

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

ORAL ARGUMENT SCHEDULED FOR JANUARY 31, 1989

Nos. 88-1581 *et al.*
LEACHATE-RELATED ISSUES

CHEMICAL WASTE MANAGEMENT, INC.,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

And Consolidated Cases

ON PETITION FOR REVIEW OF FINAL
AGENCY ACTION BY THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

BRIEF OF CONSOLIDATED PETITIONERS
ON LEACHATE-RELATED ISSUES

(Names of Counsel appear inside cover)

Dated: October 27, 1988

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10-271-26

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CERTIFICATE AS TO PARTIES,
RULINGS AND RELATED CASES

A. PARTIES AND AMICI

Pursuant to Rule 11(a) of the General Rules of the United States Court of Appeals for the District of Columbia Circuit, petitioners are not required to provide a list of parties and amici who have appeared below because this case concerns informal rulemaking proceedings, which are being reviewed by this Court in the first instance.

This brief is filed on behalf of the following petitioners: the American Iron and Steel Institute (Nos. 88-1604 & 88-1605), the American Mining Congress (No. 88-1736), Browning-Ferris Industries, Inc. (No. 88-1592), the

Chemical Manufacturers Association (Nos. 88-1591 & 88-1607), Chemical Waste Management, Inc. (No. 88-1581), The Dow Chemical Company (No. 88-1735), E.I. du Pont De Nemours & Co. (No. 88-1643), the Monsanto Company (No. 88-1721), the National Solid Wastes Management Association (No. 88-1600), and Waste Management of North America, Inc. (No. 88-1600). Additional parties to this proceeding are the United States Environmental Protection Agency, and Lee M. Thomas, the Administrator of the Environmental Protection Agency, who is sued in his official capacity. The undersigned do not know of any amici that intend to participate in this proceeding.

Pursuant to Rule 11(a)(1)(A) of the General Rules of this Court, the following is a list of the petitioning nonprofit trade associations:

American Iron and Steel Institute ("AISI")

The undersigned counsel of record for Petitioner AISI certifies that AISI is a nonprofit trade association whose 52 domestic member companies account for approximately 80 percent of the raw steel production of the United States. AISI has no parent company, subsidiaries or affiliates. AISI has the following corporate members, some of which are publicly owned:

Acme Steel Company
The Algoma Steel Corporation, Limited
Armco Inc.
Atlantic Steel Company
Atlas Stainless Steels Division, Rio Algom Limited
Avesta Stainless Inc.

The Babcock and Wilcox Company
Berg Steel Pipe Corporation
Bethlehem Steel Corporation
California Steel Industries, Inc.
Carpenter Technology Corporation
Cleveland-Cliffs, Inc.
Compania Siderurgica Huachipato S.A.
Copperweld Steel Company
Dofasco, Inc.
A. Finkl & Sons, Co.
Geneva Steel
Georgetown Industries, Inc.
Gulf States Steel, Inc.
M.A. Hanna Company
Harsco Corporation
Hi Specialty America
Hylsa, S.A.
Inland Steel Industries, Inc.
Ipsco Inc.
Earle M. Jorgensen Company
Laclede Steel Company
LTV Steel Company
Lone Star Steel Company
Lukens Inc.
McLouth Steel Products Corporation
National Steel Corporation
North Star Steel Company
Oglebay Norton Company
Qit-Fer Et Titane Inc.
Raritan River Steel Company
Rhode Island Forging Steel, Inc.
Rome Strip Steel Company, Inc.
Rouge Steel Company
Sandvik Steel Company
Sharon Steel Corporation
Sharon Tube Company
Shenango Incorporated
Sidbec-Dosco Inc.
Stelco Inc.
Sydney Steel Corporation
The Timken Company
USS, Division of USX Corporation
Valley-Vulcan Mold Company
Warren Consolidated Industries, Inc.
Weirton Steel Corporation
Wheatland Tube Company
Wheeling-Pittsburgh Steel Corporation

American Mining Congress ("AMC")

