
Colorado Hazardous Waste Regulations

Part 268

Land Disposal Restrictions

Part A – Sections 268.1 – 268.42

(Amended 5/16/06, effective 7/2/06)

To obtain more information regarding the Colorado Hazardous Waste Regulations, please contact the Hazardous Materials and Waste Management Division at 303-692-3300.

PART 268 - LAND DISPOSAL RESTRICTIONS

SUBPART A -- General

Sec.	
268.1	Purpose, scope and applicability.
268.2	Definitions applicable to this part.
268.3	Dilution prohibited as a substitute for treatment.
268.4	Treatment surface impoundment exemption.
268.5	[RESERVED]
268.6	Petitions to allow land disposal of a waste prohibited under Subpart C of Part 268.
268.7	Waste analysis.
268.8	[Reserved]
268.9	Special rules regarding wastes that exhibit a characteristic.

SUBPART B -- Schedule for Land Disposal Prohibition and Establishment of Treatment Standards.

268.10	[Reserved]
268.11	[Reserved]
268.12	[Reserved]
268.13	[Reserved]
268.14	Surface impoundment exemptions.

SUBPART C -- Prohibitions on Land Disposal

268.20	Waste specific prohibitions – Dyes and/or pigments production wastes.
268.21-268.29	Reserved
268.30	Waste specific prohibitions - wood preserving wastes.
268.31	Waste specific prohibitions - Dioxin-containing wastes.
268.32	[Reserved]
268.33	Waste-specific prohibitions - chlorinated aliphatic wastes
268.34	Waste specific prohibitions -- toxicity characteristic metal wastes.
268.35	Waste specific prohibitions - petroleum refining wastes.
268.36	Waste specific prohibitions - inorganic chemical wastes.
268.37	Waste specific prohibitions - Ignitable and corrosive characteristic wastes whose treatment standards were vacated.
268.38	Waste specific prohibitions - newly identified organic toxicity characteristic wastes and newly listed coke by-product and chlorotoluene production wastes.
268.39	Waste specific prohibitions -- spent aluminum potliners; reactive; and carbamate wastes.

SUBPART D -- Treatment Standards

Sec.

268.40	Applicability of treatment standards.
268.41	Treatment standards expressed as concentrations in waste extract.
268.42	Treatment standards expressed as specified technologies.
268.43	Treatment standards expressed as waste concentrations.
268.44	Variance from a treatment standard.
268.45	Treatment standards for hazardous debris.
268.46	Alternative treatment standards based on HTMR.
268.48	Universal Treatment Standards.
268.49	Alternative LDR treatment standards for contaminated soil.

SUBPART E -- Prohibitions on Storage

268.50	Prohibitions on storage of restricted wastes.
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APPENDICES TO PART 268

Appendix I -	[Reserved]
Appendix II -	[Reserved]
Appendix III -	[Reserved]
Appendix IV -	Wastes Excluded from Lab Packs Under the Alternative Treatment Standards of § 268.42(c).
Appendix V -	[Reserved]
Appendix VI -	Recommended Technologies to Achieve Deactivation of Characteristics in § 268.42
Appendix VII -	Effective Dates of Surface Disposed Wastes (Non-Soil and Debris) Regulated in the LDRs
Appendix VIII -	National Capacity LDR Variances for UIC Wastes
Appendix IX -	Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test (SW-846, Method 1310A)
Appendix X -	[Reserved]
Appendix XI -	Metal Bearing Wastes Prohibited from Dilution in a Combustion Unit According to § 268.3(c)

SUBPART A -- General

§ 268.1 Purpose, scope and applicability.

- (a) This part identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.
- (b) Except as specifically provided otherwise in this part or Part 261 of these regulations, the requirements of this part apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.
- (c) Restricted wastes may continue to be land disposed as follows:
 - (1) Where persons have been granted an extension to the effective date of a prohibition under Subpart C of this part or pursuant to 40 CFR § 268.5, with respect to those wastes covered by the extension;
 - (2) Where persons have been granted an exemption from a prohibition pursuant to a petition under 40 CFR § 268.6, with respect to those wastes and units covered by the petition;
 - (3) [Reserved]
 - (4) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under this part, are not prohibited if the wastes meet any of the following criteria, unless the wastes are subject to a specified method of treatment other than DEACT in § 268.40, or are D003 reactive cyanide:
 - (i) The wastes are managed in a treatment system which subsequently discharges to waters of the U.S. pursuant to a permit issued under section 402 of the Clean Water Act; or
 - (ii) The wastes are treated for purposes of the pretreatment requirements of section 307 of the Clean Water Act; or
 - (iii) The wastes are managed in a zero discharge system engaged in Clean Water Act-equivalent treatment as defined in § 268.37(a); and
 - (iv) The wastes no longer exhibit a prohibited characteristic at the point of land disposal (i.e., placement in a surface impoundment).
- (d) The requirements of this part shall not affect the availability of a waiver under section 121(d)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

§ 268.1

(e) The following hazardous wastes are not subject to any provision of Part 268:

(1) Waste generated by small quantity generators of less than 100 kilograms of non-acute hazardous waste or less than 1 kilogram of acute hazardous waste per month, as defined in § 261.5 of these regulations;

(2) Waste pesticides that a farmer disposes of pursuant to § 262.70;

(3) Wastes identified or listed as hazardous after November 8, 1984 for which EPA has not promulgated land disposal prohibitions or treatment standards;

(4) De minimis losses of characteristic wastes to wastewaters are not considered to be prohibited wastes and are defined as losses 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; and relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; rinsate from empty containers or from containers that are rendered empty by that rinsing; and laboratory wastes not exceeding one per cent of the total flow of wastewater into the facility's headworks on an annual basis, or with a combined annualized average concentration not exceeding one part per million in the headworks of the facility's wastewater treatment or pretreatment facility.

(f) Universal waste handlers and universal waste transporters (as defined in § 260.10) are exempt from §§ 268.7 and 268.50 for the hazardous wastes listed below. These handlers are subject to regulation under Part 273 of these regulations.

(1) Batteries as described in § 273.2(a) of these regulations;

(2) Pesticides as described in § 273.2(b) of these regulations;

(3) Mercury-containing devices as described in § 273.2(c) of these regulations;

(4) Aerosol cans as described in § 273.2(d) of these regulations;

(5) Lamps as described in § 273.2(e) of these regulations; and

(6) Electronic devices and electronic components as described in § 273.2(f) of these regulations.

§ 268.2 Definitions applicable to this part.

When used in this part the following terms have the meanings given below:

- (a) "**Halogenated organic compounds**" or "**HOCs**" means those compounds having a carbon-halogen bond which are listed under Appendix III to this part.
- (b) "**Hazardous constituents or constituents**" means those constituents listed in Appendix VIII to Part 261 of these regulations.
- (c) "**Land disposal**" means placement in or on the land, except in a corrective action management unit or staging pile, and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes.
- (d) **Nonwastewaters** are wastes that do not meet the criteria for wastewaters in paragraph (f) of this section.
- (e) "**Polychlorinated biphenyls**" or "**PCBs**" are halogenated organic compounds defined in accordance with 40 CFR § 761.3.

§ 268.3

(f) Wastewaters are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS).

