Chronology of Rules and Regulations Published in the Federal Register Supporting the Land Disposal Restrictions (LDR) Program

1986-2014

Introduction

When the Hazardous and Solid Waste Amendments (HSWA) to RCRA were passes in 1984, Congress added a new Land Disposal Restriction program to the RCRA framework. The statute at section 3004(m) required that the EPA promulgate treatment standards for hazardous waste to substantially diminish the toxicity or mobility of hazardous waste so that short-term and long-term threats to human health and the environment are minimized. In response, EPA developed a series of rulemakings under the LDR program setting forth standards for treatment of hazardous waste destined for land disposal.

Contained in this document is a compilation in chronological order of the Federal Registers (FR) that promulgated the LDR regulations. Federal Registers from 1936 to present are available on GPO's website here: https://www.govinfo.gov/app/collection/fr. A hyperlink has been added to this documents for many newer Federal Registers.

LDR Rules and Regulations Pre-1992

Date: Oct. 24, 1991
Citation: 56 FR 55160
Subject: LDR, Newly Identified Hazardous Wastes and Contaminated Soil; Advance Notice of Proposed Rulemaking
Abstract: This notice presents for comment treatment standards for certain hazardous wastes that were listed or identified as hazardous since the1984 Hazardous and Solid Waste Amendments. Wastes include wood preserving materials, primary aluminum spent potliners, and mining and mineral waste no longer suspended from Bevill amendments. Comments are also requested on treatment standards for contaminated soil.

Date: Aug. 29, 1991
Citation: 56 FR 42730
Subject: Enforcement of Storage Prohibitions; Policy Statement
Abstract: This policy statement explains how EPA considers violations of the LDR storage prohibition for mixed radioactive wastes that are prohibited from land disposal and for which there are no available options for treatment or disposal.

Date: Aug. 19, 1991
Citation: 56 FR 41164
Subject: LDR, Regulation of Electric Arc Furnace Dust (K061); Final Rule
Abstract: This final rule establishes treatment standards based on high temperature metal recovery (HTMR) for high zinc-containing electric arc furnace dust, (K061). The Agency also finalized a generic exclusion from the derived-from rule for HTMR slag generated from processing K061. In addition, this rule finalizes a conditional exclusion from classification as a solid waste for K061 HTMR splash condenser dross residue.

Date: May 30, 1991
Citation: 56 FR 24444

Subject: LDR, Treatment Standards for Newly Identified Wastes and Debris; Advance Notice of Proposed Rulemaking
Abstract: This notice presents for comment treatment standards and effective dates for many wastes that have been identified and listed as hazardous since the enactment of the Hazardous and Solid Waste Amendments of 1984. The notice solicits comments on treatment standards for hazardous debris, as well as on universal treatment standards. Other issues presented for comment include conversion of treatment standards based on scrubber water to those based on conventional wastewater treatment; modification of treatment standards for F001-F005 solvents; modifications to treatment standards for lab packs; and potential treatment standards based on recovery of chromium.

Date: April 12, 1991
Citation: 56 FR 15020
Subject: LDR, Regulation of Electric Arc Furnace Dust (K061); Proposed Rule
Abstract: The notice proposes treatment standards for high zinc-containing electric arc furnace dust (K061). EPA was given authority to regulate the slag residues from high temperature metals recovery (HTMR) treatment of K061 in API v. EPA. Delisting of certain HTMR nonwastewater residues is also proposed.

Date: March 25, 1991
Citation: 56 FR 12351
Subject: LDR, Site-Specific Treatment Variance; Final Rule
Abstract: This final rule grants a site specific treatability variance to Craftsman Plating and Tinning Corporation and Northwestern Plating Works for their F006 waste. The notice also announces the withdrawal of CyanoKem's petition for a treatability variance for their F011 and F012 waste.

Date: Jan. 31, 1991
Citation: 55 FR 3864
Subject: LDR, Third Third Final Rule; Correction
Abstract: This notice makes technical corrections and clarifies the preamble of the June 1, 1990, Third Third final rule.

Date: Nov. 14, 1990
Citation: 55 FR 47700
Subject: No-Migration Determination for DOE; Notice of Final Determination
Abstract: This notice grants DOE's no-migration petition for placement of hazardous waste at the Waste Isolation Pilot Plant (WIPP) located near Carlsbad, New Mexico. This determination imposes several conditions on such placement, and is for a maximum of ten years.

Date: Oct. 2, 1990
Citation: 55 FR 40266
Subject: LDR, Site-Specific Treatment Variance; Intent to Grant
Abstract: This notice proposes granting site-specific treatment variances for: F006 from Craftsman Plating and Tinning Corporation and Northwestern Plating Works, and F011 and F012 from CyanoKEM.

Date: July 27, 1990
Citation: 55 FR 30798
Subject: Solid Waste Corrective Management Action; Proposed Rule
Abstract: This rule proposes requirements for conducting remedial investigations and implementations, and acknowledges that states will have the authority to administer corrective actions. However, standards determined by states must not be less stringent than that of the LDRs.

Date: June 1, 1990
Citation: 55 FR 22520
Subject: LDR, Third Third Scheduled Wastes; Final Rule
Abstract: This final rule promulgates treatment standards and effective dates for the Third Third of the Scheduled hazardous wastes. Upon completion of the Third Third, the three Scheduled Waste rules are expected to require treatment of over 7 million tons of hazardous waste.

Date: May 7, 1990
Citation: 55 FR 19032
Subject: LDR, Underground Injection Wells, TV Steel Company; Intent to Grant
Abstract: This notice proposes to grant an exemption from the LDR ban on disposal of LTV Steel Company's K062 into its deep injection control well, based on a showing of no migration.

Date: March 29, 1990
Citation: 55 FR 11798
Subject: Toxicity Characteristic Revisions; Final Rule
Abstract: This rule implements the replacement of the extraction procedure (EP) with the toxicity characteristic leaching procedure (TCLP). In addition, the rule establishes regulatory levels for 25 organic chemicals to be added to the toxicity characteristic list.

Date: Feb. 26, 1990
Citation: 55 FR 6640
Subject: Land Disposal Restrictions; Response to Court Remand
Abstract: On November 7, 1986, EPA promulgated the first set of treatment standards based on the Best Demonstrated Available Technology (BDAT). In doing so, the Agency rejected a

proposed approach in which treatment standards would be capped by risk-based screening levels. A number of groups filed petitions for review which challenged EPA's choice of technology -based treatment standards over risk-based standards. The DC Court of Appeals found the Agency's selection of technology-based standards was reasonable, however they concluded the Agency failed to adequately explain its policy preference for technology-based standards. This notice provides a response to the Court's order.

Date: Nov. 22, 1989
Citation: 54 FR 48372
Subject: LDR, Third Third of Scheduled Hazardous Wastes; Proposed Rule
Abstract: This notice proposes treatment standards and effective dates for the Third Third of scheduled wastes. Effective dates for disposal by underground injection are also proposed. The proposed rule also presents a number of interpretations, such as implementation of the dilution prohibition; applicability of the Bevill Amendment; and a clarification of the language of 40 CFR 261.33(c)(d) (commercial chemicals that are hazardous wastes when discarded).

Date: Oct. 10, 1989
Citation: 54 FR 41566
Subject: Applicability of Land Disposal Restrictions to CERCLA Response Actions; Notice
Abstract: This notice requests comments on the relevancy of LDR to CERCLA. Specifically, the notice asks for interpretations of the definition of "land disposal" as it applies to actions involving excavation, treatment and re-deposition.

Date: Sept. 6, 1989
Citation: 54 FR 36967
Subject: Land Disposal Restrictions, First Third Rule; Correction
Abstract: This final rule corrects errors and clarifies language in the preamble of the Aug. 17, 1988 Federal Register setting treatment standards and effective dates for the First Third Wastes.

Date: June 23, 1989
Citation: 54 FR 26594
Subject: Second Third Scheduled Wastes; Final Rule
Abstract: This final rule promulgates specific treatment standards and effective dates for the Second Third of Scheduled hazardous wastes.

Date: June 14, 1989
Citation: 54 FR 25416
Subject: LDR, Underground Injection Wells, First Third Wastes; Final Rule
Abstract: This final rules establishes effective dates for treatment standards for certain First Third Wastes injected into deep Underground Injection Control wells.

Date: May 2, 1989
Citation: 54 FR 18836
Subject: LDR, First Third Wastes; Final Rule
Abstract: This final rule amends the application of the no land disposal standard to exclude nonwastewater forms of certain First Third wastes.

Date: Feb. 27, 1989
Citation: 54 FR 8264
Subject: LDR, Addition to the Third Third Wastes; Final Rule
Abstract: This final rule amends the schedule for prohibiting hazardous wastes from land disposal by placing multi-source leachate in the Third Third of Scheduled wastes. The action is being taken in order to more fully study the most appropriate treatment standard for that waste.

Date: Jan. 27, 1989
Citation: 54 FR 4021
Subject: First Third Wastes; Administrative Stay
Abstract: This notice announces an administrative stay of the Agency's interpretation of the final rule for First Third Wastes on Aug. 17, 1988, that the waste codes for the initial hazardous wastes follow through and so apply to all further forms of the waste, such as residues from treating the waste.

Date: Jan. 11, 1989
Citation: 54 FR 1058
Subject: LDR, Second Third of Scheduled Hazardous Wastes; Proposed Rule
Abstract: This notice proposes treatment standards and effective dates for the Second Third of the Scheduled hazardous wastes.
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Date: Oct. 26, 1988
Citation: 53 FR 43400
Subject: LDR, First Third Wastes, Underground Injection Wells; Proposed Rule
Abstract: This notice proposes effective dates for LDR treatment standards for certain First Third wastes when they are injected into deep Underground Injection Control wells.

Date: Oct. 24, 1988
Citation: 53 FR 41601
Subject: LDR, California List and First Third Wastes, Underground Injection Wells; Correction
Abstract: This notice corrects errors made in the Aug. 16, 1988 federal register pertaining to disposal by underground injection of California List and First Third Waste.

Date: Aug. 17, 1988
Citation: 53 FR 31138
Subject: First Third Scheduled Wastes; Final Rule
Abstract: This rule promulgates treatment standards and effective dates for the First Third of the Scheduled hazardous wastes. Modifications to the "no migration" petition process and requirements for hazardous wastes used in a manner constituting disposal are also made.

Date: Aug. 16, 1988
Citation: 53 FR 30908
Subject: LDR, California List and First Third Wastes, Underground Injection Wells; Final Rule
Abstract: This final rule sets effective dates for the California List Wastes and First Third Wastes when they are injected into deep Underground Injection Control wells.

Date: July 26, 1988
Citation: 53 FR 28118
Subject: LDR, Listed Spent Solvent Waste, Underground Injection Wells; Final Rule
Abstract: This notice promulgates, for those hazardous wastes that are disposed in Class I hazardous waste injection wells, the 40 CFR 268 treatment standards and regulatory framework promulgated in the Solvent and Dioxins rule (51 FR 40572, Nov. 7, 1986). It also promulgates that injection of such wastes would be allowed if a petitioner showed there is no migration of hazardous wastes from the injection zone.

