of the release was a spill that has not damaged the integrity of the system, the remanufacturer or other person that stores or treats the hazardous secondary material may return the system to service as soon as the released material is removed and repairs, if necessary, are made.

(iii) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(iv) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the remanufacturer or other person that stores or treats the hazardous secondary material must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of subparagraph (d) of this paragraph before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of part 6 of this subparagraph are satisfied. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with subparagraph (d) of this paragraph prior to being returned to use.

6. Certification of major repairs

If the remanufacturer or other person that stores or treats the hazardous secondary material has repaired a tank system in accordance with part 5 of this subparagraph, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the remanufacturer or other person that stores or treats the hazardous secondary material has obtained a certification by a qualified Professional Engineer that the repaired system is capable of handling hazardous secondary materials without release for the intended life of the system. This certification must be kept on file at the facility and maintained until closure of the facility.

(Note: The Commissioner may, on the basis of any information received that there is or has been a release of hazardous secondary material or hazardous constituents into the environment, issue an order under the Act (T.C.A. §§ 68-212-101 et seq.) requiring corrective action or such other response as deemed necessary to protect human health or the environment.)

(Note: The Tennessee Water Quality Control Act may require the owner or operator to notify the National Response Center of certain releases.)

(h) Termination of remanufacturing exclusion [40 CFR 261.197]

Hazardous secondary material stored in units more than 90 days after the unit ceases to operate under the remanufacturing exclusion at subpart (1)(d)1(xxvii) of this rule or otherwise ceases to be operated for manufacturing, or for storage of a product or a raw material, then becomes subject to regulation as hazardous waste under Rules 0400-12-01-.02 through 0400-12-01-.10, as applicable.

(i) Special requirements for ignitable or reactive materials [40 CFR 261.198]

1. Ignitable or reactive material must not be placed in tank systems, unless the material is stored or treated in such a way that it is protected from any material or conditions that may cause the material to ignite or react.

2. The remanufacturer or other person that stores or treats hazardous secondary material which is ignitable or reactive must store or treat the hazardous secondary material in a tank that is in compliance with the requirements for the maintenance of protective distances between the material management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see 40 CFR 260.11).

(j) Special requirements for incompatible materials [40 CFR 261.199]

1. Incompatible materials must not be placed in the same tank system.

2. Hazardous secondary material must not be placed in a tank system that has not been decontaminated and that previously held an incompatible material.

(k) Air emission standards [40 CFR 261.200]

The remanufacturer or other person that stores or treats the hazardous secondary material shall manage all hazardous secondary material placed in a tank in accordance with the applicable requirements of paragraphs (27), (28) and (29) of this rule.

(11) – (12) Reserved

(13) Emergency Preparedness and Response for Management of Excluded Hazardous Secondary Materials [40 CFR 261 Subpart M]

(a) Applicability [40 CFR 261.400]

The requirements of this paragraph apply to those areas of an entity managing hazardous secondary materials excluded under subpart (1)(d)1(xxiii) and/or (xxiv) of this rule where hazardous secondary materials are generated or accumulated on site.

1. A generator of hazardous secondary material, or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule that accumulates 6000 kg or less of hazardous secondary material at any time must comply with subparagraphs (b) and (c) of this paragraph.

2. A generator of hazardous secondary material, or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule that accumulates more than 6000 kg of hazardous secondary material at any time must comply with subparagraphs (b) and (d) of this paragraph.

(b) Preparedness and prevention [40 CFR 261.410]

1. Maintenance and operation of facility

Facilities generating or accumulating hazardous secondary material must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous secondary materials or hazardous secondary material constituents to air, soil, or surface water which could threaten human health or the environment.

2. Required equipment

All facilities generating or accumulating hazardous secondary material must be equipped with the following, unless none of the hazards posed by hazardous secondary material handled at the facility could require a particular kind of equipment specified below:

(i) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(ii) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

(iii) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(iv) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

3. Testing and maintenance of equipment

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

4. Access to communications or alarm system

(i) Whenever hazardous secondary material is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under part 2 of this subparagraph.

(ii) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless such a device is not required under part 2 of this subparagraph.

5. Required aisle space

The hazardous secondary material generator or intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

6. Arrangements with local authorities

(i) The hazardous secondary material generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(I) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous secondary material handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(II) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(III) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and

(IV) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or

illnesses which could result from fires, explosions, or releases at the facility.

(ii) Where state or local authorities decline to enter into such arrangements, the hazardous secondary material generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule must document the refusal in the operating record.

(c) Emergency procedures for facilities generating or accumulating 6000 kg or less of hazardous secondary material [40 CFR 261.411]

A generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule that generates or accumulates 6000 kg or less of hazardous secondary material must comply with the following requirements:

1. At all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in part 4 of this subparagraph. This employee is the emergency coordinator.

2. The generator or intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule must post the following information next to the telephone:

(i) The name and telephone number of the emergency coordinator;

(ii) Location of fire extinguishers and spill control material, and, if present, fire alarm; and

(iii) The telephone number of the fire department, unless the facility has a direct alarm.

3. The generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.

4. The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(i) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(ii) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;

(iii) In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule has knowledge that a spill has reached surface water, the generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule must immediately notify

the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include the following information:

(I) The name, address, and U.S. EPA Identification Number of the facility;

(II) Date, time, and type of incident (e.g., spill or fire);

(III) Quantity and type of hazardous waste involved in the incident;

(IV) Extent of injuries, if any; and

(V) Estimated quantity and disposition of recovered materials, if any.

(d) Contingency planning and emergency procedures for facilities generating or accumulating more than 6000 kg of hazardous secondary material [40 CFR 261.420]

A generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule that generates or accumulates more than 6000 kg of hazardous secondary material must comply with the following requirements:

1. Purpose and implementation of contingency plan

(i) Each generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule that accumulates more than 6000 kg of hazardous secondary material must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous secondary material or hazardous secondary material constituents to air, soil, or surface water.

(ii) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous secondary material or hazardous secondary material constituents which could threaten human health or the environment.

2. Content of contingency plan

(i) The contingency plan must describe the actions facility personnel must take to comply with parts 1 and 6 of this subparagraph in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous secondary material or hazardous secondary material constituents to air, soil, or surface water at the facility.

(ii) If the generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule accumulating more than 6000 kg of hazardous secondary material has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR part 112, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this rule. The hazardous secondary material generator or an intermediate or reclamation facility excluded from regulation under subpart (1)(d)1(xxiv) of this rule may develop one contingency plan which meets all regulatory requirements. The Department recommends that the plan be based on the

(Rule 0400-12-01-.02, continued)

National Response Team's Integrated Contingency Plan Guidance ("One Plan"). When modifications are made to non-Rule Chapter 0400-12-01 provisions in an integrated contingency plan, the changes do not trigger the need for a permit modification under Rule 0400-12-01-.07.

(iii) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services, pursuant to part (b)6 of this paragraph.

(iv) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see part 5 of this subparagraph), and this list must be kept up-to-date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(v) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(vi) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

3. Copies of contingency plan

A copy of the contingency plan and all revisions to the plan must be:

(i) Maintained at the facility; and

(ii) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

4. Amendment of contingency plan

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(i) Applicable rules are revised;

(ii) The plan fails in an emergency;

(iii) The facility changes--in its design, construction, operation, maintenance, or other circumstances--in a way that materially increases the potential for fires, explosions, or releases of hazardous secondary material or hazardous secondary material constituents, or changes the response necessary in an emergency;

(iv) The list of emergency coordinators changes; or

(v) The list of emergency equipment changes.

5. Emergency coordinator

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan. The emergency coordinator's responsibilities are more fully spelled out in part 6 of this subparagraph. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of hazardous secondary material(s) handled by the facility, and type and complexity of the facility.

6. Emergency procedures

(i) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(I) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(II) Notify appropriate state or local agencies with designated response roles if their help is needed.

(ii) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(iii) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(iv) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(I) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(II) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, or the

(Rule 0400-12-01-.02, continued)

National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

I. Name and telephone number of reporter;

II. Name and address of facility;

III. Time and type of incident (e.g., release, fire);

IV. Name and quantity of material(s) involved, to the extent known;

V. The extent of injuries, if any; and

VI. The possible hazards to human health, or the environment, outside the facility.

(v) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous secondary material at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released material, and removing or isolating containers.

(vi) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(vii) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered secondary material, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. Unless the hazardous secondary material generator can demonstrate, in accordance with part (1)(c)3 or part (1)(c)4 of this rule, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Rules 0400-12-01-.03, 0400-12-01-.04 and 0400-12-01-.05.

(viii) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(I) No secondary material that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(ix) The hazardous secondary material generator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Commissioner. The report must include:

(Rule 0400-12-01-.02, continued)

(I) Name, address, and telephone number of the hazardous secondary material generator;

(II) Name, address, and telephone number of the facility;

(III) Date, time, and type of incident (e.g., fire, explosion);

(IV) Name and quantity of material(s) involved;

(V) The extent of injuries, if any;

(VI) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(VII) Estimated quantity and disposition of recovered material that resulted from the incident.

(14) – (26) Reserved

(27) Air Emission Standards for Process Vents [40 CFR 261 Subpart AA]

(a) Applicability [40 CFR 261.1030]

This paragraph applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or stream stripping operations that manage hazardous secondary materials excluded under the remanufacturing exclusion at (1)(d)1(xxvii) of this rule with concentrations of at least 10 ppmw, unless the process vents are equipped with operating air emission controls in accordance with the requirements of an applicable rule under the Tennessee Air Quality Act and Rule Division 1200-03 or Rule Division 0400-30.

(b) Definitions [40 CFR 261.1031]

As used in this paragraph, all terms not defined herein shall have the meaning given them in the Tennessee Hazardous Waste Management Act and subparagraph (2)(a) of Rule 0400-12-01-.01.

“Air stripping operation” is a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers, and bubble-cap, sieve, or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

“Bottoms receiver” means a container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

“Closed-vent system” means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

“Condenser” means a heat-transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

“Connector” means flanged, screwed, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. For the purposes of reporting and

(Rule 0400-12-01-.02, continued)

recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

"Continuous recorder" means a data-recording device recording an instantaneous data value at least once every 15 minutes.

"Control device" means an enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

"Control device shutdown" means the cessation of operation of a control device for any purpose.

"Distillate receiver" means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

"Distillation operation" means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

"Double block and bleed system" means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

"Equipment" means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems required by this paragraph.

"Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

"Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

"First attempt at repair" means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

"Fractionation operation" means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

"Hazardous secondary material management unit shutdown" means a work practice or operational procedure that stops operation of a hazardous secondary material management unit or part of a hazardous secondary material management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous secondary material management unit or part of a hazardous secondary material management unit for less than 24 hours is not a hazardous secondary material management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous secondary material management unit shutdowns.

"Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

(Rule 0400-12-01-.02, continued)

"In gas/vapor service" means that the piece of equipment contains or contacts a hazardous secondary material stream that is in the gaseous state at operating conditions.

"In heavy liquid service" means that the piece of equipment is not in gas/vapor service or in light liquid service.

"In light liquid service" means that the piece of equipment contains or contacts a material stream where the vapor pressure of one or more of the organic components in the stream is greater than 0.3 kilopascals (kPa) at 20°C, the total concentration of the pure organic components having a vapor pressure greater than 0.3 kilopascals (kPa) at 20°C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

"In situ sampling systems" means nonextractive samplers or in-line samplers.

"In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

"Malfunction" means any sudden failure of a control device or a hazardous secondary material management unit or failure of a hazardous secondary material management unit to operate in a normal or usual manner, so that organic emissions are increased.

"Open-ended valve or line" means any valve, except pressure relief valves, having one side of the valve seat in contact with hazardous secondary material and one side open to the atmosphere, either directly or through open piping.

"Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

"Process heater" means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

"Process vent" means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous secondary material distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

"Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

"Sampling connection system" means an assembly of equipment within a process or material management unit used during periods of representative operation to take samples of the process or material fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

"Sensor" means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

"Separator tank" means a device used for separation of two immiscible liquids.

"Solvent extraction operation" means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two being mutually insoluble) to preferentially dissolve and transfer one or more components into the solvent.

(Rule 0400-12-01-.02, continued)

"Startup" means the setting in operation of a hazardous secondary material management unit or control device for any purpose.

"Steam stripping operation" means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

"Surge control tank" means a large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

"Thin-film evaporation operation" means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

"Vapor incinerator" means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

"Vented" means discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by heating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.

(c) Standards: Process vents [40 CFR 261.1032]

1. The remanufacturer or other person that stores or treats hazardous secondary materials in hazardous secondary material management units with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous secondary material with organic concentrations of at least 10 ppmw shall either:

   (i) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr); or

   (ii) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

2. If the remanufacturer or other person that stores or treats the hazardous secondary material installs a closed-vent system and control device to comply with the provisions of part 1 of this subparagraph the closed-vent system and control device must meet the requirements of subparagraph (d) of this paragraph.

3. Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of part (e)3 of this paragraph.

4. When a remanufacturer or other person that stores or treats the hazardous secondary material and the Commissioner do not agree on determinations of vent emissions and/or emission reductions or total organic compound

(Rule 0400-12-01-.02, continued)

concentrations achieved by add-on control devices based on engineering calculations, the procedures in part (e)3 of this paragraph shall be used to resolve the disagreement.

(d) Standards: Closed-vent systems and control devices [40 CFR 261.1033]

1. (i) The remanufacturer or other person that stores or treats the hazardous secondary materials in hazardous secondary material management units using closed-vent systems and control devices used to comply with provisions of this rule shall comply with the provisions of this subparagraph.

(ii) Reserved

2. A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of subpart (c)1(i) of this paragraph for all affected process vents can be attained at an efficiency less than 95 weight percent.

3. An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760°C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

4. (i) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in subpart 5(i) of this subparagraph, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(ii) A flare shall be operated with a flame present at all times, as determined by the methods specified in item 6(ii)(III) of this subparagraph.

(iii) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subpart 5(ii) of this subparagraph.

(iv) (I) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in subpart 5(iii) of this subparagraph, less than 18.3 m/s (60 ft/s), except as provided in items (II) and (III) of this subpart.

(II) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subpart 5(iii) of this subparagraph, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(Rule 0400-12-01-.02, continued)

(III) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subpart 5(iii) of this subparagraph, less than the velocity, V_{max}, as determined by the method specified in subpart 5(iv) of this subparagraph and less than 122 m/s (400 ft/s) is allowed.

(v) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in subpart 5(v) of this subparagraph.

(vi) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

5. (i) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(ii) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_t = K \left[\sum_{i=1}^{n} C_i H_i \right]$$

where:

H_t = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20°C;

K = Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20°C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (listed in Rule 0400-12-01-.01(2)(b)); and

H_i = Net heat of combustion of sample component i, kcal/g mol at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (listed in Rule 0400-12-01-.01(2)(b)) if published values are not available or cannot be calculated.

(iii) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(Rule 0400-12-01-.02, continued)

(iv) The maximum allowed velocity in m/s, V_{max}, for a flare complying with item 4(iv)(III) of this subparagraph shall be determined by the following equation:

$$Log10(V_{max}) = (HT + 28.8) \div 31.7$$

Where:

28.8 = Constant,

31.7 = Constant,

HT = The net heating value as determined in subpart (ii) of this part.

(v) The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084 (HT)$$

Where:

8.706 = Constant,

0.7084 = Constant,

HT = The net heating value as determined in subpart (ii) of this part.

6. The remanufacturer or other person that stores or treats the hazardous secondary material shall monitor and inspect each control device required to comply with this subparagraph to ensure proper operation and maintenance of the control device by implementing the following requirements:

(i) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

(ii) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(I) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(II) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C,

whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(III) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(IV) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(V) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(VI) For a condenser, either:

I. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

II. A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ±1 percent of the temperature being monitored in degrees Celsius (°C) or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side).

(VII) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

I. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed; or

II. A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(iii) Inspect the readings from each monitoring device required by subparts (i) and (ii) of this part at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this subparagraph.

7. A remanufacturer or other person that stores or treats hazardous secondary material in a hazardous secondary material management unit using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the

(Rule 0400-12-01-.02, continued)

carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of subitem (f)2(iv)(III)VI of this paragraph.

8. A remanufacturer or other person that stores or treats hazardous secondary material in a hazardous secondary material management unit using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

   (i) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of subitem (f)2(iv)(III)VII of this paragraph, whichever is longer.

   (ii) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of subitem (f)2(iv)(III)VII of this paragraph.

9. An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

10. A remanufacturer or other person that stores or treats hazardous secondary material at an affected facility seeking to comply with the provisions of this rule by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

11. A closed-vent system shall meet either of the following design requirements:

   (i) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in part (e)2 of this paragraph, and by visual inspections; or

   (ii) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

12. The remanufacturer or other person that stores or treats the hazardous secondary material shall monitor and inspect each closed-vent system required to comply with this subparagraph to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements:

(Rule 0400-12-01-.02, continued)

(i) Each closed-vent system that is used to comply with subpart 11(i) of this subparagraph shall be inspected and monitored in accordance with the following requirements:

(I) An initial leak detection monitoring of the closed-vent system shall be conducted by the remanufacturer or other person that stores or treats the hazardous secondary material on or before the date that the system becomes subject to this subparagraph. The remanufacturer or other person that stores or treats the hazardous secondary material shall monitor the closed-vent system components and connections using the procedures specified in part (e)2 of this paragraph to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(II) After initial leak detection monitoring required in item (I) of this subpart, the remanufacturer or other person that stores or treats the hazardous secondary material shall inspect and monitor the closed-vent system as follows:

I. Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The remanufacturer or other person that stores or treats the hazardous secondary material shall monitor a component or connection using the procedures specified in part (e)2 of this paragraph to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

II. Closed-vent system components or connections other than those specified in subitem I of this item shall be monitored annually and at other times as requested by the Commissioner, except as provided for in part 15 of this subparagraph, using the procedures specified in part (e)2 of this paragraph to demonstrate that the components or connections operate with no detectable emissions.

