R315. Environmental Quality, Waste Management and Radiation Control, Waste Management.
Rule R315-268. Land Disposal Restrictions.
R315-268-1. Land Disposal Restrictions - Purpose, scope, and applicability.

(a) Rule R315-268 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 Rule R315-268 or Rule R315-261, the requirements of Rule R315-268 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 Sections R315-268-20 through 39 or pursuant to Section R315-268-5, 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 Section R315-268-6, with respect to those wastes and units covered by the petition;

(3) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under Rule R315-268, or 40 CFR 148, are not prohibited if the wastes:

(i) Are disposed into a nonhazardous or hazardous injection well as defined under 40 CFR 146.6(a); and

(ii) Do not exhibit any prohibited characteristic of hazardous waste identified in Sections R315-261-20 through 24, at the point of injection.

(4) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under Rule R315-268, 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 Section R315-268-40, 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 Subsection R315-268-37(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 Rule R315-268 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).

(e) The following hazardous wastes are not subject to any provision of Rule R315-268:

(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 Section R315-261-5;

(2) Waste pesticides that a farmer disposes of pursuant to Section R315-262-70;

(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 Section R315-260-10, are exempt from Sections R315-268-7 and 268-50 for the hazardous wastes listed below. These handlers are subject to regulation under Rule R315-273.

(1) Batteries as described in Section R315-273-2;

(2) Pesticides as described in Section R315-273-3;

(3) Mercury-containing equipment as described in Section R315-273-4; and

(4) Lamps as described in Section R315-273-5.

R315-268-2. Land Disposal Restrictions - Definitions applicable in Rule R315-268.

When used in Rule R315-268 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 Rule R315-268.

(b) Hazardous constituent or constituents means those constituents listed in appendix VIII to Rule R315-261.

(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 Subsection R315-268-2(f).

(e) Polychlorinated biphenyls or PCBs are halogenated organic compounds defined in accordance with 40 CFR 761.3.

(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 60 mm 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 Sections R315-268-40 through 49, 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 Section R315-268-45 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 Sections R315-261-30 through 35, or that exhibits a characteristic of hazardous waste identified in Sections R315-261-20 through 24. 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 Section R315-268-3.

(i) Underlying hazardous constituent means any constituent listed in Section R315-268-48, 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 Subsection R315-268-3(c)(1), and is specifically listed in appendix XI of Rule R315-268.

(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 Section R315-268-3.

R315-268-3. Land Disposal Restrictions - Dilution Prohibited as a Substitute for Treatment.

(a) Except as provided in Subsection R315-268-3(b), 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 Sections R315-268-40 through 49, to circumvent the effective date of a prohibition in Sections R315-268-20 through 39, to otherwise avoid a prohibition in Sections R315-268-20 through 39, or to circumvent a land disposal prohibition imposed by RCRA section 3004.

(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 Section R315-268-3 unless a method other than DEACT has been specified in Section R315-268-40 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 Rule R315-268 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 Section R315-268-48;

(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.

R315-268-4. Land Disposal Restrictions - Treatment Surface Impoundment Exemption.

(a) Wastes which are otherwise prohibited from land disposal under Rule R315-268 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 Sections R315-268-40 through 49 and/or prohibition levels in Sections R315-268-20 through 39 or RCRA section 3004(d), the residues from treatment are analyzed, as specified in Sections R315-268-7 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 Section R315-264-13 or 40 CFR 265.13, which is adopted by reference, shall 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, shall be removed at least annually; residues which do not meet the treatment standards promulgated under Sections R315-268-40 through 49; residues which do not meet the prohibition levels established under Sections R315-268-20 through 39 or imposed by statute, where no treatment standards have been established; residues which are from the treatment of wastes prohibited from land disposal under Sections R315-268-20 through 39, where no treatment standards have been established and no prohibition levels apply; or residues from managing listed wastes which are not delisted under Section R315-260-22. 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 Section R315-264-13 and 40 CFR 265.13, which is adopted by reference, apply.

(3) The impoundment meets the design requirements of Section R315-264-221(c) or 40 CFR 265.221(a), which is adopted by reference, regardless that the unit may not be new, expanded, or a replacement, and be in compliance with applicable ground water monitoring requirements of Sections R315-264-90 through 101 or 40 CFR 265.90 through 94, which are adopted by reference, unless:

(i) Exempted pursuant to Sections R315-264-221 (d) or (e), or to 40 CFR 265.221(c) or (d), which are adopted by reference; or,

(ii) Upon application by the owner or operator, the Director, 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 an 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 Director, 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 Director a written certification that the requirements of Section R315-268-4(a)(3) have been met. The following certification is required:

I certify under penalty of law that the requirements of Section R315-268-4(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 Section R315-268-4.

R315-268-5. Land Disposal Restrictions - Procedures For Case-by-Case Extensions to an Effective Date.

Note to Sections R315-268-5. All references to administrative positions and to regulations are to the

positions and regulations of the US Environmental Protection Agency. Utah does not administer Section R315-268-5.

(a) Any person who generates, treats, stores, or disposes of a hazardous waste may submit an application to the Administrator for an extension to the effective date of any applicable restriction established under Sections R315-268-20 through 39. The applicant shall demonstrate the following:

(1) He has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste in accordance with the effective date of the applicable restriction established under Sections R315-268-20 through 39;

(2) He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (e.g., recycling), or disposal capacity that meets the treatment standards specified in Sections R315-268-40 through 49 or, where treatment standards have not been specified, such treatment, recovery, or disposal capacity is protective of human health and the environment.

(3) Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective date;

(4) The capacity being constructed or otherwise provided by the applicant shall be sufficient to manage the entire quantity of waste that is the subject of the application;

(5) He provides a detailed schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available;

(6) He has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and

(7) Any waste managed in a surface impoundment or landfill during the extension period shall meet the requirements of Subsection R315-268-5(h)(2).

(b) An authorized representative signing an application described under Subsection R315-268-5(a) shall make the following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the 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.

(c) After receiving an application for an extension, the Administrator may request any additional information which he deems as necessary to evaluate the application.

(d) An extension shall apply only to the waste generated at the individual facility covered by the application and shall not apply to restricted waste from any other facility.

(e) On the basis of the information referred to in Subsection R315-268-5(a), after notice and opportunity for comment, and after consultation with appropriate State agencies in all affected States, the Administrator may grant an extension of up to 1 year from the effective date. The Administrator may renew this extension for up to 1 additional year upon the request of the applicant if the demonstration required in Subsection R315-268-5 (a) can still be made. In no event shall an extension extend beyond 24 months from the applicable effective date specified in Sections R315-268-20 through 39. The length of any extension authorized shall be determined by the Administrator based on the time required to construct or obtain the type of capacity needed by the applicant as described in the completion schedule discussed in Subsection R315-268-5(a)(5). The Administrator shall give public notice of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition shall be published in the Federal Register.

(f) Any person granted an extension under Section R315-268-5 shall immediately notify the Administrator as soon as he has knowledge of any change in the conditions certified to in the application.

(g) Any person granted an extension Section R315-268-5 shall submit written progress reports at intervals designated by the Administrator. Such reports shall describe the overall progress made toward constructing or otherwise providing alternative treatment, recovery or disposal capacity; shall identify any event which may cause or has caused a delay in the development of the capacity; and shall summarize the steps taken to mitigate the delay. The Administrator can revoke the extension at any time if the applicant does not demonstrate a good-faith effort to meet the schedule for completion, if the Agency denies or revokes any required permit, if conditions certified in the application change, or for any violation of Rules R315-260 through 266, 268, 270, 273, 124,15, and 101.

(h) Whenever the Administrator establishes an extension to an effective date under this section, during the period for which such extension is in effect:

(1) The storage restrictions under Subsection R315-268-50(a) do not apply; and

(2) Such hazardous waste may be disposed in a landfill or surface impoundment only if such unit is in compliance with the technical requirements of the following provisions regardless of whether such unit is existing, new, or a replacement or lateral expansion.

(i) The landfill, if in interim status, is in compliance with the requirements of subpart F of 40 CFR 265 and 40 CFR 265.301(a), (c), and (d) that is adopted by reference in Rule R315-265; or,

(ii) The landfill, if permitted, is in compliance with the requirements of Sections R315-264-90 through 101 and Subsections R315-264-301(c), (d) and (e); or

(iii) The surface impoundment, if in interim status, is in compliance with the requirements of subpart F of 40 CFR 265, 40 CFR 265.221(a),(c), and (d) that are adopted by reference in Rule R315-265, and RCRA section 3005(j)(1); or

(iv) The surface impoundment, if permitted, is in compliance with the requirements of Sections R315-264-90 through 101 and Subsections R315-264-221(c), (d) and (e); or

(v) The surface impoundment, if newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste, is in compliance with the requirements of subpart F of 40 CFR 265 that is adopted by reference in Rule R315-265 within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of 40 CFR 265.221(a), (c) and (d) that is adopted by reference in Rule R315-265 within 48 months after the promulgation of additional listings or characteristics of hazardous waste. If a national capacity variance is granted, during the period the variance is in effect, the surface impoundment, if newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics of hazardous waste, is in compliance with the requirements of subpart F of 40 CFR 265 that is adopted by reference in Rule R315-265 within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of 40 CFR 265.221(a), (c) and (d) that is adopted by reference in Rule R315-265 within 48 months after the promulgation of additional listings or characteristics of hazardous waste; or

(vi) The landfill, if disposing of containerized liquid hazardous wastes containing PCBs at concentrations greater than or equal to 50 ppm but less than 500 ppm, is also in compliance with the requirements of 40 CFR 761.75 and Rules R264 and 265.

(i) Pending a decision on the application the applicant is required to comply with all restrictions on land disposal under Rule R315-268 once the effective date for the waste has been reached.

R315-268-6. Land Disposal Restrictions - Petitions to Allow Land Disposal of a Waste Prohibited Under Sections R315-268-20 through 39.

Note to Section R315-268-6. All references to administrative positions and to regulations are to the positions and regulations of the US Environmental Protection Agency. Utah does not administer Section R315-268-6.

(a) Any person seeking an exemption from a prohibition under Sections R315-268-20 through 39 for the disposal of a restricted hazardous waste in a particular unit or units shall 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 shall 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) shall comply with other applicable Federal, State, and local laws.

(b) The demonstration referred to in Subsection R315-268-6(a) shall meet the following criteria:

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

(2) All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters shall have been approved by the Administrator;

(3) Simulation models shall 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 shall be approved by the Administrator; and,

(5) An analysis shall be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis shall 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 Subsection R315-268-6(a) shall 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 shall provide information on the monitoring of the unit and/or the environment around the unit. The following specific information shall 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.
(2) Where applicable, the monitoring program described in Subsection R315-268-6(c)(1) shall be in place for a period of time specified by the Administrator, as part of his 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 Subsection R315-268-6(c)(1) shall 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 Subsection R315-268-6(c)(1) shall be kept on-site at the facility in the operating record.
(5) The monitoring program specified under Subsection R315-268-6(c)(1) meets the following criteria:
(i) All sampling, testing, and analytical data shall be approved by the Administrator and shall provide data that is accurate and reproducible.
(ii) All estimation and monitoring techniques shall be approved by the Administrator.
(iii) A quality assurance and quality control plan addressing all aspects of the monitoring program shall be provided to and approved by the Administrator.
(d) Each petition shall be submitted to the Administrator.
(e) After a petition has been approved, the owner or operator shall 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 design, construction, or operation, such a change shall be proposed, in writing, and the owner or operator shall submit a demonstration to the Administrator at least 30 days prior to making the change. The Administrator shall determine whether the proposed change invalidates the terms of the petition and shall determine the appropriate response. Any change shall 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 shall be reported, in writing, to the Administrator within 10 days of discovering the change. The Administrator shall 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 shall:

(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 shall 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 Rules R315-264 or 265.

(g) Each petition shall 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 shall apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and shall 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 shall 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 shall be published in the Federal Register.

(k) The term of a petition granted under Section R315-268-6 shall be no longer than the term of the hazardous

waste permit if the disposal unit is operating under a hazardous waste permit, or up to a maximum of 10 years from the date of approval provided under Subsection R315-268-6(g) 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 hazardous waste 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.

(l) Prior to the Administrator's decision, the applicant is required to comply with all restrictions on land disposal under Rule R315-268 once the effective date for the waste has been reached.

(m) The petition granted by the Administrator does not relieve the petitioner of his responsibilities in the management of hazardous waste under Rules R315-260 through part 270.

(n) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm are not eligible for an exemption under Section R315-268-6.

R315-268-7. Land Disposal Restrictions - Testing, Tracking, And Recordkeeping Requirements For Generators, Treaters, And Disposal Facilities.

(a) Requirements for generators:

(1) A generator of hazardous waste shall 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 Sections R315-268-40, 45, or 49. This determination can be made concurrently with the hazardous waste determination required in Section R315-262-11, 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 of Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, incorporated by reference, see Section R315-260-11, 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. Alternatively, the generator shall send the waste to a hazardous waste treatment facility permitted under Section 19-6-108, where the waste treatment facility shall comply with the requirements of Section R315-264-13 and Subsection R315-268-7(b). In addition, some hazardous wastes shall 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 Section R315-268-40, and are described in detail in Section R315-268-42, 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 shall comply with the special requirements of Section R315-268-9 in addition to any applicable requirements in Section R315-268-7.

(2) If the waste or contaminated soil does not meet the treatment standards, or if the generator chooses not to make the determination of whether his waste shall be treated, with the initial shipment of waste to each treatment or storage facility, the generator shall send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The notice shall include the information in column "268-7(a)(2)" of the Generator Paperwork Requirements Table in Subsection R315-268-7(a)(4). Alternatively, if the generator chooses not to make the determination of whether the waste shall be treated, the notification shall include the EPA Hazardous Waste Numbers and Manifest Number of the first shipment and shall state "This hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility shall make the determination." No further notification is necessary until such time that the waste or facility change, in which case a new notification shall be sent and a copy placed in the generator's file.

(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 shall 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 shall include the information indicated in column "268-7(a)(3)" of the Generator Paperwork Requirements Table in Subsection R315-268-7(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 Sections R315-268-40 through 49. 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 shall send a one-time written notice to each facility receiving the waste and place a copy in the file. The notice shall include the information in column "268-

7(a)(3)" of the Generator Paperwork Requirements Table in Subsection R315-268-7(a)(4).

(iii) If the waste changes, the generator shall 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 Subsection R315-261-3(f) 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 Section R315-268-5, disposal in a no-migration unit under Section R315-268-6, or a national capacity variance or case-by-case capacity variance under Sections R315-268-20 through 39. If a generator's waste is so exempt, then with the initial shipment of waste, the generator shall send a one-time written notice to each land disposal facility receiving the waste. The notice shall include the information indicated in column "268-7(a(4)" of the Generator Paperwork Requirements Table below. If the waste changes, the generator shall 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	X	X	X	X
2. Statement: this waste is not prohibited from land disposal			X	
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	X	X		
4. The notice shall include the applicable wastewater/ nonwastewater category (see Section R315-268-2(d) and (f)) and subdivisions made within a	X	X		

waste code based on waste-specific criteria (such as D003 reactive cyanide)			
5. Waste analysis data, when available	X	X	X
6. Date the waste is subject to the prohibition			X
7. For hazardous debris, when treating with the alternative treatment technologies provided by Section R315-268-45: the contaminants subject to treatment, as described in Section R315-268-45(b); and an indication that these contaminants are being treated to comply with Section R315-268-45	X		X
8. For contaminated soil subject to LDRs as provided in Section R315-268-49(a), the constituents subject to treatment as described in Section R315-268-49(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 Section R315-268-49(c) or the universal treatment standards	X	X	
9. A certification is needed, see applicable section for exact wording		X	X

(5) If a generator is managing and treating prohibited waste or contaminated soil in tanks, containers, or containment buildings regulated under Section R315-262-34 to meet applicable LDR treatment standards found at Section R315-268-40, the generator shall 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, Section R315-268-45, however, are not subject to these waste analysis requirements. The plan shall be kept on site in the generator's records, and the following requirements shall be met:

(i) The waste analysis plan shall 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 Rule R315-268, including the selected testing frequency.