Date: May 24, 1988
Citation: 53 FR 18792
Subject: Revision of Toxicity Characteristic Leaching Procedure; Proposed Rule
Abstract: This notice proposes the modification of the TCLP in order to eliminate the size reduction step. (The application of the TCLP was originally discussed in Federal Registers on June 13, 1986 and Nov. 7, 1986 as it pertains to both the Toxicity Characteristic and LDRs, respectively.)

Date: May 17, 1988
Citation: 53 FR 17578
Subject: LDR, First Third of Scheduled Wastes (second of two); Proposed Rule
Abstract: This notice proposes treatment standards and effective dates for additional First Third wastes. It also re-proposes the effective dates proposed on April 8, 1988 for certain First Third wastes.

Date: April 8, 1988
Citation: 53 FR 11742
Subject: LDR, First Third of Scheduled Wastes (first of two); Proposed Rule
Abstract: The notice proposes treatment standards and effective dates for the "First Third" of

the scheduled hazardous wastes (51 FR 19300, May 28, 1986). Modifications to the "no migration" petition process are also proposed.

Date: Feb. 5, 1988
Citation: 53 FR 3446
Subject: DOE's Savannah River Site; Intent to Grant Petition
Abstract: The proposal addresses DOE's request to grant an extension for clean up at the Savannah River Site, permitting DOE to continue with current disposal of corrosive hazardous waste at the Savannah River Plant until July 8, 1988.

Date: August 27, 1987
Citation: 52 FR 32446
Subject: LDRs, Underground Injection Wells; Proposed Rule
Abstract: This notice proposes to codify, for those hazardous wastes that are disposed in Class I hazardous waste injection wells, the 40 CFR 268 treatment standards and regulatory framework promulgated in the Solvent and Dioxins rule (51 FR 40572, Nov. 7, 1986) and the California list rule (52 FR 25760 July 8, 1987). It also proposed that injection of such wastes would be allowed if a petitioner showed there is no migration of hazardous wastes from the injection zone.

Date: Aug.12, 1987
Citation: 52 FR 29992
Subject: California Listed Metals & Cyanide; Notice of Data Availability
Abstract: This NODA requests comments on data supporting lowering prohibition levels for California list cyanide and metal bearing wastes. Estimates on the volume of metal-bearing and cyanide wastes requiring alternative treatment capacities are also presented for comment. (NOTE: The California list of wastes has been superceded by subsequent LDR rules.)

Date: July 8, 1987
Citation: 52 FR 25760
Subject: California List Wastes; Final Rule
Abstract: This final rule promulgates treatment standards for the liquid hazardous wastes specified as the California List. (NOTE: The California list of wastes has been superceded by subsequent LDR rules.) Addresses "point of generation" of hazardous wastes. Certain modifications to the LDR framework (51 FR 40572, Nov. 7, 1986) are made.

Date: June 11, 1987
Citation: 52 FR 22356
Subject: California List Rule; Notice of Data Availability and Request for Comment
Abstract: The notice announces solicits comment on the issue of whether the liquid hazardous wastes prohibited under the California list are determined to be liquids at point of disposal,

generation, or aggregation. Data is presented on the relevancy of nation-wide capacity variances for polychlorinated biphenyls. (NOTE: The California list of wastes has been superceded by subsequent LDR rules.)

Date: June 4, 1987
Citation: 52 FR 21010
Subject: Solvents and Dioxins Final Rule; Correction
Abstract: This notice corrects errors in the language of the preamble and regulations throughout the LDR Solvents and Dioxins rule as published on Nov. 7, 1986.

Date: Dec. 11, 1986
Citation: 51 FR 44714
Subject: California List Wastes; Proposed Rule
Abstract: This notice proposes treatment standards for the California list of liquid hazardous wastes. (NOTE: The California list of wastes has been superceded by subsequent LDR rules.)

Date: Nov. 7, 1986
Citation: 51 FR 40572
Subject: LDR Framework, Solvents and Dioxins; Final Rule
Abstract: This final rule establishes the framework of the LDR program: setting treatment standards, granting extensions of effective dates, granting variances from the treatment standards, and no-migration petitions. In addition, it promulgates specific treatment standards for listed solvent and dioxin hazardous wastes. The TCLP (Toxicity Characteristic Leaching Procedure) is also introduced to aid in determining the proper treatment standard.

Date: Nov. 3, 1986
Citation: 51 FR 39859
Subject: LDR Public Briefings; Notice of Public Hearing
Abstract: This notice announces three public briefings held to discuss the implementation of the upcoming LDR framework (listed solvent and dioxin hazardous wastes) rule.

Date: Sept. 5, 1986
Citation: 51 FR 31783
Subject: LDR Statistical Methodologies; Notice of Data Availability
Abstract: This NODA presents for comment treatment and capacity data, statistical methodologies, and treatability variance procedures received and developed during the comment period of the Jan. 14, 1986 LDR framework proposed rule.

Date: June 24, 1986
Citation: 51 FR 22948
Subject: Withdrawal of Petitions Guidance Manual; Notice

Abstract: This notice announces the withdrawal of the "Land Disposal Ban Variance Petitioner's Guidance Manual" due to consideration of comments received on the Jan. 14, 1986 LDR framework proposed rule.

Date: June 13, 1986
Citation: 51 FR 21648
Subject: Expansion of the TCLP; Proposed Rule
Abstract: This notice proposes to expand the Toxicity Characteristic (TC) to include additional chemicals and by introducing a new extraction procedure (TCLP) to be used.

Date: May 28, 1986
Citation: 51 FR 19300
Subject: LDR Schedule; Final Rule
Abstract: This final rule established the LDR schedule promulgating the deadlines for promulgating LDR treatment standards for wastes listed or identified as hazardous since 1984 (other than solvent, dioxin, and California list wastes).

Date: March 6, 1986
Citation: 51 FR 7832
Subject: Solvents and Dioxins; Correction of Proposed Rule
Abstract: This correction changes technical aspects of the proposed rule pertaining to solvents and dioxins, published on Jan. 14, 1986.

Date: Jan. 14, 1986
Citation: 51 FR 1602
Subject: Solvents and Dioxins; Proposed Rule
Abstract: This notice proposes the framework for the LDR program. It also proposes treatment standards for listed solvent and dioxin-containing wastes. This notices discusses the risk-based ground water back calculation procedure that was proposed for establishing treatment standards but was later rejected in favor of a technology-based methodology.

Date: Jan. 3, 1986
Citation: 51 FR 229
Subject: LDRs; Notice of Public Hearings
Abstract: This announcement sets dates for three public hearings, being held to address comments and explanations pertaining to the newly introduced LDR regulations.

Date: May 31, 1985
Citation: 50 FR 23250
Subject: LDR Schedule; Proposed Rule
Abstract: This proposal is the first of the LDR regulations, proposing deadlines for promulgating

LDR treatment standards for wastes listed or identified as hazardous since 1984 (other than solvent, dioxin, and California list wastes). The methodology proposed for use in setting the schedule (toxicity x volume) was presented, as well as a discussion of why other methodologies were not selected.

LDR Rules and Regulations 1992

Date: Oct. 20, 1992
Citation: 57 FR 47772
Subject: LDR, Generic Case-by-Case Capacity Variance for Hazardous Soils, Approval
Abstract: This notice approves an interim generic case-by-case extension for soil whose BDAT is vitrification, incineration, or retorting, or Third Third soils contaminated with mixed radioactive wastes.

Date: Sept. 9, 1992
Citation: 57 FR 41173
Subject: LDR, Phase I--Newly Listed Wastes and Contaminated Debris, Correction
Abstract: This notice corrects the effective date of the Phase I rule to be November 9, 1992.

Date: Sept.1, 1992
Citation: 57 FR 40028
Subject: LDR, No Migration for Underground Injection of Wastes, Intent to Grant
Abstract: This notice announces the Agency's intent to grant Allied Signal a no migration exemption that would allow deep injection of specified hazardous wastes.

Date: Aug. 28, 1992
Citation: 57 FR 39275
Subject: LDR, Phase I--Newly Listed Wastes and Contaminated Debris, Correction
Abstract: This notice corrects the effective date of the Phase I rule to be November 19, 1992.

Date: Aug. 18, 1992
Citation: 57 FR 37196
Subject: LDR, Phase I--Newly Identified Waste and Contaminated Debris, Final Rule
Abstract: This final rule establishes treatment standards and effective dates for Phase I of the newly identified hazardous wastes. Alternative treatment standards for debris are also promulgated. In addition, the notice finalizes the proposed rule of Feb. 4, 1992, which addressed surface impoundment retrofitting.

Date: Aug. 11, 1992
Citation: 57 FR 35940
Subject: LDR, "No Migration" Variances, Proposed Rule

Abstract: This proposal interprets the "no migration" variance, as well as introduces minor changes to the LDR regulations. Standards limiting organic air emissions from land treatment are also introduced.

Date: June 26, 1992
Citation: 57 FR 28628
Subject: LDR, Case-By-Case Extension, Notice to Approve
Abstract: This notice announces EPA's intent to approve a case-by-case extension of the effective date for lead-bearing hazardous materials. Such an extension would allow these lead-bearing materials to be stored in waste piles while awaiting reclamation at secondary lead smelters.

Date: May 26, 1992
Citation: 57 FR 22024
Subject: LDR, DOE Mixed Waste Extension, Notice of Proposed Decision to Grant
Abstract: This notice acknowledges the receipt of DOE's request for a one year case-by-case extension for their Third Third radioactive mixed wastes. DOE filed the request because of a shortage of treatment capacity. DOE had met all but one demonstration required for the extension, that of a contractual commitment to obtain treatment capacity by the extension expires.

Date: May 15, 1992
Citation: 57 FR 20766
Subject: LDR, Contaminated Debris Generic Case-By-Case Extension, Notice to Approve
Abstract: The Agency grants a one-year extension of the effective date applicable to all persons managing hazardous debris.

Subject: LDR, Third Third of Scheduled Wastes, Technical Amendment
Abstract: This notice corrects errors and clarifies the language of the Federal Register released on June 1, 1990, pertaining to the Third Third Scheduled Waste Rule.

Date: Feb. 4, 1992
Citation: 57 FR 4172
Subject: LDR, Surface Impoundment Retrofitting Deadline, Proposed Rule
Abstract: This proposal clarifies the deadline by which surface impoundments receiving wastes that are newly identified or listed as hazardous must be brought into compliance with the minimum technological requirements established in RCRA section 3004(o)(1)(A).

Date: Jan. 9, 1992
Citation: 57 FR 958
Subject: LDR, Phase I--Newly Identified Waste and Contaminated Debris, Proposed Rule
Abstract: This notice proposes treatment standards and effective dates for wastes listed or identified as hazardous since the1984 Hazardous and Solid Waste Amendments. The rule also proposes treatment standards for debris contaminated with hazardous waste. Several revisions to previously promulgated regulations are also proposed.

LDR Rules and Regulations 1993

Date: Sept. 14, 1993
Citation: 58 FR 48092
Subject: LDR, Phase II-- Newly Identified Wastes and Contaminated Soil, Proposed Rule
Abstract: This notice proposes universal treatment standards for newly identified organic toxicity characteristic wastes, coke by-product and chlorotoluene production wastes, as well as for all other wastes regulated under the LDR program. Alternative treatment standards for contaminated soil are also proposed.