The undersigned counsel of record for Petitioner AMC certifies that the American Mining Congress is an industry association whose member companies produce most of the nation's metal, coal, and industrial and agricultural minerals; manufacture mining and mineral processing machinery, equipment, and supplies; and provide other services to the mining and mineral processing industry. The following AMC member companies are publicly-owned, or are affiliates of publicly-owned companies that are traded on domestic exchanges or over-the-counter:

MINERAL-PRODUCING MEMBERS

Alabama Power Company
AMAX, Inc.
Amselco Minerals, Inc.
ASARCO Incorporated
Atlantic Richfield Company
Atlas Minerals Division, Atlas Corporation
BP Minerals America
Brush Wellman Inc.
Callahan Mining Corporation
Central/Ohio Coal Company
Chevron Resources Company
Cleveland-Cliffs Inc.
Coastal States Energy Company
Colowyo Coal Company
Cominco American Inc.
Consolidation Coal Company
Cotter Corporation
Cyprus Minerals Company
Doe Run Company
Dow Chemical Company, U.S.A.
Dravo Lime Company
Duquesne Light Company
Eagle-Picher Industries, Inc.
Engelhard Corporation, Minerals and Chemical Division

Exxon Coal & Minerals Company
 FMC Corporation
 Freeport-McMoRan Inc.
 General Portland Inc.
 W.R. Grace & Co., Mining Division
 GTE Products Corporation
 M.A. Hanna Company
 Harshaw/Filtrol Partnership
 Hecla Mining Company
 Homestake Mining Company
 IMC Fertilizer, Inc.
 Inspiration Consolidated Copper Company
 Island Creek Coal Company
 Jim Walter Resources
 Kerr-McGee Corporation
 Lone Star Industries, Inc.
 Magma Copper Company
 Medusa Corporation
 Mid-Continent Resources, Inc.
 Mobil Alternative Energy, Inc.
 Monsanto Company
 National Gypsum Company
 NERCO, Inc.
 Newmont Mining Corporation
 Oglebay Norton Company
 Peabody Holding Company, Inc.
 Pfizer Inc.
 Phelps Dodge Corporation
 Pittsburgh & Midway Coal Mining Company
 Pocahontas Land Corporation
 Rochester & Pittsburgh Coal Company
 SF Minerals Corporation
 Southwestern Portland Cement Company
 Standard Oil/BP America
 Sun Company, Inc.
 Sunbelt Mining Company, Inc.
 Tenneco, Inc.
 Texaco Inc., Alternate Energy & Resource Department
 Texas Utilities Mining Company
 Texasgulf Inc.
 Union Pacific Resources Company
 United Nuclear Corporation
 United States Borax & Chemical Corporation
 United States Fuel Company
 United States Gypsum Company
 Unocal Corporation
 Utah Power & Light, Mining Division
 Wyodak Resources Development Corporation

MANUFACTURING AND ENGINEERING MEMBERS

Adalet-PLM Division, Scott & Fetzer Company
Allis-Chalmers Corporation
Anderson Power Products, Division of High Voltage
Engineering
Anixter Brothers, Inc.
Atlas Powder Company
Baker Hughes Mining Equipment Company
Bethlehem Wire Rope, Division of Bethlehem Steel Corp.
Bird Machine Company, Inc.
Brown & Root U.S.A., Inc.
Bucyrus-Erie Company, Division of Becor-Western,
Inc.
Caterpillar Inc.
Centrifugal & Mechanical Industries, Inc.
Certainteed Corporation
Cliffs Engineering, Inc.
Coors Ceramics Company
Cummins Engine Company, Inc.
Donaldson Company, Inc.
Dresser Construction and Mining Equipment,
Dresser Industries, Inc.
Drilco Industrial
E.I. du Pont de Nemours & Co., Inc.
ENI Engineering Company
Fairchild International
Fansteel, VR/Wesson Mining and Construction Tool
Group
Firestone Tire & Rubber Company
Fluor Daniel
Frazer & Jones Company
GH-Hensley
Gardner-Denver Mining & Construction Inc.
General Electric Company
Goodyear Tire & Rubber Company
Harnischfeger Corporation
Ingersoll-Rand Company
Jacobs Engineering Group, Inc.
Joy Technologies Inc.
Kennametal Inc., Mining Tool Group
MacLean-Hunter Publishing Corp.
Marathon LeTourneau Company
Mine Safety Appliances Company
Mobil Oil Corporation
Moog, Inc.
Motorola C&E, Inc.
National Mine Service Company
Peabody ABC Corporation
Roberts & Schaefer Company