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

(iii) Wastes shipped off-site pursuant to Subsection R315-268-7(a) shall comply with the notification requirements of Subsection R315-268-7(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 shall 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 Section R315-260-11, and all waste analysis data shall be retained on-site in the generator's files.

(7) If a generator determines that he is managing a prohibited waste that is excluded from the definition of hazardous or solid waste or is exempted from regulation under Sections R315-261-2 through 6 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 Subsection R315-261-4(a)(2) or that are CWA-equivalent, or are managed in an underground injection well regulated by the SDWA, he shall place a one-time notice describing such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from regulation under Sections R315-261-2 through 6, and the disposition of the waste, in the facility's on-site files.

(8) Generators shall retain on-site a copy of all notices, certifications, waste analysis data, and other documentation produced pursuant to Section R315-268-7 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 Subsection R315-268-7(a) 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 Sections R315-261-2 through 6, or exempted from hazardous waste regulation, subsequent to the point of generation.

(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 Subsection R315-268-42(c):

(i) With the initial shipment of waste to a treatment facility, the generator shall submit a notice that provides the information in column "268-7(a)(9)" in the Generator

Paperwork Requirements Table of Subsection R315-268-7(a)(4), and the following certification. The certification, which shall be signed by an authorized representative and shall be placed in the generator's files, shall 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 Rule R315-268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at Subsection R315-268-42(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 shall be sent and a copy placed in the generator's file.

(iii) If the lab pack contains characteristic hazardous wastes, D001-D043 excluding D009, underlying hazardous constituents, as defined in Subsection R315-268-2(i) need not be determined.

(iv) The generator shall also comply with the requirements in Subsections R315-268-7(a)(6) and (a)(7).

(10) Small quantity generators with tolling agreements pursuant to Subsection R315-262-20(e) shall comply with the applicable notification and certification requirements of Subsection R315-268-7(a) for the initial shipment of the waste subject to the agreement. Such generators shall 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 shall test their wastes according to the frequency specified in their waste analysis plans as required by Section R315-264-13, for permitted TSDs, or 40 CFR 265.13, which is adopted by reference, for interim status facilities. Such testing shall be performed as provided in Subsections R315-268-7(b)(1), (b)(2) and (b)(3).

(1) For wastes or contaminated soil with treatment standards expressed in the waste extract (TCLP), the owner or operator of the treatment facility shall 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 Section R315-260-11, 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 shall test the treatment residues, not an extract of such residues, to assure that they meet the applicable treatment standards.

(3) A one-time notice shall be sent with the initial shipment of waste or contaminated soil to the land disposal facility. A copy of the notice shall 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 shall be sent and a copy placed in the treatment facility's file.

(ii) The one-time notice shall include these requirements:

Treatment Facility Paperwork Requirements Table

Required information	268-7(b)
1. EPA Hazardous Waste Numbers and Manifest Number of first shipment	X
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.	X
3. The notice shall include the applicable wastewater/ nonwastewater category, see Subsections R315-268-2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria, such as D003 reactive cyanide	X
4. Waste analysis data, when available	X
5. For contaminated soil subject to LDRs as provided in Subsection R315-268-49(a), the constituents subject to treatment as described in Subsection R315-268-49(d) and the following statement, “this contaminated soil, does/does not, exhibit a characteristic of hazardous waste and, is subject to/complies with, the soil treatment standards as provided by Subsection R315-268-49(c)”.	X
6. A certification is needed, see applicable section for exact wording	X

(4) The treatment facility shall 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 shall 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 Section R315-268-40 without impermissible dilution of the prohibited waste. I am aware 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 shall 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 Section R315-268-49 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 shall 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 shall be sent to the receiving facility, and a copy placed in the file.

(ii) Debris excluded from the definition of hazardous waste under Subsection R315-261-3(f), i.e., debris treated by an extraction or destruction technology provided by Table 1, Section R315-268-45, and debris that the Director has determined does not contain hazardous waste, however, is subject to the notification and certification requirements of Subsection R315-268-7(d) rather than the certification requirements of Subsection R315-268-7(b).

(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 Subsection R315-268-40(d), the certification, signed by an authorized representative, shall 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 organic constituents have been treated by combustion units as specified in Section R315-268-42, 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 Section R315-268-40, other than those expressed as a method of treatment, or Section R315-268-49, and that contain underlying hazardous constituents as defined in Subsection R315-268-2(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 shall state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of Section R315-268-40 or 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 Subsection R315-268-2(i) that are treated on-site to remove the hazardous characteristic to treat underlying hazardous constituents to levels in Section R315-268-48 Universal Treatment Standards, the certification shall state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of Section R315-268-40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in Subsection R315-268-2(i) have been treated on-site to meet the Section R315-268-48 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 shall comply with the notice and certification requirements applicable to generators under Section R315-268-7.

(6) Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of Subsection R315-266-20(b) regarding treatment standards and prohibition levels, the owner or operator of a treatment facility, i.e., the recycler, shall, for the initial shipment of waste, prepare a one-time certification described in Subsection R315-268-7(b)(4), and a one-time notice which includes the information in Subsection R315-268-7(b)(3), except the manifest number. The certification and notification shall be placed in the facility's on-site files. If the waste or the receiving facility changes, a new certification and notification shall be prepared and placed

in the on-site files. In addition, the recycling facility shall also keep records of the name and location of each entity receiving the hazardous waste-derived product.

(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 Subsection R315-266-20(b), the owner or operator of any land disposal facility disposing any waste subject to restrictions under Rule R315-268 shall:

(1) Have copies of the notice and certifications specified in Subsection R315-268-7(a) or (b).

(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 Section R315-260-11, to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in Sections R315-268-40 through 49. Such testing shall be performed according to the frequency specified in the facility's waste analysis plan as required by Section R315-264-13 or 40 CFR 265.13, which is adopted by reference.

(d) Generators or treaters who first claim that hazardous debris is excluded from the definition of hazardous waste under Subsection R315-261-3(f), i.e., debris treated by an extraction or destruction technology provided by Table 1, Section R315-268-45, 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, including the following information, shall be submitted to the Director:

(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 Subsection R315-261-3(f)(1), the technology from Table 1, Section R315-268-45, used to treat the debris.

(2) The notification shall be updated if the debris is shipped to a different facility, and, for debris excluded under Subsection R315-261-2(f)(1), if a different type of debris is treated or if a different technology is used to treat the debris.

(3) For debris excluded under Subsection R315-261-3(f)(1), the owner or operator of the treatment facility shall document and certify compliance with the treatment standards of Table 1, Section R315-268-45, as follows:

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

(ii) Records shall 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 shall be signed by an authorized representative and placed in the facility's files. The certification shall state the following: "I certify under penalty of law that the debris has been treated in accordance with the requirements of Section R315-268-45. 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 the Director a determination that a given contaminated soil subject to LDRs as provided in Subsection R315-268-49(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 Subsection R315-268-49(a) no longer exhibits a characteristic of hazardous waste shall:

(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.

R315-268-9. Land Disposal Restrictions - Special Rules Regarding Wastes That Exhibit A Characteristic.

(a) The initial generator of a solid waste shall determine each EPA Hazardous Waste Number, waste code, applicable to the waste in order to determine the applicable treatment standards under Sections R315-268-40 through 49. This determination may be made concurrently with the hazardous waste determination required in Section R315-262-11. For purposes of Rule R315-268, the waste shall carry the waste code for any applicable listed waste Sections R315-261-30 through 35. In addition, where the waste exhibits a characteristic, the waste shall carry one or more of the characteristic waste codes Sections R315-261-20 through 24, except when the treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste, as specified in Subsection R315-268-9(b). If the generator determines that their waste displays a hazardous characteristic, and is not D001 nonwastewaters treated by CMBST, RORGS, OR POLYM of Section R315-268-42, Table 1, the generator shall determine the underlying hazardous constituents, as defined at Subsection R315-268-2(i), in the characteristic waste.

(b) Where a prohibited waste is both listed under Sections R315-261-30 through 35 and exhibits a characteristic under Sections R315-261-20 through 24, the treatment standard for the waste code listed in Sections R315-261-30 through 35 shall operate in lieu of the standard for the waste code under Sections R315-261-20 through 24, provided that the treatment standard for the listed waste

includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste shall 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 Sections R315-261-20 through 24 may be land disposed unless the waste complies with the treatment standards under Sections R315-268-40 through 49.

(d) Wastes that exhibit a characteristic are also subject to Section R315-268-7 requirements, except that once the waste is no longer hazardous, a one-time notification and certification shall be placed in the generator's or treater's on-site files. The notification and certification shall be updated if the process or operation generating the waste changes and/or if the non-hazardous waste facility receiving the waste changes.

(1) The notification shall include the following information:

(i) Name and address of the non-hazardous waste 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 Subsection R315-268-2(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 shall be signed by an authorized representative and shall state the language found in Subsection R315-268-7(b)(4).

(i) If treatment removes the characteristic but does not meet standards applicable to underlying hazardous constituents, then the certification found in Subsection R315-268-7(b)(4)(iv) applies.

R315-268-13. Land Disposal Restrictions - Schedule For Wastes Identified Or Listed After November 8, 1984.

In the case of any hazardous waste identified or listed under section 3001 after November 8, 1984, the Administrator shall make a land disposal prohibition determination within 6 months after the date of identification or listing.

R315-268-14. Land Disposal Restrictions - Surface Impoundment Exemptions.

(a) Section R315-268-14 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 RCRA 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 listing or characteristic, notwithstanding that the waste is otherwise prohibited from land disposal, provided that the surface impoundment is in compliance with the requirements of 40 CFR 265.90 through 94, which are adopted by reference, within 12 months after promulgation of the new listing or characteristic.

(c) Wastes which are newly identified or listed under RCRA 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 40 CFR 265.90 through 94, which are adopted by reference, 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 shall then be in compliance with Section R315-268-4.

R315-268-20. Land Disposal Restrictions - Waste specific prohibitions - Dyes And/Or Pigments Production Wastes.

(a) Effective August 23, 2005, the waste specified in Rule R315-261 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 Subsection R315-268-20(a) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44;

(4) Hazardous debris has met the treatment standards in Section R315-268-40 or the alternative treatment standards in Section R315-268-45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-268-5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in Section R315-268-20 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall 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 Sections R315-268-40 through 49 levels, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

R315-268-30. Land Disposal Restrictions - Waste Specific Prohibitions - Wood Preserving Wastes.

(a) Effective August 11, 1997, the following wastes are prohibited from land disposal: the wastes specified in Rule R315-261 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) Between May 12, 1997 and 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 Subsection R315-268-5(h)(2).

(d) The requirements of Subsections R315-268-30(a) and (b) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44; or

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-268-5, with respect to those wastes covered by the extension.

(e) To determine whether a hazardous waste identified in Section R315-268-30 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall 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 Section R315-268-48, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

R315-268-31. Land Disposal Restrictions - Waste Specific Prohibitions-Dioxin-Containing Wastes.

(a) Effective November 8, 1988, the dioxin-containing wastes specified in Section R315-261-31 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-F023 and F026-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-F023 and F026-F028 dioxin-containing wastes listed in Subsection R315-268-31(a)(1) are prohibited from land disposal.

(c) Between November 8, 1988, and November 8, 1990, wastes included in Subsection R315-268-31(a)(1) may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in Subsection R315-268-5(h)(2) and all other applicable requirements of Rules R315-264 and 265.

(d) The requirements of Subsections R315-268-31(a) and (b) do not apply if:

(1) The wastes meet the standards of Sections R315-268-40 through 49; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-5, with respect to those wastes covered by the extension.

R315-268-32. Land Disposal Restrictions - Waste Specific Prohibitions—Soils Exhibiting The Toxicity Characteristic For Metals And Containing Pcbs.

(a) Effective December 26, 2000, the following wastes are prohibited from land disposal: any volumes of soil exhibiting the toxicity characteristic solely because of the presence of metals (D004—D011) and containing PCBs.

(b) The requirements of Subsection R315-268-32(a) do not apply if:

(1)(i) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg; and

(ii) The wastes meet the treatment standards specified in Sections R315-268-40 through 49 for EPA hazardous waste numbers D004-D011, as applicable; or

(2)(i) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg; and

(ii) The wastes meet the alternative treatment standards specified in Section R315-268-49 for contaminated soil; or

(3) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, with respect to those wastes and units covered by the petition; or

(4) The wastes meet applicable alternative treatment standards established pursuant to a petition granted under Section R315-268-44.

R315-268-33. Land Disposal Restrictions Waste Specific Prohibitions—Chlorinated Aliphatic Wastes.

(a) Effective May 8, 2001, the wastes specified in Rule R315-261 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 Subsection R315-268-33(a) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44;

(4) Hazardous debris has met the treatment standards in Section R315-268-40 or the alternative treatment standards in Section R315-268-45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-268-5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in Sections R315-268-33 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall 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 Sections R315-268-40 through 49, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

(d) Disposal of K175 wastes that have complied with all applicable Section R315-268-40 treatment standards shall also be macroencapsulated in accordance with Section R315-268-45 Table 1 unless the waste is placed in:

(1) A hazardous waste monofill containing only K175 wastes that meet all applicable Section R315-268-40 treatment standards; or

(2) A dedicated hazardous waste landfill cell in which all other wastes being co-disposed are at pH less than or equal to 6.0.

R315-268-34. Land Disposal Restrictions - Waste Specific Prohibitions-Toxicity Characteristic Metal Wastes.

(a) Effective August 24, 1998, the following wastes are prohibited from land disposal: the wastes specified in Rule R315-261 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 Rule R315-261.

(b) Effective November 26, 1998, the following waste is prohibited from land disposal: Slag from secondary lead smelting which exhibits the Toxicity Characteristic due to the presence of one or more metals.

(c) 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.

(d) Between May 26, 1998 and 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 Subsection R315-268-5(h).

(e) The requirements of Subsection R315-268-34(a) and (b) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49:

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44; or

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-

268-5, with respect to these wastes covered by the extension.

(f) To determine whether a hazardous waste identified in Section R315-268-34 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentration 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 Section R315-268-48, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

R315-268-35. Land Disposal Restrictions - Waste Specific Prohibitions—Petroleum Refining Wastes.

(a) Effective February 8, 1999, the wastes specified in Rule R315-261 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 Subsection R315-268-35(a) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44;

(4) Hazardous debris that have met treatment standards in Section R315-268-40 or in the alternative treatment standards in Section R315-268-45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-268-5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in Section R315-268-35 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall 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 Section R315-268-48, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

R315-268-36. Land Disposal Restrictions - Waste Specific Prohibitions-Inorganic Chemical Wastes.

(a) Effective May 20, 2002, the wastes specified in Rule R315-261 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 Subsection R315-268-36(a) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44;

(4) Hazardous debris has met the treatment standards in Section R315-268-40 or the alternative treatment standards in Section R315-268-45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-268-5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in Section R315-268-36 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall 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 Sections R315-268-40 through 49 levels, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

R315-268-37. Land Disposal Restrictions - Waste Specific Prohibitions-Ignitable And Corrosive Characteristic Wastes Whose Treatment Standards Were Vacated.

(a) Effective August 9, 1993, the wastes specified in Section R315-261-21 as D001, and is not in the High TOC Ignitable Liquids Subcategory, and specified in Section R315-261-22 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) Effective February 10, 1994, the wastes specified in Section R315-261-21 as D001, and is not in the High TOC Ignitable Liquids Subcategory, and specified in Section R315-261-22 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.

R315-268-38. Land Disposal Restrictions - Waste Specific Prohibitions-Newly Identified Organic Toxicity Characteristic Wastes And Newly Listed Coke By-Product And Chlorotoluene Production Wastes.