Date: May 24, 1993
Citation: 58 FR 29860
Subject: LDR, Ignitable and Corrosive Characteristic Wastes Whose Treatment Standards Were Vacated (The Emergency Rule), Interim Final Rule
Abstract: This final rule amends treatment standards for ignitable and corrosive wastes when they are managed in systems other than those regulated under the Clean Water Act (CWA), those that are CWA equivalent, or those regulated under the Safe Drinking Water Act. These treatment standards result from the decision made in *Chemical Waste Management v. EPA*. Due to the vacating of treatment standards for ignitable and corrosive wastes, this rule specifies that these wastes should not only be deactivated, but underlying hazardous constituents should also treated to meet UTS levels.

Date: May 14, 1993
Citation: 58 FR 28506
Subject: LDR, Renewal of the Hazardous Debris Generic Case-By-Case Capacity Variance, Final Rule
Abstract: This rule extends the generic case-by-case capacity variance issued on May 15, 1992 for an additional year, due to lack of treatment capacity for hazardous debris.

Date: April 27, 1993
Citation: 58 FR 25706
Subject: Wood Surface Protectants as Hazardous Waste, Proposed Rule
Abstract: This notice proposes the addition of certain wastes from the chlorophenolic formulations in the wood surface protection industry to the RCRA list of hazardous wastes. Comments and data are requested for use in establishing LDR treatment standards for F033.

Date: March 17, 1993
Citation: 58 FR 14317
Subject: LDR, Third Third Scheduled Wastes, Amendment
Abstract: This amendment suspends portions of the March 6, 1992 technical amendment to the Third Third final rule. It provides a three month compliance period for the treatment of reactive sulfide and reactive cyanide wastes.

Date: Jan. 19, 1993
Citation: 58 FR 4972
Subject: LDR, Response to Court Decision, Notice of Data Availability
Abstract: This NODA announces availability of information that has been developed by the Agency in order to implement the September 25, 1992 court decision in *Chemical Waste Management v. EPA*. Parts of that decision involved treatment standards for wastes that are hazardous because they exhibit a characteristic.

LDR Rules and Regulations 1994

Date: Sept. 19, 1994
Citation: 59 FR 47982
Subject: LDR, Phase II--Newly Identified Wastes, Universal Treatment Standards, Final Rule
Abstract: This final rule promulgates treatment standards and effective dates for the toxicity characteristic organic wastes, coke by-products, and chlorotoulenes (D018-D043). This rule also promulgates Universal Treatment Standards.

Date: Sept. 19, 1994
Citation: 59 FR 47980
Subject: LDR, Testing and Monitoring Activities, Final Rule Correction
Abstract: This notice corrects the final regulations published August 31, 1993, which unintentionally removed text from 40 CFR 268.7, the generator paperwork and recordkeeping requirements under the LDR program.

Date: Aug. 15, 1994
Citation: 59 FR 41741
Subject: LDR, Case-By-Case Extension for Great Lakes Chemical Corporation, Notice of Intent to Approve

Abstract: This notice announces EPA's intention to grant a case-by-case extension to GreatLakes Chemical Corporation, due to the company's insufficient treatment capacity to manage its wastewater.

Date: May 27, 1994
Citation: 59 FR 27546
Subject: LDR, Clarification of the Dilution Prohibition and Combustion of Metal-Bearing Wastes, Notice of Availability
Abstract: This notice clarifies the LDR dilution prohibition as it pertains to burning of inorganic, metal-bearing wastes. Such a practice constitutes a violation of the LDR dilution prohibition in certain situations.

Date: April 20, 1994
Citation: 59 FR 18813
Subject: Enforcement Policy on Storage of Mixed Wastes, Policy Statement
Abstract: This notice extends for two years the enforcement policy for facilities which generate radioactive mixed waste. The policy affects certain mixed wastes that are prohibited from land disposal under the LDR program and for which there are no available options for treatment or disposal.

Date: March 8, 1994
Citation: 59 FR 10788
Subject: LDR, Phase II–Newly Identified Wastes and Contaminated Soil, Clarification
Abstract: This notice clarifies that the proposals made in the September 14, 1993 Phase II proposed rule should be addressed as part of the Hazardous Waste Identification Rule (HWIR) for contaminated media rather than under the LDR program.

LDR Rules and Regulations 1995

Date: Dec. 21, 1995
Citation: 60 FR 66344
Subject: Hazardous Waste Identification Rule (PDF) Proposed Rule
Abstract: This notice proposes risk-based exit levels for hazardous wastes. The notice proposes to cap some of the land disposal restriction numerical treatment standards with the risk-based exit levels.

Date: Nov. 28, 1995
Citation: 60 FR 58623
Subject: Notice of Intent to Reissue an Exemption, Underground Injection Wells, Cabot Corporation (PDF), Intent to Reissue
Abstract: The notice proposes to reissue an exemption from LDRs to the Cabot Corporation so they can continue to dispose of hazardous wastes in a deep underground injection control well.

Date: Nov. 20, 1995
Citation: 60 FR 57747
Subject: Identification and Listing of Petroleum Refining Wastes (PDF) (54 pp, 566K, About PDF), Proposed Rule
Abstract: This notice proposes to list as hazardous three petroleum refining wastes. LDR treatment standards (Universal Treatment Standards) are proposed to apply to these wastes.

Date: Oct. 25, 1995
Citation: 60 FR 54645
Subject: Phase IV–Clean Water Act Equivalency, Wood Preserving and TC Metal Wastes (PDF) (4 pp, 197K, About PDF), Proposed Rule Correction
Abstract: This final rule makes corrections to the Aug. 22, 1995 proposed rule pertaining to the option 2 flow chart and contradictions between UTS tables for F032, F034,and F035.

Date: Aug. 22, 1995
Citation: 60 FR 43654
Subject: LDR, Phase IV–Clean Water Act Equivalency, Wood Preserving and TC Metal Wastes (46 pp, 669K About PDF), Proposed Rule
Abstract: The notice explains that the Agency is considering whether to regulate potential releases to air and groundwater of hazardous constituents from surface impoundments treating wastes that were hazardous when generated but have been diluted to render them nonhazardous. Treatment standards and effective dates for wood preserving wastes and toxicity characteristic metal wastes (D004-D011) are proposed.

Date: May 11, 1995
Citation: 60 FR 25492
Subject: Universal Waste Rule (PDF) (60 pp, 813K, About PDF), Final Rule
Abstract: This rule encourages the recycling of certain pesticides, nickel cadmium batteries, and mercury thermostats. Specific to LDR, this rule announces that for universal wastes covered by this rule, the substantive requirements of the LDR program must be met but not the administrative requirements.

Date: March 2, 1995
Citation: 60 FR 11702
Subject: LDR, Phase III–Decharacterized Wastewaters, Spent Potliners (PDF) (65 pp, 634K, About PDF), Proposed Rule
Abstract: This notice proposes treatment standards and effective dates for wastes from the production of carbamate pesticides, organobromine flame retardants, and aluminum. In addition, it proposes that characteristic wastewaters must be treated not only to rid the wastes of their characteristic properties, but to treat them for underlying constituents as well. The notice also proposes the banning of hazardous wastes used to fill holes in the ground.

Date: Jan. 3, 1995
Citation: 60 FR 242
Subject: LDR, Phase II–Universal Treatment Standards (PDF) (61 pp, 4MB, About PDF), Technical Amendment
Abstract: This final rule makes corrections to the prohibitions on land disposal of certain hazardous wastes in the Sept. 19, 1993, Phase II Federal Register.

LDR Rules and Regulations 1996

Date: Aug. 26, 1996
Citation: 61 FR 43924
Subject: LDR, Phase III–Hazardous Waste from Carbamate Production (PDF) (8 pp, 147K, About PDF), Immediate Final Rule
Abstract: This emergency revision allows, for one year, carbamate wastes to be treated either by any technology which achieves the levels specified for carbamate wastes in the Phase III rule, or by the Best Demonstrated Available Technology used to set those treatment levels.

Date: July 10, 1996
Citation: 61 FR 36419
Subject: LDR, Phase III–Decharacterized Wastewaters, Spent Potliners(PDF) (3 pp, 108K, About PDF), Correction
Abstract: This technical correction makes corrections to the table of Treatment Standards for Hazardous Wastes in the Phase III rule published on April 8, 1996.

Date: June 28, 1996
Citation: 61 FR 33680
Subject: LDR, Phase III–Decharacterized Wastewaters, Spent Potliners (PDF) (12 pp, 176K, About PDF), Correction
Abstract: This technical correction corrects errors made in the Phase III Partial Withdrawal published on April 8, 1996.

Date: April 30, 1996
Citation: 61 FR 19117
Subject: LDR, Phase III–Decharacterized Wastewaters, Spent Potliners (PDF) (1 pg, 98K, About PDF), Correction
Abstract: This notice corrects a date in the Phase III Partial Withdrawal from July 1, 1996 to July 8, 1996.

Date: April 30, 1996
Citation: 61 FR 19117
Subject: LDR, Phase III–Decharacterized Wastewaters, Spent Potliners (PDF) (1 pg, 98K, About

PDF), Correction
Abstract: This notice corrects the effective date in the Phase III Partial Withdrawal, from April 5, 1995 to April 8, 1996.

Date: April 8, 1996
Citation: 61 FR 15660
Subject: LDR, Phase III–Decharacterized Wastewaters, Spent Potliners (PDF) (95 pp, 998K, About PDF), Partial Withdrawal and Amendment of Final Rule
Abstract: This rule withdraws portions of the Phase III rule published elsewhere on April 8, 1996, resulting from the decision made in *Chemical Waste Management v. EPA*, and the Sept. 19, 1994 Phase II final rule. These revisions are in response to the Land Disposal Flexibility Act of 1999, which said that characteristic hazardous wastes are no longer prohibited so long as they are not hazardous wastes at the point they are land disposed.

Date: April 8, 1996
Citation: 61 FR 15566
Subject: LDR, Phase III–Decharacterized Wastewaters, Spent Potliners (PDF) (9 pp, 159K, About PDF), Final Rule
Abstract: This final rule sets treatment standards and effective dates for wastes generated in the production of carbamate pesticides and aluminum potliners. In addition, the rule revises treatment standards for hazardous wastes displaying the reactivity characteristic so that the characteristic is removed and underlying hazardous constituents are treated. The rule also makes states that combustion of inorganic wastes may be a violation of the dilution prohibition.

Date: Jan. 25, 1996
Citation: 61 FR 2337
Subject: LDR, Phase IV–Clarification of Bevill Exclusion for Mining Wastes (PDF) (9 pp, 159K, About PDF), Supplemental Proposed Rule
Abstract: This notice proposes that mineral processing secondary materials would be excluded from the definition of solid waste if they are managed to meet conditions such asa being legitimately recycled, stored only for short periods and not causing contamination. They would also be excluded if they are returned to beneficiation units and meet certain conditions the applicability of the Bevill Amendment to specific LDR regulated wastes. In addition it proposes that the TCLP should be used for testing mineral processing wastes. It also proposes to exclude recyclable processed scrap metal and shredded circuit boards from RCRA. The notice also proposes to significantly reduce LDR paperwork.