(III) In the event that a defect or leak is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect or leak in accordance with the requirements of subpart (iii) of part.

(IV) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection and monitoring in accordance with the requirements specified in subparagraph (f) of this paragraph.

(ii) Each closed-vent system that is used to comply with subpart 11(ii) of this subparagraph shall be inspected and monitored in accordance with the following requirements:

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(I) The closed-vent system shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections.

(II) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this subparagraph. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year.

(III) In the event that a defect or leak is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of subpart (iii) of this part.

(IV) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection and monitoring in accordance with the requirements specified in subparagraph (f) of this paragraph.

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material shall repair all detected defects as follows:

(I) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in item (III) of this subpart.

(II) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(III) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the remanufacturer or other person that stores or treats the hazardous secondary material determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(IV) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the defect repair in accordance with the requirements specified in subparagraph (f) of this paragraph.

13. Closed-vent systems and control devices used to comply with provisions of this paragraph shall be operated at all times when emissions may be vented to them.

14. The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is

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removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon:

(i) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(I) The owner or operator of the unit has been issued a final permit under Rule 0400-12-01-.07 which implements the requirements of paragraph (27) of Rule 0400-12-01-.06;

(II) The unit is equipped with and operating air emission controls in accordance with the applicable requirements of either paragraphs (27) and (29) of Rule 0400-12-01-.05 or paragraphs (30) and (32) of Rule 0400-12-01-.06; or

(III) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

(ii) Incinerated in a hazardous waste incinerator for which the owner or operator either:

(I) Has been issued a final permit under Rule 0400-12-01-.07 which implements the requirements of paragraph (15) of Rule 0400-12-01-.06; or

(II) Has designed and operates the incinerator in accordance with the interim status requirements of paragraph (15) of Rule 0400-12-01-.05.

(iii) Burned in a boiler or industrial furnace for which the owner or operator either:

(I) Has been issued a final permit under Rule 0400-12-01-.07 which implements the requirements of paragraph (8) of Rule 0400-12-01-.09; or

(II) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of paragraph (8) of Rule 0400-12-01-.09,

15. Any components of a closed-vent system that are designated, as described in subpart (f)3(ix) of this paragraph, as unsafe to monitor are exempt from the requirements of subitem 12(i)(II)II of this subparagraph if:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material in a hazardous secondary material management unit using a closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with subitem 12(i)(II)II of this subparagraph; and

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material in a hazardous secondary material management unit using a closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure

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specified in subitem 12(i)(II)II of this subparagraph as frequently as practicable during safe-to-monitor times.

(e) Test methods and procedures [40 CFR 261.1034]

1. Each remanufacturer or other person that stores or treats the hazardous secondary material subject to the provisions of this paragraph shall comply with the test methods and procedural requirements provided in this subparagraph.

2. When a closed-vent system is tested for compliance with no detectable emissions, as required in part (d)12 of this paragraph, the test shall comply with the following requirements:

(i) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(ii) The detection instrument shall meet the performance criteria of Reference Method 21.

(iii) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(iv) Calibration gases shall be:

(I) Zero air (less than 10 ppm of hydrocarbon in air).

(II) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(v) The background level shall be determined as set forth in Reference Method 21.

(iv) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(vii) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

3. Performance tests to determine compliance with part (c)1 of this paragraph and with the total organic compound concentration limit of part (d)3 of this paragraph shall comply with the following:

(i) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

(I) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(II) Method 18 or Method 25A in 40 CFR part 60, appendix A, for organic content. If Method 25A is used, the organic HAP used as the calibration gas must be the single organic HAP representing the largest percent by volume of the emissions. The use of Method 25A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero

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calibration gas when the instrument is zeroed on the most sensitive scale.

(III) Each performance test shall consist of three separate runs; each run conducted for at least 1 hour under the conditions that exist when the hazardous secondary material management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.

(IV) Total organic mass flow rates shall be determined by the following equation:

I. For sources utilizing Method 18.

$$E_h = Q_{2sd} \left[\sum_{i=1}^{n} C_i MW_i \right] (0.0416) (10^{-6})$$

where:

E_h = Total organic mass flow rate, kg/h;

Q_{2sd} = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n = Number of organic compounds in the vent gas;

C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416 = Conversion factor for molar volume, kg-mol/m^3 (@ 293 K and 760 mm Hg);

10^{-6} = Conversion from ppm.

II. For sources utilizing Method 25A.

$$E_h = (Q)(C)(MW)(0.0416)(10^{-6})$$

where:

E_h = Total organic mass flow rate, kg/h;

Q = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

C = Organic concentration in ppm, dry basis, as determined by Method 25A;

MW = Molecular weight of propane, 44;

0.0416 = Conversion factor for molar volume, kg-mol/ m^3 (@ 293 K and 760 mm Hg);

10^{-6} = Conversion from ppm.

(V) The annual total organic emission rate shall be determined by the following equation:

$E_A = (E_h)(H)$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h.

(VI) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h, as determined in item (IV) of this subpart) and by summing the annual total organic mass emission rates (E_A, as determined in item (V) of this subpart) for all affected process vents at the facility.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material at an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(I) Sampling ports adequate for the test methods specified in subpart (i) of this part.

(II) Safe sampling platform(s).

(III) Safe access to sampling platform(s).

(IV) Utilities for sampling and testing equipment.

(iv) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an

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irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the remanufacturer's or other person's that stores or treats the hazardous secondary material control, compliance may, upon the Commissioner's approval, be determined using the average of the results of the two other runs.

4. To show that a process vent associated with a hazardous secondary material distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this subpart, the remanufacturer or other person that stores or treats the hazardous secondary material must make an initial determination that the time-weighted, annual average total organic concentration of the material managed by the hazardous secondary material management unit is less than 10 ppmw using one of the following two methods:

(i) Direct measurement of the organic concentration of the material using the following procedures:

(I) The remanufacturer or other person that stores or treats the hazardous secondary material must take a minimum of four grab samples of material for each material stream managed in the affected unit under process conditions expected to cause the maximum material organic concentration.

(II) For material generated onsite, the grab samples must be collected at a point before the material is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the material after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For material generated offsite, the grab samples must be collected at the inlet to the first material management unit that receives the material provided the material has been transferred to the facility in a closed system such as a tank truck and the material is not diluted or mixed with other material.

(III) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060A (incorporated by reference under subparagraph (2)(b) of Rule 0400-12-01-.01) of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, or analyzed for its individual organic constituents.

(IV) The arithmetic mean of the results of the analyses of the four samples shall apply for each material stream managed in the unit in determining the time-weighted, annual average total organic concentration of the material. The time-weighted average is to be calculated using the annual quantity of each material stream processed and the mean organic concentration of each material stream managed in the unit.

(ii) Using knowledge of the material to determine that its total organic concentration is less than 10 ppmw. Documentation of the material determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the material is generated by a process that is identical to a process at

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the same or another facility that has previously been demonstrated by direct measurement to generate a material stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same material stream where it can also be documented that no process changes have occurred since that analysis that could affect the material total organic concentration.

5. The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous secondary materials with time-weighted, annual average total organic concentrations less than 10 ppmw shall be made as follows:

   (i) By the effective date that the facility becomes subject to the provisions of this paragraph or by the date when the material is first managed in a hazardous secondary material management unit, whichever is later, and

   (ii) For continuously generated material, annually, or

   (iii) Whenever there is a change in the material being managed or a change in the process that generates or treats the material.

6. When a remanufacturer or other person that stores or treats the hazardous secondary material and the Commissioner do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous secondary material with organic concentrations of at least 10 ppmw based on knowledge of the material, the dispute may be resolved by using direct measurement as specified at subpart 4(i) of this subparagraph.

(f) Recordkeeping requirements [40 CFR 261.1035]

1. (i) Each remanufacturer or other person that stores or treats the hazardous secondary material subject to the provisions of this paragraph shall comply with the recordkeeping requirements of this subparagraph.

   (ii) A remanufacturer or other person that stores or treats the hazardous secondary material of more than one hazardous secondary material management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous secondary material management units in one recordkeeping system if the system identifies each record by each hazardous secondary material management unit.

2. The remanufacturer or other person that stores or treats the hazardous secondary material must keep the following records on-site:

   (i) For facilities that comply with the provisions of subpart (d)1(ii) of this paragraph, an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be kept on-site at the facility by the effective date that the facility becomes subject to the provisions of this paragraph.

   (ii) Up-to-date documentation of compliance with the process vent standards in subparagraph (c) of this paragraph, including:

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(I) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous secondary material management units on a facility plot plan).

(II) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the hazardous secondary material management unit is operating at the highest load or capacity level reasonably expected to occur. If the remanufacturer or other person that stores or treats the hazardous secondary material takes any action (e.g., managing a material of different composition or increasing operating hours of affected hazardous secondary material management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(iii) Where a remanufacturer or other person that stores or treats the hazardous secondary material chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan must be developed and include:

(I) A description of how it is determined that the planned test is going to be conducted when the hazardous secondary material management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(II) A detailed engineering description of the closed-vent system and control device including:

I. Manufacturer’s name and model number of control device.

II. Type of control device.

III. Dimensions of the control device.

IV. Capacity.

V. Construction materials.

(III) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(iv) Documentation of compliance with subparagraph (d) of this paragraph shall include the following information:

(I) A list of all information references and sources used in preparing the documentation.

(II) Records, including the dates, of each compliance test required by part (d)11 of this paragraph.

(III) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions" (incorporated by reference as specified in subparagraph (2)(b) of Rule 0400-12-01-.01) or other engineering texts acceptable to the Commissioner that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with subitems I through VII of this item may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

I. For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

II. For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

III. For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

IV. For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in part (d)4 of this paragraph.

V. For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

VI. For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

VII. For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(IV) A statement signed and dated by the remanufacturer or other person that stores or treats the hazardous secondary material certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous secondary material management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(V) A statement signed and dated by the remanufacturer or other person that stores or treats the hazardous secondary material certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of part (c)1 of this paragraph is achieved at an efficiency less than 95 weight percent or the total organic emission limits of part (c)1 of this paragraph for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(VI) If performance tests are used to demonstrate compliance, all test results.

3. Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this rule shall be recorded and kept up-to-date at the facility. The information shall include:

(i) Description and date of each modification that is made to the closed-vent system or control device design.

(ii) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with subparts (d)6(i) and (ii) of this paragraph.

(iii) Monitoring, operating, and inspection information required by part (d)6 through 11 of this paragraph.

(iv) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(I) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760°C, period when the combustion temperature is below 760°C.

(II) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 weight percent or greater, period when the combustion zone temperature is more than 28°C below the design average combustion zone temperature established as a requirement of subitem 2(iv)(III)I of this subparagraph.

(III) For a catalytic vapor incinerator, period when:

I. Temperature of the vent stream at the catalyst bed inlet is more than 28°C below the average temperature of the inlet vent stream established as a requirement of subitem 2(iv)(III)II of this subparagraph; or

II. Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of subitem 2(iv)(III)II.

(IV) For a boiler or process heater, period when:

I. Flame zone temperature is more than 28°C below the design average flame zone temperature established as a requirement subitem 2(iv)(III)III of this subparagraph; or

II. Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of subitem 2(iv)(III)III of this subparagraph.

(V) For a flare, period when the pilot flame is not ignited.

(VI) For a condenser that complies with subitem (d)6(ii)(VI)I of this paragraph, period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of subitem 2(iv)(III)V of this subparagraph.

(VII) For a condenser that complies with subitem (d)6(ii)(VI)II of this paragraph, period when:

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I. Temperature of the exhaust vent stream from the condenser is more than 6°C above the design average exhaust vent stream temperature established as a requirement of subitem 2(iv)(III)V of this subparagraph; or

II. Temperature of the coolant fluid exiting the condenser is more than 6°C above the design average coolant fluid temperature at the condenser outlet established as a requirement of subitem 2(iv)(III)V of this subparagraph.

(VIII) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly on-site in the control device and complies with subitem (d)6(ii)(VII)I of this paragraph, period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of subitem 2(iv)(III)VI of this subparagraph.

(IX) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly on-site in the control device and complies with subitem (d)6(ii)(VII)II of this paragraph, period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of subitem 2(iv)(III)VI of this subparagraph.

(v) Explanation for each period recorded under subpart (iv) of this part of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(vi) For a carbon adsorption system operated subject to requirements specified in part (d)7 or subpart (d)8(ii) of this paragraph, date when existing carbon in the control device is replaced with fresh carbon.

(vii) For a carbon adsorption system operated subject to requirements specified in subpart (d)8(i) of this paragraph, a log that records:

(I) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(II) Date when existing carbon in the control device is replaced with fresh carbon.

(viii) Date of each control device startup and shutdown.

(ix) A remanufacturer or other person that stores or treats the hazardous secondary material designating any components of a closed-vent system as unsafe to monitor pursuant to part (d)15 of this paragraph shall record in a log that is kept at the facility the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of part (d)15 of this paragraph, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component.

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(x) When each leak is detected as specified in part (d)12 of this paragraph, the following information shall be recorded:

(I) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.

(II) The date the leak was detected and the date of first attempt to repair the leak.

(III) The date of successful repair of the leak.

(IV) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be nonrepairable.

(V) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

I. The remanufacturer or other person that stores or treats the hazardous secondary material may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

II. If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

4. Records of the monitoring, operating, and inspection information required by subparts 3(iii) through (x) of this subparagraph shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record.

5. For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Commissioner will specify the appropriate recordkeeping requirements.

6. Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in subparagraph (c) of this paragraph including supporting documentation as required by subpart (e)4(ii) of this paragraph when application of the knowledge of the nature of the hazardous secondary material stream or the process by which it was produced is used, shall be recorded in a log that is kept at the facility.

(g) through (t) Reserved [40 CFR 261.1036-261.1049]

(28) Air Emission Standards for Equipment Leaks [40 CFR 261 – Subpart BB]

(a) Applicability. [40 CFR 261.1050]

1. This paragraph applies to equipment that contains hazardous secondary materials excluded under the remanufacturing exclusion at subpart (1)(d)1(xxvii)

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of this rule, unless the equipment operations are subject to the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63.

2. Reserved

(b) Definitions [40 CFR 261.1051]

As used in this paragraph, all terms shall have the meaning given them in subparagraph (27)(b) of this rule, the Tennessee Hazardous Waste Management Act and subparagraph (2)(a) of Rule 0400-12-01-.01.

(c) Standards: Pumps in light liquid service [40 CFR 261.1052]

1. (i) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in part (n)2 of this paragraph, except as provided in parts 4, 5 and 6 of this subparagraph.

(ii) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

2. (i) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(ii) If there are indications of liquids dripping from the pump seal, a leak is detected.

3. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (j) of this paragraph.

(ii) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

4. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of part 1 of this subparagraph, provided the following requirements are met:

(i) Each dual mechanical seal system must be:

(I) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure;

(II) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of subparagraph (k) of this paragraph; or

(III) Equipped with a system that purges the barrier fluid into a hazardous secondary material stream with no detectable emissions to the atmosphere.

(ii) The barrier fluid system must not be a hazardous secondary material with organic concentrations 10 percent or greater by weight.

(iii) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(v) (I) Each sensor as described in subpart (iii) of this part must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

(II) The remanufacturer or other person that stores or treats the hazardous secondary material must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(vi) (I) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in item (v)(II) of this part, a leak is detected.

(II) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (j) of this paragraph.

(III) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

5. Any pump that is designated, as described in subpart (o)7(ii) of this paragraph, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of parts 1, 3 and 4 of this subparagraph if the pump meets the following requirements:

(i) Must have no externally actuated shaft penetrating the pump housing.

(ii) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in part (n)3 of this paragraph.

(iii) Must be tested for compliance with subpart (ii) of this part initially upon designation, annually, and at other times as requested by the Commissioner.

6. If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of subparagraph (k) of this paragraph, it is exempt from the requirements of parts 1 through 5 of this subparagraph.

(d) Standards: Compressors [40 CFR 261.1053]

1. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in parts 8 and 9 of this subparagraph.

2. Each compressor seal system as required in part 1 of this subparagraph shall be:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure;

(Rule 0400-12-01-.02, continued)

(ii) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of subparagraph (k) of this paragraph; or

(iii) Equipped with a system that purges the barrier fluid into a hazardous secondary material stream with no detectable emissions to atmosphere.

3. The barrier fluid must not be a hazardous secondary material with organic concentrations 10 percent or greater by weight.

4. Each barrier fluid system as described in parts 1 through 3 of this subparagraph shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

5. (i) Each sensor as required in part 4 of this subparagraph shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

6. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under subpart 5(ii) of this subparagraph, a leak is detected.

7. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (j) of this paragraph.

(ii) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

8. A compressor is exempt from the requirements of parts 1 and 2 of this subparagraph if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of subparagraph (k) of this paragraph, except as provided in part 9 of this subparagraph.

9. Any compressor that is designated, as described in subpart (o)7(ii) of this paragraph, for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of parts 1 through 8 of this subparagraph if the compressor:

(i) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified part (n)3 of this paragraph.

(ii) Is tested for compliance with subpart (i) of this part initially upon designation, annually, and at other times as requested by the Commissioner.

(e) Standards: Pressure relief devices in gas/vapor service [40 CFR 261.1054]

1. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in part (n)3 of this paragraph.

2. (i) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in subparagraph (j) of this paragraph.

(ii) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in part (n)3 of this paragraph.

3. Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in subparagraph (k) of this paragraph is exempt from the requirements of parts 1 and 2 of this subparagraph.

(f) Standards: Sampling connection systems [40 CFR 261.1055]

1. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured.

2. Each closed-purge, closed-loop, or closed-vent system as required in part 1 of this subparagraph shall meet one of the following requirements:

(i) Return the purged process fluid directly to the process line;

(ii) Collect and recycle the purged process fluid; or

(iii) Be designed and operated to capture and transport all the purged process fluid to a material management unit that complies with the applicable requirements of subparagraphs (29)(e) through (g) of this rule or a control device that complies with the requirements of subparagraph (k) of this paragraph.