(a) Effective December 19, 1994, the wastes specified in Section R315-261-32 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-K112, K117, K118, K123-K126, K131, K132, K136, U328, U353, U359, and soil and debris contaminated with D012-D043, K141-K145, and K147-K151 are prohibited from land disposal. The following wastes that are specified in Section R315-261-24, 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-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 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-K145, and K147-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 Subsection R315-268-38(b) may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in Subsection R315-268-5(h)(2).

(d) The requirements of Subsections R315-268-38(a), (b), and (c) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44;

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-268-5, with respect to these wastes covered by the extension.

(e) To determine whether a hazardous waste identified in Section R315-268-38 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall 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 Sections R315-268-40 through 49, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

R315-268-39. Land Disposal Restrictions - Waste Specific Prohibitions-Spent Aluminum Potliners; Reactive; And Carbamate Wastes.

(a) On July 8, 1996, the wastes specified in Section R315-261-32 as EPA Hazardous Waste numbers K156-K159, and K161; and in Section R315-261-33 as EPA Hazardous Waste numbers P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U278-U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409-U411 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal.

(b) On July 8, 1996, the wastes identified in Section R315-261-23 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 Section R315-268-40.

(c) On September 21, 1998, the wastes specified in Section R315-261-32 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-K159, K161, P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U278-U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409-U411 are prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(e) Between July 8, 1996, and April 8, 1998, the wastes included in Subsections R315-268-39(a), (c), and (d) may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in Subsection R315-268-5(h)(2).

(f) The requirements of Subsections R315-268-39(a), (b), (c), and (d) do not apply if:

(1) The wastes meet the applicable treatment standards specified in Sections R315-268-40 through 49;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under Section R315-268-6, 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 Section R315-268-44;

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to Section R315-268-5, with respect to these wastes covered by the extension.

(g) To determine whether a hazardous waste identified in Section R315-268-39 exceeds the applicable treatment standards specified in Section R315-268-40, the initial generator shall 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 Sections R315-268-40 through 49, the waste is prohibited from land disposal, and all requirements of Rule R315-268 are applicable, except as otherwise specified.

R315-268-40. Land Disposal Restrictions - 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 shall 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 shall be at or below the values found in the table ("waste extract standards"); or

(3) The waste shall be treated using the technology specified in the table ("technology standard"), which are described in detail in Section R315-268-42, 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 Section R315-260-11, shall 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 1310B, 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 Administrator under the procedures set forth in Section R315-268-42(b).

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

(d) Notwithstanding the prohibitions specified in Subsection R315-268-40(a), treatment and disposal facilities may demonstrate, and certify pursuant to Subsection R315-268-7(b)(5), compliance with the treatment standards for organic constituents specified by a footnote in the table "Treatment Standards for Hazardous Wastes" in Section R315-268-40, 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 Section R315-264-340 through 351, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

(2) The treatment or disposal facility has used the methods referenced in Subsection R315-268-40(d)(1) 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 Section R315-268-40 by an order of magnitude.

(e) For characteristic wastes (D001-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), that is CWA-equivalent, or that is injected into a Class I nonhazardous deep injection well, all underlying hazardous constituents, as defined in Section R315-268-2(i), shall meet Universal Treatment Standards, found in Section R315-268-48, Table Universal Treatment Standards, prior to land disposal as defined in Subsection R315-268-2(c).

(f) The treatment standards for F001-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 Section R315-260-11. If the waste contains any of these three constituents along with any of the other 25 constituents found in F001-F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol are not required.

(g) Between August 26, 1996 and March 4, 1999 the treatment standards for the wastes specified in Section R315-261-32 as EPA Hazardous Waste numbers K156-K161; and in Section R315-261-33 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 Section R315-268-40, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at Section R315-268-42 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 Section R315-268-42 Table 1, for wastewaters.

(h) Prohibited D004-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 Section R315-268-40 prior to land disposal.

(i) Reserved

(j) Effective September 4, 1998, the treatment standards for the wastes specified in Section R315-261-33 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 Section R315-268-40, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at Section R315-268-42 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 Section R315-268-42 Table 1, for wastewaters.

Table Treatment Standards for Hazardous Wastes and the Footnotes To Treatment Standards Standard Table in 40 CFR 268.40, 2015 edition, are adopted and incorporated by reference.

R315-268-41. Land Disposal Restrictions - Treatment Standards Expressed As Concentrations In Waste Extract.

For the requirements previously found in Section R315-268-41 and for treatment standards in Table CCWE-Constituent Concentrations in Waste Extracts, refer to Section R315-268-40.

R315-268-42. Land Disposal Restrictions - Treatment Standards Expressed As Specified Technologies.

Note: For the requirements previously found in Section R315-268-42 in Table 2-Technology-Based Standards By RCRA Waste Code, and Table 3-Technology-Based Standards for Specific Radioactive Hazardous Mixed Waste, refer to Section R315-268-40.

(a) The following wastes in the table in R315-268-40 "Treatment Standards for Hazardous Wastes," for which standards are expressed as a treatment method rather than a concentration level, shall be treated using the technology or technologies specified in the table entitled "Technology Codes and Description of Technology-Based Standards" in Section R315-268-42.

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 Sections R315-264-340 through 351, 40 CFR 265.340 through 352, which are adopted by reference, or Sections R315-266-100 through 112, 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.
IMERC:	Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of Sections R315-264-340 through 351 and 40 CFR 265.340 through 352, which are adopted by reference. All wastewater and nonwastewater residues derived from this process shall 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 Sections R315-264-340 through 351 and 40 CFR 265.340 through 352, which are adopted by

reference.

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 shall undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate, extracted liquid waste, proportionately low in organics that shall 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 Section R315-260-10.

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 floculating, 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.
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. shall 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 shall 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 crystalization; (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: his 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 Subsections R315-260-10(1), (6), (7), (11), and (12) 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 shall undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that shall undergo further treatment as specified in the standard.

VTD: Vacuum thermal desorption of low-level radioactive hazardous mixed waste in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission.

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 single treatment standard, the order of application is specified in Section R315-268-42, Table 2 by indicating the five letter technology code that shall be applied first, then the designation "fb.," an abbreviation for "followed by," then the five letter technology code for the technology that shall 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.

(b) Any person may submit an application to the Administrator demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achieved by methods specified in Subsection R315-268-42(a), (c), and (d) for wastes or specified in Table 1 of Section R315-268-45 for hazardous debris. The applicant shall submit information demonstrating that his treatment method is in compliance with federal, state, and local requirements and is protective of human health and the environment. On the basis of such information and any other available information, the Administrator may approve the use of the alternative treatment method if he finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in Subsections R315-268-42(a), (c), and (d) for wastes or in Table 1 of Section R315-268-45 for hazardous debris. Any approval shall be stated in writing and may contain such provisions and conditions as the Administrator deems appropriate. The person to whom such approval is issued shall comply with all limitations contained in such a determination.

(c) As an alternative to the otherwise applicable Sections R315-268-40 through 49 treatment standards, lab packs are eligible for land disposal provided the following requirements are met:

(1) The lab packs comply with the applicable provisions of Section R315-264-316 and 40 CFR 265.316, which is adopted by reference;

(2) The lab pack does not contain any of the wastes listed in Appendix IV to Rule R315-268;

(3) The lab packs are incinerated in accordance with the requirements of Sections R315-264-340 through 351, or 40 CFR 265.340 through 352, which are adopted by reference; and

(4) Any incinerator residues from lab packs containing D004, D005, D006, D007, D008, D010, and D011 are treated in

compliance with the applicable treatment standards specified for such wastes in Sections R315-268-40 through 49.

(d) Radioactive hazardous mixed wastes are subject to the treatment standards in Section R315-268-40. Where treatment standards are specified for radioactive mixed wastes in the Table of Treatment Standards, those treatment standards shall govern. Where there is no specific treatment standard for radioactive mixed waste, the treatment standard for the hazardous waste, as designated by EPA waste code, applies. Hazardous debris containing radioactive waste is subject to the treatment standards specified in Section R315-268-45.

R315-268-43. Land Disposal Restrictions - Treatment Standards Expressed As Waste Concentrations.

For the requirements previously found in Section R315-268-43 and for treatment standards in Table CCW-Constituent Concentrations in Wastes, refer to Section R315-268-40.

R315-268-44. Land Disposal Restrictions - Variance From A Treatment Standard.

(a) Based on a petition filed by a generator or treater of hazardous waste, the Administrator may approve a variance from an applicable treatment standard if:

(1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner shall demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method; or

(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. To show that this is the case, the petitioner shall either demonstrate that:

(i) Treatment to the specified level or by the specified method is technically inappropriate, for example, resulting in combustion of large amounts of mildly contaminated environmental media; or

(ii) For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(b) Each petition shall be submitted in accordance with the procedures in 40 CFR 260.20.

(c) Each petition shall 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 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.

(d) After receiving a petition for variance from a treatment standard, the Administrator may request any additional information or samples which he may require to evaluate the petition. Additional copies of the complete petition may be requested as needed to send to affected states and Regional Offices.

(e) The Administrator shall 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 variance from a treatment standard shall be published in the Federal Register.

(f) A generator, treatment facility, or disposal facility that is managing a waste covered by a variance from the treatment standards shall comply with the waste analysis requirements for restricted wastes found under Section R315-268-7.

(g) During the petition review process, the applicant is required to comply with all restrictions on land disposal under Rule R315-268 once the effective date for the waste has been reached.

(h) Based on a petition filed by a generator or treater of hazardous waste, the Director may approve a site-specific variance from an applicable treatment standard if:

(1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner shall demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method; or

(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. To show that this is the case, the petitioner shall either demonstrate that:

(i) Treatment to the specified level or by the specified method is technically inappropriate, for example, resulting in combustion of large amounts of mildly contaminated environmental media where the treatment standard is not based on combustion of such media; or

(ii) For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(3) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are below, i.e., lower than, the concentrations necessary to minimize short- and long-term threats to human health and the environment. Treatment variances approved under Subsection R315-268-44(h) shall:

(i) At a minimum, impose alternative land disposal restriction treatment standards that, using a reasonable maximum exposure scenario:

(A) For carcinogens, achieve constituent concentrations that result in the total excess risk to an individual exposed over a lifetime generally falling within a range from 10-4 to 10-6; and

(B) For constituents with non-carcinogenic effects, achieve constituent concentrations that an individual could be exposed to on a daily basis without appreciable risk of deleterious effect during a lifetime.

(ii) Not consider post-land-disposal controls.

(4) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are below, i.e., lower than, natural background concentrations at the site where the contaminated soil will be land disposed.

(5) Public notice and a reasonable opportunity for public comment shall be provided before granting or denying a petition.

(i) Each application for a site-specific variance from a treatment standard shall include the information in Subsections R315-260-20(b)(1)-(4);

(j) After receiving an application for a site-specific variance from a treatment standard, the Director may request any additional information or samples which may be required to evaluate the application.

(k) A generator, treatment facility, or disposal facility that is managing a waste covered by a site-specific variance from a treatment standard shall comply with the waste analysis requirements for restricted wastes found under Section R315-268-7.

(l) During the application review process, the applicant for a site-specific variance shall comply with all restrictions on land disposal under Rule R315-268 once the effective date for the waste has been reached.

(m) For all variances, the petitioner shall also demonstrate that compliance with any given treatment variance is sufficient to minimize threats to human health and the environment posed by land disposal of the waste. In evaluating this demonstration, EPA or the Director, whichever is applicable, may take into account whether a treatment variance should be approved if the subject waste is to be used in a manner constituting disposal pursuant to Sections R315-266-20 through 23.

(n) [Reserved]

(o) The following facilities are excluded from the treatment standards under Section R315-268-40, and are subject to the following constituent concentrations: EnergySolutions LLC, Clive, UT - This site-specific treatment variance applies only to solid treatment residue resulting from the vacuum thermal desorption (VTD) of P- and U-listed hazardous waste containing radioactive contamination, "mixed waste," at the EnergySolutions' LLC facility in Clive, Utah that otherwise requires CMBST as the LDR treatment standard. Once the P- and U-listed mixed waste are treated using VTD, the solid treatment residue can be land disposed at EnergySolutions' onsite RCRA permitted mixed waste landfill without further treatment. This treatment variance is conditioned on EnergySolutions complying with a Waste Family Demonstration Testing Plan specifically addressing the treatment of these P- and U-listed wastes, with this plan being implemented through a RCRA Part B permit modification for the VTD unit.

R315-268-45. Land Disposal Restrictions - Treatment Standards For Hazardous Debris.

(a) Treatment standards. Hazardous debris shall be treated prior to land disposal as follows unless the Director determines under Subsection R315-261-3(f)(2) that the debris is no longer contaminated with hazardous waste or the debris is treated to the waste-specific treatment standard provided in Sections R315-268-40 through 49 for the waste contaminating the debris:

(1) General. Hazardous debris shall be treated for each "contaminant subject to treatment" defined by Subsection R315-268-45(b) using the technology or technologies identified in Table 1 of Section R315-268-45.

(2) Characteristic debris. Hazardous debris that exhibits the characteristic of ignitability, corrosivity, or reactivity identified under Sections R315-261-21, 22, and 23, respectively, shall be deactivated by treatment using one of the technologies identified in Table 1 of Section R315-268-45.

(3) Mixtures of debris types. The treatment standards of Table 1 in Section R315-268-45 shall be achieved for each type of debris contained in a mixture of debris types. If an immobilization technology is used in a treatment train, it shall be the last treatment technology used.

(4) Mixtures of contaminant types. Debris that is contaminated with two or more contaminants subject to treatment identified under Subsection R315-268-45(b) shall be treated for each contaminant using one or more treatment technologies identified in Table 1 of Section R315-268-45. If an immobilization technology is used in a treatment train, it shall be the last treatment technology used.

(5) Waste PCBs. Hazardous debris that is also a waste PCB under 40 CFR part 761 is subject to the requirements of

either 40 CFR part 761 or the requirements of Section R315-268-45, whichever are more stringent.

(b) Contaminants subject to treatment. Hazardous debris shall be treated for each "contaminant subject to treatment." The contaminants subject to treatment shall be determined as follows:

(1) Toxicity characteristic debris. The contaminants subject to treatment for debris that exhibits the Toxicity Characteristic (TC) by Section R315-261-24 are those EP constituents for which the debris exhibits the TC toxicity characteristic.

(2) Debris contaminated with listed waste. The contaminants subject to treatment for debris that is contaminated with a prohibited listed hazardous waste are those constituents or wastes for which treatment standards are established for the waste under Section R315-268-40.

(3) Cyanide reactive debris. Hazardous debris that is reactive because of cyanide shall be treated for cyanide.

(c) Conditioned exclusion of treated debris. Hazardous debris that has been treated using one of the specified extraction or destruction technologies in Table 1 of Section R315-268-45 and that does not exhibit a characteristic of hazardous waste identified under Sections R315-261-20 through 24 after treatment is not a hazardous waste and need not be managed in a hazardous waste facility. Hazardous debris contaminated with a listed waste that is treated by an immobilization technology specified in Table 1 is a hazardous waste and shall be managed in a hazardous waste facility.

(d) Treatment residuals

(1) General requirements. Except as provided by Subsections R315-268-45(d)(2) and (d)(4):

(i) Residue from the treatment of hazardous debris shall be separated from the treated debris using simple physical or mechanical means; and

(ii) Residue from the treatment of hazardous debris is subject to the waste-specific treatment standards provided by Sections R315-268-40 through 49 for the waste contaminating the debris.

(2) Nontoxic debris. Residue from the deactivation of ignitable, corrosive, or reactive characteristic hazardous debris, other than cyanide-reactive, that is not contaminated with a contaminant subject to treatment defined by Subsection R315-268-45(b), shall be deactivated prior to land disposal and is not subject to the waste-specific treatment standards of Sections R315-268-40 through 49.

(3) Cyanide-reactive debris. Residue from the treatment of debris that is reactive because of cyanide shall meet the treatment standards for D003 in "Treatment Standards for Hazardous Wastes" at Section R315-268-40.

(4) Ignitable nonwastewater residue. Ignitable nonwastewaster residue containing equal to or greater than 10% total organic carbon is subject to the technology

specified in the treatment standard for D001: Ignitable Liquids.