(g) "**Debris**" means solid material exceeding a 60mm particle size that is intended for disposal and that is: A manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: Any material for which a specific treatment standard is provided in Subpart D, Part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; Process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and Intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by § 268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

(h) "**Hazardous debris**" means debris that contains a hazardous waste listed in Subpart D of Part 261 of these regulations, or that exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of these regulations. Any deliberate mixing of prohibited hazardous waste with debris that changes its treatment classification (i.e., from waste to hazardous debris) is not allowed under the dilution prohibition in § 268.3.

(i) "**Underlying hazardous constituent**" means any constituent listed in § 268.48, Table UTS - Universal Treatment Standards, except fluoride, selenium, sulfides, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standards.

(j) "**Inorganic metal-bearing waste**" is one for which EPA has established treatment standards for metal hazardous constituents, and which does not otherwise contain significant organic or cyanide content as described in § 268.3(c)(1), and is specifically listed in Appendix XI of this part.

(k) "**Soil**" means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S. Natural Resources Conservation Service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil by volume based on visual inspection. Any deliberate mixing of prohibited hazardous waste with soil that changes its treatment classification (i.e., from waste to contaminated soil) is not allowed under the dilution prohibition in § 268.3.

§ 268.3 Dilution prohibited as a substitute for treatment.

(a) Except as provided in paragraph (b) of this section, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with Subpart D of this part, to circumvent the effective date of a prohibition in Subpart C of this part, to otherwise avoid a prohibition in Subpart C of this part, or to circumvent a land disposal prohibition imposed by RCRA Section 3004 [42 U.S.C. § 6924].

§ 268.3

(b) Dilution of wastes that are hazardous only because they exhibit a characteristic in treatment systems which include land-based units which treat wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act (CWA), or which treat wastes in a CWA-equivalent treatment system, or which treat wastes for the purposes of pretreatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this section unless a method other than DEACT has been specified in § 268.40 as the treatment standard, or unless the waste is a D003 reactive cyanide wastewater or nonwastewater.

(c) Combustion of the hazardous waste codes listed in Appendix XI of this part is prohibited, unless the waste, at the point of generation, or after any bona fide treatment such as cyanide destruction prior to combustion, can be demonstrated to comply with one or more of the following criteria (unless otherwise specifically prohibited from combustion):

(1) The waste contains hazardous organic constituents or cyanide at levels exceeding the constituent-specific treatment standard found in § 268.48;

(2) The waste consists of organic, debris-like materials (e.g., wood, paper, plastic, or cloth) contaminated with an inorganic metal-bearing hazardous waste;

(3) The waste, at point of generation, has reasonable heating value such as greater than or equal to 5000 BTU per pound;

(4) The waste is co-generated with wastes for which combustion is a required method of treatment;

(5) The waste is subject to Federal and/or State requirements necessitating reduction of organics (including biological agents); or

(6) The waste contains greater than 1% Total Organic Carbon (TOC).

(d) It is a form of impermissible dilution, and therefore prohibited, to add iron filings or other metallic forms of iron to lead-containing hazardous wastes in order to achieve any land disposal restriction treatment standard for lead. Lead-containing wastes include D008 wastes (wastes exhibiting a characteristic due to the presence of lead), all characteristic wastes containing lead as an underlying hazardous constituent, listed wastes containing lead as a regulated constituent, and hazardous media containing any of the aforementioned lead-containing wastes.

§ 268.4 Treatment surface impoundment exemption.

(a) Wastes which are otherwise prohibited from land disposal under this part may be treated in a surface impoundment or series of impoundments provided that:

(1) Treatment of such wastes occurs in the impoundments;

(2) The following conditions are met:

(i) **Sampling and Testing.** For wastes with treatment standards in Subpart D of this part and/or prohibition levels in Subpart C of this part or RCRA section 3004(d) [42 U.S.C. § 6924(d)], the residues from treatment are analyzed, as specified in § 268.7 or § 268.32, to determine if they meet the applicable treatment standards or where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling method, specified in the waste analysis plan under § 264.13 or § 265.13, must be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples.

(ii) **Removal.** The following treatment residues (including any liquid waste) must be removed at least annually; residues which do not meet the treatment standards promulgated under Subpart D of this part; residues which do not meet the prohibition levels established under Subpart C of this part or imposed by statute (where no treatment standards have been established; residues which are from the treatment of wastes prohibited from land disposal under Subpart C of this part (where no treatment standards have been established and no prohibition levels apply); or residues from managing listed wastes which are not delisted under § 260.22 of these regulations. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flow-through constitutes removal of the supernatant for the purpose of this requirement.

(iii) **Subsequent Management.** Treatment residues may not be placed in any other surface impoundment for subsequent management.

(iv) **Recordkeeping.** Sampling and testing and recordkeeping provisions of §§ 264.13 and 265.13 of these regulations apply.

§ 268.5

(3) The impoundment meets the design requirements of § 264.221(c) or § 265.221(a) of these regulations, regardless that the unit may not be new, expanded, or a replacement, and be in compliance with applicable ground water monitoring requirements of Subpart F of Part 264 or Part 265 of these regulations unless:

(i) Exempted pursuant to § 264.221(d) or (e) of these regulations, or to § 265.221(c) or (d) of these regulations; or,

(ii) Upon application by the owner or operator, the Department, after notice and an opportunity to comment, has granted a waiver of the requirements on the basis that the surface impoundment:

(A) Has at least one liner, for which there is no evidence that such liner is leaking;

(B) Is located more than one-quarter mile from a underground source of drinking water; and

(C) Is in compliance with generally applicable ground water monitoring requirements for facilities with permits; or,

(iii) Upon application by the owner or operator, the Department, after notice and an opportunity to comment, has granted a modification to the requirements on the basis of a demonstration that the surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(4) The owner or operator submits to the Department a written certification that the requirements of § 268.4(a)(3) have been met. The following certification is required:

I certify under penalty of law that the requirements of 6 CCR 1007-3, § 268.4(a)(3) have been met for all surface impoundments being used to treat restricted wastes. 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.

(b) Evaporation of hazardous constituents as the principal means of treatment is not considered to be treatment for purposes of an exemption under this section.

§ 268.5 [RESERVED]

§ 268.6 Petitions to allow land disposal of a waste prohibited under Subpart C of Part 268.

(a) Any person seeking an exemption from a prohibition under Subpart C of this part for the disposal of a restricted hazardous waste in a particular unit or units must submit a petition to the Administrator demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration must include the following components:

- (1) An identification of the specific waste and the specific unit for which the demonstration will be made;
- (2) A waste analysis to describe fully the chemical and physical characteristics of the subject waste;
- (3) A comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality.
- (4) A monitoring plan that detects migration at the earliest practicable time;
- (5) Sufficient information to assure the Administrator that the owner or operator of a land disposal unit receiving restricted waste(s) will comply with other applicable Federal, State, and local laws.