LDR Rules and Regulations 1997

Date: Dec. 5, 1997
Citation: 62 FR 64504
Subject: LDR–Clarification of Standards for Treatment Variances, Final Rule

Abstract: This final rule clarifies conditions for granting treatment variances. It presents circumstances when application of the national treatment standard could be found to be "inappropriate," specifically where the national treatment standard is unsuitable from a technical standpoint or where the national treatment standard could lead to environmentally counterproductive results by discouraging needed remediation. The rule also withdraws the variance granted to Citgo for its Lake Charles Louisiana facility.

Date: Nov. 10, 1997
Citation: 62 FR 60465
Subject: LDR, Phase IV–Second Supplemental Proposal, Metal Wastes, Mineral Processing Wastes (PDF) (3 pp, 115K, About PDF), Notice of Data Availability
Abstract: This NODA presents for comment additional capacity information that may be used for the Phase IV final rule. The information concerns three wastes produced by the FMC Corporation.

Date: Aug. 28, 1997
Citation: 62 FR 45568
Subject: LDR, Phase III--Second Emergency Revision of Treatment Standards for Listed Hazardous Wastes From Carbamate Production (PDF) (8 pp, 147K, About PDF), Immediate Final Rule
Abstract: This emergency revision extends the alternative carbamate treatment standards by one year. Therefore, carbamate wastes may be treated to meet the concentration limits set as the treatment standards or may be treated by the technology used as the basis for the concentration limits.

Date: July 14, 1997
Citation: 62 FR 37694
Subject: LDR, Phase III--Emergency Extension of the K088 National Capacity Variance (PDF) (6 pp, 135K, About PDF), Final Rule
Abstract: This capacity extension permits K088 wastes to be land disposed without having to comply with LDR treatment standards until Oct. 8, 1997. K088 wastes include spent potliners resulting from primary aluminum production.

Date: June 17, 1997
Citation: 62 FR 32973
Subject: Carbamate Production, Identification and Listing of Hazardous Waste (PDF) (7 pp, 140K, About PDF), Final Rule
Abstract: This final rule vacates the carbamates hazardous waste listings (and LDR treatment standards) in response to *Dithiocarbamates Task Force v. EPA*.

Date: June 9, 1997
Citation: 62 FR 31406
Subject: LDR, Phase IV--Second Supplemental Proposal on Treatment Standards for Metal Wastes and Mineral Processing Wastes, Mineral Processing and Bevill Exclusion Issues, and the Use of Hazardous Waste as Fill (PDF) (8 pp, 147K, About PDF), Extension of Comment Period
Abstract: This extension changes the public comment period for the Phase IV Second Supplemental Proposed Rule to August 12, 1997.

Date: May 12, 1997
Citation: 62 FR 26041
Subject: LDR, Phase IV-- Second Supplemental Proposal on Treatment Standards for Metal Characteristic Wastes, Mineral Processing Wastes, Proposed Rule
Abstract: This notice proposes revised universal treatment standards for 12 metal constituents when they are in hazardous waste. Comments are sought on a conditional exemption for secondary mineral processing materials. This notice also includes an exclusion from the definition of solid waste for certain wood preserving wastewaters. In addition, the use of most hazardous wastes as fill material is proposed to be prohibited.

Date: May 12, 1997
Citation: 62 FR 25998
Subject: LDR, Phase IV--Wood-Preserving Wastes, Paperwork Reduction (Minirule), Final Rule (See also Supplemental Information)
Abstract: This final rule sets treatment standards and effective dates for wood preserving wastes. The rule significantly reduced LDR paperwork. The rule also promulgates an alternative treatment standard, polymerization, for certain ignitable wastes. Processed circuit boards and scrap metal are exempted from RCRA. The rule also states that the California List treatment standards are all now superceded by subsequent LDR rules.

Date: April 8, 1997
Citation: 62 FR 16747
Subject: Identification and Listing of Petroleum Refining Wastes (PDF) (7 pp, 197K, About PDF), Notice of Data Availability
Abstract: The NODA requests comments on additional modeling analyses using different assumptions that in the original proposed rule.

Date: March 5, 1997
Citation: 62 FR 10004
Subject: LDR, Phase IV–Treatment Standards for Characteristic Metal Wastes (PDF) (3 pp, 115K, About PDF), Notice of Data Availability
Abstract: This notice presents data on the practice of using iron filings as a means of treating lead-contaminated spent foundry sand.

Date: Feb. 19,1997
Citation: 62 FR 7502
Subject: LDR, Correction of Tables; Treatment Standards for Hazardous Waste and Universal Treatment Standards (PDF) (99 pp, 4.0MB, About PDF); Final Rule
Abstract: This final rule corrects and clarifies the tables: "Treatment Standards for Hazardous Wastes" at 40 CFR 268.40 and the "Universal Treatment Standards" at 40 CFR 268.48. Several other corrections were made to the tables in compliance with the Nov. 1, 1996 court decision *Dithiocarbamate Task Force v. Environmental Protection Agency*. These changes include removal of treatment standards for the 25 vacated carbamate waste codes.

Date: Jan. 14, 1997
Citation: 62 FR 1992
Subject: LDR, Extension of the K088 Capacity Variance (PDF) (6 pp, 138K, About PDF), Final Rule
Abstract: This rule extends the national capacity variance for spent potliners from primary aluminum production (K088) until July 8, 1997. This change is due to unanticipated performance problems with the treatment technology.

LDR Rules and Regulations 1998

Date: Oct. 23 1998
Citation: 63 FR 56886
Subject: Land Disposal Restrictions: Notice of Intent to Grant a site Specific Treatment Variance to Chemical Waste Management, Inc. Proposed Rule https://www.gpo.gov/fdsys/pkg/FR-1998-10-23/pdf/98-28487.pdf
Abstract: This proposal solicits comment on granting a site-specific treatment variance from the Land Disposal Restriction (LDR)standards for two specific hazardous wastes to be stabilized by Chemical Waste Management, Inc. (CWM) at their Kettleman Hills facility in Kettleman City, California. These wastes have been classified as D010, as well as D004,D006, D007, and D008. CWM requests this variance because the wastes of concern cannot be treated to the treatment standard of 5.7 mg/L TCLP (63 FR 28556, May 26, 1998) for nonwastewater forms of D010 waste. The chemical properties of the wastes in question appear to differ significantly from the waste used to establish the LDR standard. Accordingly, the Agency proposes to grant a site-specific treatment variance to CWM from the selenium treatment standard for the two wastes discussed in this proposal. The Agency is proposing an alternate treatment standard of 51 mg/L TCLP for the waste generated by Owens Brockway Glass Container Company, and 25 mg/L TCLP for the waste generated by Ball-Foster Glass Container Corporation. If this proposal is finalized, CWM may land dispose of these two treated wastes in a RCRA Subtitle C landfill provided they comply with the specified alternate treatment standard for selenium nonwastewaters and they meet all other applicable LDR treatment standards. Furthermore, the Agency proposes to grant this variance for a period of three years. During this period, the Agency will request the petitioner to submit information on whether new technologies have become available to treat these wastes to the national treatment level of 5.7 mg/LTCLP and also whether some type of vitrification or recovery technology can be employed to recover and/or treat the selenium

component of the waste in lieu of stabilization. Note that waste already disposed of pursuant to the standard established in a treatment variance would be lawfully disposed, and would not have to be retreated if the standard in the variance were altered or lapsed.

Date: Sept. 24, 1998
Citation: 63 FR 51254
Subject: LDR, Treatment Standards for Spent Aluminum Potliners (K088)(PDF) (14 pp, 131K, About PDF), Final Rule
Abstract: This rule promulgates revised treatment standards for spent aluminum potliners (K088). This action is being taken in response to a Court decision on April 3, 1998, on the Phase III K088 treatment standards. The Court vacated all the Phase III K088 treatment standards. This rule promulgates interim replacement standards.

Date: Sept. 4, 1998
Citation: 63 FR 47410
Subject: LDR, Phase III--Emergency Revision of Treatment Standards for Listed Hazardous Wastes from Carbamate Production (PDF) (9 pp, 71 K), Final Rule
Abstract: This rule revises sets final alternative carbamate treatment standards for seven hazardous specific carbamate wastes for which there are no analytical standards. These carbamate wastes may be treated to meet the concentration limits set as the treatment standards or may be treated by the technology used as the basis for the concentration limits. The rule also deletes the treatment standard for one additional constituent for which available analytical methods have not been shown to achieve reliable measurements. These eight constituents are being removed from the Universal Treatment Standard list. The rule clarifies that the numerical treatment limits apply to the remaining 32 carbamate wastes.

Date: Aug. 31, 1998
Citation: 63 FR 46332
Subject: LDR, Hazardous Waste Recycling, Zinc Micronutrient Fertilizer (PDF) (14 pp, 371K, About PDF), Final Rule
Abstract: This rule amends the Phase IV rule (63 FR 28556) for zinc micronutrient fertilizers produced from toxicity characteristic wastes. Rather than being subject to the treatment standards promulgated in the Phase IV rule, the fertilizers affected by this amendment remain subject to the treatment standards for toxic metals in place prior to Phase IV.

Date: Aug. 6, 1998
Citation: 63 FR 42110
Subject: Identification and Listing of New Petroleum Refining Wastes, Final Rule - Part One (PDF) (8 pp, 147K, About PDF); Part Two (PDF) (14 pp, 371K, About PDF)
Abstract: This final rule adds four wastes generated from petroleum refining to the list of hazardous wastes. The rule also deems 10 other petroleum refining wastes non-hazardous. LDR treatment standards apply to the four newly listed wastes.

Date: Aug. 4, 1998
Citation: 63 FR 41536
Subject: LDR Phase III--Spent Potliners from Primary Aluminum Reduction (K088)(PDF) (3 pp, 153K, About PDF), Notice Of Data Availability
Abstract: This notice presents data on the treatment of arsenic in K088.

Date: June 9, 1998
Citation: 63 FR 31463
Subject: Hazardous Waste Land Disposal Restrictions: Notice of Public Meeting
Abstract: The Environmental Protection Agency's (EPA's) Office of Solid Waste, OSW (renamed Office of Resource Conservation and Recovery, ORCR, on January 18, 2009) will hold a public roundtable discussion on the Agency's efforts to evaluate important aspects of and potentially improve the Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions (LDR) Program. The purpose of the roundtable is to enable individuals who have substantial experience in implementing the LDR Program to offer their own evaluations and suggestions on possible improvements to the program. EPA's overall goal in the LDR reinvention project is to examine the best way to ensure the program is environmentally protective, less expensive, more efficient and flexible, clearer to the public, and more enforceable. The public is welcome to observe the discussions among participants and will be afforded some opportunities to express their views. However, this meeting is not intended to be a full public hearing.

Date: June 8, 1998
Citation: 63 FR 31266
Subject: Phase IV (PDF) (3 pp, 154K, About PDF), Correction
Abstract: This technical correction amends wording in the appendix of the final rule of Phase IV, released on May 26, 1998.