(5) Residue from spalling. Layers of debris removed by spalling are hazardous debris that remain subject to the treatment standards of Section R315-268-45.

Table 1-Alternative Treatment Standards For Hazardous Debris, including footnotes found in 40 CFR 268.45, 2015 edition, is adopted and incorporated by reference.

R315-268-46. Land Disposal Restrictions - Alternative Treatment Standards Based On HTMR.

For the treatment standards previously found in Section R315-268-46, refer to Section R315-268-40.

R315-268-48. Land Disposal Restrictions - Universal Treatment Standards.

(a) Table UTS identifies the hazardous constituents, along with the nonwastewater and wastewater treatment standard levels, that are used to regulate most prohibited hazardous wastes with numerical limits. For determining compliance with treatment standards for underlying hazardous constituents as defined in Subsection R315-268-2(i), these treatment standards may not be exceeded. Compliance with these treatment standards is measured by an analysis of grab samples, unless otherwise noted in the following Table UTS.

Table - Universal Treatment Standards (UTS)

Note: NA means not applicable

Regulated constituent common name	**CAS[1] number**	**Wastewater standard Concentration[2] in mg/l**	**Nonwastewater standard Concentration[3] in mg/kg unless noted as "mg/l TCLP"**
Organic Constituents			
Acenaphthylene	208-96-8	0.059	3.4
Acenaphthene	83-32-9	0.059	3.4
Acetone	67-64-1	0.28	160
Acetonitrile	75-05-8	5.6	38
Acetophenone	96-86-2	0.010	9.7
2-Acetylaminofluorene	53-96-3	0.059	140
Acrolein	107-02-8	0.29	NA
Acrylamide	79-06-1	19	23
Acrylonitrile	107-13-1	0.24	84
Aldrin	309-00-2	0.021	0.066
4-Aminobiphenyl	92-67-1	0.13	NA
Aniline	62-53-3	0.81	14
o-Anisidine (2-methoxyaniline)	90-04-0	0.010	0.66
Anthracene	120-12-7	0.059	3.4

Aramite	140-57-8	0.36	NA
alpha-BHC	319-84-6	0.00014	0.066
beta-BHC	319-85-7	0.00014	0.066
delta-BHC	319-86-8	0.023	0.066
gamma-BHC	58-89-9	0.0017	0.066
Benzene	71-43-2	0.14	10
Benz(a)anthracene	56-55-3	0.059	3.4
Benzal chloride	98-87-3	0.055	6.0
Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
Benzo(a)pyrene	50-32-8	0.061	3.4
Bromodichloromethane	75-27-4	0.35	15
Bromomethane/Methyl bromide	74-83-9	0.11	15
4-Bromophenyl phenyl ether	101-55-3	0.055	15
n-Butyl alcohol	71-36-3	5.6	2.6
Butyl benzyl phthalate	85-68-7	0.017	28
2-sec-Butyl-4,6-dinitrophenol/Dinoseb	88-85-7	0.066	2.5
Carbon disulfide	75-15-0	3.8	4.8 mg/l TCLP
Carbon tetrachloride	56-23-5	0.057	6.0
Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
p-Chloroaniline	106-47-8	0.46	16
Chlorobenzene	108-90-7	0.057	6.0
Chlorobenzilate	510-15-6	0.10	NA
2-Chloro-1,3-butadiene	126-99-8	0.057	0.28
Chlorodibromomethane	124-48-1	0.057	15
Chloroethane	75-00-3	0.27	6.0
bis(2-Chloroethoxy) methane	111-91-1	0.036	7.2
bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
Chloroform	67-66-3	0.046	6.0
bis(2-Chloroisopropyl) ether	39638-32-9	0.055	7.2
p-Chloro-m-cresol	59-50-7	0.018	14
2-Chloroethyl vinyl ether	110-75-8	0.062	NA
Chloromethane/Methyl chloride	74-87-3	0.19	30
2-Chloronaphthalene	91-58-7	0.055	5.6
2-Chloropchenol	95-57-8	0.044	5.7
3-Chloropropylene	107-05-1	0.036	30
Chrysene	218-01-9	0.059	3.4
p-Cresidine	120-71-8	0.010	0.66

o-Cresol	95-48-7	0.11	5.6
m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
Cyclohexanone	108-94-1	0.36	0.75 mg/l TCLP
o,p'-DDD	53-19-0	0.023	0.087
p,p'-DDD	72-54-8	0.023	0.087
o,p'-DDE	3424-82-6	0.031	0.087
p,p'-DDE	72-55-9	0.031	0.087
o,p'-DDT	789-02-6	0.0039	0.087
p,p'-DDT	50-29-3	0.0039	0.087
Dibenz(a,h)anthracene	53-70-3	0.055	8.2
Dibenz(a,e)pyrene	192-65-4	0.061	NA
1,2-Dibromo-3-chloropropane	96-12-8	0.11	15
1,2-Dibromoethane/ Ethylene dibromide	106-93-4	0.028	15
Dibromomethane	74-95-3	0.11	15
m-Dichlorobenzene	541-73-1	0.036	6.0
o-Dichlorobenzene	95-50-1	0.088	6.0
p-Dichlorobenzene	106-46-7	0.090	6.0
Dichlorodifluoromethane	75-71-8	0.23	7.2
1,1-Dichloroethane	75-34-3	0.059	6.0
1,2-Dichloroethane	107-06-2	0.21	6.0
1,1-Dichloroethylene	75-35-4	0.025	6.0
trans-1,2-Dichloroethylene	156-60-5	0.054	30
2,4-Dichlorophenol	120-83-2	0.044	14
2,6-Dichlorophenol	87-65-0	0.044	14
2,4-Dichlorophenoxyacetic acid/2,4-D	94-75-7	0.72	10
1,2-Dichloropropane	78-87-5	0.85	18
cis-1,3-Dichloropropylene	10061-01-5	0.036	18
trans-1,3-Dichloropropylene	10061-02-6	0.036	18
Dieldrin	60-57-1	0.017	0.13
Diethyl phthalate	84-66-2	0.20	28
p-Dimethylaminoazobenzene	60-11-7	0.13	NA
2,4-Dimethylaniline (2,4-xylidine)	95-68-1	0.010	0.66
2,4-Dimethyl phenol	105-67-9	0.036	14
Dimethyl phthalate	131-11-3	0.047	28
Di-n-butyl phthalate	84-74-2	0.057	28
1,4-Dinitrobenzene	100-25-4	0.32	2.3
4,6-Dinitro-o-cresol	534-52-1	0.28	160
2,4-Dinitrophenol	51-28-5	0.12	160
2,4-Dinitrotoluene	121-14-2	0.32	140

2,6-Dinitrotoluene	606-20-2	0.55	28
Di-n-octyl phthalate	117-84-0	0.017	28
Di-n-propylnitrosamine	621-64-7	0.40	14
1,4-Dioxane	123-91-1	12.0	170
Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13
Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13
1,2-Diphenylhydrazine	122-66-7	0.087	NA
Disulfoton	298-04-4	0.017	6.2
Endosulfan I	959-98-8	0.023	0.066
Endosulfan II	33213-65-9	0.029	0.13
Endosulfan sulfate	1031-07-8	0.029	0.13
Endrin	72-20-8	0.0028	0.13
Endrin aldehyde	7421-93-4	0.025	0.13
Ethyl acetate	141-78-6	0.34	33
Ethyl benzene	100-41-4	0.057	10
Ethyl cyanide/ Propanenitrile	107-12-0	0.24	360
Ethyl ether	60-29-7	0.12	160
bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
Ethyl methacrylate	97-63-2	0.14	160
Ethylene oxide	75-21-8	0.12	NA
Famphur	52-85-7	0.017	15
Fluoranthene	206-44-0	0.068	3.4
Fluorene	86-73-7	0.059	3.4
Heptachlor	76-44-8	0.0012	0.066
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035	.0025
1,2,3,4,6,7,8-Heptachlorodibenzofluran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035	.0025
1,2,3,4,7,8,9-Heptachlorodibenzofluran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035	.0025
Heptachlor epoxide	1024-57-3	0.016	0.066
Hexachlorobenzene	118-74-1	0.055	10
Hexachlorobutadiene	87-68-3	0.055	5.6
Hexachlorocyclopentadiene	77-47-4	0.057	2.4
HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
Hexachloroethane	67-72-1	0.055	30
Hexachloropropylene	1888-71-7	0.035	30
Indeno(1,2,3-c,d)	193-39-5	0.0055	3.4

pyrene			
Iodomethane	74-88-4	0.19	65
Isobutyl alcohol	78-83-1	5.6	170
Isodrin	465-73-6	0.021	0.066
Isosafrole	120-58-1	0.081	2.6
Kepone	143-50-0	0.0011	0.13
Methacrylonitrile	126-98-7	0.24	84
Methanol	67-56-1	5.6 0	.75 mg/l TCLP
Methapyrilene	91-80-5	0.081	1.5
Methoxychlor	72-43-5	0.25	0.18
3-Methylcholanthrene	56-49-5	0.0055	15
4,4-Methylene bis (2-chloroaniline)	101-14-4	0.50	30
Methylene chloride	75-09-2	0.089	30
Methyl ethyl ketone	78-93-3	0.28	36
Methyl isobutyl ketone	108-10-1	0.14	33
Methyl methacrylate	80-62-6	0.14	160
Methyl methanesulfonate	66-27-3	0.018	NA
Methyl parathion	298-00-0	0.014	4.6
Naphthalene	91-20-3	0.059	5.6
2-Naphthylamine	91-59-8	0.52	NA
o-Nitroaniline	88-74-4	0.27	14
p-Nitroaniline	100-01-6	0.028	28
Nitrobenzene	98-95-3	0.068	14
5-Nitro-o-toluidine	99-55-8	0.32	28
o-Nitrophenol	88-75-5	0.028	13
p-Nitrophenol	100-02-7	0.12	29
N-Nitrosodiethylamine	55-18-5	0.40	28
N-Nitrosodimethylamine	62-75-9	0.40	2.3
N-Nitroso-di-n-butylamine	924-16-3	0.40	17
N-Nitrosomethylethylamine	10595-95-6	0.40	2.3
N-Nitrosomorpholine	59-89-2	0.40	2.3
N-Nitrosopiperidine	100-75-4	0.013	35
N-Nitrosopyrrolidine	930-55-2	0.013	35
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	0.000063	0.005
1,2,3,4,6,7,8,9-Octachlorodibenzofluran (OCDF)	39001-02-0	0.000063	0.005
Parathion	56-38-2	0.014	4.6
Total PCBs (sum of all PCB isomers, or all Aroclors)[8]	1336-36-3	0.10	10
Pentachlorobenzene	608-93-5	0.055	10
PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
Pentachloroethane	76-01-7	0.055	6.0

Pentachloronitrobenzene	82-68-8	0.055	4.8
Pentachlorophenol	87-86-5	0.089	7.4
Phenacetin	62-44-2	0.081	16
Phenanthrene	85-01-8	0.059	5.6
Phenol	108-95-2	0.039	6.2
1,3-Phenylenediamine	108-45-2	0.010	0.66
Phorate	298-02-2	0.021	4.6
Phthalic acid	100-21-0	0.055	28
Phthalic anhydride	85-44-9	0.055	28
Pronamide	23950-58-5	0.093	1.5
Pyrene	129-00-0	0.067	8.2
Pyridine	110-86-1	0.014	16
Safrole	94-59-7	0.081	22
Silvex/2,4,5-TP	93-72-1	0.72	7.9
1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
Tetrachloroethylene	127-18-4	0.056	6.0
2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
Toluene	108-88-3	0.080	10
Toxaphene	8001-35-2	0.0095	2.6
Tribromomethane/Bromoform	75-25-2	0.63	15
1,2,4-Trichlorobenzene	120-82-1	0.055	19
1,1,1-Trichloroethane	71-55-6	0.054	6.0
1,1,2-Trichloroethane	79-00-5	0.054	6.0
Trichloroethylene	79-01-6	0.054	6.0
Trichlorofluoromethane	75-69-4	0.020	30
2,4,5-Trichlorophenol	95-95-4	0.18	7.4
2,4,6-Trichlorophenol	88-06-2	0.035	7.4
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T	93-76-5	0.72	7.9
1,2,3-Trichloropropane	96-18-4	0.85	30
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
tris-(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.10
Vinyl chloride	75-01-4	0.27	6.0
Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
Inorganic Constituents			
Antimony	7440-36-0	1.9	1.15 mg/l

			TCLP
Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
Barium	7440-39-3	1.2	21 mg/l TCLP
Beryllium	7440-41-7	0.82	1.22 mg/l TCLP
Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
Cyanides (Total)[4]	57-12-5	1.2	590
Cyanides (Amenable)[4]	57-12-5	0.86	30
Fluoride[5]	16984-48-8	35	NA
Lead	7439-92-1	0.69	0.75 mg/l TCLP
Mercury—Nonwastewater from Retort	7439-97-6	NA	0.20 mg/l TCLP
Mercury-All Others	7439-97-6	0.15	0.025 mg/l TCLP
Nickel	7440-02-0	3.98	11 mg/l TCLP
Selenium[7]	7782-49-2	0.82	5.7 mg/l TCLP
Silver	7440-22-4	0.43	0.14 mg/l TCLP
Sulfide[5]	18496-25-8	14	NA
Thallium	7440-28-0	1.4	0.20 mg/l TCLP
Vanadium[5]	7440-62-2	4.3	1.6 mg/l TCLP
Zinc[5]	7440-66-6	2.61	4.3 mg/l TCLP

Footnotes to Table UTS

1 CAS means Chemical Abstract Services. When the waste code and/or regulated constituents are described as a combination of a chemical with it's salts and/or esters, the CAS number is given for the parent compound only.
2 Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.
3 Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, inpart, based upon incineration in units operated in accordance with the technical requirements of Sections R315-264-340 through 351 or 40 CFR 265.340 through 352, which are adopted by reference, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to provisions in Subsection R315-268-

40(d). All concentration standards for nonwastewaters are based on analysis of grab samples.
4 Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010C or 9012B, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in Section R315-260-11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.
5 These constituents are not "underlying hazardous constituents" in characteristic wastes, according to the definition at Subsection R315-268-2(i).
6 Reserved
7 This constituent is not an underlying hazardous constituent as defined at Subsection R315-268-2(i) because its UTS level is greater than its TC level, thus a treatment selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level.
8 This standard is temporarily deferred for soil exhibiting a hazardous characteristic due to D004-D011 only.

R315-268-49. Land Disposal Restrictions - Alternative LDR Treatment Standards For Contaminated Soil.

(a) Applicability. You shall comply with LDRs prior to placing soil that exhibits a characteristic of hazardous waste, or exhibited a characteristic of hazardous waste at the time it was generated, into a land disposal unit. The following chart describes whether you shall comply with LDRs prior to placing soil contaminated by listed hazardous waste into a land disposal unit:

If LDRs	And if LDRs	And if	Then you
Applied to the listed waste when it contaminated the soil*	Apply to the listed waste now		Shall comply with LDRs.
Didn't apply to the listed waste when it contaminated the soil*	Apply to the listed waste now	The soil is determined to contain the listed waste when the soil is first generated	Shall comply with LDRs.
Didn't apply to the listed waste when it contaminated the soil*	Apply to the listed waste now	The soil is determined not to contain the listed waste when the soil is first generated	Need not comply with LDRs.
Didn't apply to the listed	Don't apply to the listed		Need not

waste when it contaminated the soil*	waste now	comply with LDRs.

*For dates of LDR applicability, see Rule R315-268 Appendix VII. To determine the date any given listed hazardous waste contaminated any given volume of soil, use the last date any given listed hazardous waste was placed into any given land disposal unit or, in the case of an accidental spill, the date of the spill.