3. In-situ sampling systems and sampling systems without purges are exempt from the requirements of parts 1 and 2 of this subparagraph.

(g) Standards: Open-ended valves or lines [40 CFR 261.1056]

1. (i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous secondary material stream flow through the open-ended valve or line.

(Rule 0400-12-01-.02, continued)

2. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous secondary material stream end is closed before the second valve is closed.

3. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with part 1 of this subparagraph at all other times.

(h) Standards: Valves in gas/vapor service or in light liquid service [40 CFR 261.1057]

1. Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in part (n)2 of this paragraph and shall comply with parts 2 through 5 of this subparagraph, except as provided in parts 6, 7 and 8 of this subparagraph and subparagraphs (l) and (m) of this paragraph.

2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

3. (i) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(ii) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months.

4. (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in subparagraph (j) of this paragraph.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

5. First attempts at repair include, but are not limited to, the following best practices where practicable:

(i) Tightening of bonnet bolts.

(ii) Replacement of bonnet bolts.

(iii) Tightening of packing gland nuts.

(iv) Injection of lubricant into lubricated packing.

6. Any valve that is designated, as described in subpart (o)7(ii) of this paragraph, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of part 1 of this subparagraph if the valve:

(i) Has no external actuating mechanism in contact with the hazardous secondary material stream.

(ii) Is operated with emissions less than 500 ppm above background as determined by the method specified in part (n)3 of this paragraph.

(Rule 0400-12-01-.02, continued)

(iii) Is tested for compliance with subpart 6(ii) of this subparagraph initially upon designation, annually, and at other times as requested by the Commissioner.

7. Any valve that is designated, as described in subpart (o)8(i) of this paragraph, as an unsafe-to-monitor valve is exempt from the requirements of part 1 of this subparagraph if:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with part 1 of this subparagraph.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

8. Any valve that is designated, as described in subpart (o)8(ii) of this paragraph, as a difficult-to-monitor valve is exempt from the requirements of part 1 of this subparagraph if:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(ii) The hazardous secondary material management unit within which the valve is located was in operation before January 13, 2015.

(iii) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(i) Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors [40 CFR 261.1058]

1. Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in part (n)2 of this paragraph if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

3. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (j) of this paragraph.

(ii) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

4. First attempts at repair include, but are not limited to, the best practices described under part (h)5 of this paragraph.

5. Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of part 1 of this

(Rule 0400-12-01-.02, continued)

subparagraph and from the recordkeeping requirements of subparagraph (o) of this paragraph.

(j) Standards: Delay of repair [40 CFR 261.1059]

1. Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous secondary material management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous secondary material management unit shutdown.

2. Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous secondary material management unit and that does not continue to contain or contact hazardous secondary material with organic concentrations at least 10 percent by weight.

3. Delay of repair for valves will be allowed if:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(ii) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with subparagraph (k) of this paragraph.

4. Delay of repair for pumps will be allowed if:

(i) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(ii) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

5. Delay of repair beyond a hazardous secondary material management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous secondary material management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous secondary material management unit shutdown will not be allowed unless the next hazardous secondary material management unit shutdown occurs sooner than 6 months after the first hazardous secondary material management unit shutdown.

(k) Standards: Closed-vent systems and control devices [40 CFR 261.1060]

1. The remanufacturer or other person that stores or treats the hazardous secondary material in a hazardous secondary material management units using closed-vent systems and control devices subject to this paragraph shall comply with the provisions of subparagraph (27)(d) of this rule.

2. (i) The remanufacturer or other person that stores or treats the hazardous secondary material at an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this paragraph on the effective date that the facility becomes subject to the provisions of

this paragraph must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this paragraph for installation and startup.

(ii) Any unit that begins operation after July 13, 2015 and is subject to the provisions of this paragraph when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply.

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material at any facility in existence on the effective date of a statutory or regulatory amendment that renders the facility subject to this paragraph shall comply with all requirements of this paragraph as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this paragraph cannot be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this paragraph. The remanufacturer or other person that stores or treats the hazardous secondary material shall keep a copy of the implementation schedule at the facility.

(iv) Remanufacturers or other persons that store or treat the hazardous secondary materials at facilities and units already subject to federal law, due to an action other than those described in subpart 2(ii) of this subparagraph must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subpart; the 30-month implementation schedule does not apply).

(l) Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak [40 CFR 261.1061]

1. A remanufacturer or other person that stores or treats the hazardous secondary material subject to the requirements of subparagraph (h) of this paragraph may elect to have all valves within a hazardous secondary material management unit comply with an alternative standard that allows no greater than 2 percent of the valves to leak.

2. The following requirements shall be met if a remanufacturer or other person that stores or treats the hazardous secondary material decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(i) A performance test as specified in part 3 of this subparagraph shall be conducted initially upon designation, annually, and at other times requested by the Commissioner.

(Rule 0400-12-01-.02, continued)

(ii) If a valve leak is detected, it shall be repaired in accordance with parts (h)4 and 5 of this paragraph.

3. Performance tests shall be conducted in the following manner:

(i) All valves subject to the requirements in subparagraph (h) of this paragraph within the hazardous secondary material management unit shall be monitored within 1 week by the methods specified in part (n)2 of this paragraph.

(ii) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(iii) The leak percentage shall be determined by dividing the number of valves subject to the requirements in subparagraph (h) of this paragraph for which leaks are detected by the total number of valves subject to the requirements in subparagraph (h) of this paragraph within the hazardous secondary material management unit.

(m) Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair [40 CFR 261.1062]

1. A remanufacturer or other person that stores or treats the hazardous secondary material subject to the requirements of subparagraph (h) of this paragraph may elect for all valves within a hazardous secondary material management unit to comply with one of the alternative work practices specified in subparts 2(ii) and (iii) of this subparagraph.

2. (i) A remanufacturer or other person that stores or treats the hazardous secondary material shall comply with the requirements for valves, as described in subparagraph (h) of this paragraph, except as described in subparts (ii) and (iii) of this part.

(ii) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, a remanufacturer or other person that stores or treats the hazardous secondary material may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every 6 months) for the valves subject to the requirements in subparagraph (h) of this paragraph.

(iii) After 5 consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, a remanufacturer or other person that stores or treats the hazardous secondary material may begin to skip 3 of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to the requirements in subparagraph (h) of this paragraph.

(iv) If the percentage of valves leaking is greater than 2 percent, the remanufacturer or other person that stores or treats the hazardous secondary material shall monitor monthly in compliance with the requirements in subparagraph (h) of this paragraph, but may again elect to use this subparagraph after meeting the requirements of subpart (h)3(i) of this paragraph.

(n) Test methods and procedures [40 CFR 261.1063]

(Rule 0400-12-01-.02, continued)

1. Each remanufacturer or other person that stores or treats the hazardous secondary material subject to the provisions of this paragraph shall comply with the test methods and procedures requirements provided in this subparagraph.

2. Leak detection monitoring, as required in subparagraph (c) through (m) of this paragraph, shall comply with the following requirements:

   (i) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

   (ii) The detection instrument shall meet the performance criteria of Reference Method 21.

   (iii) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

   (iv) Calibration gases shall be:

      (I) Zero air (less than 10 ppm of hydrocarbon in air).

      (II) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

   (v) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

3. When equipment is tested for compliance with no detectable emissions, as required in (c)5, part (d)9, subparagraph (e) and part (h)6 of this paragraph, the test shall comply with the following requirements:

   (i) The requirements of subparts 2(i) through (iv) of this subparagraph shall apply.

   (ii) The background level shall be determined as set forth in Reference Method 21.

   (iii) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

   (iv) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

4. A remanufacturer or other person that stores or treats the hazardous secondary material must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous secondary material with organic concentration that equals or exceeds 10 percent by weight using the following:

   (i) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85 (incorporated by reference under subparagraph (2)(b) of Rule 0400-12-01-.01);

   (ii) Method 9060A (incorporated by reference under subparagraph (2)(b) of Rule 0400-12-01-.01) of “Test Methods for Evaluating Solid Waste,” EPA Publication SW-846, for computing total organic concentration of the sample, or analyzed for its individual organic constituents; or

(Rule 0400-12-01-.02, continued)

(iii) Application of the knowledge of the nature of the hazardous secondary material stream or the process by which it was produced. Documentation of a material determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the material is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same material stream where it can also be documented that no process changes have occurred since that analysis that could affect the material total organic concentration.

5. If a remanufacturer or other person that stores or treats the hazardous secondary material determines that a piece of equipment contains or contacts a hazardous secondary material with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in subparts 4(i) or (ii) of this subparagraph.

6. When a remanufacturer or other person that stores or treats the hazardous secondary material and the Commissioner do not agree on whether a piece of equipment contains or contacts a hazardous secondary material with organic concentrations at least 10 percent by weight, the procedures in subparts 4(i) or (ii) of this subparagraph can be used to resolve the dispute.

7. Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous secondary material that is expected to be contained in or contact the equipment.

8. To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under subparagraph (2)(b) of Rule 0400-12-01-.01).

9. Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of subparts (27)(e)3(i) through (iv) of this rule.

(o) Recordkeeping requirements [40 CFR 261.1064]

1. (i) Each remanufacturer or other person that stores or treats the hazardous secondary material subject to the provisions of this paragraph shall comply with the recordkeeping requirements of this subparagraph.

(ii) A remanufacturer or other person that stores or treats the hazardous secondary material in more than one hazardous secondary material management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous secondary material management units in one recordkeeping system if the system identifies each record by each hazardous secondary material management unit.

2. Remanufacturers and other persons that store or treat the hazardous secondary material must record and keep the following information at the facility:

(i) For each piece of equipment to which this paragraph applies:

(Rule 0400-12-01-.02, continued)

(I) Equipment identification number and hazardous secondary material management unit identification.

(II) Approximate locations within the facility (e.g., identify the hazardous secondary material management unit on a facility plot plan).

(III) Type of equipment (e.g., a pump or pipeline valve).

(IV) Percent-by-weight total organics in the hazardous secondary material stream at the equipment.

(V) Hazardous secondary material state at the equipment (e.g., gas/vapor or liquid).

(VI) Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(ii) For facilities that comply with the provisions of subpart (27)(d)1(ii) of this rule, an implementation schedule as specified in subpart (27)(d)1(ii) of this rule.

(iii) Where a remanufacturer or other person that stores or treats the hazardous secondary material chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in subpart (27)(f)2(iii) of this rule.

(iv) Documentation of compliance with subparagraph (k) of this paragraph, including the detailed design documentation or performance test results specified in subpart (27)(f)2(iv) of this rule.

3. When each leak is detected as specified in subparagraphs (c), (d), (h) and (i) of this paragraph, the following requirements apply:

(i) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with part (i)1 of this paragraph, and the date the leak was detected, shall be attached to the leaking equipment.

(ii) The identification on equipment, except on a valve, may be removed after it has been repaired.

(iii) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in part (h)3 of this paragraph and no leak has been detected during those two months.

4. When each leak is detected as specified in subparagraphs (c), (d), (h) and (i) of this paragraph, the following information shall be recorded in an inspection log and shall be kept at the facility:

(i) The instrument and operator identification numbers and the equipment identification number.

(ii) The date evidence of a potential leak was found in accordance with part (i)1 of this paragraph.

(Rule 0400-12-01-.02, continued)

(iii) The date the leak was detected and the dates of each attempt to repair the leak.

(iv) Repair methods applied in each attempt to repair the leak.

(v) "Above 10,000" if the maximum instrument reading measured by the methods specified in part (n)2 of this paragraph after each repair attempt is equal to or greater than 10,000 ppm.

(vi) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vii) Documentation supporting the delay of repair of a valve in compliance with part (j)3 of this paragraph.

(viii) The signature of the remanufacturer or other person that stores or treats the hazardous secondary material (or designate) whose decision it was that repair could not be effected without a hazardous secondary material management unit shutdown.

(ix) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(x) The date of successful repair of the leak.

5. Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of subparagraph (k) of this paragraph shall be recorded and kept up-to-date at the facility as specified in part (27)(f)3 of this rule. Design documentation is specified in subparts (27)(f)3(i) and (ii) of this rule and monitoring, operating, and inspection information in subparts (27)(f)3(iii) through (viii) of this rule.

6. For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Commissioner will specify the appropriate recordkeeping requirements.

7. The following information pertaining to all equipment subject to the requirements in subparagraphs (c) through (k) of this paragraph shall be recorded in a log that is kept at the facility:

(i) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this paragraph.

(ii) (I) A list of identification numbers for equipment that the remanufacturer or other person that stores or treats the hazardous secondary material elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of parts (c)5, (d)9 and (h)6 of this paragraph.

(II) The designation of this equipment as subject to the requirements of parts (c)5, (d)9 and (h)6 of this paragraph shall be signed by the remanufacturer or other person that stores or treats the hazardous secondary material.

(Rule 0400-12-01-.02, continued)

(iii) A list of equipment identification numbers for pressure relief devices required to comply with part (e)1 of this paragraph.

(iv) (I) The dates of each compliance test required in part (c)5, part (d)9, subparagraph (e) and part (h)6 of this paragraph.

(II) The background level measured during each compliance test.

(III) The maximum instrument reading measured at the equipment during each compliance test.

(v) A list of identification numbers for equipment in vacuum service.

(vi) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous secondary material with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year.

8. The following information pertaining to all valves subject to the requirements of parts (h)7 and 8 of this paragraph shall be recorded in a log that is kept at the facility:

(i) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(ii) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

9. The following information shall be recorded in a log that is kept at the facility for valves complying with subparagraph (m) of this paragraph:

(i) A schedule of monitoring.

(ii) The percent of valves found leaking during each monitoring period.

10. The following information shall be recorded in a log that is kept at in the facility:

(i) Criteria required in item (c)4(v)(II) and subpart (d)5(ii) of this paragraph and an explanation of the design criteria.

(ii) Any changes to these criteria and the reasons for the changes.

11. The following information shall be recorded in a log that is kept at the facility for use in determining exemptions as provided in the applicability subparagraph of this paragraph and other specific paragraphs:

(i) An analysis determining the design capacity of the hazardous secondary material management unit.

(ii) A statement listing the hazardous secondary material influent to and effluent from each hazardous secondary material management unit subject to the requirements in subparagraphs (c) through (k) of this paragraph and an analysis determining whether these hazardous secondary materials are heavy liquids.

(iii) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in subparagraphs (c) through (k) of this paragraph. The record shall include supporting documentation as required by subpart (n)4(iii) of this paragraph when application of the knowledge of the nature of the hazardous secondary material stream or the process by which it was produced is used. If the remanufacturer or other person that stores or treats the hazardous secondary material takes any action (e.g., changing the process that produced the material) that could result in an increase in the total organic content of the material contained in or contacted by equipment determined not to be subject to the requirements in subparagraphs (c) through (k) of this paragraph, then a new determination is required.

12. Records of the equipment leak information required by part 4 of this subparagraph and the operating information required by part 5 of this subparagraph need be kept only three years.

13. The remanufacturer or other person that stores or treats the hazardous secondary material at a facility with equipment that is subject to this paragraph and to regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this paragraph either by documentation pursuant to this paragraph, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 pursuant to the relevant provisions of the regulations at 40 part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available at the facility.

(p) through (dd) Reserved [40 CFR 261.1065-261.1079]

(29) Air Emission Standards for Tanks and Containers [40 CFR 261 – Subpart CC]

(a) Applicability [40 CFR 261.1080]

1. This paragraph applies to tanks and containers that contain hazardous secondary materials excluded under the remanufacturing exclusion at subpart (1)(d)1(xxvii) of this rule, unless the tanks and containers are equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulations codified under 40 CFR part 60, part 61, or part 63.

2. Reserved

(b) Definitions [40 CFR 261.1081]

As used in this subpart, all terms not defined herein shall have the meaning given to them in the Act and Rules 0400-12-01-.01 through 0400-12-01-.06 and 0400-12-01-.09.

“Average volatile organic concentration” or “average VO concentration” means the mass-weighted average volatile organic concentration of a hazardous secondary material as determined in accordance with the requirements of subparagraph (e) of this paragraph.

“Closure device” means a cap, hatch, lid, plug, seal, valve, or other type of fitting that blocks an opening in a cover such that when the device is secured in the closed

(Rule 0400-12-01-.02, continued)

position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

"Continuous seal" means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

"Cover" means a device that provides a continuous barrier over the hazardous secondary material managed in a unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings (such as access hatches, sampling ports, gauge wells) that are necessary for operation, inspection, maintenance, and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

"Empty hazardous secondary material container" means:

1. A container from which all hazardous secondary materials have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and no more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner;

2. A container that is less than or equal to 119 gallons in size and no more than 3 percent by weight of the total capacity of the container remains in the container or inner liner; or

3. A container that is greater than 119 gallons in size and no more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner.

"Enclosure" means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapors through a closed-vent system to a control device.

"External floating roof" means a pontoon-type or double-deck type cover that rests on the surface of the material managed in a tank with no fixed roof.

"Fixed roof" means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the material managed in the unit.

"Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous secondary material being managed in a surface impoundment.

"Floating roof" means a cover consisting of a double deck, pontoon single deck, or internal floating cover which rests upon and is supported by the material being contained, and is equipped with a continuous seal.

"Hard-piping" means pipe or tubing that is manufactured and properly installed in accordance with relevant standards and good engineering practices.

(Rule 0400-12-01-.02, continued)

"In light material service" means the container is used to manage a material for which both of the following conditions apply: The vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20°C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight.

"Internal floating roof" means a cover that rests or floats on the material surface (but not necessarily in complete contact with it) inside a tank that has a fixed roof.

"Liquid-mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous secondary material between the tank wall and the floating roof continuously around the circumference of the tank.

"Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

"Material determination" means performing all applicable procedures in accordance with the requirements of subparagraph (e) of this paragraph to determine whether a hazardous secondary material meets standards specified in this paragraph. Examples of a material determination include performing the procedures in accordance with the requirements of subparagraph (e) of this paragraph to determine the average VO concentration of a hazardous secondary material at the point of material origination; the average VO concentration of a hazardous secondary material at the point of material treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous secondary material; the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous secondary material and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous secondary material in a tank and comparing the results to the applicable standards.