Simplicity Engineering Division, Lukens General Industries, Inc.
Southern Company Services, Inc.
Stearns-Roger Division, United Engineering & Constructors, Inc.
Teledyne Monarch Rubber
TRW Inc., Mission Drilling Products Division
VME Americas, Inc.
Wagner Mining Equipment Company
Waldon, Inc.
Walter Kidde, Division of Kidde Inc.
Westinghouse Electric Corporation

FINANCIAL MEMBERS

The Arizona Bank
Bank of New York
Barclays Bank PLC
Chase Manhattan Bank
Chemical Bank
Citibank
Continental Illinois National Bank and Trust Company of Chicago
First Interstate Bank of Arizona
First National Bank of Chicago
Manufacturers Hanover Trust Company, Metals & Mining Group
Morgan Guaranty Trust Company
Republicbank, Energy Banking Group

Chemical Manufacturers Association ("CMA")

The undersigned counsel of record for Petitioner CMA certifies that CMA is a nonprofit trade association whose member companies represent more than 90 percent of the production capacity of basic industrial chemicals within this country. CMA has no outstanding securities in the hands of the public.

National Solid Wastes Management Association ("NSWMA")

The undersigned counsel of record for Petitioner NSWMA certifies that NSWMA is a nonprofit trade association with no parent company, subsidiaries or affiliates.

Pursuant to Rule 11(a)(1)(A) of the General Rules of this Court, the following is a list of the individual corporate petitioners and the parents, subsidiaries, and affiliates, if any, of these parties which have outstanding securities in the hands of the public:

Browning-Ferris Industries, Inc. ("BFI")

The undersigned counsel of record for Petitioner BFI certifies that BFI has outstanding securities in the hands of the public. BFI has no parents, affiliates or subsidiaries with publicly held securities. BFI is engaged in the business of waste disposal and landfill management.

Chemical Waste Management, Inc. ("CWM")

The undersigned counsel of record for Petitioner CWM certifies that CWM and CWM's parent, Waste Management, Inc., both have outstanding securities in the hands of the public. Both corporations are engaged in the business of waste treatment, storage, disposal and transportation. CWM owns 49 percent of the stock of The Brand Companies, Inc., a publicly

traded company doing asbestos abatement and specialty contracting.

The Dow Chemical Company ("Dow")

The undersigned counsel of record for Petitioner Dow certifies that Dow has outstanding securities in the hands of the public. Counsel further certifies that the following are subsidiaries or affiliates of Dow, some of which have securities in the hands of the public:

Admiral Equipment Co.
Alamo Land Company Inc.
Boride Products, Inc.
Cayuse Pipeline Company
CD Medical, Inc.
CD Home Dialyservice, Inc.
DCOMCO, Inc.
DCU/LB TRUST
Dofinco Inc.
Dow Chemical (China) Ltd.
Dow Chemical Delaware Corporation
Dow Chemical Inter-American Limited
Dow Chemical International Inc. of Delaware
Dow Chemical International Ltd.
Dow Chemical Investment Inc.
Dow Consumer Products Inc.
Dow Corning Corporation
Dow Credit Corporation
Dow Energy Resources Germany, Inc.
Dow Engineering Company
Dow Engineering Inc.
Dow Intrastate Gas Company
Dow Pipeline Company
Dowell Schlumberger Incorporated
El Dorado Terminals Incorporated
FilmTec Corporation
Great Western Pipeline Company, Inc.
Insul/Crete Company, Inc.
Joliet Marine Terminal Trust Estate
Lamaur, Inc.
Liana Limited
Dorinco Reinsurance Company