(b) Prior to land disposal, contaminated soil identified by Subsection R315-268-49(a) as needing to comply with LDRs shall be treated according to the applicable treatment standards specified in Subsection R315-268-49(c) or according to the Universal Treatment Standards specified in Section R315-268-48 applicable to the contaminating listed hazardous waste and/or the applicable characteristic of hazardous waste if the soil is characteristic. The treatment standards specified in Subsection R315-268-49(c) and the Universal Treatment Standards may be modified through a treatment variance approved in accordance with Section R315-268-44.

(c) Treatment standards for contaminated soils. Prior to land disposal, contaminated soil identified by Subsection R315-268-49(a) as needing to comply with LDRs shall be treated according to all the standards specified in Subsection R315-268-49(c) or according to the Universal Treatment Standards specified in Section R315-268-48.

(1) All soils. Prior to land disposal, all constituents subject to treatment shall be treated as follows:

(A) For non-metals except carbon disulfide, cyclohexanone, and methanol, treatment shall achieve 90 percent reduction in total constituent concentrations, except as provided by Subsection R315-268-49(c)(1)(C).

(B) For metals and carbon disulfide, cyclohexanone, and methanol, treatment shall achieve 90 percent reduction in constituent concentrations as measured in leachate from the treated media, tested according to the TCLP, or 90 percent reduction in total constituent concentrations, when a metal removal treatment technology is used, except as provided by Subsection R315-268-49(c)(1)(C).

(C) When treatment of any constituent subject to treatment to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the universal treatment standard is not required. Universal Treatment Standards are identified in Section R315-268-48 Table UTS.

(2) Soils that exhibit the characteristic of ignitability, corrosivity or reactivity. In addition to the treatment required by Subsection R315-268-49(c)(1), prior to land disposal, soils that exhibit the characteristic of

ignitability, corrosivity, or reactivity shall be treated to eliminate these characteristics.

(3) Soils that contain nonanalyzable constituents. In addition to the treatment requirements of Subsections R315-268-49(c)(1) and (2), prior to land disposal, the following treatment is required for soils that contain nonanalyzable constituents:

(A) For soil that contains only analyzable and nonanalyzable organic constituents, treatment of the analyzable organic constituents to the levels specified in Subsections R315-268-49(c)(1) and (2); or,

(B) For soil that contains only nonanalyzable constituents, treatment by the method(s) specified in Section R315-268-42 for the waste contained in the soil.

(d) Constituents subject to treatment. When applying the soil treatment standards in Subsection R315-268-49(c), constituents subject to treatment are any constituents listed in Section R315-268-48 Table UTS-Universal Treatment Standards that are reasonably expected to be present in any given volume of contaminated soil, except fluoride, selenium, sulfides, vanadium, zinc, and that are present at concentrations greater than ten times the universal treatment standard. PCBs are not constituent subject to treatment in any given volume of soil which exhibits the toxicity characteristic solely because of the presence of metals.

(e) Management of treatment residuals. Treatment residuals from treating contaminated soil identified by Subsection R315-268-49(a) as needing to comply with LDRs shall be managed as follows:

(1) Soil residuals are subject to the treatment standards of Section R315-268-49;

(2) Non-soil residuals are subject to:

(A) For soils contaminated by listed hazardous waste, the hazardous waste standards applicable to the listed hazardous waste; and

(B) For soils that exhibit a characteristic of hazardous waste, if the non-soil residual also exhibits a characteristic of hazardous waste, the treatment standards applicable to the characteristic hazardous waste.

R315-268-50. Land Disposal Restrictions - Prohibitions On Storage Of Restricted Wastes.

(a) Except as provided in Section R315-268-50, the storage of hazardous wastes restricted from land disposal under Sections R315-268-20 through 39 is prohibited, unless the following conditions are met:

(1) A generator stores such wastes in tanks, containers, or containment buildings on-site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in Section R315-262-34 and Rules R315-264 and 265.

(2) An owner/operator of a hazardous waste treatment, storage, or disposal facility stores such wastes in tanks, containers, or containment buildings solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and:

(i) Each container is clearly marked to identify its contents and the date each period of accumulation begins;

(ii) Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner/operator shall comply with the operating record requirements specified in Section R315-264-73 or 40 CFR 265.73, which are adopted by reference.

(3) A transporter stores manifested shipments of such wastes at a transfer facility for 10 days or less.

(b) An owner/operator of a treatment, storage or disposal facility may store such wastes for up to one year unless the Director can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(c) An owner/operator of a treatment, storage or disposal facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(d) If a generator's waste is exempt from a prohibition on the type of land disposal utilized for the waste, for example, because of an approved case-by-case extension under Section R315-268-5, an approved Section R315-268-6 petition, or a national capacity variance under Sections R315-268-20 through 39, the prohibition in Subsection R315-268-50(a) does not apply during the period of such exemption.

(e) The prohibition in Subsection R315-268-50(a) does not apply to hazardous wastes that meet the treatment standards specified under Sections R315-268-41, 42, and 43 or the treatment standards specified under the variance in Section R315-268-44, or, where treatment standards have not been specified, is in compliance with the applicable prohibitions specified in Section R315-268-32 or RCRA section 3004.

(f) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm shall be stored at a facility that meets the requirements of 40 CFR 761.65(b) and shall be removed from storage and treated or disposed as required by Rule R315-268 within one year of the date when such wastes are first placed into storage. The provisions of Subsection R315-268-

50(c) do not apply to such PCB wastes prohibited under Section R315-268-32.

(g) The prohibition and requirements in Section R315-268-50 do not apply to hazardous remediation wastes stored in a staging pile approved pursuant to Section R315-264-554.

Appendix III to Rule R315-268-List of Halogenated Organic Compounds Regulated Under Section R315-268-32

In determining the concentration of HOCs in a hazardous waste for purposes of the Section R315-268-32 land disposal prohibition, the Director has defined the HOCs that shall be included in a calculation as any compounds having a carbon-halogen bond which are listed in this Appendix, see Section R315-268-2. Appendix III to Rule R315-268 consists of the following compounds:

I. Volatiles

1. Bromodichloromethane
2. Bromomethane
3. Carbon Tetrachloride
4. Chlorobenzene
5. 2-Chloro-1,3-butadiene
6. Chlorodibromomethane
7. Chloroethane
8. 2-Chloroethyl vinyl ether
9. Chloroform
10. Chloromethane
11. 3-Chloropropene
12. 1,2-Dibromo-3-chloropropane
13. 1,2-Dibromomethane
14. Dibromomethane
15. Trans-1,4-Dichloro-2—butene
16. Dichlorodifluoromethane
17. 1,1-Dichloroethane
18. 1,2-Dichloroethane
19. 1,1-Dichloroethylene
20. Trans-1,2-Dichloroethene
21. 1,2-Dichloropropane
22. Trans-1,3-Dichloropropene
23. cis-1,3-Dichloropropene
24. Iodomethane
25. Methylene chloride
26. 1,1,1,2-Tetrachloroethane
27. 1,1,2,2-Tetrachloroethane
28. Tetrachloroethene
29. Tribromomethane
30. 1,1,1-Trichloroethane
31. 1,1,2-Trichloroethane
32. Trichlorothene
33. Trichloromonofluoromethane
34. 1,2,3-Thrichloropropane
35. Vinyl Chloride

II. Semivolatiles
1. Bis(2-chloroethoxy)ethane
2. Bis(2-chloroethyl)ether
3. Bis(2-chloroisopropyl)ether
4. p-Chloroaniline
5. Chlorobenzilate
6. p-Chloro-m-cresol
7. 2-Chloronaphthalene
8. 2-Chlorphenol
9. 3-Chloropropionitrile
10. m-Dichlorobenzene
11. o-Dichlorobenzene
12. p-Dichlorobenzene
13. 3.3'-Dichlorobenzidine
14. 2,4-Dichlorophenol
15. 2,6-Dichlorophenol
16. Hexachlorobenzene
17. Hexachlorobutadiene
18. Hexachlorocyclopentadiene
19. Hexachloroethane
20. Hexachloroprophene
21. Hexachlorpropene
22. 4,4'-Methylenebis(2-chloroanaline)
23. Pentachlorobenzene
24. Pentachloroethane
25. Pentachloronitrobenzene
26. Pentachlorophenol
27. Pronamide
28. 1,2,4,5-Tetrachlorobenzene
29. 2,3,4,6-Tetrachlorophenol
30. 1,2,4-Trichlorobenzene
31. 2,4,5-Trichlorophenol
32. 2,4,6-Trichlorophenol
33. Tris(2,3-dibromopropyl)phosphate

III. Organochlorine Pesticides
1. Aldrin
2. alpha-BHC
3. beta-BHC
4. delta-BHC
5. gamma-BHC
6. Chlorodane
7. DDD
8. DDE
9. DDT
10. Dieldrin
11. Endosulfan I
12. Endosulfan II
13. Endrin
14. Endrin aldehyde
15. Heptachlor
16. Heptachlor epoxide
17. Isodrin

18. Kepone
19. Methoxyclor
20. Toxaphene
IV. Phenoxyacetic Acid Herbicides
1. 2,4-Dichlorophenoxyacetic acid
2. Silvex
3. 2,4,5-T
V. PCBs
1. Aroclor 1016
2. Aroclor 1221
3. Aroclor 1232
4. Aroclor 1242
5. Aroclor 1248
6. Aroclor 1254
7. Aroclor 1260
8. PCBs not otherwise specified

VI. Dioxins and Furans
1. Hexachlorodibenzo-p-dioxins
2. Hexachlorodibenzofuran
3. Pentachlorodibenzo-p-dioxins
4. Pentachlorodibenzofuran
5. Tetrachlorodibenzo-p-dioxins
6. Tetrachlorodibenzofuran
7. 2,3,7,8-Tetrachlorodibenzo-p-dioxin

Appendix IV to Rule R315-268-Wastes Excluded From Lab Packs Under the Alternative Treatment Standards of Subsection R315-268-42(c)

Hazardous waste with the following EPA Hazardous Waste Codes may not be placed in lab packs under the alternative lab pack treatment standards of Subsection R315-268-42(c): D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, U151.

Appendix VI to Rule R315-268—Recommended Technologies To Achieve Deactivation of Characteristics in Section R315-268-42

The treatment standard for many characteristic wastes is stated in the Section R315-268-40 Table of Treatment Standards as “Deactivation and meet UTS.” The Director has determined that many technologies, when used alone or in combination, can achieve the deactivation portion of the treatment standard. Characteristic wastes that are not managed in a facility regulated by the Clean Water Act (CWA) or in a CWA-equivalent facility, and that also contain underlying hazardous constituents, see Subsection R315-268-2(i), shall be treated not only by a “deactivating” technology to remove the characteristic, but also to achieve the universal treatment standards (UTS) for underlying hazardous constituents. The following appendix presents a partial list of technologies, utilizing the five letter

technology codes established in Section R315-268-42 Table 1, that may be useful in meeting the treatment standard. Use of these specific technologies is not mandatory and does not preclude direct reuse, recovery, and/or the use of other pretreatment technologies, provided deactivation is achieved and underlying hazardous constituents are treated to achieve the UTS.

Waste code/subcategory	Nonwastewaters	Wastewaters
D001 Ignitable Liquids based on R315-261-21(a)(1)-Low TOC Nonwastewater Subcategory, containing 1% to <10% TOC	RORGS INCIN WETOX CHOXD BIODG	n.a.
D001 Ignitable Liquids based on Subsection R315-261-21(a)(1) -Ignitable Wastewater Subcategory, containing <1% TOC	n.a.	RORGS INCIN WETOX CHOXD BIODG
D001 Compressed Gases based on Subsection R315-261-21(A)(3)	RCGAS INCIN FSUBS ADGAS fb. INCIN ADGAS fb. (CHOXD; or CHRED)	n.a.
D001 Ignitable Reactives based on Subsection R315-261-21(a)(2)	WTRRX CHOXD CHRED STABL INCIN	n.a.
D001 Ignitable Oxidizers based on Subsection R315-261-21(a)(4)	CHRED INCIN	CHRED INCIN
D002 Acid Subcategory based on Subsection R315-261-22(a)(1) with pH less than or equal to 2	RCORR NEUTR INCIN	NEUTR INCIN
D002 Alkaline Subcategory based on Subsection R315-261-22(a)(1) with pH greater than or equal to 12.5	NEUTR INCIN	NEUTR INCIN
D002 Other Corrosives based on Subsection R315-261-22(a)(2)	CHOXD CHRED INCIN STABL	CHOXD CHRED INCIN

D003 Water Reactives based on Subsections R315-268-23(a)(2), (3), and (4)	INCIN WTRRX CHOXD CHRED	n.a.
D003 Reactive Sulfides based on Subsection R315-261-23(a)(5)	CHOXD CHRED INCIN STABL	CHOXD CHRED BIODG INCIN
D003 Explosives based on Subsection R315-261-23(a)(6), (7), and (8)	INCIN CHOXD CHRED	INCIN CHOXD CHRED
D003 Other Reactives based on Subsection R315-261-23(a)(1)	INCIN CHOXD CHRED	INCIN CHOXD CHRED BIODG CARBN
K044 Wastewater treatment sludges from the manufacturing and processing of explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K045 Spent carbon from the treatment of wastewaters containing explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K047 Pink/red water from TNT operations	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN

Note: “n.a.” stands for “not applicable”; “fb.” stands for “followed by”.

Appendix VII to Rule R315-268-LDR Effective Dates of Surface Disposed Prohibited Hazardous Wastes

Table 1-Effective Dates of Surface Disposed Wastes, Non-Soil and Debris, Regulated in the LDRS[a]—Comprehensive List

Waste Code	Waste category	Effective date
D001[c]	All (except High TOC Ignitable Liquids)	Aug. 9, 1993.
D001	High TOC Ignitable Liquids,	Aug. 8,

		1990.
D002[c]	All	Aug. 9, 1993.
D003	Newly identified surface-disposed elemental phosphorus processing wastes.	May 26, 2000
D004	Newly identified D004 and mineral processing wastes	Aug. 24, 1998.
D004	Mixed radioactive/newly identified D004 or mineral processing wastes	May 26, 2000
D005	Newly identified D005 and mineral processing wastes	Aug. 24, 1998.
D005	Mixed radioactive/newly identified D005 or mineral processing wastes	May 26, 2000.
D006	Newly identified D006 and mineral processing wastes	Aug. 24, 1998.
D006	Mixed radioactive/newly identified D006 or mineral processing wastes	May 26, 2000.
D007	Newly identified D007 and mineral processing wastes	Aug. 24, 1998.
D007	Mixed radioactive/newly identified D007 or mineral processing wastes	May 26, 2000.
D008	Newly identified D008 and mineral processing waste	Aug. 24, 1998.
D008	Mixed radioactive/newly identified D008 or mineral processing wastes,	May 26, 2000.
D009	Newly identified D009 and mineral processing waste	Aug. 24, 1998.
D009	Mixed radioactive/newly identified D009 or mineral processing wastes	May 26, 2000.
D010	Newly identified D010 and mineral processing wastes	Aug. 24, 1998.
D010	Mixed radioactive/newly identified D010 or mineral processing wastes	May 26, 2000.
D011	Newly identified D011 and mineral processing wastes	Aug. 24, 1998.
D011	Mixed radioactive/newly identified D011 or mineral processing wastes	May 26, 2000.
D012 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994
D013 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994
D014 (that exhibit the toxicity characteristic	All	Dec. 14, 1994

based on the TCLP)[d]		
D015 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994
D016 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994
D017 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994
D018	Mixed with radioactive wastes	Sept. 19, 1996.
D018	All others	Dec. 19, 1994.
D019	Mixed with radioactive wastes	Sept. 19, 1996.
D019	All others	Dec. 19, 1994.
D020	Mixed with radioactive wastes	Sept. 19, 1996.
D020	All others	Dec. 19, 1994.
D021	Mixed with radioactive wastes	Sept. 19, 1996.
D021	All others	Dec. 19, 1994.
D022	Mixed with radioactive wastes	Sept. 19, 1996.
D022	All others	Dec. 19, 1994.
D023	Mixed with radioactive wastes	Sept. 19, 1996.
D023	All others	Dec. 19, 1994.
D024	Mixed with radioactive wastes	Sept. 19, 1996.
D024	All others	Dec. 19, 1994.
D025	Mixed with radioactive wastes	Sept. 19, 1996.
D025	All others	Dec. 19, 1994.
D026	Mixed with radioactive wastes	Sept. 19, 1996.