(b) The demonstration referred to in paragraph (a) of this section must meet the following criteria:

- (1) All waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state-of-the-art techniques allow;

§ 268.6

- (2) All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters must have been approved by the Administrator;
 - (3) Simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;
 - (4) A quality assurance and quality control plan that addresses all aspects of the demonstration must be approved by the Administrator; and
 - (5) An analysis must be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis must include an evaluation of the consequences of predictable future events, including, but not limited to, earthquakes, floods, severe storm events, droughts, or other natural phenomena.
- (c) Each petition referred to in paragraph (a) of this section must include the following:
- (1) A monitoring plan that describes the monitoring program installed at and/or around the unit to verify continued compliance with the conditions of the variance. This monitoring plan must provide information on the monitoring of the unit and/or the environment around the unit. The following specific information must be included in the plan:
 - (i) The media monitored in the cases where monitoring of the environment around the unit is required;
 - (ii) The type of monitoring conducted at the unit, in the cases where monitoring of the unit is required;
 - (iii) The location of the monitoring stations;
 - (iv) The monitoring interval (frequency of monitoring at each station);
 - (v) The specific hazardous constituents to be monitored;
 - (vi) The implementation schedule for the monitoring program;
 - (vii) The equipment used at the monitoring stations;
 - (viii) The sampling and analytical techniques employed; and
 - (ix) The data recording/reporting procedures.

§ 268.6

- (2) Where applicable, the monitoring program described in paragraph (c)(1) of this section must be in place for a period of time specified by the Administrator, as part of the Administrator's approval of the petition, prior to receipt of prohibited waste at the unit.
 - (3) The monitoring data collected according to the monitoring plan specified under paragraph (c)(1) of this section must be sent to the Administrator according to a format and schedule specified and approved in the monitoring plan, and
 - (4) A copy of the monitoring data collected under the monitoring plan specified under paragraph (c)(1) of this section must be kept on-site at the facility in the operating record.
 - (5) The monitoring program specified under paragraph (c)(1) of this section must meet the following criteria:
 - (i) All sampling, testing, and analytical data must be approved by the Administrator and must provide data that is accurate and reproducible.
 - (ii) All estimation and monitoring techniques must be approved by the Administrator.
 - (iii) A quality assurance and quality control plan addressing all aspects of the monitoring program must be provided to and approved by the Administrator.
- (d) Each petition must be submitted to the Administrator.
- (e) After a petition has been approved, the owner or operator must report any changes in conditions at the unit and/or the environment around the unit that significantly depart from the conditions described in the variance and affect the potential for migration of hazardous constituents from the units as follows:
 - (1) If the owner or operator plans to make changes to the unit's design, construction, or operation, such a change must be proposed, in writing, and the owner or operator must submit a demonstration to the Administrator at least thirty days prior to making the change. The Administrator will determine whether the proposed change invalidates the terms of the petition and will determine the appropriate response. Any changes must be approved by the Administrator prior to being made.
 - (2) If the owner or operator discovers that a condition at the site which was modeled or predicted in the petition does not occur as predicted, this change must be reported, in writing, to the Administrator within 10 days of discovering the change. The Administrator will determine whether the reported change from the terms of the petition requires further action, which may include termination of waste acceptance and revocation of the petition, petition modifications, or other responses.
- (f) If the owner or operator determines that there is migration of hazardous constituent(s) from the unit, the owner or operator must:

- (1) Immediately suspend receipt of prohibited waste at the unit, and
 - (2) Notify the Administrator, in writing, within 10 days of the determination that a release has occurred.
 - (3) Following receipt of the notification the Administrator will determine, within 60 days of receiving notification, whether the owner or operator can continue to receive prohibited waste in the unit and whether the variance is to be revoked. The Administrator shall also determine whether further examination of any migration is warranted under applicable provisions of Part 264 or Part 265.
- (g) Each petition must include the following statement signed by the petitioner or an authorized representative:
- I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that 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.
- (h) After receiving a petition, the Administrator may request any additional information that reasonably may be required to evaluate the demonstration.
- (i) If approved, the petition will apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and will not apply to any other restricted waste at that disposal unit, or to that specific restricted waste at any other disposal unit.
- (j) The Administrator will give public notice in the Federal Register of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the Federal Register.
- (k) The term of a petition granted under this section shall be no longer than the term of the RCRA permit if the disposal unit is operating under a RCRA permit, or up to a maximum of 10 years from the date of approval provided under paragraph (g) of this section if the unit is operating under interim status. In either case, the term of the granted petition shall expire upon the termination or denial of a RCRA permit, or upon the termination of interim status or when the volume limit of waste to be land disposed during the term of petition is reached.

§ 268.7

(l) Prior to the Administrator's decision, the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

(m) The petition granted by the Administrator does not relieve the petitioner of the petitioner's responsibilities in the management of hazardous waste under 6 CCR 1007-3, Parts 260 through 268 and 100.

(n) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm are not eligible for an exemption under this section.

§ 268.7 Testing, tracking, and recordkeeping requirements for generators, treaters, and disposal facilities.

(a) Requirements for generators:

(1) A generator of hazardous waste must determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards in § 268.40, § 268.45, or § 268.49. This determination can be made in either of two ways: testing the waste or using knowledge of the waste. If the generator tests the waste, testing would normally determine the total concentration of hazardous constituents, or the concentration of hazardous constituents in an extract of the waste obtained using test method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as referenced in § 260.11 of these regulations, depending on whether the treatment standard for the waste is expressed as a total concentration or concentration of hazardous constituent in the waste's extract. In addition, some hazardous wastes must be treated by particular treatment methods before they can be land disposed and some soils are contaminated by such hazardous wastes. These treatment standards are also found in § 268.40, and are described in detail in § 268.42, Table 1. These wastes, and soils contaminated with such wastes, do not need to be tested (however, if they are in a waste mixture, other wastes with concentration level treatment standards would have to be tested). If a generator determines they are managing a waste or soil contaminated with a waste, that displays a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity, they must comply with the special requirements of § 268.9 of this part in addition to any applicable requirements in this section.

(2) If the waste or contaminated soil does not meet the treatment standard: With the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The notice must include the information in column "268.7(a)(2)" of the Generator Paperwork Requirements Table in § 268.7(a)(4). No further notification is necessary until such time that the waste or facility change, in which case a new notification must be sent and a copy placed in the generator's file.

§ 268.7

(i) For contaminated soil, the following certification statement should be included, signed by an authorized representative:

I certify under penalty of law that I personally have examined this contaminated soil and it [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and requires treatment to meet the soil treatment standards as provided by 268.49(c).

(ii) [Reserved]

(3) If the waste or contaminated soil meets the treatment standard at the original point of generation:

(i) With the initial shipment of waste to each treatment, storage, or disposal facility, the generator must send a one-time written notice to each treatment, storage, or disposal facility receiving the waste, and place a copy in the file. The notice must include the information indicated in column "268.7(a)(3)" of the Generator Paperwork Requirements Table in § 268.7(a)(4) and the following certification statement, signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 6 CCR 1007-3, Part 268, Subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

(ii) For contaminated soil, with the initial shipment of wastes to each treatment, storage, or disposal facility, the generator must send a one-time written notice to each facility receiving the waste and place a copy in the file. The notice must include the information in column "268.7(a)(3)" of the Generator Paperwork Requirements Table in § 268.7(a)(4).

(iii) If the waste changes, the generator must send a new notice and certification to the receiving facility, and place a copy in their files. Generators of hazardous debris excluded from the definition of hazardous waste under § 261.3(f) of these regulations are not subject to these requirements.