Date: May 26, 1998
Citation: 63 FR 28556
Subject: LDR, Phase IV–Treatment Standards for Metal Wastes and Mineral Processing Wastes; Mineral Processing Secondary Materials and Bevill Exclusion Issues; Treatment Standards for Hazardous Soils, and Exclusion of Recycled Wood Preserving Wastewaters; Final Rule
(See also Soil Treatment Standards)
Abstract: This final rule promulgates LDR treatment standards and effective dates for metal bearing-wastes, including those generated by mineral processing operations. The rule revises 12 metal Universal Treatment Standard constituents. The rule also defines which secondary materials from mineral processing are considered to be wastes and potentially subject to the LDRs. In addition, the rule sets alternative standards for contaminated soil. The rule also excludes shredded circuit boards used in recycling operations as well as specific wood preserving wastewaters from the definition of solid wastes.

LDR Rules and Regulations 1999

Date: September 23, 1999
Citation: 64 FR 51540
Subject: Land Disposal Restrictions: Notice of Intent to Grant a Site-Specific Determination of Equivalent Treatment to Pioneer Chlor-Alkali, Inc.; Determination of Treatment
Abstract: The United States Environmental Protection Agency is announcing our intent to grant the petition of Pioneer Chlor-Alkali, Inc. in St. Gabriel, Louisiana for a site-specific determination of equivalent treatment (DET). This DET would address Pioneer's Remerc process for treating K106 mercury wastes under the Resource Conservation and Recovery Act (RCRA).

Date: August 25, 1999
Citation: 64 FR 46475
Subject: Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Chlorinated Aliphatics Production Wastes; Land Disposal Restrictions for Newly Identified Wastes; CERCLA Hazardous Substance Designation and Reportable Quantities; Proposed Rule
Abstract: The EPA is proposing to list three of six wastes from the chlorinated aliphatics industry as hazardous wastes under the Resource Conservation and Recovery Act (RCRA), which directs EPA to determine whether certain wastes from the chlorinated aliphatics industry present a hazard to human health or the environment. The effect of listing these three wastes will be to subject them to stringent management and treatment standards under RCRA and to subject them to emergency notification requirements for releases of hazardous substances to the environment. EPA is proposing a contingent management listing approach for one of these wastes, and as one of two options for another of these wastes, such that waste generators will have the option of their waste not being listed if it is sent to a specific type of management facility.

Date: June 18, 1999
Citation: 64 FR 32859
Subject: Office of Solid Waste (name changed to Office of Resource Conservation and Recovery on January 18, 2009) Burden Reduction Project; Notice of Data Availability and Request for Comment
Abstract: To meet the goals of the Paperwork Reduction Act of 1995, EPA planned to reduce the recordkeeping and reporting burden on states, the public and regulated community associated with the Resource Conservation and Recovery Act (RCRA). The Paperwork Reduction Act establishes a federal government wide goal to reduce the recordkeeping and reporting burden on the states, the public and regulated community by 40% from a starting date of 1995 to September 2001. We are working to reduce burden while protecting human health and the environment. For this Notice of Data Availability (NODA), we reviewed our recordkeeping and reporting requirements and their burden on the states, public, and regulated community; reviewed burden reduction ideas developed by other EPA offices and the regulated community;

developed additional burden reduction ideas; and sought input from EPA offices and states. In today's NODA, we are soliciting comment on our ideas and our background documents. These background documents are available on the Internet and in the RCRA Information Center. We plan to issue a proposed rulemaking to implement many of these ideas.

Date: July 23, 1999
Citation: 64 FR 40192
Subject: Identification and Listing of Dye and Pigment Wastes; Proposed Rulemaking
Abstract: This notice proposes to list two of three wastes from the dyes and pigment industries as hazardous wastes under RCRA. These wastes, if finalized, will be subject to LDR treatment standards, among other RCRA requirements. The proposed LDR treatment standards are proposed in this notice.

Date: May 28, 1999
Citation: 64 FR 28949
Subject: LDR, Potential Revisions to Mercury Treatment Standards; Advance Notice of Proposed Rulemaking
Abstract: The Agency is considering revisions to the treatment standards for mercury wastes. This notice presents options, issues, and data relevant to the potential revised mercury treatment standards.

Date: May 26, 1999
Citation: 64 FR 28387
Subject: LDR, Site Specific Treatment Variance to Chemical Waste Management, Inc.; Final Rule
Abstract: The Agency granted a site-specific treatment variance from the LDR treatment standards for two selenium-bearing hazardous wastes. The variance was granted because the chemical properties of the selenium wastes differ significantly from the waste used to establish the current LDR standard for selenium.

Date: May 11, 1999
Citation: 64 FR 25408
Subject: LDR, Phase IV, Wood Preserving Wastes, Treatment Standards for Metal Wastes and Micronutrient Fertilizers, Carbamate Treatment Standards, K088 Treatment Standards (PDF) (10 pp, 202K, About PDF); Final Rule Technical Correction
Abstract: This technical correction corrects and clarifies five Phase IV-related rules the EPA published on May 12, 1997; May 26, 1998; August 31,1998; September 4, 1998; and September 24, 1998. Included are clarifications to the effective date of Phase IV; the status of cement kiln dust; D004 treatment standards; the policy against intentional mixing of hazardous waste with soil or debris; treatment residuals and the LDR point of generation; and other topics.

LDR Rules and Regulations 2000

Date: November 08, 2000
Citation: 65 FR 67068
Subject: Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Chlorinated Aliphatics Production Wastes; Land Disposal Restrictions for Newly Identified Wastes; and CERCLA Hazardous Substance Designation and Reportable Quantities, Final Rule
Abstract: The Agency is listing as hazardous two of six wastes generated by the chlorinated aliphatics industry. These two wastes are K174 - Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (EDC/VCM); and K175 - Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process. The effect of listing these two wastes is to subject them to stringent management and treatment standards under RCRA and to subject them to emergency notification requirement for releases of hazardous substances to the environment. EPA is also finalizing determinations not to list as hazardous four waste generated by the chlorinated alphatics industry.

Date: September 14, 2000
Citation: 65 FR 55684
Subject: Hazardous Waste Management System; Identification and Listing of Hazardous Waste: Inorganic Chemical Manufacturing Wastes; Land Disposal Restrictions for Newly Identified Wastes; and CERCLA Hazardous Substance Designation and Reportable Quantities; Proposed Rule
Abstract: EPA is proposing to add three wastes from inorganic chemical manufacturing processes to the list of hazardous waste. Regulating these chemical wastes will protect human health and the environment by eliminating potential pathways of exposure.

Date: July 26, 2000
Citation: 65 FR 45978
Subject: Land Disposal Restrictions: Notice of Intent to Grant a Site-Specific Treatment Variance to Safety-Kleen (Deer Park), Inc.; Notice of Intent to Grant Petition
Abstract: EPA announces the intent to grant a site-specific treatment variance from the Land Disposal Restrictions (LDR) treatment standards for approximately 2850 cubic yards of hazardous waste that Safety-Kleen (Deer Park), Inc. is currently storing at its Deer Park, Texas facility. Safety-Kleen requests this one-time variance because the waste cannot be treated to the interim K088 total arsenic standard of 26.1 mg/kg. Furthermore, a portion of the waste cannot meet the 28 mg/kg total dithiocarbamates treatment standard for the waste codes K161, P196, and P205.

Date: June 19, 2000
Citation: 65 FR 37932-37956
Subject: LDR Reinvention Advance Notice of Proposed Rulemaking
Abstract: The Environmental Protection Agency (EPA) is giving advance notice of issues and

potential directions we are considering for improving the Land Disposal Restrictions (LDR) program for treating hazardous waste under the Resource Conservation and Recovery Act(RCRA).

Date: July 12, 2000
Citation: 65 FR 42937
Subject: LDR Treatment Standards for Spent Aluminum Potliners (K088) and Regulatory Classification of Vitrification Units
Abstract: EPA is proposing to revise certain treatment standards for spent potliners from primary aluminum reduction (EPA hazardous waste: K088) under its Land Disposal Restrictions (LDR) program.

Date: March 8, 2000
Citation: 65 FR 12233
Subject: Notice of Proposed Decision on Request by FMC Corporation for an Extension of the Land Disposal Restrictions Effective Date for Five Waste Streams Generated at the Pocatello, Idaho Facility; Proposed Rule
Abstract: EPA is proposing to approve the request submitted by FMC Corporation for a one-year Case-by-Case (CBC) extension of the May 26, 2000, effective date of the RCRA land disposal restrictions (LDRs). FMC requested the CBC extension due to the lack of available treatment capacity for five waste streams and the need for additional time to design, construct, and begin operation of an on-site treatment plant. For this CBC extension to be approved, FMC must make each of the seven demonstrations required in the procedures for CBC extensions to an effective date. These provisions establish that an applicant who satisfies the conditions for a CBC extension will be granted one. If this proposed action is finalized, FMC will be allowed to continue to treat, store, or dispose of these five waste streams, as currently managed in on-site surface impoundments, until May 26, 2001,without being subject to the LDRs applicable to these wastes.

Date: February 16, 2000
Citation: 65 FR 7809
Subject: Deferral of Phase IV Standards for PCBs as an Underlying Hazardous Constituent in Soil; Proposed Rule
Abstract: EPA is proposing to temporarily defer the requirement that polychlorinated biphenyls (PCBs) be considered an underlying hazardous constituent when they are present in soils that exhibit the toxicity characteristic for metals. EPA is proposing this action because the existing regulation appears to discourage remediation of certain contaminated soils, contrary to EPA's intent in promulgating alternative treatment standards for contaminated soils.

LDR Rules and Regulations 2001

Date: November 20, 2001
Citation: 66 FR 58258
Subject: Hazardous Waste Management System; Identification and Listing of Hazardous Waste: Inorganic Chemical Manufacturing Wastes; Land Disposal Restrictions for Newly Identified Wastes; and CERCLA Hazardous Substance Designation and Reportable Quantities; Final Rule
Abstract: The Environmental Protection Agency (EPA) is listing as hazardous three wastes generated from inorganic chemical manufacturing processes. EPA is promulgating these regulations under the Resource Conservation and Recovery Act (RCRA), which directs EPA to determine whether certain wastes generated by inorganic chemical manufacturing industries may present a substantial hazard to human health or the environment. The effects of listing these three wastes as hazardous are to subject them to: comprehensive management and treatment standards under Subtitle C of RCRA; and emergency notification requirements for releases to the environment under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This final rule also adds the toxic constituents found in the wastes being listed as hazardous to the list of constituents that serves as the basis for classifying wastes as hazardous and establishing treatment standards for the wastes. Additionally, EPA is making final determinations not to list the remainder of wastes generated by inorganic chemical manufacturing processes that were described in our proposed listing determination. Finally, EPA is applying universal treatment standards (UTS) under the Land Disposal Restrictions program to the inorganic chemical manufacturing wastes listed in this rulemaking. The listed wastes must be treated to meet these treatment standards for specific constituents prior to land disposal. At this time, however, we are deferring final action on all elements of the proposal related to manganese.