Louisiana Gasification Technology, Inc.
Merrell Dow Pharmaceuticals Inc.
NKY Distribution Center Inc.
Metal Mark, Inc.
Midland Pipeline Corp.
Oyster Creek Refining Corporation
Rofan Energy Inc.
The Cynara Company
United AgriSeeds, Inc.
DeWine Seed Company, Inc.
Hofler Seed Company, Inc.
Keltgen Seed Company, Inc.
Lynks Seed Company, Inc.
Zip Pak Incorporated

E.I. du Pont de Nemours & Co. ("DuPont")

The undersigned counsel of record for Petitioner DuPont certifies that DuPont does have outstanding securities in the hands of the public. Counsel further certifies that the following are subsidiaries or affiliates of DuPont that have securities in the hands of the public: DuPont Canada, Inc., Conoco Exploration Limited. Moreover, although it is not a subsidiary or affiliate of DuPont, the Seagram Company, Limited (through wholly-owned subsidiary companies) owns approximately 22 percent of DuPont's common stock.

The Monsanto Company ("Monsanto")

The undersigned counsel of record for Petitioner Monsanto certifies that Monsanto does have outstanding securities in the hands of the public. Counsel further certifies that the following are subsidiaries or affiliates of Monsanto that have securities in the hands of the public:

Xylogics Corp., Invitron Corp., Micro General Corp., Telesis (Valid Logics), Weiteck, Novellus Systems Co., Inc., G.D. Searle, Inc., Monsanto Capitals PLC.

Waste Management of North America, Inc. ("WMNA")

The undersigned counsel of record for Petitioner WMNA certifies that WMNA has no outstanding securities in the hands of the public. WMNA's parent, Waste Management, Inc., has outstanding securities in the hands of the public, as does WMNA's affiliate, Chemical Waste Management, Inc. WMNA owns 22 percent of the stock of Wheelabrator Technologies, Inc., which has outstanding securities in the hands of the public. All four corporations are engaged in the business of waste treatment, storage, disposal or transportation.

B. RULINGS UNDER REVIEW

The final agency action to be reviewed in this proceeding is "Land Disposal Restrictions for First Third Scheduled Wastes," signed August 8, 1988 and published on August 17, 1988 (53 Fed. Reg. 31138).

C. RELATED CASES

This case has not previously been before this Court or any other court. The undersigned counsel of record state to the best of their belief, pursuant to Rule 11(a)(1)(C) of the

General Rules of this Court, that the case captioned Hazardous Waste Treatment Council v. United States Environmental Protection Agency, Lee M. Thomas, Administrator, Nos. 86-1657 et al., pending in this Court, involves certain issues similar to those raised by the instant Petition. Parties to this action that are parties to that case are: the Environmental Protection Agency, Chemical Waste Management, Inc., and the Hazardous Waste Treatment Council.

In Shell Oil Co. v. EPA, No. 80-1532, Petitioner AMC has asked that a briefing schedule be established with regard to whether the derived-from rule, 40 C.F.R. § 261.3(c)(2)(i), and the mixture rule, 40 C.F.R. § 261.3(a)(2)(iv), are arbitrary and capricious. Particular applications of these rules are at issue in this litigation.

Respectfully submitted,

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STATEMENT OF THE ISSUES

On August 8, 1988, the Environmental Protection Agency ("EPA" or "the Agency") promulgated regulations under the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §§ 6901 et seq., restricting the land disposal of certain hazardous wastes (the "August 8 rule"). See 53 Fed. Reg. 31138 (Aug. 17, 1988). This consolidated brief^{1/} addresses five "leachate-related" issues raised by EPA's August 8 rule:

1. Whether EPA has unlawfully set treatment standards for leachates,^{2/} leachate treatment residues, and anything contaminated by leachate (collectively referred to as "leachates and leachate materials") without any study of the chemical and physical character or treatability of these materials and without any record evidence that these materials can be treated to meet those standards through demonstrated and available technology;

2. Whether EPA's position that leachates and leachate materials are regulated under the August 8 rule not as newly generated hazardous wastes, but as each of the "listed"

^{1/} Petitioners Browning-Ferris Industries, Inc. and Chemical Waste Management, Inc. do not join in Section IV of the Argument in this brief.