(4) For reporting, tracking and recordkeeping when exceptions allow certain wastes or contaminated soil that do not meet the treatment standards to be land disposed: There are certain exemptions from the requirement that hazardous wastes or contaminated soil meet treatment standards before they can be land disposed. These include, but are not limited to case-by-case extensions under 40 CFR § 268.5, disposal in a no-migration unit under § 268.6, or a national capacity variance or case-by-case capacity variance under Subpart C of this part. If a generator's waste is so exempt, then with the initial shipment of waste, the generator must

§ 268.7

send a one-time written notice to each land disposal facility receiving the waste. The notice must include the information indicated in column "268.7(a)(4)" of the Generator Paperwork Requirements Table below. If the waste changes, the generator must send a new notice to the receiving facility, and place a copy in their files.

Generator Paperwork Requirements Table

Required Information	§ 268.7 (a)(2)	§ 268.7 (a)(3)	§ 268.7 (a)(4)	§ 268.7 (a)(9)
1. EPA Hazardous Waste Numbers and Manifest Number of first shipment.....	✓	✓	✓	✓
2. Statement: This waste is not prohibited from land disposal.....			✓	
3. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice	✓	✓		
4. The notice must include the applicable wastewater/nonwastewater category (see §§ 268.2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide)	✓	✓		
5. Waste analysis data (when available).....	✓	✓	✓	
6. Date the waste is subject to the prohibition ..			✓	
7. For hazardous debris, when treating with the alternative treatment technologies provided by § 268.45: the contaminants subject to treatment, as described in § 268.45(b); and an indication that these contaminants are being treated to comply with § 268.45	✓		✓	
8. For contaminated soil subject to LDRs as provided in § 268.49(a), the constituents subject to treatment as described in § 268.49(d), and the following statement: This contaminated soil [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with the soil treatment standards as provided by § 268.49(c) or the universal treatment standards.	✓	✓		
9. A certification is needed (see applicable section for exact wording).....		✓		✓

§ 268.7

(5) If a generator is managing and treating prohibited waste or contaminated soil in tanks, containers, or containment buildings regulated under § 262.34 of these regulations to meet applicable LDR treatment standards found at § 268.40, the generator must develop and follow a written waste analysis plan which describes the procedures they will carry out to comply with the treatment standards. (Generators treating hazardous debris under the alternative treatment standards of Table 1, § 268.45, however, are not subject to these waste analysis requirements.) The plan must be kept on site in the generator's records, and the following requirements must be met:

(i) The waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste(s) being treated, and contain all information necessary to treat the waste(s) in accordance with the requirements of this part, including the selected testing frequency.

(ii) Such plan must be kept in the facility's on-site files and made available to inspectors.

(iii) Wastes shipped off-site pursuant to this paragraph must comply with the notification requirements of § 268.7(a)(3).

(6) If a generator determines that the waste or contaminated soil is restricted based solely on his knowledge of the waste, all supporting data used to make this determination must be retained on-site in the generator's files. If a generator determines that the waste is restricted based on testing this waste or an extract developed using the test method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as referenced in § 260.11 of these regulations, and all waste analysis data must be retained on-site in the generator's files.

(7) If a generator determines that he/she is managing a prohibited waste that is excluded from the definition of hazardous or solid waste or is exempted from Subtitle C regulation, under §§ 261.2 through 261.6 of these regulations subsequent to the point of generation (including deactivated characteristic hazardous wastes managed in wastewater treatment systems subject to the Clean Water Act (CWA) as specified at § 261.4(a)(2), or are CWA-equivalent), he/she must place a one-time notice describing such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from RCRA Subtitle C regulation, and the disposition of the waste, in the facility's onsite files.

(8) Generators must retain on-site a copy of all notices, certifications, waste analysis data, and other documentation produced pursuant to this section for at least three years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal. The three year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Director. The requirements of this paragraph apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under §§ 261.2 through 261.6 of these regulations, or exempted from Subtitle C regulation, subsequent to the point of generation.

§ 268.7

(9) If a generator is managing a lab pack containing hazardous wastes and wishes to use the alternative treatment standard for lab packs found at § 268.42(c):

(i) With the initial shipment of waste to a treatment facility, the generator must submit a notice that provides the information in column "§ 268.7(a)(9)" in the Generator Paperwork Requirements Table of paragraph (a)(4) of this section, and the following certification. The certification, which must be signed by an authorized representative and must be placed in the generator's files, must say the following:

I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under Appendix IV to 6 CCR 1007-3, Part 268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at § 268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.

(ii) No further notification is necessary until such time that the wastes in the lab pack change, or the receiving facility changes, in which case a new notice and certification must be sent and a copy placed in the generator's file.

(iii) If the lab pack contains characteristic hazardous wastes (D001-D043), underlying hazardous constituents (as defined in § 268.2(i)) need not be determined.

(iv) The generator must also comply with the requirements in paragraphs (a)(6) and (a)(7) of this section.

(10) Small quantity generators with tolling agreements pursuant to § 262.20(e) of these regulations must comply with the applicable notification and certification requirements of paragraph (a) of this section for the initial shipment of the waste subject to the agreement. Such generators must retain on-site a copy of the notification and certification, together with the tolling agreement, for at least three years after termination or expiration of the agreement. The three-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Director.

(b) Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by § 264.13 (for permitted TSDs) or § 265.13 (for interim status facilities). Such testing must be performed as provided in paragraphs (b)(1), (b)(2) and (b)(3) of this section.

§ 268.7

- (1) For wastes or contaminated soil with treatment standards expressed in the waste extract (TCLP), the owner or operator of the treatment facility must test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference in § 260.11 of these regulations); to assure that the treatment residues extract meet the applicable treatment standards.
- (2) For wastes or contaminated soil with treatment standards expressed as concentrations in the waste, the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that they meet the applicable treatment standards.
- (3) A one-time notice must be sent with the initial shipment of waste or contaminated soil to the land disposal facility. A copy of the notice must be placed in the treatment facility's file.
 - (i) No further notification is necessary until such time that the waste or receiving facility change, in which case a new notice must be sent and a copy placed in the treatment facility's file.
 - (ii) The one-time notice must include these requirements:

Treatment Facility Paperwork Requirements Table

Required information	§ 268.7(b)
1. EPA Hazardous Waste Numbers and Manifest Number of first shipment.....	✓
2. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice.....	✓
3. The notice must include the applicable wastewater/nonwastewater category (see §§ 268.2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide)	✓
4. Waste analysis data (when available)	✓
5. For contaminated soil subject to LDRs as provided in § 268.49(a), the constituents subject to treatment as described in § 268.49(d) and the following statement, "this contaminated soil [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by § 268.49(c).	✓
6. A certification is needed (see applicable section for exact wording).....	✓

§ 268.7

(4) The treatment facility must submit a one-time certification signed by an authorized representative with the initial shipment of waste or treatment residue of a restricted waste to the land disposal facility.

The certification must state:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 6 CCR 1007-3, § 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

A certification is also necessary for contaminated soil and it must state:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in § 268.49 without impermissible dilution of the prohibited wastes. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(i) A copy of the certification must be placed in the treatment facility's on-site files. If the waste or treatment residue changes, or the receiving facility changes, a new certification must be sent to the receiving facility, and a copy placed in the file.