D026	All others	Dec. 19, 1994.
D027	Mixed with radioactive wastes	Sept. 19, 1996.
D027	All others	Dec. 19, 1994.
D028	Mixed with radioactive wastes	Sept. 19, 1996.
D028	All others	Dec. 19, 1994.
D029	Mixed with radioactive wastes	Sept. 19, 1996.
D029	All others	Dec. 19, 1994.
D030	Mixed with radioactive wastes	Sept. 19, 1996.
D030	All others	Dec. 19, 1994.
D031	Mixed with radioactive wastes	Sept. 19, 1996.
D031	All others	Dec. 19, 1994.
D032	Mixed with radioactive wastes	Sept. 19, 1996.
D032	All others	Dec. 19, 1994.
D033	Mixed with radioactive wastes	Sept. 19, 1996.
D033	All others	Dec. 19, 1994.
D034	Mixed with radioactive wastes	Sept. 19, 1996.
D034	All others	Dec. 19, 1994.
D035	Mixed with radioactive wastes	Sept. 19, 1996.
D035	All others	Dec. 19, 1994.
D036	Mixed with radioactive wastes	Sept. 19, 1996.
D036	All others	Dec. 19, 1994.
D037	Mixed with radioactive wastes	Sept. 19, 1996.
D037	All others	Dec. 19, 1994.
D038	Mixed with radioactive wastes	Sept. 19, 1996.
D038	All others	Dec. 19, 1994.
D039	Mixed with radioactive wastes	Sept. 19, 1996.
D039	All others	Dec. 19, 1994.

D040	Mixed with radioactive wastes	Sept. 19, 1996.
D040	All others	Dec. 19, 1994.
D041	Mixed with radioactive wastes	Sept. 19, 1996.
D041	All others	Dec. 19, 1994.
D042	Mixed with radioactive wastes	Sept. 19, 1996.
D042	All others	Dec. 19, 1994.
D043	Mixed with radioactive wastes	Sept. 19, 1996.
D043	All others	Dec. 19, 1994.
F001	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988
F001	All others	Nov. 8, 1986.
F002 (1,1,2-trichloroethane)	Wastewater and Nonwastewater	Aug. 8, 1990.
F002	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids	Nov. 8, 1988
F002	All others	Nov. 8, 1986.
F003	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids,	Nov. 8, 1988.
F003	All others	Nov. 8, 1986.
F004	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids	Nov. 8, 1988.
F004	All others	Nov. 8, 1986.
F005 (benzene, 2-ethoxy ethanol, 2-nitropropane)	Wastewater and Nonwastewater	Aug. 8, 1990.
F005	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water	Nov. 8, 1988.

	mixtures, solvent-containing sludges and solids	
F005	All others	Nov. 8, 1986.
F006	Wastewater	Aug. 8, 1990.
F006	Nonwastewater	Aug. 8, 1988.
F006 (cyanides)	Nonwastewater	July 8, 1989.
F007	All	July 8, 1989.
F008	All	July 8, 1989.
F009	All	July 8, 1989.
F010	All	July 8, 1989.
F011 (cyanides)	Nonwastewater	Dec. 8, 1989.
F011	All others	July 8, 1989.
F012 (cyanides)	Nonwastewater	Dec. 8, 1989.
F012	All others	July 8, 1989.
F019	All	Aug. 8, 1990.
F020	All	Aug. 8, 1988.
F021	All	Aug. 8, 1988.
F025	All	Aug. 8, 1990.
F026	All	Aug. 8, 1988.
F027	All	Aug. 8, 1988.
F028	All	Aug. 8, 1988.
F032	Mixed with radioactive wastes	May 12, 1999
F032	All others	Aug. 12, 1997.
F034	Mixed with radioactive wastes	May 12, 1999
F034	All others	Aug. 12, 1997.
F035	Mixed with radioactive wastes	May 12, 1999.
F035	All others	Aug. 12, 1997.
F037	Not generated from surface impoundment cleanouts or closures	June 30, 1993.

F037	Generated from surface impoundment cleanouts or closures	June 30, 1994.
F037	Mixed with radioactive wastes	June 30, 1994.
F038	Not generated from surface impoundment cleanouts or closures	June 30, 1993.
F038	Mixed with radioactive wastes	June 30, 1994.
F038	Mixed with radioactive wastes	June 30, 1994.
F039	Wastewater	Aug. 8, 1990.
F039	Nonwastewater	May 8, 1992.
K001 (organics)[b]	All	Aug. 8, 1988.
K001	All others	Aug. 8, 1988.
K002	All	Aug.8, 1990.
K003	All	Aug. 8, 1990.
K004	Wastewater	Aug. 8, 1990.
K004	Nonwastewater	Aug. 8, 1988.
K005	Wastewater	Aug. 8, 1990.
K005	Nonwastewater	June 8, 1989.
K006	All	Aug. 8, 1990.
K007	Wastewater	Aug. 8, 1990.
K007	Nonwastewater	June 8, 1989.
K008	Wastewater	Aug. 8, 1990.
K008	Nonwastewater	Aug. 8, 1988.
K009	All	June 8, 1989.
K010	All	June 8, 1989.
K011	Wastewater	Aug. 8, 1990.
K011	Nonwastewater	June 8, 1989.
K013	Wastewater	Aug. 8, 1990.
K013	Nonwastewater	June 8, 1989.
K014	Wastewater	Aug. 8, 1990.

K014	Nonwastewater	June 8, 1989.
K015	Wastewater	Aug. 8, 1990.
K015	Nonwastewater	Aug. 8, 1990.
K016	All	Aug. 8, 1988.
K017	All	Aug. 8, 1990.
K018	All	Aug. 8, 1988.
K019	All	Aug. 8, 1988.
K020	All	Aug. 8, 1988.
K021	Wastewater	Aug. 8, 1990.
K021	Nonwastewater	Aug. 8, 1988.
K022	Wastewater	Aug. 8, 1990.
K022	Nonwastewater	Aug. 8, 1988.
K023	All	June 8, 1989.
K024	All	Aug. 8, 1988.
K025	Wastewater	Aug. 8, 1990.
K025	Nonwastewater	Aug. 8, 1988.
K026	All	Aug. 8, 1990.
K027	All	June 8, 1989.
K028 (metals)	Nonwastewater	Aug. 8, 1990.
K028	All others	June 8, 1989.
K029	Wastewater	Aug. 8, 1990.
K029	Nonwastewater	June 8, 1989.
K030	All	Aug. 8, 1988.
K031	Wastewater	Aug. 8, 1990.
K031	Nonwastewater	May 8, 1992.
K032	All	Aug. 8, 1990.
K033	All	Aug. 8, 1990.

K034	All	Aug. 8, 1990.
K035	All	Aug. 8, 1990.
K036	Wastewater	Aug. 8, 1990.
K036	Nonwastewater	Aug. 8, 1988.
K037[b]	Wastewater	Aug. 8, 1988.
K037	Nonwastewater	Aug. 8, 1988.
K038	All	June 8, 1989.
K039	All	June 8, 1989.
K040	All	June 8, 1989.
K041	All	Aug. 8, 1990.
K042	All	Aug. 8, 1990.
K043	All	June 8, 1989.
K044	All	Aug. 8, 1988.
K045	All	Aug. 8, 1988.
K046 (Nonreactive)	Nonwastewater	Aug. 8, 1988.
K046	All others	Aug. 8, 1990.
K047	All	Aug. 8, 1988.
K048	Wastewater	Aug. 8, 1990.
K048	Nonwastewater	Nov. 8, 1990.
K049	Wastewater	Aug. 8, 1990.
K049	Nonwastewater	Nov. 8, 1990.
K050	Wastewater	Aug. 8, 1990.
K050	Nonwastewater	Nov. 8, 1990.
K051	Wastewater	Aug. 8, 1990.
K051	Nonwastewater	Nov. 8, 1990.
K052	Wastewater	Aug. 8, 1990.
K052	Nonwastewater	Nov. 8, 1990.

K060	Wastewater	Aug. 8, 1990.
K060	Nonwastewater	Aug. 8, 1988.
K061	Wastewater	Aug. 8, 1990.
K061	Nonwastewater	June 30, 1992.
K062	All	Aug. 8, 1988.
K069 (Non-Calcium Sulfate)	Nonwastewater	Aug. 8, 1988.
K069	All others	Aug. 8, 1990.
K071	All	Aug. 8, 1990.
K073	All	Aug. 8, 1990.
K083	All	Aug. 8, 1990.
K084	Wastewater	Aug. 8, 1990.
K084	Nonwastewater	May 8, 1992.
K085	All	Aug. 8, 1990.
K086 (organics)[b]	All	Aug. 8, 1988.
K086	All others	Aug. 8, 1988.
K087	All	Aug. 8, 1988.
K088	All others	Oct. 8, 1997.
K088	All others	Jan. 8, 1997.
K093	All	June 8, 1989.
K094	All	June 8, 1989.
K095	Wastewater	Aug. 8, 1990.
K095	Nonwastewater	June 8, 1989.
K096	Wastewater	Aug. 8, 1990.
K096	Nonwastewater	June 8, 1989.
K097	All	Aug. 8, 1990.
K098	All	Aug. 8, 1990.
K099	All	Aug. 8,

		1988.
K100	Wastewater	Aug. 8, 1990.
K100	Nonwastewater	Aug. 8, 1988.
K101 (organics)	Wastewater	Aug. 8, 1988.
K101 (metals)	Wastewater	Aug. 8, 1990.
K101 (organics)	Nonwastewater	Aug. 8, 1988.
K101 (metals)	Nonwastewater	May 8, 1992.
K102 (organics)	Wastewater	Aug. 8, 1988.
K102 (metals)	Wastewater	Aug. 8, 1990.
K102 (organics)	Nonwastewater	Aug. 8, 1988.
K102 (metals)	Nonwastewater	May 8, 1992.
K103	All	Aug. 8, 1988.
K104	All	Aug. 8, 1988.
K105	All	Aug. 8, 1990.
K106	Wastewater	Aug. 8, 1990.
K106	Nonwastewater	May 8, 1992.
K107	Mixed with radioactive wastes	June 30, 1994.
K107	All others	Nov. 9, 1992.
K108	Mixed with radioactive wastes	June 30, 1994.
K108	All others	Nov. 9, 1992.
K109	Mixed with radioactive wastes	June 30, 1994.
K109	All others	Nov. 9, 1992.
K110	Mixed with radioactive wastes	June 30, 1994.
K110	All others	Nov. 9, 1992.
K111	Mixed with radioactive wastes	June 30, 1994.
K111	All others	Nov. 9, 1992.
K112	Mixed with radioactive wastes	June 30, 1994.
K112	All others	Nov. 9,

		1992.
K113	All	June 8, 1989.
K114	All	June 8, 1989.
K115	All	June 8, 1989.
K116	All	June 8, 1989.
K117	Mixed with radioactive wastes	June 30, 1994.
K117	All others	Nov. 9, 1992.
K118	Mixed with radioactive wastes	June 30, 1994.
K118	All others	Nov. 9, 1992.
K123	Mixed with radioactive wastes	June 30, 1994.
K123	All others	Nov. 9, 1992.
K124	Mixed with radioactive wastes	June 30, 1994.
K124	All others	Nov. 9, 1992.
K125	Mixed with radioactive wastes	June 30, 1994.
K125	All others	Nov. 9, 1992.
K126	Mixed with radioactive wastes	June 30, 1994.
K126	All others	Nov. 9, 1992.
K131	Mixed with radioactive wastes	June 30, 1994.
K131	All others	Nov. 9, 1992.
K132	Mixed with radioactive wastes	June 30, 1994.
K132	All others	Nov. 9, 1992.
K136	Mixed with radioactive wastes	June 30, 1994.
K136	All others	Nov. 9, 1992.
K141	Mixed with radioactive wastes	Sep. 19, 1996.
K141	All others	Dec. 19, 1994.
K142	Mixed with radioactive wastes	Sep. 19, 1996.
K142	All others	Dec. 19, 1994.
K143	Mixed with radioactive wastes	Sep. 19,

		1996.
K143	All others	Dec. 19, 1994.
K144	Mixed with radioactive wastes	Sep. 19, 1996.
K144	All others	Dec. 19, 1994.
K145	Mixed with radioactive wastes	Sep. 19, 1996.
K145	All others	Dec. 19, 1994.
K147	Mixed with radioactive wastes	Sep. 19, 1996.
K147	All others	Dec. 19, 1994.
K148	Mixed with radioactive wastes	Sep. 19, 1996.
K148	All others	Dec. 19, 1994.
K149	Mixed with radioactive wastes	Sep. 19, 1996.
K149	All others	Dec. 19, 1994.
K150	Mixed with radioactive wastes	Sep. 19, 1996.
K150	All others	Dec. 19, 1994.
K151	Mixed with radioactive wastes	Sep. 19, 1996.
K151	All others	Dec. 19, 1994.
K156	Mixed with radioactive wastes	Apr. 8, 1998.
K156	All others	July 8, 1996.
K157	Mixed with radioactive wastes	Apr. 8, 1998.
K157	All others	July 8, 1996.
K158	Mixed with radioactive wastes	Apr. 8, 1998.
K158	All others	July 8, 1996.
K159	Mixed with radioactive wastes	Apr. 8, 1998.
K159	All others	July 8, 1996.
K160	Mixed with radioactive wastes	Apr. 8, 1998.
K160	All others	July 8, 1996.
K161	Mixed with radioactive wastes	Apr. 8, 1998.
K161	All others	July 8,

		1996.
P001	All	Aug. 8, 1990.
P002	All	Aug. 8, 1990.
P003	All	Aug. 8, 1990.
P004	All	Aug. 8, 1990.
P005	All	Aug. 8, 1990.
P006	All	Aug. 8, 1990.
P007	All	Aug. 8, 1990.
P008	All	Aug. 8, 1990.
P009	All	Aug. 8, 1990.
P010	Wastewater	Aug. 8, 1990.
P010	Nonwastewater	May 8, 1992.
P011	Wastewater	Aug. 8, 1990.
P011	Nonwastewater	May 8, 1992.
P012	Wastewater	Aug. 8, 1990.
P012	Nonwastewater	May 8, 1992.
P013 (barium)	Nonwastewater	Aug. 8, 1990.
P013	All others	June 8, 1989.
P014	All	Aug. 8, 1990.
P015	All	Aug. 8, 1990.
P016	All	Aug. 8, 1990.
P017	All	Aug. 8, 1990.
P018	All	Aug. 8, 1990.
P020	All	Aug. 8, 1990.
P021	All	June 8, 1989.
P022	All	Aug. 8, 1990.
P023	All	Aug. 8, 1990.
P024	All	Aug. 8,

		1990.
P026	All	Aug. 8, 1990.
P027	All	Aug. 8, 1990.
P028	All	Aug. 8, 1990.
P029	All	June 8, 1989.
P030	All	June 8, 1989.
P031	All	Aug. 8, 1990.
P033	All	Aug. 8, 1990.
P034	All	Aug. 8, 1990.
P036	Wastewater	Aug. 8, 1990.
P036	Nonwastewater	May 8, 1992.
P037	All	Aug. 8, 1990.
P038	Wastewater	Aug. 8, 1990.
P038	Nonwastewater	May 8, 1992.
P039	All	June 8, 1989.
P040	All	June 8, 1989.
P041	All	June 8, 1989.
P042	All	Aug. 8, 1990.
P043	All	June 8, 1989.
P044	All	June 8, 1989.
P045	All	Aug. 8, 1990.
P046	All	Aug. 8, 1990.
P047	All	Aug. 8, 1990.
P048	All	Aug. 8, 1990.
P049	All	Aug. 8, 1990.
P050	All	Aug. 8, 1990.
P051	All	Aug. 8, 1990.
P054	All	Aug. 8,