^{2/} Leachate is liquid, including suspended components in the liquid, that has percolated through or drained from waste.

hazardous wastes from which they derive, is arbitrary and capricious;^{3/}

3. Whether EPA's newly announced position that hazardous waste listings are retroactive and EPA's decision to regulate as hazardous waste certain leachates derived from wastes that were not listed until after disposal exceed EPA's statutory authority and are arbitrary and capricious;

4. Whether EPA's newly announced position that contaminated environmental media must be managed as hazardous waste exceeds EPA's statutory authority and is arbitrary and capricious; and

5. Whether, in violation of the Administrative Procedure Act, EPA deprived the regulated community of adequate notice and opportunity for comment regarding three regulatory principles announced in this rulemaking's preambles.

STATUTES AND REGULATIONS

Pertinent statutes and regulations are set forth in an appendix attached to this brief.

JURISDICTION

This Court has subject matter jurisdiction over this proceeding under section 7006(a) of the Resource Conservation and Recovery Act, 42 U.S.C. § 6976(a).

^{3/} Petitioners do not contest in this proceeding that leachate from a regulated hazardous waste management unit containing listed hazardous wastes is a hazardous waste.

STATEMENT OF THE CASE

The August 8 rule is part of the RCRA "land ban" program established by the Hazardous and Solid Waste Amendments of 1984 ("HSWA") to restrict the land disposal of untreated hazardous wastes. This rule establishes treatment standards for 37 listed hazardous wastes among the "first-third" of the universe of regulated hazardous wastes.

In this rule, EPA promulgates three regulatory principles of vast importance to the RCRA program. First, EPA asserts that hazardous waste listings encompass not only the wastes expressly described in the Agency's regulations but also all residues from managing those wastes. Despite chemical and physical changes that occur when such residues are produced, EPA announced that leachate and leachate materials must bear the waste codes of all the listed wastes from which they might have derived. Based on this decision, EPA then subjected vast quantities of these "derived-from" materials and mixtures to multiple technology-based treatment standards developed for the individual "underlying" wastes, without evaluating whether such materials and mixtures can be treated to meet those standards using proven and practically available technology.

Second, EPA asserts for the first time in a rulemaking that its hazardous waste listings are retroactive, thus ignoring the prospective nature of RCRA and vitiating the programmatic distinction that Congress established between

hazardous waste and solid waste facilities. Finally, EPA contends, without statutory or record support, that all environmental media contaminated by any concentration of a hazardous constituent derived from a listed hazardous waste must be managed as listed hazardous wastes.^{4/}

These far-reaching regulatory principles, announced without adequate notice and opportunity for comment, will make compliance with EPA's land ban treatment standards impossible in many cases. They will also result in classifying some materials as hazardous despite their non-hazardous character, thereby needlessly disrupting environmental cleanup efforts.

A. The RCRA "Land Ban" Program.

Under the RCRA "land ban," EPA must issue regulations prohibiting the land disposal of certain hazardous wastes^{5/}

^{4/} Petitioners do not challenge the validity of the underlying derived-from or mixture rules, 40 C.F.R. §§ 261.3(a)(2)(iv), 261.3(c)(2)(i), in this case. Petitioner American Mining Congress has asked in the Shell Oil litigation, No. 80-1532, that a briefing schedule be established with regard to whether the derived-from and mixture rules are arbitrary and capricious.

^{5/} In regulations that became effective in 1980, EPA established four categories of hazardous waste:

(1) "Characteristic" wastes -- wastes that exhibit any of four characteristics of hazardousness: corrosivity, ignitability, reactivity, and toxicity. 40 C.F.R. Part 261, Subpart C.

(2) "Listed" wastes -- wastes EPA has specifically

[Footnote continued on following page]

pursuant to statutory deadlines. 42 U.S.C. § 6924(d), (e), (g). When EPA subjects a waste to the land ban, the Agency also must set a treatment standard for that waste assuring a substantial reduction in the toxicity or mobility of its hazardous constituents. Id. § 6924(m). With certain limited exceptions and variances, any waste subject to the land ban cannot be placed in land disposal units (including landfills and surface impoundments) until it has been treated to meet the prescribed treatment standard.