"Maximum organic vapor pressure" means the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor pressure-causing conditions (i.e., temperature, agitation, pH effects of combining materials, etc.) reasonably expected to occur in the tank. For the purpose of this paragraph, maximum organic vapor pressure is determined using the procedures specified in part (e)3 of this paragraph.

"Metallic shoe seal" means a continuous seal that is constructed of metal sheets which are held vertically against the wall of the tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

"No detectable organic emissions" means no escape of organics to the atmosphere as determined using the procedure specified in part (e)4 of this paragraph.

"Point of material origination" means as follows:

1. When the remanufacturer or other person that stores or treats the hazardous secondary material is the generator of the hazardous secondary material, the point of material origination means the point where a material produced by a system, process, or material management unit is determined to be a hazardous secondary material excluded under subpart (1)(d)1(xxvii) of this rule.

(Rule 0400-12-01-.02, continued)

(Note: This term is being used in a manner similar to the use of the term “point of generation” in air standards established under authority of the Clean Air Act in 40 CFR parts 60, 61, and 63.)

2. When the remanufacturer or other person that stores or treats the hazardous secondary material is not the generator of the hazardous secondary material, point of material origination means the point where the remanufacturer or other person that stores or treats the hazardous secondary material accepts delivery or takes possession of the hazardous secondary material.

“Safety device” means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this paragraph, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the remanufacturer or other person that stores or treats the hazardous secondary material based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

“Single-seal system” means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted, or a metallic shoe seal.

“Vapor-mounted seal” means a continuous seal that is mounted such that there is a vapor space between the hazardous secondary material in the unit and the bottom of the seal.

“Volatile organic concentration” or “VO concentration” means the fraction by weight of the volatile organic compounds contained in a hazardous secondary material expressed in terms of parts per million (ppmw) as determined by direct measurement or by knowledge of the material in accordance with the requirements of subparagraph (e) of this paragraph. For the purpose of determining the VO concentration of a hazardous secondary material, organic compounds with a Henry’s law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in the liquid-phase (0.1 Y/X) (which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3) at 25°C must be included.

(c) Standards: General [40 CFR 261.1082]

1. This subparagraph applies to the management of hazardous secondary material in tanks and containers subject to this paragraph.

2. The remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from each hazardous secondary material management unit in accordance with standards specified in subparagraphs (e) through (h) of this paragraph, as applicable to the hazardous secondary material management unit, except as provided for in part 3 of this subparagraph.

(Rule 0400-12-01-.02, continued)

3. A tank or container is exempt from standards specified in subparagraphs (e) through (h) of this paragraph, as applicable, provided that the hazardous secondary material management unit is a tank or container for which all hazardous secondary material entering the unit has an average VO concentration at the point of material origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in part (d)1 of this paragraph. The remanufacturer or other person that stores or treats the hazardous secondary material shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous secondary material streams entering the unit.

(d) Material determination procedures [40 CFR 261.1083]

1. Material determination procedure to determine average volatile organic (VO) concentration of a hazardous secondary material at the point of material origination

(i) Determining average VO concentration at the point of material origination. A remanufacturer or other person that stores or treats the hazardous secondary material shall determine the average VO concentration at the point of material origination for each hazardous secondary material placed in a hazardous secondary material management unit exempted under the provisions of part (c)3 of this paragraph from using air emission controls in accordance with standards specified in subparagraphs (e) through (h) of this paragraph, as applicable to the hazardous secondary material management unit.

(I) An initial determination of the average VO concentration of the material stream shall be made before the first time any portion of the material in the hazardous secondary material stream is placed in a hazardous secondary material management unit exempted under the provisions of part (c)3 of this paragraph from using air emission controls, and thereafter an initial determination of the average VO concentration of the material stream shall be made for each averaging period that a hazardous secondary material is managed in the unit; and

(II) Perform a new material determination whenever changes to the source generating the material stream are reasonably likely to cause the average VO concentration of the hazardous secondary material to increase to a level that is equal to or greater than the applicable VO concentration limits specified in subparagraph (c) of this paragraph.

(ii) Determination of average VO concentration using direct measurement or knowledge. For a material determination that is required by subpart (i) of this part, the average VO concentration of a hazardous secondary material at the point of material origination shall be determined using either direct measurement as specified in subpart (iii) of this part or by knowledge as specified in subpart (iv) of this part.

(iii) Direct measurement to determine average VO concentration of a hazardous secondary material at the point of material origination

(Rule 0400-12-01-.02, continued)

(I) Identification. The remanufacturer or other person that stores or treats the hazardous secondary material shall identify and record in a log that is kept at the facility the point of material origination for the hazardous secondary material.

(II) Sampling. Samples of the hazardous secondary material stream shall be collected at the point of material origination in a manner such that volatilization of organics contained in the material and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

I. The averaging period to be used for determining the average VO concentration for the hazardous secondary material stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the remanufacturer or other person that stores or treats the hazardous secondary material determines is appropriate for the hazardous secondary material stream but shall not exceed 1 year.

II. A sufficient number of samples, but no less than 4samples, shall be collected and analyzed for a hazardous secondary material determination. All of the samples for a given material determination shall be collected within a one-hour period. The average of the 4 or more sample results constitutes a material determination for the material stream. One or more material determinations may be required to represent the complete range of material compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous secondary material stream. Examples of such normal variations are seasonal variations in material quantity or fluctuations in ambient temperature.

III. All samples shall be collected and handled in accordance with written procedures prepared by the remanufacturer or other person that stores or treats the hazardous secondary material and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous secondary material stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained at the facility. An example of acceptable sample collection and handling procedures for a total volatile organic constituent concentration may be found in Method 25D in 40 CFR part 60, appendix A.

IV. Sufficient information, as specified in the “site sampling plan” required under subitem III of this item, shall be prepared and recorded to document the material quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous secondary material represented by the samples.

(Rule 0400-12-01-.02, continued)

(III) Analysis. Each collected sample shall be prepared and analyzed in accordance with Method 25D in 40 CFR part 60, appendix A for the total concentration of volatile organic constituents, or using one or more methods when the individual organic compound concentrations are identified and summed and the summed material concentration accounts for and reflects all organic compounds in the material with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3] at 25°C. At the discretion of the remanufacturer or other person that stores or treats the hazardous secondary material, the test data obtained may be adjusted by any appropriate method to discount any contribution to the total volatile organic concentration that is a result of including a compound with a Henry's law constant value of less than 0.1 Y/X at 25°C. To adjust these data, the measured concentration of each individual chemical constituent contained in the material is multiplied by the appropriate constituent-specific adjustment factor (f_{m25D}). If the remanufacturer or other person that stores or treats the hazardous secondary material elects to adjust the test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 degrees Celsius contained in the material. Constituent-specific adjustment factors (f_{m25D}) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. Other test methods may be used if they meet the requirements in subitem I or II of this item and provided the requirement to reflect all organic compounds in the material with Henry's law constant values greater than or equal to 0.1 Y/X [which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3] at 25°C, is met.

I. Any EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods," 40 CFR part 63, appendix D.

II. Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(IV) Calculations

I. The average VO concentration (C) on a mass-weighted basis shall be calculated by using the results for all material determinations conducted in accordance with paragraphs items (II) and (III) of this subpart and the following equation:

$$\overline{C} = \frac{1}{Q_T} x \sum_{i=1}^{n} \left(Q_i x C_i \right)$$

Where:

$\overline{C}$ = Average VO concentration of the hazardous secondary material at the point of material origination on a mass-weighted basis, ppmw.

i = Individual waste determination "i" of the hazardous secondary material.

n = Total number of material determinations of the hazardous secondary material conducted for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of hazardous secondary material stream represented by C_i, kg/hr.

Q_T = Total mass quantity of hazardous secondary material during the averaging period, kg/hr.

C_i = Measured VO concentration of material determination "i" as determined in accordance with the requirements of item (III) of this subpart (i.e. the average of the four or more samples specified in subitem (II)II of this subpart), ppmw.

II. For the purpose of determining C_i, for individual material samples analyzed in accordance with item III of this subpart, the remanufacturer or other person that stores or treats the hazardous secondary material shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

A. If Method 25D in 40 CFR part 60, appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A.

B. If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the material that has a Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m^3] at 25°C.

(iv) Use of knowledge by the remanufacturer or other person that stores or treats the hazardous secondary material to determine average VO concentration of a hazardous secondary material at the point of material origination

(Rule 0400-12-01-.02, continued)

(I) Documentation shall be prepared that presents the information used as the basis for the knowledge by the remanufacturer or other person that stores or treats the hazardous secondary material of the hazardous secondary material stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous secondary material stream; constituent-specific chemical test data for the hazardous secondary material stream from previous testing that are still applicable to the current material stream; previous test data for other locations managing the same type of material stream; or other knowledge based on information included in shipping papers or material certification notices.

(II) If test data are used as the basis for knowledge, then the remanufacturer or other person that stores or treats the hazardous secondary material shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, a remanufacturer or other person that stores or treats the hazardous secondary material may use organic concentration test data for the hazardous secondary material stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the material.

(III) A remanufacturer or other person that stores or treats the hazardous secondary material using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous secondary material may adjust the test data to the corresponding average VO concentration value which would have been obtained had the material samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the material is multiplied by the appropriate constituent-specific adjustment factor (f_{m25D}).

(IV) In the event that the Commissioner and the remanufacturer or other person that stores or treats the hazardous secondary material disagree on a determination of the average VO concentration for a hazardous secondary material stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in subpart (iii) of this part shall be used to establish compliance with the applicable requirements of this paragraph. The Commissioner may perform or request that the remanufacturer or other person that stores or treats the hazardous secondary material perform this determination using direct measurement. The remanufacturer or other person that stores or treats the hazardous secondary material may choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of item (iii)(III) of this part.

2. Reserved

3. Procedure to determine the maximum organic vapor pressure of a hazardous secondary material in a tank

(Rule 0400-12-01-.02, continued)

(i) A remanufacturer or other person that stores or treats the hazardous secondary material shall determine the maximum organic vapor pressure for each hazardous secondary material placed in a tank using Tank Level 1 controls in accordance with standards specified in part (e)3 of this paragraph.

(ii) A remanufacturer or other person that stores or treats the hazardous secondary material shall use either direct measurement as specified in subpart (iii) of this part or knowledge of the waste as specified by subpart (iv) of this part to determine the maximum organic vapor pressure which is representative of the hazardous secondary material composition stored or treated in the tank.

(iii) Direct measurement to determine the maximum organic vapor pressure of a hazardous secondary material.

(I) Sampling. A sufficient number of samples shall be collected to be representative of the hazardous secondary material contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the remanufacturer or other person that stores or treats the hazardous secondary material and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous secondary material are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained at the facility. An example of acceptable sample collection and handling procedures may be found in Method 25D in 40 CFR part 60, appendix A.

(II) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous secondary material:

I. Method 25E in 40 CFR part 60 appendix A;

II. Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, “Evaporative Loss from External Floating-Roof Tanks,” (incorporated by reference–refer to subparagraph (2)(b) of Rule 0400-12-01-.01);

III. Methods obtained from standard reference texts;

IV. ASTM Method 2879-92 (incorporated by reference–refer to subparagraph (2)(b) of Rule 0400-12-01-.01); and

V. Any other method approved by the Commissioner.

(iv) Use of knowledge to determine the maximum organic vapor pressure of the hazardous secondary material. Documentation shall be prepared and recorded that presents the information used as the basis for the knowledge by the remanufacturer or other person that stores or treats the hazardous secondary material that the maximum organic vapor pressure of the hazardous secondary material is less than the maximum vapor pressure limit listed in item (e)2(i)(I) of this paragraph for the applicable tank design capacity category. An example of information that may be used is

(Rule 0400-12-01-.02, continued)

documentation that the hazardous secondary material is generated by a process for which at other locations it previously has been determined by direct measurement that the hazardous secondary material's waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

4. Procedure for determining no detectable organic emissions for the purpose of complying with this paragraph:

(i) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve.

(ii) The test shall be performed when the unit contains a hazardous secondary material having an organic concentration representative of the range of concentrations for the hazardous secondary material expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(iii) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous secondary material placed in the hazardous secondary management unit, not for each individual organic constituent.

(iv) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(v) Calibration gases shall be as follows:

(I) Zero air (less than 10 ppmv hydrocarbon in air); and

(II) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane.

(vi) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(vii) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21 of 40 CFR part 60, appendix A. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(Rule 0400-12-01-.02, continued)

(viii) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in subpart (ix) of this part. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(ix) For the seals around a rotating shaft that passes through a cover opening, the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no detectable organic emissions.

(e) Standards: tanks [40 CFR 261.1084]

1. The provisions of this section apply to the control of air pollutant emissions from tanks for which part (d)2 of this paragraph references the use of this subparagraph for such air emission control.

2. The remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from each tank subject to this subparagraph in accordance with the following requirements as applicable:

(i) For a tank that manages hazardous secondary material that meets all of the conditions specified in items (I) through (III) of this subpart, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in part 3 of this subparagraph or the Tank Level 2 controls specified in part 4 of this subparagraph.

(I) The hazardous secondary material in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

I. For a tank design capacity equal to or greater than 151 m^3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

II. For a tank design capacity equal to or greater than 75 m^3 but less than 151 m^3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

III. For a tank design capacity less than 75 m^3, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(II) The hazardous secondary material in the tank is not heated by the remanufacturer or other person that stores or treats the hazardous secondary material to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous secondary material is determined for the purpose of complying with item (I) of this subpart.

(Rule 0400-12-01-.02, continued)

(ii) For a tank that manages hazardous secondary material that does not meet all of the conditions specified in items (i)(I) and (II) of this part, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of part 4 of this subparagraph. An example of tanks required to use Tank Level 2 controls is a tank for which the hazardous secondary material in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in item (i)(I) of this part.

3. Remanufacturers or other persons that store or treat the hazardous secondary material controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in subparts (i) through (iv) of this part:

(i) The remanufacturer or other person that stores or treats that hazardous secondary material shall determine the maximum organic vapor pressure for a hazardous secondary material to be managed in the tank using Tank Level 1 controls before the first time the hazardous secondary material is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in part (d)3 of this paragraph. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform a new determination whenever changes to the hazardous secondary material managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in item 2(i)(I) of this subparagraph, as applicable to the tank.

(ii) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(I) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous secondary material in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(II) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(III) Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either:

I. Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

II. Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in

the vent stream, and shall be operating whenever hazardous secondary material is managed in the tank, except as provided for in sections A and B of this subitem.

A. During periods when it is necessary to provide access to the tank for performing the activities of section B of this subitem, venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

B. During periods of routine inspection, maintenance, or other activities needed for normal operations, and for removal of accumulated sludge or other residues from the bottom of the tank.

(IV) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous secondary material to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: organic vapor permeability, the effects of any contact with the hazardous secondary material or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iii) Whenever a hazardous secondary material is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(I) Opening of closure devices or removal of the fixed roof is allowed at the following times:

I. To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

II. To remove accumulated sludge or other residues from the bottom of tank.

(II) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which

(Rule 0400-12-01-.02, continued)

vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the remanufacturer or other person that stores or treats the hazardous secondary material based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(III) Opening of a safety device, as defined in subparagraph (b) of this paragraph, is allowed at any time conditions require doing so to avoid an unsafe condition.

(iv) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the air emission control equipment in accordance with the following requirements.

(I) The fixed roof and its closure devices shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(II) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year except under the special conditions provided for in part 12 of this subparagraph.

(III) In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of part 11 of this subparagraph.

(IV) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in part (j)2 of this paragraph.

(Rule 0400-12-01-.02, continued)

4. Remanufacturers or other persons that store or treat the hazardous secondary material controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

   (i) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in part 5 of this subparagraph;

   (ii) A tank equipped with an external floating roof in accordance with the requirements specified in part 6 of this subparagraph;

   (iii) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in part 7 of this subparagraph;

   (iv) A pressure tank designed and operated in accordance with the requirements specified in part 8 of this subparagraph; or

   (v) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in part 9 of this subparagraph.

5. The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions from a tank using a fixed roof with an internal floating roof shall meet the requirements specified in subparts 5(i) through (iii) of this subparagraph.

   (i) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

      (I) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

      (II) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

         I. A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in subparagraph (b) of this paragraph; or

         II. Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

      (III) The internal floating roof shall meet the following specifications:

         I. Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

         II. Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(Rule 0400-12-01-.02, continued)

III. Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

IV. Each automatic bleeder vent and rim space vent shall be gasketed.

V. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

VI. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall operate the tank in accordance with the following requirements:

(I) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(II) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(III) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the internal floating roof in accordance with the procedures specified as follows:

(I) The floating roof and its closure devices shall be visually inspected by the remanufacture or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: the internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous secondary material surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(II) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the internal floating roof components as follows except as provided in item (III) of this subpart:

(Rule 0400-12-01-.02, continued)

I. Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

II. Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

(III) As an alternative to performing the inspections specified in item (II) of this subpart for an internal floating roof equipped with two continuous seals mounted one above the other, the remanufacturer or other person that stores or treats the hazardous secondary material may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(IV) Prior to each inspection required by item (II) or (III) of this subpart, the remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Commissioner in advance of each inspection to provide the Commissioner with the opportunity to have an observer present during the inspection. The remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Commissioner of the date and location of the inspection as follows:

I. Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the remanufacturer or other person that stores or treats the hazardous secondary material so that it is received by the Commissioner at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in subitem II of this item.

II. When a visual inspection is not planned and the remanufacturer or other person that stores or treats the hazardous secondary material could not have known about the inspection 30 calendar days before refilling the tank, the remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Commissioner as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Commissioner at least seven calendar days before refilling the tank.

(V) In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of part 11 of this subparagraph.

(Rule 0400-12-01-.02, continued)

(VI) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in part (j)2 of this paragraph.