Date: July 24, 2001
Citation: 66 FR 38405
Subject: Land Disposal Restrictions: Notice of Intent to Grant Two Site-Specific Treatment Variances--U.S. Ecology Idaho, Incorporated in Grandview, Idaho and CWM Chemical Services, LLC in Model City, New York; Proposed Rule (PDF) (6 pp, 181K About PDF)
Abstract: EPA proposed to grant two site-specific treatment variances from the Land Disposal Restrictions (LDR) standards for wastes generated at U.S. Ecology Idaho, Incorporated (USEII) in Grandview, Idaho, and CWM Chemical Services, LLC (CWM) in Model City, New York. Both these waste streams are derived-from the treatment of multiple listed, including K088, and characteristic hazardous wastes. USEII and CWM are both requesting treatment variances for K088 derived-from hazardous waste because they contend that the chemical properties of their wastes differ significantly from the waste used to establish the LDR treatment standard for arsenic in K088 nonwastewaters.

Date: June 26, 2001
Citation: 66 FR 33887
Subject: Land Disposal Restrictions: Granting of a Site-Specific Treatment Variance to Dupont

Environmental Treatment--Chambers Works Wastewater Treatment Plant, Deepwater, NJ (PDF) (4 pp, 171K About PDF)

Abstract: The Environmental Protection Agency (EPA or Agency) is promulgating a site-specific treatment variance from the Land Disposal Restrictions (LDR) standards for wastewater treatment sludge generated at the Dupont Environmental Treatment (DET)--Chambers Works Wastewater Treatment Plant located in Deepwater, New Jersey. This sludge is derived from the treatment of multiple listed wastes, including K088, and characteristic hazardous waste, and differs significantly from the waste used to establish the LDR treatment standard for arsenic in K088 nonwastewaters. Accordingly, we are finalizing an alternate treatment standard of 5.0 mg/L Toxicity Characteristic Leaching Procedure (TCLP) for the arsenic in the wastewater treatment sludge generated at this facility. This treatment variance requires DET to dispose of their wastewater treatment sludge in their on-site RCRA Subtitle C landfill provided the sludge complies with the specified alternate treatment standard for arsenic in K088 nonwastewaters and meets all other applicable LDR treatment standards.

Date: February 13, 2001
Citation: 66 FR 10060
Subject: Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Paint Production Wastes; Proposed Rule

Abstract: The EPA proposes to amend the regulations for hazardous waste management under the Resource Conservation and Recovery Act (RCRA) by listing as hazardous certain waste solids and liquids generated from the production of paint. EPA is proposing a concentration-based listing approach for each of these wastes. Under this approach, the identified paint production wastes are hazardous if they contain any of the constituents of concern at concentrations that meet or exceed regulatory levels. Generators must determine whether their wastes are listed hazardous wastes. If their wastes are below regulatory levels for all constituents of concern, then their wastes are nonhazardous. This proposal would also add the toxic constituents n-butyl alcohol, ethyl benzene, methyl isobutyl ketone, styrene, and xylenes found in these identified wastes to the list of constituents that serves as the basis for classifying wastes as hazardous, and to establish treatment standards for the wastes. If these paint production wastes are listed as hazardous waste, then they will be subject to stringent management and treatment standards under Subtitle C of RCRA. Additionally, this action proposes to designate these wastes as hazardous substances subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and to adjust the one pound statutory reportable quantities (RQs) for these substances. Other actions proposed in this notice would add acrylamide and styrene to the treatment standards applicable to multisource leachate and designate styrene as an underlying hazardous constituent. As a result, a single waste code would continue to be applicable to multisource landfill leachates and residues of characteristic wastes would require treatment when styrene is present above the proposed land disposal standards.

LDR Rules and Regulations 2002

Date: October 7, 2002
Citation: 67 FR 62618
Subject: Land Disposal Restrictions: National Treatment Variance To Designate New Treatment Subcategories for Radioactively Contaminated Cadmium-, Mercury-, and Silver-Containing Batteries; Direct Final Rule (PDF) (8 pp, 182K About PDF)
Abstract: EPA is taking direct final action to grant a national treatability variance from the Land Disposal Restrictions (LDR) treatment standards for radioactively contaminated cadmium-, mercury-, and silver-containing batteries by designating new treatment subcategories for these wastes in response to a rulemaking petition from the Department of Energy. The current treatment standards of thermal recovery for cadmium batteries and of roasting and retorting for mercury batteries are technically inappropriate, because any recovered metals would likely contain residual radioactive contamination and not be usable. The current numerical treatment standard for silver batteries is also inappropriate because of the potential increase in radiation exposure to workers associated with manually segregating silver-containing batteries for the purpose of treatment. Macroencapsulation in accordance with the provisions for treatment standards for hazardous debris is designated as the required treatment prior to land disposal for the new waste subcategories. This will allow safe disposal of these radioactively contaminated materials.

Date: October 7, 2002
Citation: 67 FR 62626
Subject: Land Disposal Restrictions: National Treatment Variance To Designate New Treatment Subcategories for Radioactively Contaminated Cadmium-, Mercury-, and Silver-Containing Batteries; Proposed Rule (PDF) (1 pg, 146K About PDF)
Abstract: EPA is proposing to take direct final action to grant a national treatability variance from the Land Disposal Restrictions (LDR) treatment standards for radioactively contaminated cadmium-, mercury-, and silver-containing batteries by designating new treatment subcategories for these wastes in response to a rulemaking petition from the Department of Energy. The current treatment standards of thermal recovery for cadmium batteries and of roasting and retorting for mercury batteries are technically inappropriate because any recovered metals would likely contain residual radioactive contamination and not be usable. The current numerical treatment standard for silver batteries is also inappropriate because of the potential increase in radiation exposure to workers associated with manually segregating silver-containing batteries for the purpose of treatment. Macroencapsulation in accordance with the provisions for treatment standards for hazardous debris is proposed as the required treatment prior to land disposal.

Date: May 28, 2002
Citation: 67 FR 36813

Subject: Land Disposal Restrictions: Site-Specific Treatment Variance to Chemical Waste Management, Inc.; Direct Final Rule
Abstract: EPA is today taking direct final action by granting a site-specific treatment variance from the Land Disposal Restrictions (LDR) treatment standards for two selenium-bearing hazardous wastes. EPA first granted a variance for these two waste streams three years ago. We are now taking action to extend the variance because: the chemical properties of these two wastes continue to differ significantly from the waste used to establish the current LDR standard for selenium (5.7 mg/L, as measured by the TCLP); and Chemical Waste Management, Inc. (CWM) has adequately demonstrated that the two wastes cannot be treated with current technologies to meet this treatment standard.

Date: May 28, 2002
Citation: 67 FR 36849
Subject: Land Disposal Restrictions: Site-Specific Treatment Variance to Chemical Waste Management, Inc.; Proposed Rule
Abstract: EPA is today proposing to grant a site-specific treatment variance from the Land Disposal Restrictions (LDR) treatment standards for two selenium-bearing hazardous wastes. EPA is proposing to grant this variance because: the chemical properties of these two wastes differ significantly from the waste used to establish the current LDR standard for selenium (5.7 mg/L, as measured by the TCLP); and Chemical Waste Management, Inc. (CWM) has adequately demonstrated that the two wastes cannot be treated to meet this treatment standard.

Date: May 22, 2002
Citation: 67 FR 35924
Subject: Land Disposal Restrictions: Granting of Two Site-Specific Treatment Variances to U.S. Ecology Idaho, Incorporated in Grandview, Idaho and CWM Chemical Services, LLC in Model City, New York; Final Rule
Abstract: EPA is promulgating two site-specific variances from the LDR standards for wastes generated at U.S. Ecology Idaho, Incorporated (USEII) in Grandview, Idaho, and CWM Chemical Services, LLC (CWM) in Model City, New York. These waste streams are derived from the treatment of multiple listed and characteristic hazardous wastes, including K088 (spent potliners from primary aluminum reduction) and differ significantly from the waste used to establish the LDR treatment standard for arsenic in K088 non-wastewaters. Accordingly, we are finalizing an alternate treatment standard of 5.0 mg/L Toxicity Characteristic Leaching Procedure (TCLP) for the arsenic in the K088 derived emission control dust from the USEII facility and for the arsenic in the K088 derived baghouse dust, incinerator ash, and filtercake from the CWM facility.

Date: April 9, 2002
Citation: 67 FR 17119
Subject: Hazardous Waste Management System; Identification and Listing of Hazardous Waste:

Inorganic Chemical Manufacturing Wastes; Land Disposal Restrictions for Newly Identified Wastes; and CERCLA Hazardous Substance Designation and Reportable Quantities; Correction
Abstract: Due to several errors, the table entitled *Treatment Standards for Hazardous Wastes* that appeared on pages 58298 and 58299 of the November 20, 2001 *FR* is reprinted in its entirety.

LDR Rules and Regulations 2003

Date: January 29, 2003
Citation: 68 FR 4481
Subject: Land Disposal Restrictions: Treatment Standards for Mercury-Bearing Hazardous Waste; Notice of Data Availability (PDF) (9 pp, 200K About PDF)
Abstract: This notice of data availability (NODA) makes available to the public two studies conducted on the treatment of mercury wastes. The studies were initiated to help evaluate whether EPA could propose treatment and disposal alternatives to the current land disposal restriction (LDR) treatment standard of mercury retorting. The studies were performed to assess conditions that affect the stability of waste residues resulting from the treatment of high mercury (greater than 260 mg/kg total mercury) wastes. This NODA also makes available the results of the peer review of these studies. As a result of our investigation, we have concluded that changes to our national regulations are impractical at this time. Additionally, this notice also provides information on how to use the existing treatability variance procedures to make site-specific choices on alternatives to mercury recovery. The reports are available through Regulations.gov, the government's electronic public docket and comment system.

Date: January 29, 2003
Citation: 68 FR 4392
Subject: Land Disposal Restrictions: CFR Correction (PDF) (1 pg, 159K About PDF)
Abstract: This rule corrects the table at 268.44 of wastes excluded from the treatment standards under 268.40 by adding a footnote stating that Dupont Environmental Treatment–Chambers Works must dispose of this waste in their on–site Subtitle C hazardous waste landfill.

LDR Rules and Regulations 2004

Date: December 23, 2004
Citation: 69 FR 76863
Subject: Land Disposal Restrictions: Site-Specific Treatment Standard Variance for Selenium Waste for Chemical Waste Management, Chemical Services, LLC; Withdrawal of Direct Final Rule (PDF) (2 pp, 175K About PDF)
Abstract: On November 19, 2004, the Environmental Protection Agency published a direct final rule to grant a site-specific treatment standard variance from the Land Disposal Restrictions (LDR) treatment standards to Chemical Waste Management, Chemical Services LLC (CWM) in Model City, New York. EPA also published an accompanying proposed rule to supplant this rule

in the event EPA received any adverse comment on the direct final rule. This variance is for a selenium-bearing hazardous waste generated by Guardian Industries Corp. (Guardian), a glass manufacturing company. EPA has received a comment on this treatment variance that it deems adverse, and is withdrawing the direct final rule. Therefore, this site-specific treatment standard variance will not take effect on January 3, 2005 and CWM cannot treat the Guardian waste under a treatment standard variance. EPA will review and address all the comments received on this variance and will decide what action to take in a future Federal Register document. We will not institute a second comment period on this action.