The land ban treatment standards must be achievable through existing, proven technology. See 130 Cong. Rec. S9178 (daily ed. July 25, 1984) (remarks of Sen. Moynihan). In the first phase of the land ban, which established a "regulatory framework" for the entire program, EPA specified that the land ban would employ technology-based, rather than risk-based, treatment standards, using "Best Demonstrated Available Technology" ("BDAT"). 51 Fed. Reg. 40572, 40578 (Nov. 7,

5/ [Footnote continued]

designated as hazardous based on an evaluation of the environmental and human health risks posed by their potential mismanagement. 40 C.F.R. Part 261, Subpart D.

(3) "Mixed" wastes -- mixtures of solid waste and listed hazardous waste. 40 C.F.R. § 261.3(a)(2)(iv).

(4) "Derived-from" wastes -- wastes "derived from" the "treatment, storage or disposal of a [listed] hazardous waste" including sludges, spill residues, ash, emission control dusts, and leachates. 40 C.F.R. §§ 261.3(c)(2)(i).

1986). That rule also specified how EPA would determine whether a treatment technology is "demonstrated" and "available" for each waste. Id. at 40588-89.

B. The August 8 Rule and Its Regulatory Principles.

In the August 8 rule, which was proposed on April 8 and May 17, 1988, EPA considered whether to restrict land disposal of the first-third of the RCRA hazardous wastes^{6/} and established BDAT treatment standards for 37 of those wastes. In the preambles to the rule, EPA announced three principles governing application of the August 8 rule, and other aspects of the land ban program and the broader RCRA system, to leachate and leachate materials. Each of these principles has far-reaching consequences, which EPA failed to recognize in part because of its failure to solicit and give adequate consideration to the regulated community's views.

1. The Waste Code Carry-Through Principle.

The preambles in this rulemaking announced that listed waste codes carry through to residues under the derived-from

^{6/} HSWA required EPA to prepare a schedule for restricting land disposal of all hazardous wastes in one-third increments by August 8, 1988 (first-third), by June 8, 1989 (second-third), and by May 8, 1990 (third-third). 42 U.S.C. § 6924(g); see 40 C.F.R. § 268.10-268.12.

rule.^{7/} Consequently, this rule declares that leachates and other residues of hazardous waste management will be subject to the land ban prohibitions and treatment standards, as well as other RCRA requirements, not as newly generated wastes, but as though they somehow are each of the listed wastes from which they derive. This rulemaking contained the first clear indication that EPA would employ such a waste code carry-through principle in the land ban program.^{8/} Industry did not have the opportunity, therefore, to develop comprehensive data on the appropriateness of applying land ban

^{7/} The "derived-from" rule provides that a waste, such as leachate, that is derived from treatment, storage or disposal of a listed hazardous waste is a hazardous waste. See 40 C.F.R. § 261.3(c)(2)(i). Yet, by virtue of the waste code carry-through principle, EPA views leachates and other residues not as merely hazardous wastes, but rather as being all of the listed hazardous wastes that were ever placed in the units from which these materials derive. 53 Fed. Reg. at 31148-49.

^{8/} Petitioners believe they have located the earliest public notice of EPA's alleged "long-standing interpretation" (see 53 Fed. Reg. at 17586) of the derived-from rule to transform derived-from wastes into the listed wastes from which they derive. This reference is in an obscure footnote buried in a 54-page preamble to the revised definition of "solid waste" published January 4, 1985. 50 Fed. Reg. 614, 619 n.7. The implications of this statement for leachate under the land ban are not apparent. An even more obscure statement appeared in a preamble to a September 12, 1985 modification of the RCRA rules. 50 Fed. Reg. at 37338. Absent these two preamble statements and two 1987 statements that seemingly confirm that derived-from wastes are newly generated wastes, 52 Fed. Reg. 22356, 22357 (June 11, 1987) and 52 Fed. Reg. 25760, 25767 (July 8, 1987), the public was not formally notified of EPA's current view of leachate until this rule was proposed on April 8, 1988 (53 Fed. Reg. at 11751) and May 17, 1988 (53 Fed. Reg. at 17586).

treatment standards for the underlying wastes to leachate and other "derived-from" residues, and EPA did not undertake to do so.