(ii) Debris excluded from the definition of hazardous waste under § 261.3(f) of these regulations (i.e., debris treated by an extraction or destruction technology provided by Table 1, § 268.45, and debris that the Director has determined does not contain hazardous waste), however, is subject to the notification and certification requirements of paragraph (d) of this section rather than the certification requirements of this paragraph.

(iii) For wastes with organic constituents having treatment standards expressed as concentration levels, if compliance with the treatment standards is based in whole or in part on the analytical detection limit alternative specified in § 268.40(d), the certification, signed by an authorized representative, must state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater

§ 268.7

organic constituents have been treated by combustion units as specified in § 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good-faith efforts to analyze for such constituents. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(iv) For characteristic wastes that are subject to the treatment standards in § 268.40 (other than those expressed as a method of treatment), or § 268.49, and that contain underlying hazardous constituents as defined in § 268.2(i); if these wastes are treated on-site to remove the hazardous characteristic; and are then sent off-site for treatment of underlying hazardous constituents, the certification must state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of 6 CCR 1007-3, § 268.40 or § 268.49 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(v) For characteristic wastes that contain underlying hazardous constituents as defined in § 268.2(i) that are treated on-site to remove the hazardous characteristic to treat underlying hazardous constituents to levels in § 268.48 Universal Treatment Standards, the certification must state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of 6 CCR 1007-3, § 268.40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268.2(i) have been treated on-site to meet the § 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(5) If the waste or treatment residue will be further managed at a different treatment, storage, or disposal facility, the treatment, storage, or disposal facility sending the waste or treatment residue off-site must comply with the notice and certification requirements applicable to generators under this section.

(6) Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of § 267.20(b) regarding treatment standards and prohibition levels, the owner or operator of a treatment facility (i.e., the recycler) is not required to notify the receiving facility, pursuant to paragraph (b)(3) of this section. With each shipment of such wastes the owner or operator of the recycling facility must submit a certification described in paragraph (b)(4) of this section, and a notice which includes the information listed in paragraph (b)(3) of this section (except the manifest number) to the Director, or to the Director's delegated representative. The recycling facility must keep records of the name and location of each entity receiving the hazardous waste-derived product.

§ 268.7

(c) Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal pursuant to § 267.20(b), the owner or operator of any land disposal facility disposing any waste subject to restrictions under this part must:

(1) Have copies of the notice and certifications specified in paragraph (a) or (b) of this section.

(2) Test the waste or an extract of the waste or treatment residue developed using test method 1311 (the Toxicity Characteristic Leaching Procedure described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference in § 260.11 of these regulations), to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in Subpart D of this part. Such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by § 264.13 or § 265.13 of these regulations.

(d) Generators or treaters who first claim that hazardous debris is excluded from the definition of hazardous waste under § 261.3(f) of these regulations (i.e., debris treated by an extraction or destruction technology provided by Table 1, § 268.45, and debris that the Director has determined does not contain hazardous waste) are subject to the following notification and certification requirements:

(1) A one-time notification must be submitted to the Director including the following information:

(i) The name and address of the Subtitle D facility receiving the treated debris;

(ii) A description of the hazardous debris as initially generated, including the applicable EPA Hazardous Waste Number(s); and

(iii) For debris excluded under § 261.3(f)(1) of these regulations, the technology from Table 1, § 268.45, used to treat the debris.

(2) The notification must be updated if the debris is shipped to a different facility, and, for debris excluded under § 261.3(f)(1) of these regulations, if a different type of debris is treated or if a different technology is used to treat the debris.

(3) For debris excluded under § 261.3(f)(1) of these regulations, the owner or operator of the treatment facility must document and certify compliance with the treatment standards of Table 1, § 268.45, as follows:

(i) Records must be kept of all inspections, evaluations, and analyses of treated debris that are made to determine compliance with the treatment standards;

§ 268.9

(ii) Records must be kept of any data or information the treater obtains during treatment of the debris that identifies key operating parameters of the treatment unit; and

(iii) For each shipment of treated debris, a certification of compliance with the treatment standards must be signed by an authorized representative and placed in the facility's files. The certification must state the following: "I certify under penalty of law that the debris has been treated in accordance with the requirements of § 268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment."

(e) Generators and treaters who first receive from EPA or an authorized state a determination that a given contaminated soil subject to LDRs as provided in § 268.49(a) no longer contains a listed hazardous waste and generators and treaters who first determine that a contaminated soil subject to LDRs as provided in § 268.49(a) no longer exhibits a characteristic of hazardous waste must:

(1) Prepare a one-time only documentation of these determinations including all supporting information; and,

(2) Maintain that information in the facility files and other records for a minimum of three years.

§ 268.8 [RESERVED]

§ 268.9 Special rules regarding wastes that exhibit a characteristic.

(a) The initial generator of a solid waste must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under Subpart D of this part. For purposes of Part 268, the waste will carry the waste code for any applicable listed waste (Part 261, Subpart D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (Part 261, Subpart C), except when the treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste, as specified in paragraph (b) of this section. If the generator determines that their waste displays a hazardous characteristic (and is not D001 nonwastewaters treated by CMBST, RORGS, or POLYM of § 268.42, Table 1), the generator must determine the underlying hazardous constituents (as defined in § 268.2(i)), in the characteristic waste.

(b) Where a prohibited waste is both listed under Part 261, Subpart D and exhibits a characteristic under Part 261, Subpart C, the treatment standard for the waste code listed in Part 261, Subpart D will operate in lieu of the standard for the waste code under Part 261, Subpart C, provided that the treatment standard for the listed waste includes a treatment standard for the

§ 268.9

constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

(c) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under Part 261, Subpart C may be land disposed unless the waste complies with the treatment standards under Subpart D of this part.

(d) Wastes that exhibit a characteristic are also subject to § 268.7 requirements, except that once the waste is no longer hazardous, a one-time notification and certification must be placed in the generators or treaters files and sent to the Department. 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 Subtitle D facility receiving the waste changes. However, the generator or treater need only notify the Department on an annual basis if such changes occur. Such notification and certification should be sent to the Department by the end of the calendar year, but no later than December 31.

(1) The notification must include the following information:

(i) Name and address of the Subtitle D facility receiving the waste shipment; and

(ii) A description of the waste as initially generated, including the applicable EPA hazardous waste code(s); treatability group(s), and underlying hazardous constituents (as defined in § 268.2(i), unless the waste will be treated and monitored for all underlying hazardous constituents. If all underlying hazardous constituents will be treated and monitored, there is no requirement to list any of the underlying hazardous constituents on the notice.

(2) The certification must be signed by an authorized representative and must state the language found in § 268.7(b)(4).

(i) If treatment removes the characteristic but does not meet standards applicable to underlying hazardous constituents, then the certification found in § 268.7(b)(4)(iv) applies.

(ii) [Reserved]

**Subpart B -- Schedule for Land Disposal Prohibition and
Establishment of Treatment Standards.**

§ 268.10 [RESERVED]

§ 268.11 [RESERVED]

§ 268.12 [RESERVED]

§ 268.13 [RESERVED]

§ 268.14 Surface Impoundment Exemptions.

(a) This section defines additional circumstances under which an otherwise prohibited waste may continue to be placed in a surface impoundment.