(iv) Safety devices, as defined in subparagraph (b) of this paragraph, may be installed and operated as necessary on any tank complying with the requirements of this part.

6. The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in subpart (i) through (iii) of this part.

(i) The remanufacturer or other person that stores or treats the hazardous secondary material shall design the external floating roof in accordance with the following requirements:

(I) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(II) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

I. The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in subparagraph (b) of this paragraph. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters (cm) above the liquid surface.

II. The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(III) The external floating roof shall meet the following specifications:

I. Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

II. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(Rule 0400-12-01-.02, continued)

III. Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

IV. Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

V. Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

VI. Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

VII. Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

VIII. Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

IX. Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall operate the tank in accordance with the following requirements:

(I) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(II) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(III) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(IV) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(V) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer’s recommended setting.

(VI) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(VII) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(VIII) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect the external floating roof in accordance with the procedures specified as follows:

(I) The remanufacturer or other person that stores or treats the hazardous secondary material shall measure the external floating roof seal gaps in accordance with the following requirements:

I. The remanufacturer or other person that stores or treats the hazardous secondary material shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

II. The remanufacturer or other person that stores or treats the hazardous secondary material shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

III. If a tank ceases to hold hazardous secondary material for a period of 1 year or more, subsequent introduction of hazardous secondary material into the tank shall be considered an initial operation for the purposes of subitems I and II of this item.

IV. The remanufacturer or other person that stores or treats the hazardous secondary material shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

A. The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

B. Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

C. For a seal gap measured under this subpart, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

D. The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in item (i)(II) of this part.

V. In the event that the seal gap measurements do not conform to the specifications in item (i)(II) of this part, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of part 11 of this subparagraph.

VI. The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in part (j)2 of this paragraph.

(II) The remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the external floating roof in accordance with the following requirements:

I. The floating roof and its closure devices shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

II. The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this subparagraph. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year except for the special conditions provided for in part 12 of this subparagraph.

III. In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of part 11 of this subparagraph.

IV. The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in part (j)2 of this paragraph.

(Rule 0400-12-01-.02, continued)

(III) Prior to each inspection required by item (I) or (II) of this subpart, the remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Commissioner in advance of each inspection to provide the Commissioner with the opportunity to have an observer present during the inspection. The remanufacturer or other person that stores or treats the hazardous secondary material shall notify the Commissioner of the date and location of the inspection as follows:

I. Prior to each inspection to measure external floating roof seal gaps as required under item (I) of this subpart, written notification shall be prepared and sent by the remanufacturer or other person that stores or treats the hazardous secondary material so that it is received by the Commissioner at least 30 calendar days before the date the measurements are scheduled to be performed.

II. Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the remanufacturer or other person that stores or treats the hazardous secondary material so that it is received by the Commissioner at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in subitem III of this item.

III. When a visual inspection is not planned and the remanufacturer or other person that stores or treats the hazardous secondary material could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Commissioner as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Commissioner at least 7 calendar days before refilling the tank.

(iv) Safety devices, as defined in subparagraph (b) of this paragraph, may be installed and operated as necessary on any tank complying with the requirements of this part.

7. The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in subparts (i) through (iii) of this part.

(i) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(I) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(Rule 0400-12-01-.02, continued)

(II) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(III) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous secondary material to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(IV) The closed-vent system and control device shall be designed and operated in accordance with the requirements of subparagraph (h) of this paragraph.

(ii) Whenever a hazardous secondary material is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(I) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

I. To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

II. To remove accumulated sludge or other residues from the bottom of a tank.

(II) Opening of a safety device, as defined in subparagraph (b) of this paragraph, is allowed at any time conditions require doing so to avoid an unsafe condition.

(Rule 0400-12-01-.02, continued)

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(I) The fixed roof and its closure devices shall be visually inspected by the remanufacturer or other person that stores or treats the hazardous secondary material to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(II) The closed-vent system and control device shall be inspected and monitored by the remanufacturer or other person that stores or treats the hazardous secondary material in accordance with the procedures specified in subparagraph (h) of this paragraph.

(III) The remanufacturer or other person that stores or treats the hazardous secondary material shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this subparagraph. Thereafter, the remanufacturer or other person that stores or treats the hazardous secondary material shall perform the inspections at least once every year except for the special conditions provided for in part 12 of this subparagraph.

(IV) In the event that a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of part 11 of this subparagraph.

(V) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain a record of the inspection in accordance with the requirements specified in part (j)2 of this paragraph.

8. The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(i) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(ii) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in part (e)4 of this paragraph.

(iii) Whenever a hazardous secondary material is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either or the following conditions as specified in item (I) or (II) of this subpart.

(Rule 0400-12-01-.02, continued)

(I) At those times when opening of a safety device, as defined in subparagraph (b) of this paragraph, is required to avoid an unsafe condition.

(II) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of subparagraph (h) of this paragraph.

9. The remanufacturer or other person that stores or treats the hazardous secondary material who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in subparts (i) through (iv) of this part.

(i) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T–Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The remanufacturer or other person that stores or treats the hazardous secondary material shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T–Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(ii) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in subparagraph (h) of this paragraph.

(iii) Safety devices, as defined in subparagraph (b) of this paragraph, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of subparts (i) and (ii) of this part.

(iv) The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect and monitor the closed-vent system and control device as specified in subparagraph (h) of this paragraph.

10. The remanufacturer or other person that stores or treats the hazardous secondary material shall transfer hazardous secondary material to a tank subject to this subparagraph in accordance with the following requirements:

(i) Transfer of hazardous secondary material, except as provided in subpart (ii) of this part, to the tank from another tank subject to this subparagraph shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous secondary material to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR–National Emission Standards for Individual Drain Systems.

(Rule 0400-12-01-.02, continued)

(ii) The requirements of subpart (i) of this part do not apply when transferring a hazardous secondary material to the tank under any of the following conditions:

(I) The hazardous secondary material meets the average VO concentration conditions specified in part (c)3 of this paragraph at the point of material origination.

(II) The hazardous secondary material has been treated by an organic destruction or removal process to meet the requirements in subpart (c)3(ii) of this paragraph.

(III) The hazardous secondary material meets the requirements of subpart (c)3(iv) of this paragraph.

11. The remanufacturer or other person that stores or treats the hazardous secondary material shall repair each defect detected during an inspection performed in accordance with the requirements of subparts 3(iv), 5(iii), 6(iii), or 7(iii) of this subparagraph as follows:

(i) The remanufacturer or other person that stores or treats the hazardous secondary material shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in subpart (ii) of this part.

(ii) Repair of a defect may be delayed beyond 45 calendar days if the remanufacturer or other person that stores or treats the hazardous secondary material determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous secondary material normally managed in the tank. In this case, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect the next time the process or unit that is generating the hazardous secondary material managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

12. Following the initial inspection and monitoring of the cover as required by the applicable provisions of this paragraph, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(i) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the remanufacturer or other person that stores or treats the hazardous secondary material may designate a cover as an “unsafe to inspect and monitor cover” and comply with all of the following requirements:

(I) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(II) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable subparagraph of this paragraph, as frequently as practicable during those times when a worker can safely access the cover.

(ii) In the case when a tank is buried partially or entirely underground, a remanufacturer or other person that stores or treats the hazardous secondary material is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

(f) Reserved [40 CFR 261.1085]

(g) Standards: containers [40 CFR 261.1086]

1. Applicability

The provisions of this subparagraph apply to the control of air pollutant emissions from containers for which part (c)2 of this paragraph references the use of this subparagraph for such air emission control.

2. General requirements

(i) The remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from each container subject to this subparagraph in accordance with the following requirements, as applicable to the container.

(I) For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in part 3 of this subparagraph.

(II) For a container having a design capacity greater than 0.46 m^3 that is not in light material service, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in part 3 of this subparagraph.

(III) For a container having a design capacity greater than 0.46 m^3 that is in light material service, the remanufacturer or other person that stores or treats the hazardous secondary material shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in part 4 of this subparagraph.

(ii) Reserved

3. Container Level 1 standards

(i) A container using Container Level 1 controls is one of the following:

(I) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in part 6 of this subparagraph.

(II) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there

are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a "portable tank" or bulk cargo container equipped with a screw-type cap).

(III) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous secondary material in the container such that no hazardous secondary material is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(ii) A container used to meet the requirements of item (i)(II) or (III) of this part shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous secondary material to the atmosphere and to maintain the equipment integrity, for as long as the container is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: organic vapor permeability; the effects of contact with the hazardous secondary material or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(iii) Whenever a hazardous secondary material is in a container using Container Level 1 controls, the remanufacturer or other person that stores or treats the hazardous secondary material shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(I) Opening of a closure device or cover is allowed for the purpose of adding hazardous secondary material or other material to the container as follows:

I. In the case when the container is filled to the intended final level in one continuous operation, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

II. In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the hazardous secondary material being added to the container, whichever condition occurs first.

(II) Opening of a closure device or cover is allowed for the purpose of removing hazardous secondary material from the container as follows:

I. For the purpose of meeting the requirements of this subparagraph, an empty hazardous secondary material container may be open to the atmosphere at any time (i.e., covers and closure devices on such a container are not required to be secured in the closed position).

II. In the case when discrete quantities or batches of material are removed from the container, but the container is not an empty hazardous secondary material container, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(III) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous secondary material. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(IV) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the remanufacturer or other persons that stores or treats the hazardous secondary material based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(Rule 0400-12-01-.02, continued)

(V) Opening of a safety device, as defined in subparagraph (b) of this paragraph, is allowed at any time conditions require doing so to avoid an unsafe condition.

(iv) The remanufacturer or other person that stores or treats the hazardous secondary material using containers with Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(I) In the case when a hazardous secondary material already is in the container at the time the remanufacturer or other person that stores or treats the hazardous secondary material first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., is not an empty hazardous secondary material container) the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the standards of this paragraph).

(II) In the case when a container used for managing hazardous secondary material remains at the facility for a period of 1 year or more, the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of item (III) of this subpart.

(III) When a defect is detected for the container, cover, or closure devices, the remanufacturer or other person that stores or treats the hazardous secondary material shall make first efforts at repair of the defect no later than 24 hours after detection and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous secondary material shall be removed from the container and the container shall not be used to manage hazardous secondary material until the defect is repaired.

(v) The remanufacturer or other person that stores or treats the hazardous secondary material shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m^3 or greater, which do not meet applicable DOT regulations as specified in part 6 of this subparagraph, are not managing hazardous secondary material in light material service.

4. Container Level 2 standards

(i) A container using Container Level 2 controls is one of the following:

(Rule 0400-12-01-.02, continued)

(I) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in part 6 of this subparagraph.

(II) A container that operates with no detectable organic emissions as defined in subparagraph (b) of this paragraph and determined in accordance with the procedure specified in part 7 of this subparagraph.

(III) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, appendix A, Method 27 in accordance with the procedure specified in part 8 of this subparagraph.

(ii) Transfer of hazardous secondary material in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous secondary material to the atmosphere, to the extent practical, considering the physical properties of the hazardous secondary material and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this subpart include using any one of the following: a submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous secondary material is filled and subsequently purging the transfer line before removing it from the container opening.

(iii) Whenever a hazardous secondary material is in a container using Container Level 2 controls, the remanufacturer or other person that stores or treats the hazardous secondary material shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(I) Opening of a closure device or cover is allowed for the purpose of adding hazardous secondary material or other material to the container as follows:

I. In the case when the container is filled to the intended final level in one continuous operation, the remanufacture or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

II. In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading

operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(II) Opening of a closure device or cover is allowed for the purpose of removing hazardous secondary material from the container as follows:

I. For the purpose of meeting the requirements of this subparagraph, an empty hazardous secondary material container may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

II. In the case when discrete quantities or batches of material are removed from the container, but the container is not an empty hazardous secondary materials container, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(III) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous secondary material. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the remanufacturer or other person that stores or treats the hazardous secondary material shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(IV) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the remanufacturer or other person that stores or treats the hazardous secondary material based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a

result of loading operations or diurnal ambient temperature fluctuations.

(V) Opening of a safety device, as defined in subparagraph (b) of this paragraph, is allowed at any time conditions require doing so to avoid an unsafe condition.

(iv) The remanufacture or other person that stores or treats the hazardous secondary material using containers with Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(I) In the case when a hazardous secondary material already is in the container at the time the remanufacturer or other person that stores or treats the hazardous secondary material first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., is not an empty hazardous secondary material container), the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the standards of this paragraph).

(II) In the case when a container used for managing hazardous secondary material remains at the facility for a period of 1 year or more, the remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the remanufacturer or other person that stores or treats the hazardous secondary material shall repair the defect in accordance with the requirements of item (III) of this subpart.

(III) When a defect is detected for the container, cover, or closure devices, the remanufacturer or other person that stores or treats the hazardous secondary material shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous secondary material shall be removed from the container and the container shall not be used to manage hazardous secondary material until the defect is repaired.

5. Container Level 3 standards

(i) A container using Container Level 3 controls is one of the following:

(I) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of item (ii)(II) of this part.

(Rule 0400-12-01-.02, continued)

(II) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of items (ii)(I) and (II) of this part.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material shall meet the following requirements, as applicable to the type of air emission control equipment selected by the remanufacturer or other person that stores or treats the hazardous secondary material:

(I) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T–Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The remanufacturer or other person that stores or treats the hazardous secondary material shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T–Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(II) The closed-vent system and control device shall be designed and operated in accordance with the requirements of subparagraph (h) of this paragraph.

(iii) Safety devices, as defined in subparagraph (b) of this paragraph, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of subpart (i) of this part.

(iv) Remanufacturers or other persons that store or treat the hazardous secondary material using Container Level 3 controls in accordance with the provisions of this paragraph shall inspect and monitor the closed-vent systems and control devices as specified in subparagraph (h) of this paragraph.

(v) Remanufacturers or other persons that store or treat the hazardous secondary material that use Container Level 3 controls in accordance with the provisions of this paragraph shall prepare and maintain the records specified in part (j)4 of this paragraph.

(vi) Transfer of hazardous secondary material in or out of a container using Container Level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous secondary material to the atmosphere, to the extent practical, considering the physical properties of the hazardous secondary material and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this subpart include using any one of the following: a submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a

container through which the hazardous secondary material is filled and subsequently purging the transfer line before removing it from the container opening.

6. For the purpose of compliance with item 3(i)(I) or 4(i)(I) of this subparagraph, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

   (i) The container meets the applicable requirements specified in 49 CFR part 178 or part 179.

   (ii) Hazardous secondary material is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B and 49 CFR parts 172, 173, and 180.

   (iii) For the purpose of complying with this paragraph, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed.

7. To determine compliance with the no detectable organic emissions requirement of item 4(i)(II) of this subparagraph, the procedure specified in part (d)4 of this paragraph shall be used.

   (i) Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to: the interface of the cover rim and the container wall; the periphery of any opening on the container or container cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

   (ii) The test shall be performed when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous secondary materials expected to be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

8. Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, appendix A for the purpose of complying with item 4(i)(II) of this subparagraph.

   (i) The test shall be performed in accordance with Method 27 of 40 CFR part 60, appendix A of this chapter.

   (ii) A pressure measurement device shall be used that has a precision of 2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

   (iii) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

(h) Standards: Closed-vent systems and control devices [40 CFR 261.1087]

(Rule 0400-12-01-.02, continued)

1. This subparagraph applies to each closed-vent system and control device installed and operated by the remanufacturer or other person who stores or treats the hazardous secondary material to control air emissions in accordance with standards of this paragraph.

2. The closed-vent system shall meet the following requirements:

   (i) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous secondary material in the hazardous secondary material management unit to a control device that meets the requirements specified in part 3 of this subparagraph.

   (ii) The closed-vent system shall be designed and operated in accordance with the requirements specified in part (27)(d)11 of this rule.

   (iii) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in item (I) of this subpart or a seal or locking device as specified in item (II) of this subpart. For the purpose of complying with this subpart, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

      (I) If a flow indicator is used to comply with this subpart, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this item, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

      (II) If a seal or locking device is used to comply with this subpart, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The remanufacturer or other person that stores or treats the hazardous secondary material shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

   (iv) The closed-vent system shall be inspected and monitored by the remanufacturer or other person that stores or treats the hazardous secondary material in accordance with the procedure specified in part (27)(d)12 of this rule.

3. The control device shall meet the following requirements:

   (i) The control device shall be one of the following devices:

      (I) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(II) An enclosed combustion device designed and operated in accordance with the requirements of part (27)(d)3 of this rule; or

(III) A flare designed and operated in accordance with the requirements of part (27)(d)4 of this rule.

(ii) The remanufacturer or other person that stores or treats the hazardous secondary material who elects to use a closed-vent system and control device to comply with the requirements of this subparagraph shall comply with the requirements specified in items (I) through (VI) of this subpart.

(I) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of items (i)(I), (II), or (III) of this part, as applicable, shall not exceed 240 hours per year.

(II) The specifications and requirements in items (i)(I) through (III) of this part for control devices do not apply during periods of planned routine maintenance.

(III) The specifications and requirements in items (i)(I) through (III) of this part for control devices do not apply during a control device system malfunction.

(IV) The remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate compliance with the requirements of item (I) of this subpart (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of items (i)(I) through (III) of this part, as applicable, shall not exceed 240 hours per year) by recording the information specified in item (j)5(i)(V) of this paragraph.

(V) The remanufacturer or other person that stores or treats the hazardous secondary material shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(VI) The remanufacturer or other person that stores or treats the hazardous secondary material shall operate the closed-vent system such that gases, vapors, or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, and/or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(iii) The remanufacturer or other person that stores or treats the hazardous secondary material using a carbon adsorption system to comply with subpart (i) of this part shall operate and maintain the control device in accordance with the following requirements:

(I) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular

basis in accordance with the requirements of part (27)(d)7 or part (27)(d)8 of this rule.

(II) All carbon that is hazardous waste and that is removed from the control device shall be managed in accordance with the requirements of part (27)(d)14 of this rule, regardless of the average volatile organic concentration of the carbon.