The Agency simply assumed that leachate is a more dilute form of each of the listed wastes from which it derives. It further assumed that if a treatment standard is achievable for the most concentrated form of a waste, it will also be achievable for less concentrated forms of the waste. See 53 Fed. Reg. at 31149-50. Despite record evidence of the chemical and physical dissimilarities between leachate and the individual listed wastes from which it derives (see infra notes 19 & 21), EPA maintains that leachate is subject to all of the land ban treatment standards for every one of those listed wastes. Id. at 31147.

Application of treatment standards developed for individual wastes to leachates and other residues threatens massive disruption within the regulated community. Leachate generators face technological, legal and capacity restraints that preclude compliance with the August 8 treatment standards.

Leachate generation is a natural process that can be controlled but not stopped. At most active hazardous waste units, federal and state regulatory requirements compel collection and management of leachate. See, e.g., 40 C.F.R. § 264.301(a)(2). Leachate management often involves treatment prior to disposal and, in virtually every instance, that

treatment yields a residue. Yet EPA's decision to subject leachates and leachate materials to all of the treatment standards developed for the wastes from which they derive renders most hazardous waste leachates and residues virtually unmanageable.^{9/}

Until EPA proposed the August 8 rule, the regulated community had always regarded and managed leachates from their RCRA-regulated hazardous waste units as hazardous wastes.^{10/} They understood, however, based on the language of the derived-from rule, EPA's eight years of administering that rule, and the chemical and physical character of leachates, that leachates are distinct and separate wastes generated in the hazardous waste management process. Accordingly,

^{9/} The problems encountered in managing leachate under the August 8 rule also complicate treatment and management of other residues of hazardous waste management, most notably incinerator ash. See infra note 11.

^{10/} Prior to August 8, a panoply of restrictions governed treatment and disposal of leachate, assuring its handling in an environmentally acceptable manner. (Johnson Affidavit, ¶3, Emergency Motion of Petitioner Browning-Ferris Industries, Inc. for Partial Stay Pending Review, filed August 10, 1988, No. 88-1592 ("BFI's Motion for Stay")). Several Petitioners are presently handling their leachate in precisely the manner that Respondent suggests is proper for handling these wastes to comport with the land ban restrictions -- deep well injection and discharge to wastewater treatment plants. See Affidavit of G. Douglas Clark ("Clark Affidavit"), ¶¶ 7-17, 28-35, Attachment B to Emergency Motion of Petitioner Chemical Waste Management, Inc. for Stay Pending Review, filed August 9, 1988, Dkt. No. 88-1581 ("CWM's Motion for Stay"); Respondent's Memorandum of Law in Opposition to Motion for Stay, Dkt. 88-1581, at 13, filed August 12, 1988 ("Respondent's Opposition to Stay, Dkt. 88-1581").

Petitioners expected EPA to bring leachates and other residues directly into the land ban by promulgating specific BDAT treatment standards for these materials based on a study of their characteristics and their susceptibility to treatment through various available proven technologies.

EPA's regulatory short-cut of transferring treatment standards developed for individual listed hazardous wastes to leachates, which may derive from hundreds of hazardous wastes, creates insurmountable problems. Before land disposal, leachates must be treated to meet the most stringent BDAT standards established for every constituent in each underlying waste. Moreover, any residues from treating leachates must also meet the most stringent of those standards. Yet the record contains no evidence that EPA evaluated whether demonstrated and available technology exists through which leachates and leachate materials or other complex mixtures and residues can be treated to meet the August 8 standards. In fact, such technology does not exist.