(b) Wastes which are newly identified or listed under section 3001 after November 8, 1984, and stored in a surface impoundment that is newly subject to subtitle C of RCRA as a result of the additional identification or listing, may continue to be stored in the surface impoundment for 48 months after the promulgation of the additional listings or characteristic, notwithstanding that the waste is otherwise prohibited from land disposal, provided that the surface impoundment is in compliance with the requirements of Subpart F of Part 265 of these regulations within 12 months after promulgation of the new listing or characteristic.

(c) Wastes which are newly identified or listed under section 3001 after November 8, 1984, and treated in a surface impoundment that is newly subject to subtitle C of RCRA as a result of the additional identification or listing, may continue to be treated in that surface impoundment, notwithstanding that the waste is otherwise prohibited from land disposal, provided that surface impoundment is in compliance with the requirements of Subpart F of Part 265 of these regulations within 12 months after the promulgation of the new listing or characteristic. In addition, if the surface impoundment continues to treat hazardous waste after 48 months from promulgation of the additional listing or characteristic, it must then be in compliance with § 268.4.

Subpart C -- Prohibitions on Land Disposal

§ 268.20 Waste specific prohibitions--Dyes and/or pigments production wastes.

(a) The waste specified in Part 261 of these regulations as EPA Hazardous Waste Number K181, and soil and debris contaminated with this waste, radioactive wastes mixed with this waste, and soil and debris contaminated with radioactive wastes mixed with this waste are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

- (1) The wastes meet the applicable treatment standards specified in subpart D of this Part;
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;
- (3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;
- (4) Hazardous debris has met the treatment standards in § 268.40 or the alternative treatment standards in § 268.45; or
- (5) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract of the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable subpart D levels, the waste is prohibited from land disposal, and all requirements of Part 268 are applicable, except as otherwise specified.

§ 268.30 Waste specific prohibitions -- wood preserving wastes.

(a) The following wastes are prohibited from land disposal: the wastes specified in Part 261 as EPA Hazardous Waste numbers F032, F034, and F035.

(b) Effective May 12, 1999, the following wastes are prohibited from land disposal: soil and debris contaminated with F032, F034, F035; and radioactive wastes mixed with EPA Hazardous waste numbers F032, F034, and F035.

(c) Until May 12, 1999, soil and debris contaminated with F032, F034, F035; and radioactive waste mixed with F032, F034, and F035 may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in 40 CFR § 268.5(h)(2).

§ 268.30

(d) The requirements of paragraphs (a) and (b) of this section do not apply if:

- (1) The wastes meet the applicable treatment standards specified in Subpart D of this part;
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;
- (3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under § 268.44; or
- (4) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to those wastes covered by the extension.

(e) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Universal Treatment Standard levels of § 268.48 of this part, the waste is prohibited from land disposal, and all requirements of Part 268 are applicable, except as otherwise specified.

§ 268.31 Waste specific prohibition -- Dioxin-containing wastes.

(a) Effective November 8, 1988, the dioxin-containing wastes specified in 6 CCR 1007-3, § 261.31 as EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028, are prohibited from land disposal unless the following condition applies:

(1) The F020 through F023 and F026 through F028 dioxin-containing waste is contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or a corrective action taken under subtitle C of the Resource Conservation and Recovery Act (RCRA).

(b) Effective November 8, 1990, the F020 through F023 and F026 through F028 dioxin-containing wastes listed in paragraph (a)(1) of this section are prohibited from land disposal.

(c) Between November 8, 1988 and November 8, 1990, wastes included in paragraph (a)(1) of this section may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in 40 CFR § 268.5(h)(2) and all other applicable requirements of Parts 264 and 265 of these regulations.

(d) The requirements of paragraphs (a) and (b) of this section do not apply if:

(1) The wastes meet the standards of Subpart D of this part; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 40 CFR § 268.6, with respect to those wastes and units covered by the petition; or

(3) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to those wastes covered by the extension.

§ 268.32 [Reserved]

§ 268.33 Waste-specific prohibitions -- chlorinated aliphatic wastes.

(a) The wastes specified in Part 261 of the regulations as EPA Hazardous Wastes Numbers K174, and K175, soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

§ 268.33

- (3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;
 - (4) Hazardous debris has met the treatment standards in § 268.40 or the alternative treatment standards in § 268.45; or
 - (5) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to these wastes covered by the extension.
- (c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable levels of Subpart D of this part, the waste is prohibited from land disposal, and all requirements of Part 268 are applicable, except as otherwise specified.
- (d) Disposal of K175 wastes that have complied with all applicable § 268.40 treatment standards must also be macroencapsulated in accordance with § 268.45 Table 1 unless the waste is placed in:
- (1) A Subtitle C monofill containing only K175 wastes that meet all applicable § 268.40 treatment standards; or
 - (2) A dedicated Subtitle C landfill cell in which all other wastes being co-disposed are at $\text{pH} \leq 6.0$.

§ 268.34 Waste specific prohibitions -- toxicity characteristic metal wastes.

- (a) The following wastes are prohibited from land disposal: the wastes specified in Part 261 of these regulations as EPA Hazardous Waste numbers D004--D011 that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure), and waste, soil, or debris from mineral processing operations that is identified as hazardous by the specifications at Part 261 of these regulations.
- (b) Effective May 26, 2000, the following wastes are prohibited from land disposal: newly identified characteristic wastes from elemental phosphorus processing; radioactive wastes mixed with EPA Hazardous wastes D004--D011 that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure); or mixed with newly identified characteristic mineral processing wastes, soil, or debris.
- (c) Until May 26, 2000, newly identified characteristic wastes from elemental phosphorus processing, radioactive waste mixed with D004--D011 wastes that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure), or mixed with newly identified characteristic mineral processing wastes, soil, or debris may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 40 CFR Part 268.5(h)(2).

§ 268.35

(d) The requirements of paragraphs (a) and (b) of this section do not apply if:

- (1) The wastes meet the applicable treatment standards specified in Subpart D of this part;
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;
- (3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under § 268.44; or
- (4) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR Part 268.5, with respect to these wastes covered by the extension.

(e) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents (including underlying hazardous constituents in characteristic wastes) in excess of the applicable Universal Treatment Standard levels of § 268.48 of this part, the waste is prohibited from land disposal, and all requirements of Part 268 are applicable, except as otherwise specified.

§ 268.35 Waste specific prohibitions - petroleum refining wastes.

(a) The wastes specified in Part 261 of these regulations as EPA Hazardous Wastes Numbers K169, K170, K171, and K172, soils and debris contaminated with these wastes, radioactive wastes mixed with these hazardous wastes, and soils and debris contaminated with these radioactive mixed wastes, are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

- (1) The wastes meet the applicable treatment standards specified in Subpart D of this part;
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;
- (3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;
- (4) Hazardous debris that have met treatment standards in § 268.40 or in the alternative treatment standards in § 268.45; or

§ 268.35

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Universal Treatment Standard levels of § 268.48, the waste is prohibited from land disposal, and all requirements of this part are applicable, except as otherwise specified.

§ 268.36 Waste specific prohibitions--inorganic chemical wastes.