(iv) A remanufacturer or other person that stores or treats the hazardous secondary material using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with subpart (i) of this part shall operate and maintain the control device in accordance with the requirements of part (27)(d)10 of this rule.

(v) The remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate that a control device achieves the performance requirements of subpart (i) of this part as follows:

(I) A remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate using either a performance test as specified in item (III) of this subpart or a design analysis as specified in item (IV) of this subpart the performance of each control device except for the following:

I. A flare;

II. A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

III. A boiler or process heater into which the vent stream is introduced with the primary fuel;

(II) A remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate the performance of each flare in accordance with the requirements specified in part (27)(d)5 of this rule.

(III) For a performance test conducted to meet the requirements of item (I) of this subpart, the remanufacturer or other person that stores or treats the hazardous secondary material shall use the test methods and procedures specified in subparts (27)(e)3(i) through (iv) of this rule.

(IV) For a design analysis conducted to meet the requirements of item (I) of this subpart, the design analysis shall meet the requirements specified in item (27)(f)2(iv)(III) of this rule.

(V) The remanufacturer or other person that stores or treats the hazardous secondary material shall demonstrate that a carbon adsorption system achieves the performance requirements of subpart (i) of this part based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(Rule 0400-12-01-.02, continued)

(vi) If the remanufacturer or other person that stores or treats the hazardous secondary material and the Commissioner do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the remanufacturer or other person that stores or treats the hazardous secondary material in accordance with the requirements of item (v)(III) of this part. The Commissioner may choose to have an authorized representative observe the performance test.

(vii) The closed-vent system and control device shall be inspected and monitored by the remanufacture or other person that stores or treats the hazardous secondary material in accordance with the procedures specified in subpart (27)(d)6(ii) and part (27)(d)12 of this rule. The readings from each monitoring device required by subpart (27)(d)6(ii) of this rule shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this subparagraph.

(i) Inspection and monitoring requirements [40 CFR 261.1088]

1. The remanufacturer or other person that stores or treats the hazardous secondary material shall inspect and monitor air emission control equipment used to comply with this paragraph in accordance with the applicable requirements specified in subparagraphs (e) through (h) of this paragraph.

2. The remanufacturer or other person that stores or treats the hazardous secondary material shall develop and implement a written plan and schedule to perform the inspections and monitoring required by part 1 of this subparagraph. The remanufacturer or other person that stores or treats the hazardous secondary material shall keep the plan and schedule at the facility.

(j) Recordkeeping requirements. [40 CFR 261.1089]

1. Each remanufacturer or other person that stores or treats the hazardous secondary material subject to requirements of this paragraph shall record and maintain the information specified in parts 2 through 8 of this subparagraph, as applicable to the facility. Except for air emission control equipment design documentation, records required by this subparagraph shall be maintained at the facility for a minimum of 3 years. Air emission control equipment design documentation shall be maintained at the facility until the air emission control equipment is replaced or otherwise no longer in service.

2. The remanufacturer or other person that stores or treats the hazardous secondary material using a tank with air emission controls in accordance with the requirements of subparagraph (e) of this paragraph shall prepare and maintain records for the tank that include the following information:

(i) For each tank using air emission controls in accordance with the requirements of subparagraph (e) of this paragraph, the remanufacturer or other person that stores or treats the hazardous secondary material shall record:

(I) A tank identification number (or other unique identification description as selected by the remanufacturer or other person that stores or treats the hazardous secondary material).

(II) A record for each inspection required by subparagraph (e) of this paragraph that includes the following information:

I. Date inspection was conducted.

II. For each defect detected during the inspection: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the requirements of subparagraph (e) of this paragraph, the remanufacturer or other person that stores or treats the hazardous secondary material shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(ii) In addition to the information required by subpart (i) of this part, the remanufacturer or other person that stores or treats the hazardous secondary material shall record the following information, as applicable to the tank:

(I) The remanufacturer or other person that stores or treats the hazardous secondary material using a fixed roof to comply with the Tank Level 1 control requirements specified in part (e)3 of this paragraph shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous secondary material in the tank performed in accordance with the requirements of part (e)3 of this paragraph. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(II) The remanufacturer or other person that stores or treats the hazardous secondary material using an internal floating roof to comply with the Tank Level 2 control requirements specified in part (e)5 of this paragraph shall prepare and maintain documentation describing the floating roof design.

(III) Remanufacturer or other persons that store or treat the hazardous secondary material using an external floating roof to comply with the Tank Level 2 control requirements specified in part (e)6 of this paragraph shall prepare and maintain the following records:

I. Documentation describing the floating roof design and the dimensions of the tank.

II. Records for each seal gap inspection required by subpart (e)6(iii) of this paragraph describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in subpart (e)6(i) of this paragraph, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(Rule 0400-12-01-.02, continued)

(IV) Each remanufacturer or other person that stores or treats the hazardous secondary material using an enclosure to comply with the Tank Level 2 control requirements specified in part (e)9 of this paragraph shall prepare and maintain the following records:

I. Records for the most recent set of calculations and measurements performed by the remanufacturer or other person that stores or treats the hazardous secondary material to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T–Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B.

II. Records required for the closed-vent system and control device in accordance with the requirements of part 5 of this subparagraph.

3. Reserved

4. The remanufacturer or other person that stores or treats the hazardous secondary material using containers with Container Level 3 air emission controls in accordance with the requirements of subparagraph (g) of this paragraph shall prepare and maintain records that include the following information:

(i) Records for the most recent set of calculations and measurements performed by the remanufacturer or other person that stores or treats the hazardous secondary material to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T–Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B.

(ii) Records required for the closed-vent system and control device in accordance with the requirements of part 5 of this subparagraph.

5. The remanufacturer or other person that stores or treats the hazardous secondary material using a closed-vent system and control device in accordance with the requirements of subparagraph (h) of this paragraph shall prepare and maintain records that include the following information:

(i) Documentation for the closed-vent system and control device that includes:

(I) Certification that is signed and dated by the remanufacturer or other person that stores or treats the hazardous secondary material stating that the control device is designed to operate at the performance level documented by a design analysis as specified in item (II) of this subpart or by performance tests as specified in item (III) of this subpart when the tank or container is or would be operating at capacity or the highest level reasonably expected to occur.

(II) If a design analysis is used, then design documentation as specified in subpart (27)(f)2(iv) of this rule. The documentation shall include information prepared by the remanufacturer or other person that stores or treats the hazardous secondary material or provided by the control device manufacturer or vendor that describes the control device design in accordance with item (27)(f)2(iv)(III) of this rule and certification by the remanufacturer or other person that stores or

treats the hazardous secondary material that the control equipment meets the applicable specifications.

(III) If performance tests are used, then a performance test plan as specified in subpart (27)(f)2(iii) of this rule and all test results.

(IV) Information as required by subparts (27)(f)3(i) and (ii) of this rule, as applicable.

(V) A remanufacturer or other person that stores or treats the hazardous secondary material shall record, on a semiannual basis, the information specified in subitems I and II of this item for those planned routine maintenance operations that would require the control device not to meet the requirements of item (h)3(i)(I), (II) or (III) of this paragraph, as applicable.

I. A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

II. A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of item (h)3(i)(I), (II) or (III) of this paragraph, as applicable, due to planned routine maintenance.

(VI) A remanufacturer or other person that stores or treats the hazardous secondary material shall record the information specified in subitems I through III of this item for those unexpected control device system malfunctions that would require the control device not to meet the requirements of item (h)3(i)(I), (II) or (III) of this paragraph, as applicable.

I. The occurrence and duration of each malfunction of the control device system.

II. The duration of each period during a malfunction when gases, vapors, or fumes are vented from the hazardous secondary material management unit through the closed-vent system to the control device while the control device is not properly functioning.

III. Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(VII) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with item (h)3(iii)(II) of this paragraph.

6. The remanufacturer or other person that stores or treats the hazardous secondary material using a tank or container exempted under the hazardous

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secondary material organic concentration conditions specified in subpart (c)3(i) of this paragraph or items (c)3(ii)(I) through (IV) of this paragraph, shall prepare and maintain at the facility records documenting the information used for each material determination (e.g., test results, measurements, calculations, and other documentation). If analysis results for material samples are used for the material determination, then the remanufacturer or other person that stores or treats the hazardous secondary material shall record the date, time, and location that each material sample is collected in accordance with applicable requirements of subparagraph (d) of this paragraph.

7. A remanufacturer or other person that stores or treats the hazardous secondary material designating a cover as “unsafe to inspect and monitor” pursuant to part (e)12 or (f)7 of this paragraph shall record and keep at facility the following information: the identification numbers for hazardous secondary material management units with covers that are designated as “unsafe to inspect and monitor,” the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

8. The remanufacturer or other person that stores or treats the hazardous secondary material that is subject to this paragraph and to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable subparagraphs of this paragraph by documentation either pursuant to this paragraph, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by this subparagraph.

(k) Reserved [40 CFR 261.1090]

(30) Appendices to Rule 0400-12-01-.02 [Appendices to 40 CFR 261]

Appendix I – Representative Sampling Methods

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Department to be representative of the waste.

Extremely viscous liquid – ASTM Standard D140-70 Crushed or powdered material – ASTM Standard D346-75 Soil or rock-like material – ASTM Standard D420-69 Soil-like material – ASTM Standard D1452-65

Fly Ash-like material – ASTM Standard D2234-76 (ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103)

Containerized liquid waste – “COLIWASA”

Liquid waste in pits, ponds, lagoons, and similar reservoirs – “Pond Sampler”

SW-846 also contains additional information on the application of these protocols.

Appendix II – (RESERVED)

Appendix III – (RESERVED)

(Rule 0400-12-01-.02, continued)
Appendix IV – (RESERVED) - Radioactive Waste Test Methods

Appendix V – (RESERVED) - Infectious Waste Treatment Specifications

Appendix VI – (RESERVED) - Etiologic Agents

Appendix VII – Basis for Listing Hazardous Waste

Hazardous Waste Code	Hazardous Constituents for Which Listed
F001	Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
F020	Tetra- and pentachlorodibenzo-p-dioxins; tetra and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F021	Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives.
F022	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F023	Tetra-, and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.

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F024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene.
F025	Chloromethane; Dichloromethane; Trichloromethane; Carbon tetrachloride; Chloroethylene; 1,1-Dichloroethane; 1,2-Dichloroethane; trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Pentachloroethane; Hexachloroethane; Allyl chloride (3-Chloropropene); Dichloropropane; Dichloropropene; 2-Chloro-1,3-butadiene; Hexachloro-1,3-butadiene; Hexachlorocyclopentadiene; Benzene; Chlorobenzene; Dichlorobenzene; 1,2,4-Trichlorobenzene; Tetrachlorobenzene; Pentachlorobenzene; Hexachlorobenzene; Toluene; Naphthalene.
F026	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F027	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F028	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F032	Benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)-anthracene,indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chromium, tetra-, penta-, hexa-, heptachlorodibenzo-p-dioxins, tetra-, penta-, hexa-, heptachlorodibenzofurans.
F034	Benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic, chromium.
F035	Arsenic, chromium, lead.
F037	Benzene, benzo(a)pyrene, chrysene, lead, chromium.
F038	Benzene, benzo(a)pyrene, chrysene, lead, chromium.
F039	All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under 40 CFR 268.43, Table CCW.
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead.
K006	Hexavalent chromium.

(Rule 0400-12-01-.02, continued)

K007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2, 4-diamine.
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.

(Rule 0400-12-01-.02, continued)

K035	Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene.
K036	Toluene, phosphorodithioic and phosphorothioic acid esters.
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K088	Cyanide (complexes).
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.

(Rule 0400-12-01-.02, continued)

K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.
K107	1,1-Dimethylhydrazine (UDMH).
K108	1,1-Dimethylhydrazine (UDMH).
K109	1,1-Dimethylhydrazine (UDMH).
K110	1,1-Dimethylhydrazine (UDMH).
K111	2,4-Dinitrotoluene.
K112	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline.
K113	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline.
K114	2,4-Toluenediamine, o-toluidine, p-toluidine.
K115	2,4-Toluenediamine.
K116	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene.
K117	Ethylene dibromide.
K118	Ethylene dibromide.
K123	Ethylene thiourea.
K124	Ethylene thiourea.
K125	Ethylene thiourea.
K126	Ethylene thiourea.
K131	Dimethyl sulfate, methyl bromide.
K132	Methyl bromide.
K136	Ethylene dibromide.
K141	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K142	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.

(Rule 0400-12-01-.02, continued)

K143	Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene.
K144	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene.
K145	Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene.
K147	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K148	Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K149	Benzotrichloride, benzyl chloride, chloroform, chloromethane, chlorobenzene, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, toluene.
K150	Carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,2,4-trichlorobenzene.
K151	Benzene, carbon tetrachloride, chloroform, hexachlorobenzene, pentachlorobenzene, toluene, 1,2,4,5-tetrachlorobenzene, tetrachloroethylene.
K156	Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, triethylamine.
K157	Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine.
K158	Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride.
K159	Benzene, butylate, eptc, molinate, pebulate, vernolate.
K161	Antimony, arsenic, metam-sodium, ziram.
K169	Benzene.
K170	Benzo(a)pyrene, dibenz(a,h)anthracene, benzo (a) anthracene, benzo (b)fluoranthene, benzo(k)fluoranthene, 3-methylcholanthrene, 7, 12-dimethylbenz(a)anthracene.
K171	Benzene, arsenic.
K172	Benzene, arsenic.
K174	1, 2, 3, 4, 6, 7, 8-Heptachlorodibenzo-p-dioxin (1, 2, 3, 4, 6, 7, 8-HpCDD), 1, 2, 3, 4, 6, 7, 8-Heptachlorodibenzofuran (1, 2, 3, 4, 6, 7, 8-HpCDF), 1, 2, 3, 4, 7, 8, 9-Heptachlorodibenzofuran (1, 2, 3, 6, 7, 8, 9-HpCDF), HxCDDs (All Hexachlorodibenzo-p-dioxins), HxCDFs (All Hexachlorodibenzofurans), PeCDDs (All Pentachlorodibenzo-p-dioxins), OCDD (1, 2, 3, 4, 6, 7, 8, 9-Octachlorodibenzo-p-dioxin, OCDF (1, 2, 3, 4, 6, 7, 8, 9-Octachlorodibenzofuran), PeCDFs (All Pentachlorodibenzofurans), TCDDs (All tetrachlorodi-benzo-p-dioxins), TCDFs (All tetrachlorodibenxofurans).
K175	Mercury
K176	Arsenic, Lead
K177	Antimony
K178	Thallium

(Rule 0400-12-01-.02, continued)

K181	Aniline, o-anisidine, 4-chloroaniline, p-cresidine, 2, 4-dimethylaniline, 1, 2-phenylenediamine, 1, 3-phenylenediamine.

FOOTNOTE: N.A. – Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity, or reactivity.

Appendix VIII – Hazardous Constituents

Common Name	Chemical Abstracts Name	Chemical Abstracts No.	Hazardous Waste Code
A2213	Ethanimidothioic acid, 2- (dimethylamino) -N-hydroxy-2-oxo-, methyl ester	30558-43-1	U394
Acetonitrile	Same	75-05-8	U003
Acetophenone	Ethanone, 1-phenyl-	98-86-2	U004
2-Acetylaminefluarone	Acetamide, N-9H-fluoren-2-yl-	53-96-3	U005
Acetyl chloride	Same	75-36-5	U006
1-Acetyl-2-thiourea	Acetamide, N-(aminothioxomethyl)-	591-08-2	P002
Acrolein	2-Propenal	107-02-8	P003
Acrylamide	2-Propenamide	79-06-1	U007
Acrylonitrile	2-Propenenitrile	107-13-1	U009
Aflatoxins	Same	1402-68-2	
Aldicarb	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime	116-06-3	P070
Aldicarb sulfone	Propanal, 2-methyl-2- (methylsulfonyl) -, O-[(methylamino) carbonyl] oxime	1646-88-4	P203
Aldrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha, 8abeta)-	309-00-2	P004
Allyl alcohol	2-Propen-1-ol	107-18-6	P005
Allyl chloride	1-Propane, 3-chloro	107-05-1	
Aluminum phosphide	Same	20859-73-8	P006
4-Aminobiphenyl	[1,1'-Biphenyl]-4-amine	92-67-1	
5-(Aminomethyl)-3-isoxazolol	3(2H)-Isoxazolone, 5-(aminomethyl)-	2763-96-4	P007
4-Aminopyridine	4-Pyridinamine	504-24-5	P008
Amitrole	1H-1,2,4-Triazol-3-amine	61-82-5	U011
Ammonium vanadate	Vanadic acid, ammonium salt	7803-55-6	P119
Aniline	Benzenamine	62-53-3	U012
o-Anisidine (2-methoxyaniline)	Benzenamine, 2-Methoxy-	90-04-0	
Antimony	Benzenamine	7440-36-0	

(Rule 0400-12-01-.02, continued)