		1990.
P056	All	Aug. 8, 1990.
P057	All	Aug. 8, 1990.
P058	All	Aug. 8, 1990.
P059	All	Aug. 8, 1990.
P060	All	Aug. 8, 1990.
P062	All	June 8, 1989.
P063	All	June 8, 1989.
P064	All	Aug. 8, 1990.
P065	Wastewater	Aug. 8, 1990.
P065	Nonwastewater	May 8, 1992.
P066	All	Aug. 8, 1990.
P067	All	Aug. 8, 1990.
P068	All	Aug. 8, 1990.
P069	All	Aug. 8, 1990.
P070	All	Aug. 8, 1990.
P071	All	June 8, 1989.
P072	All	Aug. 8, 1990.
P073	All	Aug. 8, 1990.
P074	All	June 8, 1989.
P075	All	Aug. 8, 1990.
P076	All	Aug. 8, 1990.
P077	All	Aug. 8, 1990.
P078	All	Aug. 8, 1990.
P081	All	Aug. 8, 1990.
P082	All	Aug. 8, 1990.
P084	All	Aug. 8, 1990.
P085	All	June 8,

		1989.
P087	All	May 8, 1992.
P088	All	Aug. 8, 1990.
P089	All	June 8, 1989.
P092	Wastewater	Aug. 8, 1990.
P092	Nonwastewater	May 8, 1992.
P093	All	Aug. 8, 1990.
P094	All	June 8, 1989.
P095	All	Aug. 8, 1990.
P096	All	Aug. 8, 1990.
P097	All	June 8, 1989.
P098	All	June 8, 1989.
P099 (silver)	Wastewater	Aug. 8, 1990.
P099	All others	June 8, 1989.
P101	All	Aug. 8, 1990.
P102	All	Aug. 8, 1990.
P103	All	Aug. 8, 1990.
P104 (silver)	Wastewater	Aug. 8, 1990.
P104	All others	June 8, 1989.
P105	All	Aug. 8, 1990.
P106	All	June 8, 1989.
P108	All	Aug. 8, 1990.
P109	All	June 8, 1989.
P110	All	Aug. 8, 1990.
P111	All	June 8, 1989.
P112	All	Aug. 8, 1990.
P113	All	Aug. 8, 1990.
P114	All	Aug. 8,

		1990.
P115	All	Aug. 8, 1990.
P116	All	Aug. 8, 1990.
P118	All	Aug. 8, 1990.
P119	All	Aug. 8, 1990.
P120	All	Aug. 8, 1990.
P121	All	June 8, 1989.
P122	All	Aug. 8, 1990.
P123	All	Aug. 8, 1990.
P127	Mixed with radioactive wastes	Apr. 8, 1998.
P127	All others	July 8, 1996.
P128	Mixed with radioactive wastes	Apr. 8, 1998.
P128	All others	July 8, 1996.
P185	Mixed with radioactive wastes	Apr. 8, 1998.
P185	All others	July 8, 1996.
P188	Mixed with radioactive wastes	Apr. 8, 1998.
P188	All others	July 8, 1996.
P189	Mixed with radioactive wastes	Apr. 8, 1998.
P189	All others	July 8, 1996.
P190	Mixed with radioactive wastes	Apr. 8, 1998.
P190	All others	July 8, 1996.
P191	Mixed with radioactive wastes	Apr. 8, 1998.
P191	All others	July 8, 1996.
P192	Mixed with radioactive wastes	Apr. 8, 1998.
P192	All others	July 8, 1996.
P194	Mixed with radioactive wastes	Apr. 8, 1998.
P194	All others	July 8, 1996.
P196	Mixed with radioactive wastes	Apr. 8,

		1998.
P196	All others	July 8, 1996.
P197	Mixed with radioactive wastes	Apr. 8, 1998.
P197	All others	July 8, 1996.
P198	Mixed with radioactive wastes	Apr. 8, 1998.
P198	All others	July 8, 1996.
P199	Mixed with radioactive wastes	Apr. 8, 1998.
P199	All others	July 8, 1996.
P201	Mixed with radioactive wastes	Apr. 8, 1998.
P201	All others	July 8, 1996.
P202	Mixed with radioactive wastes	Apr. 8, 1998.
P202	All others	July 8, 1996.
P203	Mixed with radioactive wastes	Apr. 8, 1998.
P203	All others	July 8, 1996.
P204	Mixed with radioactive wastes	Apr. 8, 1998.
P204	All others	July 8, 1996.
P205	Mixed with radioactive wastes	Apr. 8, 1998.
P205	All others	July 8, 1996.
U001	All	Aug. 8, 1990.
U002	All	Aug. 8, 1990.
U003	All	Aug. 8, 1990.
U004	All	Aug. 8, 1990.
U005	All	Aug. 8, 1990.
U006	All	Aug. 8, 1990.
U007	All	Aug. 8, 1990.
U008	All	Aug. 8, 1990.
U009	All	Aug. 8, 1990.
U010	All	Aug. 8,

		1990.
U011	All	Aug. 8, 1990.
U012	All	Aug. 8, 1990.
U014	All	Aug. 8, 1990.
U015	All	Aug. 8, 1990.
U016	All	Aug. 8, 1990.
U017	All	Aug. 8, 1990.
U018	All	Aug. 8, 1990.
U019	All	Aug. 8, 1990.
U020	All	Aug. 8, 1990.
U021	All	Aug. 8, 1990.
U022	All	Aug. 8, 1990.
U023	All	Aug. 8, 1990.
U024	All	Aug. 8, 1990.
U025	All	Aug. 8, 1990.
U026	All	Aug. 8, 1990.
U027	All	Aug. 8, 1990.
U028	All	June 8, 1989.
U029	All	Aug. 8, 1990.
U030	All	Aug. 8, 1990.
U031	All	Aug. 8, 1990.
U032	All	Aug. 8, 1990.
U033	All	Aug. 8, 1990.
U034	All	Aug. 8, 1990.
U035	All	Aug. 8, 1990.
U036	All	Aug. 8, 1990.
U037	All	Aug. 8, 1990.
U038	All	Aug. 8,

		1990.
U039	All	Aug. 8, 1990.
U041	All	Aug. 8, 1990.
U042	All	Aug. 8, 1990.
U043	All	Aug. 8, 1990.
U044	All	Aug. 8, 1990.
U045	All	Aug. 8, 1990.
U046	All	Aug. 8, 1990.
U047	All	Aug. 8, 1990.
U048	All	Aug. 8, 1990.
U049	All	Aug. 8, 1990.
U050	All	Aug. 8, 1990.
U051	All	Aug. 8, 1990.
U052	All	Aug. 8, 1990.
U053	All	Aug. 8, 1990.
U055	All	Aug. 8, 1990.
U056	All	Aug. 8, 1990.
U057	All	Aug. 8, 1990.
U058	All	June 8, 1989.
U059	All	Aug. 8, 1990.
U060	All	Aug. 8, 1990.
U061	All	Aug. 8, 1990.
U062	All	Aug. 8, 1990.
U063	All	Aug. 8, 1990.
U064	All	Aug. 8, 1990.
U066	All	Aug. 8, 1990.
U067	All	Aug. 8, 1990.
U068	All	Aug. 8,

		1990.
U069	All	June 30, 1992.
U070	All	Aug. 8, 1990.
U071	All	Aug. 8, 1990.
U072	All	Aug. 8, 1990.
U073	All	Aug. 8, 1990.
U074	All	Aug. 8, 1990.
U075	All	Aug. 8, 1990.
U076	All	Aug. 8, 1990.
U077	All	Aug. 8, 1990.
U078	All	Aug. 8, 1990.
U079	All	Aug. 8, 1990.
U080	All	Aug. 8, 1990.
U081	All	Aug. 8, 1990.
U082	All	Aug. 8, 1990.
U083	All	Aug. 8, 1990.
U084	All	Aug. 8, 1990.
U085	All	Aug. 8, 1990.
U086	All	Aug. 8, 1990.
U087	All	June 8, 1989.
U088	All	June 8, 1989.
U089	All	Aug. 8, 1990.
U090	All	Aug. 8, 1990.
U091	All	Aug. 8, 1990.
U092	All	Aug. 8, 1990.
U093	All	Aug. 8, 1990.
U094	All	Aug. 8, 1990.
U095	All	Aug. 8,

		1990.
U096	All	Aug. 8, 1990.
U097	All	Aug. 8, 1990.
U098	All	Aug. 8, 1990.
U099	All	Aug. 8, 1990.
U101	All	Aug. 8, 1990.
U102	All	June 8, 1989.
U103	All	Aug. 8, 1990.
U105	All	Aug. 8, 1990.
U106	All	Aug. 8, 1990.
U107	All	June 8, 1989.
U108	All	Aug. 8, 1990.
U109	All	Aug. 8, 1990.
U110	All	Aug. 8, 1990.
U111	All	Aug. 8, 1990.
U112	All	Aug. 8, 1990.
U113	All	Aug. 8, 1990.
U114	All	Aug. 8, 1990.
U115	All	Aug. 8, 1990.
U116	All	Aug. 8, 1990.
U117	All	Aug. 8, 1990.
U118	All	Aug. 8, 1990.
U119	All	Aug. 8, 1990.
U120	All	Aug. 8, 1990.
U121	All	Aug. 8, 1990.
U122	All	Aug. 8, 1990.
U123	All	Aug. 8, 1990.
U124	All	Aug. 8,

		1990.
U125	All	Aug. 8, 1990.
U126	All	Aug. 8, 1990.
U127	All	Aug. 8, 1990.
U128	All	Aug. 8, 1990.
U129	All	Aug. 8, 1990.
U130	All	Aug. 8, 1990.
U131	All	Aug. 8, 1990.
U132	All	Aug. 8, 1990.
U133	All	Aug. 8, 1990.
U134	All	Aug. 8, 1990.
U135	All	Aug. 8, 1990.
U136	Wastewater	Aug. 8, 1990.
U136	Nonwastewater	May 8, 1992.
U137	All	Aug. 8, 1990.
U138	All	Aug. 8, 1990.
U140	All	Aug. 8, 1990.
U141	All	Aug. 8, 1990.
U142	All	Aug. 8, 1990.
U143	All	Aug. 8, 1990.
U144	All	Aug. 8, 1990.
U145	All	Aug. 8, 1990.
U146	All	Aug. 8, 1990.
U147	All	Aug. 8, 1990.
U148	All	Aug. 8, 1990.
U149	All	Aug. 8, 1990.
U150	All	Aug. 8, 1990.
U151	Wastewater	Aug. 8,

		1990.
U151	Nonwastewater	May 8, 1992.
U152	All	Aug. 8, 1990.
U153	All	Aug. 8, 1990.
U154	All	Aug. 8, 1990.
U155	All	Aug. 8, 1990.
U156	All	Aug. 8, 1990.
U157	All	Aug. 8, 1990.
U158	All	Aug. 8, 1990.
U159	All	Aug. 8, 1990.
U160	All	Aug. 8, 1990.
U161	All	Aug. 8, 1990.
U162	All	Aug. 8, 1990.
U163	All	Aug. 8, 1990.
U164	All	Aug. 8, 1990.
U165	All	Aug. 8, 1990.
U166	All	Aug. 8, 1990.
U167	All	Aug. 8, 1990.
U168	All	Aug. 8, 1990.
U169	All	Aug. 8, 1990.
U170	All	Aug. 8, 1990.
U171	All	Aug. 8, 1990.
U172	All	Aug. 8, 1990.
U173	All	Aug. 8, 1990.
U174	All	Aug. 8, 1990.
U176	All	Aug. 8, 1990.
U177	All	Aug. 8, 1990.
U178	All	Aug. 8,

		1990.
U179	All	Aug. 8, 1990.
U180	All	Aug. 8, 1990.
U181	All	Aug. 8, 1990.
U182	All	Aug. 8, 1990.
U183	All	Aug. 8, 1990.
U184	All	Aug. 8, 1990.
U185	All	Aug. 8, 1990.
U186	All	Aug. 8, 1990.
U187	All	Aug. 8, 1990.
U188	All	Aug. 8, 1990.
U189	All	Aug. 8, 1990.
U190	All	June 8, 1989.
U191	All	Aug. 8, 1990.
U192	All	Aug. 8, 1990.
U193	All	Aug. 8, 1990.
U194	All	June 8, 1989.
U196	All	Aug. 8, 1990.
U197	All	Aug. 8, 1990.
U200	All	Aug. 8, 1990.
U201	All	Aug. 8, 1990.
U203	All	Aug. 8, 1990.
U204	All	Aug. 8, 1990.
U205	All	Aug. 8, 1990.
U206	All	Aug. 8, 1990.
U207	All	Aug. 8, 1990.
U208	All	Aug. 8, 1990.
U209	All	Aug. 8,

		1990.
U210	All	Aug. 8, 1990.
U211	All	Aug. 8, 1990.
U213	All	Aug. 8, 1990.
U214	All	Aug. 8, 1990.
U215	All	Aug. 8, 1990.
U216	All	Aug. 8, 1990.
U217	All	Aug. 8, 1990.
U218	All	Aug. 8, 1990.
U219	All	Aug. 8, 1990.
U220	All	Aug. 8, 1990.
U221	All	June 8, 1989.
U222	All	Aug. 8, 1990.
U223	All	June 8, 1989.
U225	All	Aug. 8, 1990.
U226	All	Aug. 8, 1990.
U227	All	Aug. 8, 1990.
U228	All	Aug. 8, 1990.
U234	All	Aug. 8, 1990.
U235	All	June 8, 1989.
U236	All	Aug. 8, 1990.
U237	All	Aug. 8, 1990.
U238	All	Aug. 8, 1990.
U239	All	Aug. 8, 1990.
U240	All	Aug. 8, 1990.
U243	All	Aug. 8, 1990.
U244	All	Aug. 8, 1990.
U246	All	Aug. 8,

		1990.
U247	All	Aug. 8, 1990.
U248	All	Aug. 8, 1990.
U249	All	Aug. 8, 1990.
U271	Mixed with radioactive wastes	Apr. 8, 1998.
U271	All others	July 8, 1996.
U277	Mixed with radioactive wastes	Apr. 8, 1998.
U277	All others	July 8, 1996.
U278	Mixed with radioactive wastes	Apr. 8, 1998.
U278	All others	July 8, 1996.
U279	Mixed with radioactive wastes	Apr. 8, 1998.
U279	All others	July 8, 1996.
U280	Mixed with radioactive wastes	Apr. 8, 1998.
U280	All others	July 8, 1996.
U328	Mixed with radioactive wastes	June 30, 1994.
U328	All others	Nov. 9, 1992.
U353	Mixed with radioactive wastes	June 30, 1994.
U353	All others	Nov. 9, 1992.
U359	Mixed with radioactive wastes	June 30, 1994.
U359	All others	Nov. 9, 1992.
U364	Mixed with radioactive wastes	Apr. 8, 1998.
U364	All others	July 8, 1996.
U365	Mixed with radioactive wastes	Apr. 8, 1998.
U365	All others	July 8, 1996.
U366	Mixed with radioactive wastes	Apr. 8, 1998.
U366	All others	July 8, 1996.
U367	Mixed with radioactive wastes	Apr. 8, 1998.
U367	All others	July 8,

		1996.
U372	Mixed with radioactive wastes	Apr. 8, 1998.
U372	All others	July 8, 1996.
U373	Mixed with radioactive wastes	Apr. 8, 1998.
U373	All others	July 8, 1996.
U375	Mixed with radioactive wastes	Apr. 8, 1998.
U375	All others	July 8, 1996.
U376	Mixed with radioactive wastes	Apr. 8, 1998.
U376	All others	July 8, 1996.
U377	Mixed with radioactive wastes	Apr. 8, 1998.
U377	All others	July 8, 1996.
U378	Mixed with radioactive wastes	Apr. 8, 1998.
U378	All others	July 8, 1996.
U379	Mixed with radioactive wastes	Apr. 8, 1998.
U379	All others	July 8, 1996.
U381	Mixed with radioactive wastes	Apr. 8, 1998.
U381	All others	July 8, 1996.
U382	Mixed with radioactive wastes	Apr. 8, 1998.
U382	All others	July 8, 1996.
U383	Mixed with radioactive wastes	Apr. 8, 1998.
U383	All others	July 8, 1996.
U384	Mixed with radioactive wastes	Apr. 8, 1998.
U384	All others	July 8, 1996.
U385	Mixed with radioactive wastes	Apr. 8, 1998.
U385	All others	July 8, 1996.
U386	Mixed with radioactive wastes	Apr. 8, 1998.
U386	All others	July 8, 1996.
U387	Mixed with radioactive wastes	Apr. 8,