Date: November 19, 2004
Citation: 69 FR 67647
Subject: Land Disposal Restrictions: Site-Specific Treatment Standard Variance for Selenium Waste for Chemical Waste Management, Chemical Services, LLC; Direct Final Rule (PDF) (8 pp, 207K About PDF)
Abstract: The Environmental Protection Agency (EPA or Agency) is granting a site-specific treatment standard variance from the Land Disposal Restrictions (LDR) treatment standards for a selenium-bearing hazardous waste generated by the glass manufacturing industry to CWM Chemical Services LLC (CWM (Model City, NY)) to stabilize a selenium-bearing hazardous waste generated by Guardian Industries Corp. (Guardian) at their RCRA permitted facility in Model City, New York. EPA is granting this variance because the chemical properties of the waste differ significantly from those of the waste used to establish the current LDR treatment standard for selenium (5.7 mg/L, as measured by the Toxicity Characteristic Leaching Procedure (TCLP)), and the petition has adequately demonstrated that the waste cannot be treated to meet this treatment standard.

Date: November 19, 2004
Citation: 69 FR 67695
Subject: Land Disposal Restrictions: Site-Specific Treatment Standard Variance for Selenium Waste for Chemical Waste Management, Chemical Services, LLC; Proposed Rule (PDF) (8 pp, 206K About PDF)
Abstract: The Environmental Protection Agency (EPA or Agency) is proposing to grant a site-specific treatment standard variance from the Land Disposal Restrictions (LDR) treatment standards for a selenium-bearing hazardous waste generated by the glass manufacturing industry to CWM Chemical Services LLC (CWM (Model City, NY) to stabilize a selenium-bearing hazardous waste generated by Guardian Industries Corp. (Guardian) at their RCRA permitted facility in Model City, New York. EPA proposes granting this variance because the chemical properties of the waste differ significantly from those of the waste used to establish the current LDR treatment standard for selenium (5.7 mg/L, as measured by the Toxicity Characteristic Leaching Procedure (TCLP)), and the petition has adequately demonstrated that the waste cannot be treated to meet this treatment standard.

Date: February 11, 2004
Citation: 69 FR 6567
Subject: Land Disposal Restrictions: Site-Specific Treatment Variances for Heritage Environmental Services LLC and Chemical Waste Management Inc.; Direct Final Rule (PDF) (9 pp, 197K About PDF)
Abstract: This document announces that EPA is today granting three site-specific treatment variances from the Land Disposal Restrictions (LDR) treatment standards for selenium-bearing hazardous wastes generated by the glass manufacturing industry. EPA is granting these variances because the chemical properties of the wastes differ significantly from those from the waste used to establish the current LDR standard for selenium (5.7 mg/L, as measured by the Toxicity Characteristic Leaching Procedure (TCLP)), and the petitions have adequately demonstrated that the wastes cannot be treated to meet this treatment standard. Background information for this notice is available through Regulations.gov, the government's electronic public docket and comment system.

Date: February 11, 2004
Citation: 69 FR 6593
Subject: Land Disposal Restrictions: Site-Specific Treatment Variances for Heritage Environmental Services LLC and Chemical Waste Management Inc.; Proposed Rule (PDF) (3 pp, 168K About PDF)
Abstract: This notice announces that EPA is today proposing to grant three site-specific treatment variances from the Land Disposal Restrictions (LDR) treatment standards for selenium-bearing hazardous wastes from the glass manufacturing industry. EPA is proposing to grant these variances because the chemical properties of the wastes differ significantly from those of the waste used to establish the current LDR standard for selenium (5.7 mg/L, as measured by the Toxicity Characteristic Leaching Procedure (TCLP), and the petitions have adequately demonstrated that the wastes cannot be treated to meet this treatment standard. Background information for this notice is available through Regulations.gov, the government's electronic public docket and comment system.

Date: August 3, 2005
Citation: 70 FR 44505
Subject: Land Disposal Restrictions: Site-Specific Treatment Variances for Heritage Environmental Services LLC and Chemical Waste Management, Chemical Services, Inc.; Final Rule (PDF) (8 pp, 210K About PDF)
Abstract: The EPA is granting two site-specific treatment standard variances from the Land Disposal Restrictions (LDR) treatment standards to Chemical Waste Management, Chemical Services LLC (CWM), and to Heritage Environmental Services LLC (Heritage), to treat a selenium-bearing hazardous waste from the glass manufacturing industry. This final rule follows a proposed rule and a subsequent request for comment. These facilities intend to treat and dispose of selenium-bearing hazardous waste from Guardian Industries Corp. (Guardian) at their RCRA permitted facilities in Model City, New York and Indianapolis, Indiana, respectively.

Based on treatment data on a new proprietary chemical stabilization technology provided by Heritage, EPA is issuing variances so that both facilities may treat the Guardian waste to an alternate treatment
standard of 11 mg/L selenium, as measured by the TCLP. Background information for this notice is available through Regulations.gov, the government's electronic public docket and comment system.

LDR Rules and Regulations 2006

Date: February 7, 2006
Citation: 71 FR 6209
Subject: Site-Specific Variance From the Land Disposal Restrictions Treatment Standard for 1,3-Phenylenediamine (1,3-PDA); Direct Final Rule (PDF) (5 pp, 195K About PDF)
Abstract: EPA is taking direct final action to revise the waste treatment standard for 1,3-phenylenediamine (1,3-PDA) for a biosludge generated at DuPont's Chambers Works facility in Deepwater, New Jersey. This site-specific variance will provide alternative technology treatment standards for 1,3-PDA in multisource leachate that do not require analysis of the biosludge matrix to determine whether the numerical treatment standard is being met, thus ensuring that treatment reflecting performance of the Best Demonstrated Available Technology occurs and that threats to human health and the environment from land disposal of the waste are minimized. Background information for this notice is available through Regulations.gov, the government's electronic public docket and comment system. The Docket ID Number is EPA-HQ-RCRA-2005-0015.

Date: February 7, 2006
Citation: 71 FR 6238
Subject: Site-Specific Variance From the Land Disposal Restrictions Treatment Standard for 1,3-Phenylenediamine (1,3-PDA); Proposed Rule (PDF) (4 pp, 186K About PDF)
Docket ID Number: EPA-HQ-RCRA-2005-0015.

Abstract: EPA is proposing to revise the waste treatment standard for 1,3-phenylenediamine (1,3-PDA) for a biosludge generated at DuPont's Chambers Works facility in Deepwater, New Jersey. This site-specific variance will provide alternative technology treatment standards for 1,3-PDA in multisource leachate that do not require analysis of the biosludge matrix to determine whether the numerical treatment standard is being met, thus ensuring that treatment reflecting performance of the Best Demonstrated Available Technology occurs and that threats to human health and the environment from land disposal of the waste are minimized.

Background information supporting these notices is available through Regulations.gov, the government's electronic public docket and comment system. To use Regulations.gov: type in the docket ID number and press the "Submit" button to receive search results.

LDR Rules and Regulations 2008

Date: May 14, 2008
Citation: 73 FR 27761
Subject: Land Disposal Restrictions: Site-Specific Treatment Variance for P- and U-Listed Hazardous Mixed Wastes Treated by Vacuum Thermal Desorption at the Energy Solutions' Facility in Clive, UT; Final Rule (PDF) (7 pp, 208K, About PDF)
Abstract: EPA is promulgating a final rule granting a site-specific treatment variance to EnergySolutions LLC (EnergySolutions) in Clive, Utah for the treatment of certain P- and U-listed hazardous waste containing radioactive contamination ("mixed waste'') using vacuum thermal desorption (VTD). This variance is an alternative treatment standard to treatment by combustion (CMBST) required for these wastes under EPA's rules in implementing the land disposal restriction (LDR) provisions of the Resource Conservation and Recovery Act (RCRA). The Agency has determined that combustion of the solid treatment residue generated from the VTD unit is technically inappropriate due to the effective performance of the VTD unit. Thus, once the P- and U-listed mixed waste are treated using the VTD unit, the solid treatment residue can be land disposed without further treatment. This variance is conditioned upon EnergySolutions complying with a Waste Family Demonstration Testing (WFDT) plan specifically addressing the treatment of these P- and U- listed wastes, which is to be implemented through a RCRA Part B permit modification for the VTD unit.

Date: April 30, 2008
Citation: 73 FR 23361
Subject: Land Disposal Restrictions: Site-Specific Treatment Variance for P and U-Listed Hazardous Mixed Wastes Treated by Vacuum Thermal Desorption at the Energy*Solutions'* Facility in Clive, Utah; Withdrawal of Direct Final Rule (PDF) (1 pg, 172K, About PDF)
Abstract: On March 6, 2008, the Environmental Protection Agency (EPA) published in the Federal Register a direct final rule granting a site- specific treatment variance to EnergySolutions LLC (EnergySolutions) in Clive, Utah for the treatment of certain P and U-listed hazardous waste containing radioactive contamination using vacuum thermal desorption. At

the same time, the EPA also published a parallel proposal in the Federal Register to address any adverse comments received on the direct final rule. We specifically noted that if EPA received adverse comment on the direct final rule, EPA would withdraw the direct final rule and address public comments in any subsequent final rule. Because EPA received an adverse comment, we are withdrawing the direct final rule and will address the comment in a final rule.

Date: March 6, 2008
Citation: 73 FR 12017
Subject: Land Disposal Restrictions: Site-Specific Treatment Variance for P and U-Listed Hazardous Mixed Wastes Treated by Vacuum Thermal Desorption at the Energy*Solutions*' Facility in Clive, Utah; Direct Final Rule (PDF) (8 pp, 207K, About PDF)
Abstract: EPA is issuing a direct final rule granting a site-specific treatment variance to Energy*Solutions* LLC in Clive, Utah for the treatment of certain P and U-listed hazardous waste containing radioactive contamination ("mixed waste") using vacuum thermal desorption (VTD). This variance is an alternative treatment standard to treatment by combustion (CMBST) required for these wastes under EPA rules implementing the land disposal restriction (LDR) provisions of the Resource Conservation and Recovery Act (RCRA). The Agency has determined that combustion of the solid treatment residue generated from the VTD unit is technically inappropriate due to the effective performance of the VTD unit. Once the P and U-listed mixed waste are treated using VTD, the solid treatment residue can be land disposed without further treatment. This treatment variance is conditioned upon Energy*Solutions* complying with a Waste Family Demonstration Testing (WFDT) plan specifically addressing the treatment of these P and U listed wastes, which is to be implemented through a RCRA Part B permit modification for the VTD unit.