(a) The wastes specified in Part 261 as EPA Hazardous Wastes Numbers K176, K177, and K178, and soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

- (1) The wastes meet the applicable treatment standards specified in Subpart D of this part;
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;
- (3) The wastes meet the applicable treatment standards established pursuant to a petition granted under § 268.44;
- (4) Hazardous debris has met the treatment standards in § 268.40 or the alternative treatment standards in § 268.45; or
- (5) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable Subpart D levels, the waste is prohibited from land disposal, and all requirements of this part are applicable, except as otherwise specified.

§ 268.35

[RESERVED]

PAGES 858 THROUGH 861 ARE RESERVED

§ 268.37 Waste specific prohibitions -- ignitable and corrosive characteristic wastes whose treatment standards were vacated.

(a) The wastes specified in § 261.21 as D001 (and is not in the High TOC Ignitable Liquids Subcategory), and specified in § 261.22 as D002, that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

(b) The wastes specified in § 261.21 as D001 (and is not in the High TOC Ignitable Liquids Subcategory), and specified in § 261.22 as D002, that are managed in systems defined in 40 CFR § 144.6(e) and § 146.6(e) as Class V injection wells, that do not engage in CWA-equivalent treatment before injection, are prohibited from land disposal.

§ 268.38 Waste specific prohibitions -- newly identified organic toxicity characteristic wastes and newly listed coke by-product and chlorotoluene production wastes.

(a) The wastes specified in § 261.32 as EPA Hazardous Waste numbers K141, K142, K143, K144, K145, K147, K148, K149, K150, and K151 are prohibited from land disposal. In addition, debris contaminated with EPA Hazardous Waste numbers F037, F038, K107 through K112, K117, K118, K123 through K126, K131, K132, K136, U328, U353, U359, and soil and debris contaminated with D012 through D043, K141 through K145, and K147 through K151 are prohibited from land disposal. The following wastes that are specified in § 261.24, Table 1 as EPA Hazardous Waste numbers: D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043 that are not radioactive, or that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that are zero dischargers that do not engage in CWA-equivalent treatment before ultimate land disposal, or that are injected in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or better than these technologies.

(b) On September 19, 1996, radioactive wastes that are mixed with D018 through D043 that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment

§ 268.39

means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies. Radioactive wastes mixed with K141 through K145, and K147 through K151 are also prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(c) Between December 19, 1994 and September 19, 1996, the wastes included in paragraphs (b) of this section may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in 40 CFR § 268.5(h)(2).

(d) The requirements of paragraphs (a), (b), and (c) of this section do not apply if:

- (1) The wastes meet the applicable treatment standards specified in Subpart D of this part;
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under 40 CFR § 268.6, with respect to those wastes and units covered by the petition;
- (3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under 40 CFR § 268.44;
- (4) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to these wastes covered by the extension.

(e) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subpart D levels, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified.

§ 268.39 Waste specific prohibitions -- spent aluminum potliners; reactive; and carbamate wastes.

(a) The wastes specified in § 261.32 as EPA Hazardous Waste numbers K156 through K159, and K161; and in § 261.33 as EPA Hazardous Waste numbers P127, P128, P185, P188 through P192, P194, P196 through P199, P201 through P205, U271, U278 through U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409 through U411 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal.

§ 268.39

(b) The wastes identified in § 261.23 as D003 that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. This prohibition does not apply to unexploded ordnance and other explosive devices which have been the subject of an emergency response. (Such D003 wastes are prohibited unless they meet the treatment standard of DEACT before land disposal (see § 268.40)).

(c) On October 8, 1997, the wastes specified in § 261.32 as EPA Hazardous Waste number K088 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal.

(d) On April 8, 1998, Radioactive wastes mixed with K088, K156 through K159, K161, P127, P128, P185, P188 through P192, P194, P196 through P199, P201 through P205, U271, U278 through U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409 through U411 are prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(e) Until April 8, 1998, the wastes included in paragraphs (a), (c), and (d) of this section may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in 40 CFR § 268.5(h)(2).

(f) The requirements of paragraphs (a), (b), (c), and (d) of this section do not apply if:

- (1) The wastes meet the applicable treatment standards specified in Subpart D of this part;
- (2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;
- (3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under § 268.44;
- (4) Persons have been granted an extension to the effective date of a prohibition pursuant to 40 CFR § 268.5, with respect to these wastes covered by the extension.

(g) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subpart D levels, the waste is prohibited from land disposal, and all requirements of this Part 268 are applicable, except as otherwise specified.

Subpart D -- Treatment Standards

§ 268.40 Applicability of treatment standards.

(a) A prohibited waste identified in the table "Treatment Standards for Hazardous Wastes" may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one of three types of treatment standard requirements:

- (1) All hazardous constituents in the waste or in the treatment residue must be at or below the values found in the table for that waste ("total waste standards"); or
- (2) The hazardous constituents in the extract of the waste or in the extract of the treatment residue must be at or below the values found in the table ("waste extract standards"); or
- (3) The waste must be treated using the technology specified in the table ("technology standard"), which are described in detail in § 268.42, Table 1 -- Technology Codes and Description of Technology-Based Standards.

(b) For wastewaters, compliance with concentration level standards is based on maximums for any one day, except for D004 through D011 wastes for which the previously promulgated treatment standards based on grab samples remain in effect. For all nonwastewaters, compliance with concentration level standards is based on grab sampling. For wastes covered by the waste extract standards, the test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, as incorporated by reference in § 260.11, must be used to measure compliance. An exception is made for D004 and D008, for which either of two test methods may be used: Method 1311, or Method 1310, the Extraction Procedure Toxicity Test. For wastes covered by a technology standard, the wastes may be land disposed after being treated using that specified technology or an equivalent treatment technology approved by the Department under the procedures set forth in § 268.42(b).

(c) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

(d) Notwithstanding the prohibitions specified in paragraph (a) of this section, treatment and disposal facilities may demonstrate (and certify pursuant to § 268.7(b)(5)) compliance with the treatment standards for organic constituents specified by a footnote in the table "Treatment Standards for Hazardous Wastes" in this section, provided the following conditions are satisfied:

- (1) The treatment standards for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of Part 264, Subpart O, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

§ 268.40

- (2) The treatment or disposal facility has used the methods referenced in paragraph (d)(1) of this section to treat the organic constituents; and
- (3) The treatment or disposal facility may demonstrate compliance with organic constituents if good-faith analytical efforts achieve detection limits for the regulated organic constituents that do not exceed the treatment standards specified in this section by an order of magnitude.
- (e) For characteristic wastes (D001 through D043) that are subject to treatment standards in the following table "Treatment Standards for Hazardous Wastes," and are not managed in a wastewater treatment system that is regulated under the Clean Water Act (CWA) , or in a wastewater treatment system that is CWA-equivalent, all underlying hazardous constituents (as defined in § 268.2(i)) must meet Universal Treatment Standards, found in § 268.48, Table UTS, prior to land disposal as defined in § 268.2(c) of this part.
- (f) The treatment standards for F001 through F005 nonwastewater constituents carbon disulfide, cyclohexanone, and/or methanol apply to wastes which contain only one, two, or three of these constituents. Compliance is measured for these constituents in the waste extract from test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, as incorporated by reference in § 260.11. If the waste contains any of these three constituents along with any of the other 25 constituents found in F001 through F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol are not required.
- (g) Until August 26, 1998, the treatment standards for the wastes specified in § 261.32 as EPA Hazardous Waste numbers K156-K161; and in § 261.33 as EPA Hazardous Waste numbers P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U277-U280, U364-U367, U372, U373, U375-U379, U381-U387, U389-U396, U400-U404, U407, and U409-U411; and soil contaminated with these wastes; may be satisfied by either meeting the constituent concentrations presented in the table "Treatment Standards for Hazardous Wastes" in this section, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at § 268.42 Table 1, for nonwastewaters; and, biodegradation as defined by the technology code BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at § 268.42 Table 1, for wastewaters.
- (h) Prohibited D004 through D011 mixed radioactive wastes and mixed radioactive listed wastes containing metal constituents, that were previously treated by stabilization to the treatment standards in effect at that time and then put into storage, do not have to be re-treated to meet treatment standards in this section prior to land disposal.
- (i) Reserved