		1998.
U387	All others	July 8, 1996.
U389	Mixed with radioactive wastes	Apr. 8, 1998.
U389	All others	July 8, 1996.
U390	Mixed with radioactive wastes	Apr. 8, 1998.
U390	All others	July 8, 1996.
U391	Mixed with radioactive wastes	Apr. 8, 1998.
U391	All others	July 8, 1996.
U392	Mixed with radioactive wastes	Apr. 8, 1998.
U392	All others	July 8, 1996.
U393	Mixed with radioactive wastes	Apr. 8, 1998.
U393	All others	July 8, 1996.
U394	Mixed with radioactive wastes	Apr. 8, 1998.
U394	All others	July 8, 1996.
U395	Mixed with radioactive wastes	Apr. 8, 1998.
U395	All others	July 8, 1996.
U396	Mixed with radioactive wastes	Apr. 8, 1998.
U396	All others	July 8, 1996.
U400	Mixed with radioactive wastes	Apr. 8, 1998.
U400	All others	July 8, 1996.
U401	Mixed with radioactive wastes	Apr. 8, 1998.
U401	All others	July 8, 1996.
U402	Mixed with radioactive wastes	Apr. 8, 1998.
U402	All others	July 8, 1996.
U403	Mixed with radioactive wastes	Apr. 8, 1998.
U403	All others	July 8, 1996.
U404	Mixed with radioactive wastes	Apr. 8, 1998.
U404	All others	July 8,

		1996.
U407	Mixed with radioactive wastes	Apr. 8, 1998.
U407	All others	July 8, 1996.
U409	Mixed with radioactive wastes	Apr. 8, 1998.
U409	All others	July 8, 1996.
U410	Mixed with radioactive wastes	Apr. 8, 1998.
U410	All others	July 8, 1996.
U411	Mixed with radioactive wastes	Apr. 8, 1998.
U411	All others	July 8, 1996.

[a]This table does not include mixed radioactive wastes, from the First, Second, and Third Third rules, which received national capacity variance until May 8, 1992. This table also does not include contaminated soil and debris wastes.
[b]The standard was revised in the Third Third Final Rule, 55 FR 22520, June 1, 1990.
[c]The standard was revised in the Third Third Emergency Rule, 58 FR 29860, May 24, 1993; the original effective date was August 8, 1990.
[d]The standard was revised in the Phase II Final Rule, 59 FR 47982, Sept. 19, 1994; the original effective date was August 8, 1990.
[e]The standards for selected reactive wastes was revised in the Phase III Final Rule, 61 FR 15566, Apr. 8, 1996; the original effective date was August 8, 1990.

Table 2—Summary of Effective Dates of Land Disposal Restrictions for Contaminated Soil and Debris (CSD)

Restricted hazardous waste in CSD	Effective date
1. Solvent-(F001-F005) and dioxin-(F020-F023 and F026-F028) containing soil and debris from CERCLA response or RCRA corrective actions	Nov. 8, 1990.
2. Soil and debris not from CERCLA response or RCRA corrective actions contaminated with less than 1% total solvents (F001-F005) or dioxins (F020-F023 and F026-F028)	Nov. 8, 1988.
3 All soil and debris contaminated with First Third wastes for which treatment standards are based on incineration	Aug. 8, 1990.
4. All soil and debris contaminated with Second Third wastes for which treatment standards are based on incineration	June 8, 1991.

5. All soil and debris contaminated with Third Third wastes or, First or Second Third “soft hammer” wastes which had treatment standards promulgated in the Third Third rule, for which treatment standards are based on incineration, vitrification, or mercury retorting, acid leaching followed by chemical precipitation, or thermal recovery of metals; as well as all inorganic solids debris contaminated with D004–D011 wastes, and all soil and debris contaminated with mixed RCRA/radioactive wastes	May 8, 1992.
6. Soil and debris contaminated with D012–D043, K141–K145, and K147–151 wastes	Dec. 19, 1994.
7. Debris (only) contaminated with F037, F038, K107–K112, K117, K118, K123–K126, K131, K132, K136, U328, U353, U359	Dec. 19, 1994.
8. Soil and debris contaminated with K156–K161, P127, P128, 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 wastes	July 8, 1996.
9. Soil and debris contaminated with K088 wastes	Oct. 8, 1997.
10. Soil and debris contaminated with radioactive wastes mixed with K088, K156–K161, P127, P128, 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 wastes	April 8, 1998.
11. Soil and debris contaminated with F032, F034, and F035	May 12, 1997.
12. Soil and debris contaminated with newly identified D004–D011 toxicity characteristic wastes and mineral processing wastes.	Aug. 24, 1998.
13. Soil and debris contaminated with mixed radioactive newly identified D004–D011 characteristic wastes and mineral processing wastes.	May 26, 2000.

Note: Appendix VII is provided for the convenience of the reader.

Appendix VIII to Rule R315–268–LDR Effective Dates of Injected Prohibited Hazardous Wastes

National Capacity LDR Variances for UIC Wastes[a]

Waste code	Waste category	Effective date
F001–F005	All spent F001–F005 solvent containing less than 1 percent total F001–F005 solvent constituents	Aug. 8, 1990.
D001 (except High TOC Ignitable Liquids Subcategory)[c]	All	Feb. 10, 1994.
D001 (High TOC Ignitable Characteristic Liquids Subcategory)	Nonwastewater	Sept. 19, 1995.
D002[b]	All	May 8, 1992.
D002[c]	All	Feb. 10, 1994.
D003 (cyanides)	All	May 8, 1992.
D003 (sulfides)	All	May 8, 1992.
D003 (explosives, reactives)	All	May 8, 1992.
D007	All	May 8, 1992.
D009	Nonwastewater	May 8, 1992.
D012	All	Sept. 19, 1995.
D013	All	Sept. 19, 1995.
D014	All	Sept. 19, 1995.
D015	All	Sept. 19, 1995.
D016	All	Sept. 19, 1995.
D017	All	Sept. 19, 1995.
D018	All, including mixed with radioactive wastes	Apr. 8, 1998.
D019	All, including mixed with radioactive wastes	Apr. 8, 1998.
D020	All, including mixed with radioactive wastes	Apr. 8, 1998.
D021	All, including mixed with radioactive wastes	Apr. 8, 1998.
D022	All, including mixed with	Apr. 8,

	radioactive wastes	1998.
D023	All, including mixed radioactive wastes	Apr. 8, 1998.
D024	All, including mixed radioactive wastes	Apr. 8, 1998.
D025	All, including mixed radioactive wastes	Apr. 8, 1998.
D026	All, including mixed radioactive wastes	Apr. 8, 1998.
D027	All, including mixed radioactive wastes	Apr. 8, 1998.
D028	All, including mixed radioactive wastes	Apr. 8, 1998.
D029	All, including mixed radioactive wastes	Apr. 8, 1998.
D030	All, including mixed radioactive wastes	Apr. 8, 1998.
D031	All, including mixed radioactive wastes	Apr. 8, 1998.
D032	All, including mixed radioactive wastes	Apr. 8, 1998.
D033	All, including mixed radioactive wastes	Apr. 8, 1998.
D034	All, including mixed radioactive wastes	Apr. 8, 1998.
D035	All, including mixed radioactive wastes	Apr. 8, 1998.
D036	All, including mixed radioactive wastes	Apr. 8, 1998.
D037	All, including mixed radioactive wastes	Apr. 8, 1998.
D038	All, including mixed radioactive wastes	Apr. 8, 1998.
D039	All, including mixed radioactive wastes	Apr. 8, 1998.
D040	All, including mixed radioactive wastes	Apr. 8, 1998.
D041	All, including mixed radioactive wastes	Apr. 8, 1998.
D042	All, including mixed radioactive wastes	Apr. 8, 1998.
D043	All, including mixed radioactive wastes	Apr. 8, 1998.
F007	All	June 8, 1991.
F032	All, including mixed radioactive wastes	May 12, 1999.
F034	All, including mixed radioactive wastes	May 12, 1999.
F035	All, including mixed radioactive wastes	May 12, 1999.
F037	All	Nov. 8, 1992.
F038	All	Nov. 8,

		1992.
F039	Wastewater	May 8, 1992.
K009	Wastewater	June 8, 1991.
K011	Nonwastewater	June 8, 1991.
K011	Wastewater	May 8, 1992.
K013	Nonwastewater	June 8, 1991.
K013	Wastewater	May 8, 1992.
K014	All	May 8, 1992.
K016 (dilute)	All	June 8, 1991.
K049	All	Aug. 8, 1990.
K050	All	Aug. 8, 1990.
K051	All	Aug. 8, 1990.
K052	All	Aug. 8, 1990.
K062	All	Aug. 8, 1990.
K071	All	Aug. 8, 1990.
K088	All	Jan. 8, 1997.
K104	All	Aug. 8, 1990.
K107	All	Nov. 8, 1992.
K108	All	Nov. 9, 1992.
K109	All	Nov. 9, 1992.
K110	All	Nov. 9, 1992.
K111	All	Nov. 9, 1992.
K112	All	Nov. 9, 1992.
K117	All	June 30, 1995.
K118	All	June 30, 1995.
K123	All	Nov. 9, 1992.
K124	All	Nov. 9, 1992.
K125	All	Nov. 9,

		1992.
K126	All	Nov. 9, 1992.
K131	All	June 30, 1995.
K132	All	June 30, 1995.
K136	All	Nov. 9, 1992.
K141	All	Dec. 19, 1994.
K142	All	Dec. 19, 1994.
K143	All	Dec. 19, 1994.
K144	All	Dec. 19, 1994.
K145	All	Dec. 19, 1994.
K147	All	Dec. 19, 1994.
K148	All	Dec. 19, 1994.
K149	All	Dec. 19, 1994.
K150	All	Dec. 19, 1994.
K151	All	Dec. 19, 1994.
K156	All	July 8, 1996.
K157	All	July 8, 1996.
K158	All	July 8, 1996.
K159	All	July 8, 1996.
K160	All	July 8, 1996.
K161	All	July 8, 1996.
NA	Newly identified mineral processing wastes from titanium dioxide production and mixed radioactive/ newly identified D004-D011 characteristic wastes and mineral processing wastes.	May 26, 2000.
P127	All	July 8, 1996.
P128	All	July 8, 1996.
P185	All	July 8, 1996.
P188	All	July 8,

		1996.
P189	All	July 8, 1996.
P190	All	July 8, 1996.
P191	All	July 8, 1996.
P192	All	July 8, 1996.
P194	All	July 8, 1996.
P196	All	July 8, 1996.
P197	All	July 8, 1996.
P198	All	July 8, 1996.
P199	All	July 8, 1996.
P201	All	July 8, 1996.
P202	All	July 8, 1996.
P203	All	July 8, 1996.
P204	All	July 8, 1996.
P205	All	July 8, 1996.
U271	All	July 8, 1996.
U277	All	July 8, 1996.
U278	All	July 8, 1996.
U279	All	July 8, 1996.
U280	All	July 8, 1996.
U328	All	Nov. 9, 1992.
U353	All	Nov. 9, 1992.
U359	All	Nov. 9, 1992.
U364	All	July 8, 1996.
U365	All	July 8, 1996.
U366	All	July 8, 1996.
U367	All	July 8, 1996.
U372	All	July 8,

		1996.
U373	All	July 8, 1996.
U375	All	July 8, 1996.
U376	All	July 8, 1996.
U377	All	July 8, 1996.
U378	All	July 8, 1996.
U379	All	July 8, 1996.
U381	All	July 8, 1996.
U382	All	July 8, 1996.
U383	All	July 8, 1996.
U384	All	July 8, 1996.
U385	All	July 8, 1996.
U386	All	July 8, 1996.
U387	All	July 8, 1996.
U389	All	July 8, 1996.
U390	All	July 8, 1996.
U391	All	July 8, 1996.
U392	All	July 8, 1996.
U395	All	July 8, 1996.
U396	All	July 8, 1996.
U400	All	July 8, 1996.
U401	All	July 8, 1996.
U402	All	July 8, 1996.
U403	All	July 8, 1996.
U404	All	July 8, 1996.
U407	All	July 8, 1996.
U409	All	July 8, 1996.
U410	All	July 8,

		1996.
U411	All	July 8, 1996.

[a]Wastes that are deep well disposed on-site receive a six-month variance, with restrictions effective in November 1990.
[b]Deepwell injected D002 liquids with a pH less than 2 shall meet the California List treatment standards on August 8, 1990.
[c]Managed in systems defined in 40 CFR 144.6(e) and 144.6(e) as Class V injection wells, that do not engage in CWA-equivalent treatment before injection.
Note: This table is provided for the convenience of the reader.

Appendix IX to Rule R315-268-Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test (Method 1310B)

Note: The EP (Method 1310B) is published in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in Section R315-260-11.

Appendix XI to Rule R315-268-Metal Bearing Wastes Prohibited From Dilution in a Combustion Unit According to Subsection R315-268-3(c)

Metal Bearing Wastes Prohibited From Dilution in a Combustion Unit According to Subsection R315-268-3(c)[1]

Waste code	Waste description
D004	Toxicity Characteristic for Arsenic.
D005	Toxicity Characteristic for Barium.
D006	Toxicity Characteristic for Cadmium.
D007	Toxicity Characteristic for Chromium.
D008	Toxicity Characteristic for Lead.
D009	Toxicity Characteristic for Mercury.
D010	Toxicity Characteristic for Selenium.
D011	Toxicity Characteristic for Silver.
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F007	Spent cyanide plating bath solutions from electroplating operations.
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides

	are used in the process.
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
F010	Quenching bath residues from oil baths from metal treating operations where cyanides are used in the process.
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum car washing when such phosphating is an exclusive conversion coating process.
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003	Wastewater treatment sludge from the production of molybdate orange pigments.
K004	Wastewater treatment sludge from the production of zinc yellow pigments.
K005	Wastewater treatment sludge from the production of chrome green pigments.
K006	Wastewater treatment sludge from the production of chrome oxide green pigments, anhydrous and hydrated.
K007	Wastewater treatment sludge from the production of iron blue pigments.
K008	Oven residue from the production of chrome oxide green pigments.
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.
K069	Emission control dust/sludge from secondary lead smelting.
K071	Brine purification muds from the mercury cell processes in chlorine production, where separately prepurified brine is not used.
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
K106	Sludges from the mercury cell processes for making chlorine.
P010	Arsenic acid $H_3 AsO_4$
P011	Arsenic oxide $As_2 O_5$
P012	Arsenic trioxide
P013	Barium cyanide
P015	Beryllium
P029	Copper cyanide Cu(CN)
P074	Nickel cyanide $Ni(CN)_2$
P087	Osmium tetroxide
P099	Potassium silver cyanide
P104	Silver cyanide

P113 Thallic oxide
P114 Thallium (l) selenite
P115 Thallium (l) sulfate
P119 Ammonium vanadate
P120 Vanadium oxide $V_2 O_5$
P121 Zinc cyanide.
U032 Calcium chromate.
U145 Lead phosphate.
U151 Mercury.
U204 Selenious acid.
U205 Selenium disulfide.
U216 Thallium (I) chloride.
U217 Thallium (I) nitrate.

[1]A combustion unit is defined as any thermal technology subject to Sections R315-264-340 through 351; 40 CFR 265.340 through 352, which are adopted by reference; and/or Sections R315-266-100 through 112.