Date: March 6, 2008
Citation: 73 FR 12043
Subject: Land Disposal Restrictions: Site-Specific Treatment Variance for P and U-Listed Hazardous Mixed Wastes Treated by Vacuum Thermal Desorption at the Energy*Solutions*' Facility in Clive, Utah; Proposed Rule (PDF) (3 pp, 186K, About PDF)
Docket ID Number: EPA-HQ-RCRA-2007-0936
Abstract: EPA is proposing to grant a site-specific treatment variance to Energy*Solutions* LLC in Clive, Utah for the treatment of certain P and U-listed hazardous waste containing radioactive contamination ("mixed waste") using vacuum thermal desorption (VTD). This variance is an alternative treatment standard to treatment by combustion (CMBST) required for these wastes under EPA rules implementing the land disposal restriction (LDR) provisions of the Resource Conservation and Recovery Act (RCRA). The Agency has determined that combustion of the solid treatment residue generated from the VTD unit is technically inappropriate due to the effective performance of the VTD unit. Once the P and U-listed mixed waste are treated using VTD, the solid treatment residue can be land disposed without further treatment. This treatment variance is conditioned upon Energy*Solutions* complying with a Waste Family

Demonstration Testing (WFDT) plan specifically addressing the treatment of these P and U listed wastes, which is to be implemented through a RCRA Part B permit modification for the VTD unit.

LDR Rules and Regulations 2011

Date: June 13, 2011
Citation: 76 FR 34147
Subject: Land Disposal Restrictions: Revision of the Treatment Standards for Carbamate Wastes; Direct Final Rule
Docket ID Number: EPA-HQ-RCRA-2008-0332
Abstract: EPA is issuing a Direct Final Rule to revise the Land Disposal Restrictions (LDR) treatment standards for hazardous wastes from the production of carbamates and carbamate commercial chemical products, off- specification or manufacturing chemical intermediates and container residues that become hazardous wastes when they are discarded or intended to be discarded. Currently, under the LDR program, most carbamate wastes must meet numeric concentration limits before they can be land disposed. However, the lack of readily available analytical standards makes it difficult to measure whether the numeric LDR concentration limits have been met. Therefore, we are providing as an alternative standard the use of the best demonstrated available technologies (BDAT) for treating these wastes. In addition, this action removes carbamate Regulated Constituents from the table of Universal Treatment Standards. This Direct Final rule will be effective August 12, 2011 without further notice, unless EPA receives adverse written comment by July 13, 2011. EPA received no adverse comments.

Date: June 13, 2011
Citation: 76 FR 34200
Subject: Land Disposal Restrictions: Revision of the Treatment Standards for Carbamate Wastes; Proposed Rule
Docket ID Number: EPA-HQ-RCRA-2008-0332
Abstract: EPA is proposing to revise the Land Disposal Restrictions (LDR) treatment standards for hazardous wastes from the production of carbamates and carbamate commercial chemical products, off-specification or manufacturing chemical intermediates and container residues that become hazardous wastes when they are discarded or intended to be discarded. Currently, under the LDR program, most carbamate wastes must be treated to meet numeric concentration limits before they can be land disposed. However, the lack of readily available analytical standards makes it difficult to measure whether the numeric LDR concentration limits have been met. Therefore, we are proposing as an alternative the use of the best demonstrated available technologies (BDAT) for treating these wastes. In addition, this action proposes to remove the carbamate Regulated Constituents from the table of Universal Treatment Standards.

Date: April 6, 2011
Citation: 76 FR 18921
Subject: Land Disposal Restrictions: Nevada and California; Site Specific Treatment Variances for Hazardous Selenium Bearing Waste; Direct Final Rule
Docket ID Number: EPA-HQ-RCRA-2010-0851
Abstract: EPA is taking direct final actions to both issue a site- specific treatment variance to U.S. Ecology Nevada (USEN) in Beatty, Nevada and to withdraw an existing site-specific treatment variance issued to Chemical Waste Management, Inc. (CWM) in Kettleman Hills, California. These actions pertain to the treatment of a hazardous waste generated by the Owens-Brockway Glass Container Company in Vernon, California that is unable to meet the concentration-based treatment standard for selenium established under the Land Disposal Restrictions program. The site-specific treatment variance issued to USEN provides an alternative treatment standard of 59 mg/L for selenium as measured by the Toxicity Characteristic Leaching Procedure. EPA has determined that the treatment performed by USEN provides the best demonstrated treatment available for this waste by reducing the potential amount of selenium released to the environment, while minimizing the total volume of hazardous waste land disposed.

Date: April 6, 2011
Citation: 76 FR 19003
Subject: Land Disposal Restrictions: Nevada and California; Site Specific Treatment Variances for Hazardous Selenium Bearing Waste; Proposed Rule
Docket ID Number: EPA-HQ-RCRA-2010-0851
Abstract: EPA is proposing to issue both a site-specific treatment variance to U.S. Ecology Nevada (USEN) located in Beatty, Nevada and withdraw an existing site-specific treatment variance issued to Chemical Waste Management, Inc. (CWM) located in Kettleman Hills, California. This proposal pertains to the treatment of a hazardous waste generated by the Owens-Brockway Glass Container Company in Vernon, California that is unable to meet the concentration-based treatment standard for selenium established under the Land Disposal Restrictions program. The site-specific treatment variance proposed to be issued to USEN would provide an alternative treatment standard of 59 mg/L for selenium as measured by the Toxicity Characteristic Leaching Procedure. EPA has determined that the treatment performed by USEN provides the best demonstrated treatment available for this waste by reducing the amount of selenium potentially released to the environment, while minimizing the total volume of hazardous waste land disposed. EPA has also published a direct final rule granting a site-specific treatment variance to USEN, and withdrawing the site-specific treatment variance previously granted to CWM for this same waste without a prior proposed rule. If we receive no adverse comment, we will not take further action on this proposed rule and the direct final rule will become effective as provided in that action.

Date: June 13, 2011
Citation: 76 FR 34147

Subject: Land Disposal Restrictions: Revision of the Treatment Standards for Carbamate Wastes; Direct Final Rule
Docket ID Number: EPA-HQ-RCRA-2008-0332
Abstract: EPA is issuing a Direct Final Rule to revise the Land Disposal Restrictions (LDR) treatment standards for hazardous wastes from the production of carbamates and carbamate commercial chemical products, off- specification or manufacturing chemical intermediates and container residues that become hazardous wastes when they are discarded or intended to be discarded. Currently, under the LDR program, most carbamate wastes must meet numeric concentration limits before they can be land disposed. However, the lack of readily available analytical standards makes it difficult to measure whether the numeric LDR concentration limits have been met. Therefore, we are providing as an alternative standard the use of the best demonstrated available technologies (BDAT) for treating these wastes. In addition, this action removes carbamate Regulated Constituents from the table of Universal Treatment Standards. This Direct Final rule will be effective August 12, 2011 without further notice, unless EPA receives adverse written comment by July 13, 2011. EPA received no adverse comments.

Date: June 13, 2011
Citation: 76 FR 34200
Subject: Land Disposal Restrictions: Revision of the Treatment Standards for Carbamate Wastes; Proposed Rule
Docket ID Number: EPA-HQ-RCRA-2008-0332
Abstract: EPA is proposing to revise the Land Disposal Restrictions (LDR) treatment standards for hazardous wastes from the production of carbamates and carbamate commercial chemical products, off-specification or manufacturing chemical intermediates and container residues that become hazardous wastes when they are discarded or intended to be discarded. Currently, under the LDR program, most carbamate wastes must be treated to meet numeric concentration limits before they can be land disposed. However, the lack of readily available analytical standards makes it difficult to measure whether the numeric LDR concentration limits have been met. Therefore, we are proposing as an alternative the use of the best demonstrated available technologies (BDAT) for treating these wastes. In addition, this action proposes to remove the carbamate regulated constituents from the table of Universal Treatment Standards.

Date: April 6, 2011
Citation: 76 FR 18921
Subject: Land Disposal Restrictions: Nevada and California; Site Specific Treatment Variances for Hazardous Selenium Bearing Waste; Direct Final Rule
Docket ID Number: EPA-HQ-RCRA-2010-0851
Abstract: EPA is taking direct final actions to both issue a site- specific treatment variance to U.S. Ecology Nevada (USEN) in Beatty, Nevada and to withdraw an existing site-specific treatment variance issued to Chemical Waste Management, Inc. (CWM) in Kettleman Hills, California. These actions pertain to the treatment of a hazardous waste generated by the

Owens-Brockway Glass Container Company in Vernon, California that is unable to meet the concentration-based treatment standard for selenium established under the Land Disposal Restrictions program. The site-specific treatment variance issued to USEN provides an alternative treatment standard of 59 mg/L for selenium as measured by the Toxicity Characteristic Leaching Procedure. EPA has determined that the treatment performed by USEN provides the best demonstrated treatment available for this waste by reducing the potential amount of selenium released to the environment, while minimizing the total volume of hazardous waste land disposed.

Date: April 6, 2011
Citation: 76 FR 19003
Subject: Land Disposal Restrictions: Nevada and California; Site Specific Treatment Variances for Hazardous Selenium Bearing Waste; Proposed Rule
Docket ID Number: EPA-HQ-RCRA-2010-0851
Abstract: EPA is proposing to issue both a site-specific treatment variance to U.S. Ecology Nevada (USEN) located in Beatty, Nevada and withdraw an existing site-specific treatment variance issued to Chemical Waste Management, Inc. (CWM) located in Kettleman Hills, California. This proposal pertains to the treatment of a hazardous waste generated by the Owens-Brockway Glass Container Company in Vernon, California that is unable to meet the concentration-based treatment standard for selenium established under the Land Disposal Restrictions program. The site-specific treatment variance proposed to be issued to USEN would provide an alternative treatment standard of 59 mg/L for selenium as measured by the Toxicity Characteristic Leaching Procedure. EPA has determined that the treatment performed by USEN provides the best demonstrated treatment available for this waste by reducing the amount of selenium potentially released to the environment, while minimizing the total volume of hazardous waste land disposed. EPA has also published a direct final rule granting a site-specific treatment variance to USEN, and withdrawing the site-specific treatment variance previously granted to CWM for this same waste without a prior proposed rule. If we receive no adverse comment, we will not take further action on this proposed rule and the direct final rule will become effective as provided in that action.

LDR Rules and Regulations 2012

Date: August 22, 2012
Citation: 77 FR 50622
Subject: Land Disposal Restrictions: Site-Specific Treatment Variance for Hazardous Selenium-Bearing Waste Treated by U.S. Ecology Nevada in Beatty NV - Final Rule
Docket ID Number: EPA-HQ-RCRA-2010-0851
Abstract: EPA is granting a site-specific treatment variance, under the Land Disposal Restriction (LDR) program, to U.S. Ecology Nevada in Beatty, Nevada for the treatment of a hazardous selenium-bearing waste generated by the Owens-Brockway Glass Container Company in Vernon, California. The Agency has determined that the chemical properties of the waste generated by the Owens-Brockway Glass Container Corporation differs significantly from the

waste used in developing the LDR treatment standard for selenium-bearing wastes, and as such, cannot be treated to the specified treatment level of 5.7 mg/L for selenium, as measured by the Toxicity Characteristic Leaching Procedure (TCLP). The site-specific treatment variance provides an alternative treatment standard of 59 mg/L TCLP for selenium, with the condition that the waste to reagent ratio not exceed 1:0.45. The treated waste will be disposed in U.S. Ecology Nevada's permitted hazardous waste landfill.