§ 268.40

(j) The treatment standards for the wastes specified in § 261.33 of these regulations as EPA Hazardous Waste numbers P185, P191, P192, P197, U364, U394, and U395 may be satisfied by either meeting the constituent concentrations presented in the table "Treatment Standards for Hazardous Wastes" in this section, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at § 268.42 Table 1 of this Part, for nonwastewaters; and, biodegradation as defined by the technology code BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at § 268.42 Table 1 of this Part, for wastewaters.

Treatment Standards for Hazardous Wastes

Note: The treatment standards that heretofore appeared in tables in §§ 268.41, 268.42, and 268.43 of this part have been consolidated into the table "Treatment Standards for Hazardous Wastes" in this section.

§ 268.40

INSERT THE § 268.40 TREATMENT STANDARDS TABLE HERE

§ 268.42

§ 268.41 Treatment standards expressed as concentrations in waste extract.

For the requirements previously found in this section and for treatment standards in Table CCWE -- Constituent Concentrations in Waste Extracts, refer to § 268.40.

§ 268.42 Treatment standards expressed as specified technologies.

Note: For the requirements previously found in this section in Table 2 -- Technology-Based Standards By RCRA Waste Code, and Table 3 -- Technology-Based Standards for Specific Radioactive Hazardous Mixed Waste, refer to § 268.40.

(a) The following wastes in the table in § 268.40 "Treatment Standards for Hazardous Wastes," for which standards are expressed as a treatment method rather than a concentration level, must be treated using the technologies specified in the table entitled "Technology Standards" in this section.

Table 1.-Technology Codes and Description of Technology-Based Standards

Technology code	Description of technology-based standards
ADGAS:	Venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid)-venting can be accomplished through physical release utilizing valves/piping; physical penetration of the container; and/or penetration through detonation.
AMLGM:	Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semi-solid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.
BIODG:	Biodegradation of organics or non-metallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues).
CARBN:	Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, and/or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., Total Organic Carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.
CHOXD:	Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations of reagents: (1) Hypochlorite (e.g. bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permangantes; and/or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.
CHRED:	Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts or sulfites, bisulfites, metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.
CMBST	High temperature organic destruction technologies, such as combustion in incinerators, boilers, or industrial furnaces operated in accordance with the applicable requirements of Part 264, Subpart O, or Part 265, Subpart O, or 40 CFR Part 266, Subpart H, and in other units operated in accordance with applicable technical operating requirements; and certain non-combustive technologies, such as the Catalytic Extraction Process.
DEACT:	Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity.
FSUBS:	Fuel substitution in units operated in accordance with applicable technical operating requirements.
HLVIT:	Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission.

Table 1.-Technology Codes and Description of Technology-Based Standards

Technology code	Description of technology-based standards
IMERC:	Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of Part 264, Subpart 0 and Part 265, Subpart 0. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
INCIN:	Incineration in units operated in accordance with the technical operating requirements of Part 264, Subpart 0 and Part 265, Subpart 0.
LLEXT:	Liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extracted liquid waste) proportionately low in organics that must undergo further treatment as specified in the standard.
MACRO:	Macroencapsulation with surface coating materials such as polymeric organics (e.g. resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to § 260.10.
NEUTR:	Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewaters) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals.
NLDBR:	No land disposal based on recycling.
POLYM:	Formation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 non-wastewaters which are chemical components in the manufacture of plastics.
PRECP:	Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, fluorides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination: (1) Lime (i.e., containing oxides and/or hydroxides of calcium and/or magnesium); (2) caustic (i.e., sodium and/or potassium hydroxides); (3) soda ash (i.e., sodium carbonate); (4) sodium sulfide; (5) ferric sulfate or ferric chloride; (6) alum; or (7) sodium sulfate. Additional flocculating, coagulation or similar reagents/processes that enhance sludge dewatering characteristics are not precluded from use.
RBERY:	Thermal recovery of Beryllium.
RCGAS:	Recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct reuse or resale; and use of the gas as a fuel source.
RCORR:	Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) Distillation (i.e., thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; and/or (5) incineration for the recovery of acid-Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RLEAD:	Thermal recovery of lead in secondary lead smelters.

Table 1.-Technology Codes and Description of Technology-Based Standards

Technology code	Description of technology-based standards
RMERC:	Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retorting or roasting unit (or facility) must be subject to one or more of the following: (a) a National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of section 302 of the Clean Air Act) for mercury. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
RMETL:	Recovery of metals or inorganics utilizing one or more of the following direct physical/removal technologies: (1) Ion exchange; (2) resin or solid (i.e., zeolites) adsorption; (3) reverse osmosis; (4) chelation/solvent extraction; (5) freeze crystallization; (6) ultrafiltration and/or (7) simple precipitation (i.e., crystallization) - Note: This does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RORGS:	Recovery of organics utilizing one or more of the following technologies: (1) Distillation; (2) thin film evaporation; (3) steam stripping; (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extraction; (7) precipitation/crystallization (including freeze crystallization); or (8) chemical phase separation techniques (i.e., addition of acids, bases, demulsifiers, or similar chemicals); - Note: this does not preclude the use of other physical phase separation techniques such as a decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RTHRM:	Thermal recovery of metals or inorganics from nonwastewaters in units identified as industrial furnaces according to § 260.10 under the definition of "industrial furnaces".
RZINC:	Resmelting in high temperature metal recovery units for the purpose of recovery of zinc.
STABL:	Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust) - this does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time and/or compressive strength, or to overall reduce the leachability of the metal or inorganic.
SSTRP:	Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as, temperature and pressure ranges have been optimized, monitored, and maintained. These operating parameters are dependent upon the design parameters of the unit such as, the number of separation stages and the internal column design. Thus, resulting in a condensed extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that must undergo further treatment as specified in the standard.
WETOX:	Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues).
WTRRX:	Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic/ignitable levels of gases released during the reaction.

Note 1: When a combination of these technologies (i.e., a treatment train) is specified as a

§ 268.42

single treatment standard, the order of application is specified in the table at § 268.40 "Treatment Standards for Hazardous Waste", by indicating the five letter technology code that must be applied first, then the designation "fb." (an abbreviation for "followed by"), then the five letter technology code for the technology that must be applied next, and so on.

Note 2: When more than one technology (or treatment train) are specified as alternative treatment standards, the five letter technology codes (or the treatment trains) are separated by a semicolon (;) with the last technology preceded by the word "OR". This indicates that any one of these BDAT technologies or treatment trains can be used for compliance with the standard.