Antimony compounds, N.O.S.[1]			
Aramite	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	
Arsenic	Same	7440-38-2	
Arsenic compounds, N.O.S.[1]			
Arsenic acid	Arsenic acid H_3AsO_4	7778-39-4	P010
Arsenic pentoxide	Arsenic oxide As_2O_5	1303-28-2	P011
Arsenic trioxide	Arsenic oxide As_2O_3	1327-53-3	P012
Auramine	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl	492-80-8	U014
Azaserine	L-Serine, diazoacetate (ester)	115-02-6	U015
Barban	Carbamic acid, (3-chlorophenyl) -, 4-chloro-2-butynyl ester	101-27-9	U280
Barium	Same	7440-39-3	
Barium compounds, N.O.S.[1]			
Barium cyanide	Same	542-62-1	P013
Bendiocarb	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate	22781-23-3	U278
Bendiocarb phenol	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,	22961-82-6	U364
Benomyl	Carbamic acid, [1- [(butylamino) carbonyl]-1H-benzimidazol-2-yl] -, methyl ester	17804-35-2	U271
Benz[c]acridine	Same	225-51-4	U016
Benz[a]anthracene	Same	56-55-3	U018
Benzal chloride	Benzene, (dichloromethyl)-	98-87-3	U017
Benzene	Same	71-43-2	U019
Benzenearsonic acid	Arsonic acid, phenyl-	98-05-5	
Benzidine	[1,1'-Biphenyl]-4,4'-diamine	92-87-5	U021
Benzo[b]fluoranthene	Benz[e]acephenanthrylene	205-99-2	
Benzo[j]fluoranthene	Same	205-82-3	
Benzo(k)fluoranthene	Same	207-08-9	
Benzo[a]pyrene	Same	50-32-8	U022
p-Benzoquinone	2,5-Cyclohexadiene-1,4-dione	106-51-4	U197
Benzotrichloride	Benzene, (trichloromethyl)-	98-07-7	U023
Benzyl chloride	Benzene, (chloromethyl)-	100-44-7	P028
Beryllium powder	Same	7440-41-7	P015
Beryllium compounds, N.O.S.[1]			
Bis(pentamethylene)-thiuram tetrasulfide	Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis-	120-54-7	

(Rule 0400-12-01-.02, continued)

Bromoacetone	2-Propanone, 1-bromo-	598-31-2	P017
Bromoform	Methane, tribromo-	75-25-2	U225
4-Bromophenyl phenyl ether	Benzene, 1-bromo-4-phenoxy-	101-55-3	U030
Brucine	Strychnidin-10-one, 2,3-dimethoxy-	357-57-3	P018
Butylate	Carbamothioic acid, bis(2-methylpropyl)-, S-ethyl ester	2008-41-5	
Butyl benzyl phthalate	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	85-68-7	
Cacodylic acid	Arsinic acid, dimethyl-	75-60-5	U136
Cadmium	Same	7440-43-9	
Cadmium compounds, N.O.S.[1]			
Calcium chromate	Chromic acid H_2CrO_4, calcium salt	13765-19-0	U032
Calcium cyanide	Calcium cyanide $Ca(CN)_2$	592-01-8	P021
Carbaryl	1-Naphthalenol, methylcarbamate	63-25-2	U279
Carbendazim	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester	10605-21-7	U372
Carbofuran	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate	1563-66-2	P127
Carbofuran phenol	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	1563-38-8	U367
Carbon disulfide	Same	75-15-0	P022
Carbon oxyfluoride	Carbonic difluoride	353-50-4	U033
Carbon tetrachloride	Methane, tetrachloro-	56-23-5	U211
Carbosulfan	Carbamic acid, [(dibutylamino) thio] methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	55285-14-8	P189
Chloral	Acetaldehyde, trichloro-	75-87-6	U034
Chlorambucil	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	305-03-3	U035
Chlordane	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	57-74-9	U036
Chlordane (alpha and gamma isomers)			U036
Chlorinated benzenes, N.O.S.[1]			
Chlorinated ethane, N.O.S.[1]			
Chlorinated fluorocarbons, N.O.S.[1]			
Chlorinated naphthalene, N.O.S.[1]			
Chlorinated phenol, N.O.S.[1]			
Chlornaphazin	Naphthalenamine, N,N'-bis(2-chloroethyl)-	494-03-1	U026
Chloroacetaldehyde	Acetaldehyde, chloro-	107-20-0	P023
Chloroalkyl ethers, N.O.S.[1]			

(Rule 0400-12-01-.02, continued)

p-Chloroaniline	Benzenamine, 4-chloro-	106-47-8	P024
Chlorobenzene	Benzene, chloro-	108-90-7	U037
Chlorobenzilate	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester	510-15-6	U038
p-Chloro-m-cresol	Phenol, 4-chloro-3-methyl-	59-50-7	U039
2-Chloroethyl vinyl ether	Ethene, (2-chloroethoxy)-	110-75-8	U042
Chloroform	Methane, trichloro-	67-66-3	U044
Chloromethyl methyl ether	Methane, chloromethoxy-	107-30-2	U046
beta-Chloronaphthalene	Naphthalene, 2-chloro-	91-58-7	U047
o-Chlorophenol	Phenol, 2-chloro-	95-57-8	U048
1-(o-Chlorophenyl)thiourea	Thiourea, (2-chlorophenyl)-	5344-82-1	P026
Chloroprene	1,3-Butadiene, 2-chloro-	126-99-8	
3-Chloropropionitrile	Propanenitrile, 3-chloro-	542-76-7	P027
Chromium	Same	7440-47-3	
Chromium compounds, N.O.S.[1]			
Chrysene	Same	218-01-9	U050
Citrus red No. 2	2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]-	6358-53-8	
Coal tar creosote	Same	8007-45-2	
Copper cyanide	Copper cyanide CuCN	544-92-3	P029
Copper dimethyldithiocarbamate	Copper, bis(dimethylcarbamodithioato-S,S')-,	137-29-1	
Creosote	Same		U051
p-Cresidine	2-Methoxy-5-methylbenzenamine	120-71-8	
Cresol (Cresylic acid)	Phenol, methyl-	1319-77-3	U052
Crotonaldehyde	2-Butenal	4170-30-3	U053
m-Cumenyl methylcarbamate	Phenol, 3-(methylethyl)-, methyl carbamate	64-00-6	P202
Cyanides (soluble salts and complexes) N.O.S.[1]			P030
Cyanogen	Ethanedinitrile	460-19-5	P031
Cyanogen bromide	Cyanogen bromide (CN)Br	506-68-3	U246
Cyanogen chloride	Cyanogen chloride (CN)Cl	506-77-4	P033
Cycasin	beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl	14901-08-7	
Cycolate	Carbamothioic acid, cyclohexylethyl-, S-ethyl ester	1134-23-2	
2-Cyclohexyl-4,6-dinitrophenol	Phenol, 2-cyclohexyl-4,6-dinitro-	131-89-5	P034

(Rule 0400-12-01-.02, continued)

Cyclophosphamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	50-18-0	U058
2,4-D	Acetic acid, (2,4-dichlorophenoxy)-	94-75-7	U240
2,4-D, salts, esters			U240
Daunomycin	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	20830-81-3	U059
Dazomet	2H-1,3,5-thiadiazine-2-thione, tetrahydro-3,5-dimethyl	533-74-4	
DDD	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	72-54-8	U060
DDE	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro-	72-55-9	
DDT	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-	50-29-3	U061
Diallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	2303-16-4	U062
Dibenz[a,h]acridine	Same	226-36-8	
Dibenz[a,j]acridine	Same	224-42-0	
Dibenz[a,h]anthracene	Same	53-70-3	U063
7H-Dibenzo[c,g]carbazole	Same	194-59-2	
Dibenzo[a,e]pyrene	Naphtho[1,2,3,4-def]chrysene	192-65-4	
Dibenzo[a,h]pyrene	Dibenzo[b,def]chrysene	189-64-0	
Dibenzo[a,i]pyrene	Benzo[rst]pentaphene	189-55-9	U064
1,2-Dibromo-3-chloropropane	Propane, 1,2-dibromo-3-chloro-	96-12-8	U066
Dibutyl phthalate	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2	U069
o-Dichlorobenzene	Benzene, 1,2-dichloro-	95-50-1	U070
m-Dichlorobenzene	Benzene, 1,3-dichloro-	541-73-1	U071
p-Dichlorobenzene	Benzene, 1,4-dichloro-	106-46-7	U072
Dichlorobenzene, N.O.S.[1]	Benzene, dichloro-	25321-22-6	
3,3'-Dichlorobenzidine	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	91-94-1	U073
1,4-Dichloro-2-butene	2-Butene, 1,4-dichloro-	764-41-0	U074
Dichlorodifluoromethane	Methane, dichlorodifluoro-	75-71-8	U075
Dichloroethylene, N.O.S.[1]	Dichloroethylene	25323-30-2	
1,1-Dichloroethylene	Ethene, 1,1-dichloro-	75-35-4	U078
1,2-Dichloroethylene	Ethene, 1,2-dichloro-, (E)-	156-60-5	U079
Dichloroethyl ether	Ethane, 1,1'oxybis[2-chloro-	111-44-4	U025
Dichloroisopropyl ether	Propane, 2,2'-oxybis[2-chloro-	108-60-1	U027
Dichloromethoxy ethane	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	111-91-1	U024
Dichloromethyl ether	Methane, oxybis[chloro-	542-88-1	P016

(Rule 0400-12-01-.02, continued)

2,4-Dichlorophenol	Phenol, 2,4-dichloro-	120-83-2	U081
2,6-Dichlorophenol	Phenol, 2,6-dichloro-	87-65-0	U082
Dichlorophenylarsine	Arsonous dichloride, phenyl-	696-28-6	P036
Dichloropropane, N.O.S.[1]	Propane, dichloro-	26638-19-7	
Dichloropropanol, N.O.S.[1]	Propanol, dichloro-	26545-73-3	
Dichloropropene, N.O.S.[1]	1-Propene, dichloro-	26952-23-8	
1,3-Dichloropropene	1-Propene, 1,3-dichloro-	542-75-6	U084
Dieldrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta, 6aalpha,7beta,7aalpha)-	60-57-1	P037
1,2:3,4-Diepoxybutane	2,2'-Bioxirane	1464-53-5	U085
Diethylarsine	Arsine, diethyl-	692-42-2	P038
Diethylene glycol, dicarbamate	Ethanol, 2,2'-oxybis-, dicarbamate	5952-26-1	U395
1,4-Diethyleneoxide	1,4-Dioxane	123-91-1	U108
Diethylhexyl phthalate	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	117-81-7	U028
N,N'-Diethylhydrazine	Hydrazine, 1,2-diethyl-	1615-80-1	U086
O,O-Diethyl S-methyl dithiophosphate	Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288-58-2	U087
Diethyl-p-nitrophenyl phosphate	Phosphoric acid, diethyl 4-nitrophenyl ester	311-45-5	P041
Diethyl phthalate	1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2	U088
O,O-Diethyl O-pyrazinyl phosphorothioate	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297-97-2	P040
Diethylstilbesterol	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-	56-53-1	U089
Dihydrosafrole	1,3-Benzodioxole, 5-propyl-	94-58-6	U090
Diisopropylfluorophosphate (DFP)	Phosphorofluoridic acid, bis(1-methylethyl) ester	55-91-4	P043
Dimethoate	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	60-51-5	P044
3,3'-Dimethoxybenzidine	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-	119-90-4	U091
p-Dimethylaminoazobenzene	Benzenamine, N,N-dimethyl-4-(phenylazo)-	60-11-7	U093
2, 4-Dimethylaniline (2, 4-xylidine)	Benzenamine, 2, 4-dimethyl-	95-68-1	
7,12-Dimethylbenz[a]anthracene	Benz[a]anthracene, 7,12-dimethyl-	57-97-6	U094
3,3'-Dimethylbenzidine	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	119-93-7	U095
Dimethylcarbamoyl chloride	Carbamic chloride, dimethyl-	79-44-7	U097

(Rule 0400-12-01-.02, continued)

1,1-Dimethylhydrazine	Hydrazine, 1,1-dimethyl-	57-14-7	U098
1,2-Dimethylhydrazine	Hydrazine, 1,2-dimethyl-	540-73-8	U099
alpha,alpha-Dimethylphenethylamine	Benzeneethanamine, alpha,alpha-dimethyl-	122-09-8	P046
2,4-Dimethylphenol	Phenol, 2,4-dimethyl-	105-67-9	U101
Dimethyl phthalate	1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3	U102
Dimethyl sulfate	Sulfuric acid, dimethyl ester	77-78-1	U103
Dimetilan	Carbamic acid, dimethyl-, 1- [(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester	644-64-4	P191
Dinitrobenzene, N.O.S.[1]	Benzene, dinitro-	25154-54-5	
4,6-Dinitro-o-cresol	Phenol, 2-methyl-4,6-dinitro-	534-52-1	P047
4,6-Dinitro-o-cresol salts			P047
2,4-Dinitrophenol	Phenol, 2,4-dinitro-	51-28-5	P048
2,4-Dinitrotoluene	Benzene, 1-methyl-2,4-dinitro-	121-14-2	U105
2,6-Dinitrotoluene	Benzene, 2-methyl-1,3-dinitro-	606-20-2	U106
Dinoseb	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88-85-7	P020
Di-n-octylphthalate	1,2-Benzenedicarboxylic acid, dioctyl ester	117-84-0	U017
Diphenylamine	Benzenamine, N-phenyl-	122-39-4	
1,2-Diphenylhydrazine	Hydrazine, 1,2-diphenyl-	122-66-7	U109
Di-n-propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-	621-64-7	U111
Disulfiram	Thioperoxydicarbonic diamide, tetraethyl	97-77-8	
Disulfoton	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	298-04-4	P039
Dithiobiuret	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	541-53-7	P049
Endosulfan	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a- hexahydro-, 3-oxide	115-29-7	P050
Endothall	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	145-73-3	P088
Endrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aalpha,2beta,2abeta,3alpha,6alpha, 6abeta,7beta,7aalpha)-	72-20-8	P051
Endrin metabolites			P051
Epichlorohydrin	Oxirane, (chloromethyl)-	106-89-8	U041
Epinephrine	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-	51-43-4	P042
EPTC	Carbamothioic acid, dipropyl-, S-ethyl ester	759-94-4	
Ethyl carbamate (urethane)	Carbamic acid, ethyl ester	51-79-6	U238

(Rule 0400-12-01-.02, continued)

Ethyl cyanide	Propanenitrile	107-12-0	P101
Ethylenebisdithiocarbamic acid	Carbamodithioic acid, 1,2-ethanediylbis-	111-54-6	U114
Ethylenebisdithiocarbamic acid, salts and esters			U114
Ethylene dibromide	Ethane, 1,2-dibromo-	106-93-4	U067
Ethylene dichloride	Ethane, 1,2-dichloro-	107-06-2	U077
Ethylene glycol monoethyl ether	Ethanol, 2-ethoxy-	110-80-5	U359
Ethyleneimine	Aziridine	151-56-4	P054
Ethylene oxide	Oxirane	75-21-8	U115
Ethylenethiourea	2-Imidazolidinethione	96-45-7	U116
Ethylidene dichloride	Ethane, 1,1-dichloro-	75-34-3	U076
Ethyl methacrylate	2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2	U118
Ethyl methanesulfonate	Methanesulfonic acid, ethyl ester	62-50-0	U119
Ethyl Ziram	Zinc, bis(diethylcarbamodithioato-S,S')-	14324-55-1	
Famphur	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester	52-85-7	P097
Ferbam	Iron, tris(dimethylcarbamodithioato-S,S')-	14484-64-1	
Fluoranthene	Same	206-44-0	U120
Fluorine	Same	7782-41-4	P056
Fluoroacetamide	Acetamide, 2-fluoro-	640-19-7	P057
Fluoroacetic acid, sodium salt	Acetic acid, fluoro-, sodium salt	62-74-8	P058
Formaldehyde	Same	50-00-0	U122
Formetanate hydrochloride	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino) carbonyl]oxy]phenyl]-, monohydrochloride	23422-53-9	P198
Formic acid	Same	64-18-6	U123
Formparanate	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino) carbonyl]oxy]phenyl]-.	17702-57-7	P197
Glycidylaldehyde	Oxiranecarboxyaldehyde	765-34-4	U126
Halomethanes, N.O.S.[1]			
Heptachlor	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76-44-8	P059
Heptachlor epoxide	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexa- hydro-, (1aalpha,1bbeta,2alpha,5alpha, 5abeta,6beta,6aalpha)-	1024-57-3	
Heptachlor epoxide (alpha, beta, and gamma isomers)			

(Rule 0400-12-01-.02, continued)

Heptachlorodibenzofurans.			
Heptachlorodibenzo-p-dioxins			
Hexachlorobenzene	Benzene, hexachloro-	118-74-1	U127
Hexachlorobutadiene	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-68-3	U128
Hexachlorocyclopentadiene	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77-47-4	U130
Hexachlorodibenzo-p-dioxins			
Hexachlorodibenzofurans			
Hexachloroethane	Ethane, hexachloro-	67-72-1	U131
Hexachlorophene	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	70-30-4	U132
Hexachloropropene	1-Propene, 1,1,2,3,3,3-hexachloro-	1888-71-7	U243
Hexaethyl tetraphosphate	Tetraphosphoric acid, hexaethyl ester	757-58-4	P062
Hydrazine	Same	302-01-2	U133
Hydrogen cyanide	Hydrocyanic acid	74-90-8	P063
Hydrogen fluoride	Hydrofluoric acid	7664-39-3	U134
Hydrogen sulfide	Hydrogen sulfide H_2S	7783-06-4	U135
Indeno[1,2,3-cd]pyrene	Same	193-39-5	U137
3-Iodo-2-propynyl n-butylcarbamate	Carbamic acid, butyl-, 3-iodo-2-propynyl ester	55406-53-6	
Isobutyl alcohol	1-Propanol, 2-methyl-	78-83-1	U140
Isodrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta,8beta,-8abeta)-	465-73-6	P060
Isolan	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester	119-38-0	P192
Isosafrole	1,3-Benzodioxole, 5-(1-propenyl)-	120-58-1	U141
Kepone	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	143-50-0	U142
Lasiocarpine	2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1 - oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-	303-34-4	U143
Lead	Same	7439-92-1	
Lead compounds, N.O.S.[1]			
Lead acetate	Acetic acid, lead(2+) salt	301-04-2	U144
Lead phosphate	Phosphoric acid, lead(2+) salt (2:3)	7446-27-7	U145
Lead subacetate	Lead, bis(acetato-O)tetrahydroxytri-	1335-32-6	U146
Lindane	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-	58-89-9	U129

(Rule 0400-12-01-.02, continued)

Maleic anhydride	2,5-Furandione	108-31-6	U147
Maleic hydrazide	3,6-Pyridazinedione, 1,2-dihydro-	123-33-1	U148
Malononitrile	Propanedinitrile	109-77-3	U149
Manganese dimethyldithiocarbamate	Manganese, bis(dimethylcarbamodithioato-S,S')-,	15339-36-3	P196
Melphalan	L-Phenylalanine, 4-[bis(2-chloroethyl)aminol]-	148-82-3	U150
Mercury	Same	7439-97-6	U151
Mercury compounds, N.O.S.[1]			
Mercury fulminate	Fulminic acid, mercury(2+) salt	628-86-4	P065
Metam Sodium	Carbamodithioic acid, methyl-, monosodium salt	137-42-8	
Methacrylonitrile	2-Propenenitrile, 2-methyl-	126-98-7	U152
Methapyrilene	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	91-80-5	U155
Methiocarb	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate	2032-65-7	P199
Methomyl	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester	16752-77-5	P066
Methoxychlor	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-	72-43-5	U247
Methyl bromide	Methane, bromo-	74-83-9	U029
Methyl chloride	Methane, chloro-	74-87-3	U045
Methyl chlorocarbonate	Carbonochloridic acid, methyl ester	79-22-1	U156
Methyl chloroform	Ethane, 1,1,1-trichloro-	71-55-6	U226
3-Methylcholanthrene	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56-49-5	U157
4,4'-Methylenebis (2-chloroaniline)	Benzenamine, 4,4'-methylenebis[2-chloro-	101-14-4	U158
Methylene bromide	Methane, dibromo-	74-95-3	U068
Methylene chloride	Methane, dichloro-	75-09-2	U080
Methyl ethyl ketone (MEK)	2-Butanone	78-93-3	U159
Methyl ethyl ketone peroxide	2-Butanone, peroxide	1338-23-4	U160
Methyl hydrazine	Hydrazine, methyl-	60-34-4	P068
Methyl iodide	Methane, iodo-	74-88-4	U138
Methyl isocyanate	Methane, isocyanato-	624-83-9	P064
2-Methyllactonitrile	Propanenitrile, 2-hydroxy-2-methyl-	75-86-5	P069
Methyl methacrylate	2-Propenoic acid, 2-methyl-, methyl ester	80-62-6	U162
Methyl methanesulfonate	Methanesulfonic acid, methyl ester	66-27-3	
Methyl parathion	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	298-00-0	P071

(Rule 0400-12-01-.02, continued)

Methylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	56-04-2	U164
Metolcarb	Carbamic acid, methyl-, 3-methylphenyl ester	1129-41-5	P190
Mexacarbate	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)	315-18-4	P128
Mitomycin C	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5- methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]-	50-07-7	U010
MNNG	Guanidine, N-methyl-N'-nitro-N-nitroso-	70-25-7	U163
Molinate	1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester	2212-67-1	
Mustard gas	Ethane, 1,1'-thiobis[2-chloro-	505-60-2	
Naphthalene	Same	91-20-3	U165
1,4-Naphthoquinone	1,4-Naphthalenedione	130-15-4	U166
alpha-Naphthylamine	1-Naphthalenamine	134-32-7	U167
beta-Naphthylamine	2-Naphthalenamine	91-59-8	U168
alpha-Naphthylthiourea	Thiourea, 1-naphthalenyl-	86-88-4	P072
Nickel	Same	7440-02-0	
Nickel compounds, N.O.S.[1]			
Nickel carbonyl	Nickel carbonyl $Ni(CO)_4$, (T-4)-	13463-39-3	P073
Nickel cyanide	Nickel cyanide $Ni(CN)_2$	557-19-7	P074
Nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	54-11-5	P075
Nicotine salts			P075
Nitric oxide	Nitrogen oxide NO	10102-43-9	P076
p-Nitroaniline	Benzenamine, 4-nitro-	100-01-6	P077
Nitrobenzene	Benzene, nitro-	98-95-3	U169
Nitrogen dioxide	Nitrogen oxide NO_2	10102-44-0	P078
Nitrogen mustard	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-	51-75-2	
Nitrogen mustard, hydrochloride salt			
Nitrogen mustard N-oxide	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide	126-85-2	
Nitrogen mustard, N-oxide, hydrochloride salt			
Nitroglycerin	1,2,3-Propanetriol, trinitrate	55-63-0	P081
p-Nitrophenol	Phenol, 4-nitro-	100-02-7	U170
2-Nitropropane	Propane, 2-nitro-	79-46-9	U171
Nitrosamines, N.O.S.[1]		35576-91-1	

(Rule 0400-12-01-.02, continued)

N-Nitrosodi-n-butylamine	1-Butanamine, N-butyl-N-nitroso-	924-16-3	U172
N-Nitrosodiethanolamine	Ethanol, 2,2'-(nitrosoimino)bis-	1116-54-7	U173
N-Nitrosodiethylamine	Ethanamine, N-ethyl-N-nitroso-	55-18-5	U174
N-Nitrosodimethylamine	Methanamine, N-methyl-N-nitroso-	62-75-9	P082
N-Nitroso-N-ethylurea	Urea, N-ethyl-N-nitroso-	759-73-9	U176
N-Nitrosomethylethylamine	Ethanamine, N-methyl-N-nitroso-	10595-95-6	
N-Nitroso-N-methylurea	Urea, N-methyl-N-nitroso-	684-93-5	U177
N-Nitroso-N-methylurethane	Carbamic acid, methylnitroso-, ethyl ester	615-53-2	U178
N-Nitrosomethylvinylamine	Vinylamine, N-methyl-N-nitroso-	4549-40-0	P084
N-Nitrosomorpholine	Morpholine, 4-nitroso-	59-89-2	
N-Nitrosonornicotine	Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)-	16543-55-8	
N-Nitrosopiperidine	Piperidine, 1-nitroso-	100-75-4	U179
N-Nitrosopyrrolidine	Pyrrolidine, 1-nitroso-	930-55-2	U180
N-Nitrososarcosine	Glycine, N-methyl-N-nitroso-	13256-22-9	
5-Nitro-o-toluidine	Benzenamine, 2-methyl-5-nitro-	99-55-8	U181
Octachlorodibenzo-p-dioxin (OCDD)	1, 2, 3, 4, 6, 7, 8, 9-Octachlorodibenzo-p-dioxin	3268-87-9	
Octachlorodibenzofuran (OCDF)	1, 2, 3, 4, 6, 7, 8, 9-Octachlorodibenofuran	39001-02-0	
Octamethylpyrophos-phoramide	Diphosphoramide, octamethyl-	152-16-9	P085
Osmium tetroxide	Osmium oxide OsO_4, (T-4)-	20816-12-0	P087
Oxamyl	Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]-oxy]-2-oxo-, methyl ester	23135-22-0	P194
Paraldehyde	1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7	U182
Parathion	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	56-38-2	P089
Pebulate	Carbamothioic acid, butylethyl-, S-propyl ester	1114-71-2	
Pentachlorobenzene	Benzene, pentachloro-	608-93-5	U183
Pentachlorodibenzo-p-dioxins			
Pentachlorodibenzofurans			
Pentachloroethane	Ethane, pentachloro-	76-01-7	U184
Pentachloronitrobenzene (PCNB)	Benzene, pentachloronitro-	82-68-8	U185
Pentachlorophenol	Phenol, pentachloro-	87-86-5	See F027
Phenacetin	Acetamide, N-(4-ethoxyphenyl)-	62-44-2	U187

(Rule 0400-12-01-.02, continued)

Phenol	Same	108-95-2	U188
Phenylenediamine	Benzenediamine	25265-76-3	
1, 2-Phenylenediamine	1, 2-Benzenediamine	95-54-5	
1, 3-Phenylenediamine	1, 3-Benzenediamine	108-45-2	
Phenylmercury acetate	Mercury, (acetato-O)phenyl-	62-38-4	P092
Phenylthiourea	Thiourea, phenyl-	103-85-5	P093
Phosgene	Carbonic dichloride	75-44-5	P095
Phosphine	Same	7803-51-2	P096
Phorate	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	298-02-2	P094
Phthalic acid esters, N.O.S.[1]			
Phthalic anhydride	1,3-Isobenzofurandione	85-44-9	U190
Physostigmine	Pyrrolo[2,3-b]indol-5-01, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-	57-47-6	P204
Physostigmine salicylate	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl methylcarbamate ester (1:1)	57-64-7	P188
2-Picoline	Pyridine, 2-methyl-	109-06-8	U191
Polychlorinated biphenyls, N.O.S.[1]			
Potassium cyanide	Potassium cyanide K(CN)	151-50-8	P098
Potassium dimethyldithiocarbamate	Carbamodithioic acid, dimethyl, potassium salt	128-03-0	
Potassium n-hydroxymethyl-n-methyl-dithiocarbamate	Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt	51026-28-9	
Potassium n-methyldithiocarbamate	Carbamodithioic acid, methyl-monopotassium salt	137-41-7	
Potassium pentachlorophenate	Pentachlorophenol, potassium salt	7778736	None
Potassium silver cyanide	Argentate(1-), bis(cyano-C)-, potassium	506-61-6	P099
Promecarb	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate	2631-37-0	P201
Pronamide	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	23950-58-5	U192
1,3-Propane sultone	1,2-Oxathiolane, 2,2-dioxide	1120-71-4	U193
Propham	Carbamic acid, phenyl-, 1-methylethyl ester	122-42-9	U373
Propoxur	Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1	U411
n-Propylamine	1-Propanamine	107-10-8	U194
Propargyl alcohol	2-Propyn-1-ol	107-19-7	P102

(Rule 0400-12-01-.02, continued)

Propylene dichloride	Propane, 1,2-dichloro-	78-87-5	U083
1,2-Propylenimine	Aziridine, 2-methyl-	75-55-8	P067
Propylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo-	51-52-5	
Prosulfocarb	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	52888-80-9	U387
Pyridine	Same	110-86-1	U196
Reserpine	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-smethyl ester, (3beta,16beta,17alpha,18beta,20alpha)-	50-55-5	U200
Resorcinol	1,3-Benzenediol	108-46-3	U201
Safrole	1,3-Benzodioxole, 5-(2-propenyl)-	94-59-7	U203
Selenium	Same	7782-49-2	
Selenium compounds, N.O.S.[1]			
Selenium dioxide	Selenious acid	7783-00-8	U204
Selenium sulfide	Selenium sulfide SeS_2	7488-56-4	U205
Selenium, tetrakis(dimethyl-dithiocarbamate)	Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid	144-34-3	
Selenourea	Same	630-10-4	P103
Silver	Same	7440-22-4	
Silver compounds, N.O.S.[1]			
Silver cyanide	Silver cyanide Ag(CN)	506-64-9	P104
Silvex (2,4,5-TP)	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1	See F027
Sodium cyanide	Sodium cyanide Na(CN)	143-33-9	P106
Sodium dibutyldithiocarbamate	Carbamodithioic acid, dibutyl, sodium salt	136-30-1	
Sodium diethyldithiocarbamate	Carbamodithioic acid, diethyl-, sodium salt	148-18-5	
Sodium dimethyldithiocarbamate	Carbamodithioic acid, dimethyl-, sodium salt	128-04-1	
Sodium pentachlorophenate	Pentachlorophenol, sodium salt	131522	None
Streptozotocin	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)carbonyl]amino]-	18883-66-4	U206
Strychnine	Strychnidin-10-one	57-24-9	P108
Strychnine salts			P108
Sulfallate	Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester	95-06-7	
TCDD	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	1746-01-6	
Tetrabutylthiuram disulfide	Thioperoxydicarbonic diamide, tetrabutyl	1634-02-2	
1,2,4,5-Tetrachlorobenzene	Benzene, 1,2,4,5-tetrachloro-	95-94-3	U207
Tetrachlorodibenzo-p-dioxins			

(Rule 0400-12-01-.02, continued)

Tetrachlorodibenzofurans			
Tetrachloroethane, N.O.S.[1]	Ethane, tetrachloro-, N.O.S.	25322-20-7	
1,1,1,2-Tetrachloroethane	Ethane, 1,1,1,2-tetrachloro-	630-20-6	U208
1,1,2,2-Tetrachloroethane	Ethane, 1,1,2,2-tetrachloro-	79-34-5	U209
Tetrachloroethylene	Ethene, tetrachloro-	127-18-4	U210
2,3,4,6-Tetrachlorophenol	Phenol, 2,3,4,6-tetrachloro-	58-90-2	See F027
***2,3,4,6-tetrachlorophenol, potassium salt	same	53535276	None
2,3,4,6-tetrachlorophenol, sodium salt	same	25567559	None
Tetraethyldithiopyrophos-phate	Thiodiphosphoric acid, tetraethyl ester	3689-24-5	P109
Tetraethyl lead	Plumbane, tetraethyl-	78-00-2	P110
Tetraethyl pyrophosphate	Diphosphoric acid, tetraethyl ester	107-49-3	P111
Tetramethylthiuram monosulfide	Bis(dimethylthiocarbamoyl) sulfide	97-74-5	
Tetranitromethane	Methane, tetranitro-	509-14-8	P112
Thallium	Same	7440-28-0	
Thallium compounds, N.O.S.[1]			
Thallic oxide	Thallium oxide Tl_2O_3	1314-32-5	P113
Thallium(I) acetate	Acetic acid, thallium(1+) salt	563-68-8	U214
Thallium(I) carbonate	Carbonic acid, dithallium(1+) salt	6533-73-9	U215
Thallium(I) chloride	Thallium chloride TlCl	7791-12-0	U216
Thallium(I) nitrate	Nitric acid, thallium(1+) salt	10102-45-1	U217
Thallium selenite	Selenious acid, dithallium(1+) salt	12039-52-0	P114
Thallium(I) sulfate	Sulfuric acid, dithallium(1+) salt	7446-18-6	P115
Thioacetamide	Ethanethioamide	62-55-5	U218
Thiodicarb	Ethanimidothioic acid, N,N'-[thiobis [(methylimino) carbonyloxy]] bis-, dimethyl ester.	59669-26-0	U410
Thiofanox	2-Butanone, 3,3-dimethyl-1-(methylthio)-, 0-[(methylamino)carbonyl] oxime	39196-18-4	P045
Thiomethanol	Methanethiol	74-93-1	U153
Thiophanate-methyl	Carbamic acid, [1,2-phyenylenebis (iminocarbonothioyl)] bis-, dimethyl ester	23564-05-8	U409
Thiophenol	Benzenethiol	108-98-5	P014
Thiosemicarbazide	Hydrazinecarbothioamide	79-19-6	P116
Thiourea	Same	62-56-6	U219

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Thiram	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-	137-26-8	U244
Tirpate	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime	26419-73-8	P185
Toluene	Benzene, methyl-	108-88-3	U220
Toluenediamine	Benzenediamine, ar-methyl-	25376-45-8	U221
Toluene-2,4-diamine	1,3-Benzenediamine, 4-methyl-	95-80-7	
Toluene-2,6-diamine	1,3-Benzenediamine, 2-methyl-	823-40-5	
Toluene-3,4-diamine	1,2-Benzenediamine, 4-methyl-	496-72-0	
Toluene diisocyanate	Benzene, 1,3-diisocyanatomethyl-	26471-62-5	U223
o-Toluidine	Benzenamine, 2-methyl-	95-53-4	U328
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	636-21-5	U222
p-Toluidine	Benzenamine, 4-methyl-	106-49-0	U353
Toxaphene	Same	8001-35-2	P123
Triallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester	2303-17-5	U389
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120-82-1	
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79-00-5	U227
Trichloroethylene	Ethene, trichloro-	79-01-6	U228
Trichloromethanethiol	Methanethiol, trichloro-	75-70-7	P118
Trichloromonofluoro methane	Methane, trichlorofluoro-	75-69-4	U121
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95-95-4	See F027
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88-06-2	See F027
2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5	See F027
Trichloropropane, N.O.S.[1]		25735-29-9	
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96-18-4	
Triethylamine	Ethanamine, N,N-diethyl-	121-44-8	U404
O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126-68-1	
1,3,5-Trinitrobenzene	Benzene, 1,3,5-trinitro-	99-35-4	U234
Tris(1-aziridinyl)phosphine sulfide	Aziridine, 1,1',1"-phosphinothioylidynetris-	52-24-4	
Tris(2,3-dibromopropyl) phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7	U235
Trypan blue	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)]- bis[5-amino-4-hydroxy-, tetrasodium salt	72-57-1	U236

(Rule 0400-12-01-.02, continued)

Uracil mustard	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	66-75-1	U237
Vanadium pentoxide	Vanadium oxide V_2O_5	1314-62-1	P120
Vernolate	Carbamothioic acid, dipropyl-,S-propyl ester	1929-77-7	
Vinyl chloride	Ethene, chloro-	75-01-4	U043
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2	U248
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%	81-81-2	P001
Warfarin salts, when present at concentrations less than 0.3%			U248
Warfarin salts, when present at concentrations greater than 0.3%			P001
Zinc cyanide	Zinc cyanide $Zn(CN)_2$	557-21-1	P121
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%	1314-84-7	P122
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less	1314-84-7	U249
Ziram	Zinc, bis(dimethylcarbamodithioato-S,S')-, (T-4)-	137-30-4	P205

FOOTNOTE: [1]The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

Appendix IX – (Reserved) [40 CFR 261 Appendix IX]
(Note: EPA maintains the listing in Appendix IX.)

Authority: *T.C.A. §§ 4-5-201, et seq. and 68-212-101, et seq.* ***Administrative History:*** *Original rule filed June 19, 2012; effective September 17, 2012. Rule was renumbered from 1200-01-11-.02 which was repealed. Amendments filed August 7, 2013; effective November 5, 2013. Amendments filed November 12, 2014; effective February 10, 2015. Amendments filed July 10, 2015; effective October 8, 2015. Amendments filed May 9, 2017; to have become effective August 7, 2017. 75-day stay of effective date of rules filed July 20, 2017; new effective date to have been October 21, 2017. 75-day stay of effective date of rules filed September 7, 2017; new effective date January 4, 2018. Emergency rule filed December 14, 2017 to become effective January 4, 2018; effective through July 3, 2018. Amendments filed March 21, 2018; effective June 19, 2018. Amendments filed February 18, 2020; effective May 18, 2020.*