Of particular import are the problems posed by EPA's decision to set a "treatment standard" of "no land disposal" for a number of wastes. 53 Fed. Reg. at 31221. No matter what degree of treatment is achieved, these wastes can never be land disposed. Many of Petitioners' land disposal facilities received such wastes in the past. Under EPA's newly enunciated principles, residues from treating leachate from any landfill

that holds even one bucket of certain "no land disposal" wastes also can never be land disposed.^{11/}

EPA also failed to address substantial permitting and capacity problems that were raised by Petitioners during the comment period. See, e.g., CWM Comments at 1-17 (J.A. ____). Most RCRA facilities are authorized to accept only specified waste codes. Very few, if any, have authorization to handle the scores of wastes now deemed by EPA to be present in commercial landfill leachates and other residues.^{12/} In fact, some wastes formerly managed at Petitioners' facilities -- in full compliance with all regulations then in effect -- can no longer be lawfully handled at any facility. See Clark

^{11/} Incineration, which is not a land disposal method, does not offer any way out of this dilemma. Even if all other applicable treatment standards can be achieved through incineration, the ash created in burning leachates derived from certain "no land disposal" wastes would carry the "no land disposal" waste code and would be undisposable. Moreover, as a practical matter, the estimated existing liquid hazardous waste incineration capacity is pitifully insufficient to handle the billion gallons a year of leachate from RCRA Subtitle C facilities. See 53 Fed. Reg. at 31193; Affidavit of Johan E. Bayer ¶¶ 8-15, Attachment C to CWM's Motion for Stay; Comments of Chemical Waste Management, Inc. on May 17 proposal ("CWM Comments"), Docket No. LDR8-0051, at 1 (J.A. ____).

^{12/} Johnson Affidavit, ¶¶ 8, 9, 12, BFI's Motion for Stay. EPA may suggest that Petitioners can modify their permits to include the necessary codes. This suggestion ignores the practical realities that EPA and state permitting agencies have discretion to deny such requests and that, in any case, their processing will require at least 6 months (53 Fed. Reg. 37912, 37913 (Sep. 28, 1988)) -- during which period Petitioners could not lawfully manage leachates and other treatment residues. See also Johnson Affidavit, ¶¶ 14, 20.

Affidavit ¶ 12, CWM's Motion for Stay; Johnson Affidavit ¶ 12, BFI's Motion for Stay. Petitioners' leachates and other residues will bear the codes applicable to those wastes and consequently will have no lawful resting place. EPA nevertheless failed to consider this problem in setting the August 8 treatment standards and in assessing the availability of treatment capacity.

EPA apparently believes that Petitioners can turn to commercial wastewater treatment facilities and publicly owned treatment works ("POTWs") to treat their leachates. See 53 Fed. Reg. at 31150. A simple telephone survey of EPA's own Regional Offices and of such facilities revealed, however, that these facilities are generally either unwilling or legally unable to handle hazardous waste leachates. See Attachment F, CWM's Motion for Stay.

EPA failed to consider whether Petitioners could store leachates and other residues while they search for a way to comply with the August 8 rule.^{13/} As a practical matter, sufficient storage capacity does not exist, and cannot be constructed in a timely fashion, to hold all the leachates and

^{13/} Storage of land ban wastes is prohibited "unless such storage is solely for the purpose of the accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal." 42 U.S.C. § 6924(j). This provision may preclude storage in the absence of viable treatment and disposal options. If so, those who cannot cease leachate generation, yet have no other management option for these wastes, would be legally barred from storing them.

leachate materials from RCRA Subtitle C facilities. Thus, if the August 8 rule takes effect as to leachate, the regulated community must inevitably violate legal obligations to collect leachate, or legal restrictions on the types of wastes that facilities can manage, or the August 8 rule.

2. The Retroactivity Principle.

EPA also announced in this rulemaking the principle that the RCRA hazardous waste listings have retroactive effect. 53 Fed. Reg. at 17586, 31147. Through this principle, which EPA had never previously advanced in a rulemaking, EPA classifies as listed hazardous waste the leachate from any solid waste disposal facility containing waste listed as hazardous after its disposal.

This assertion of retroactivity is contrary to the long-settled and legitimate expectations of the regulated community.^{14/} It is likely that, prior to the effective date of EPA's hazardous waste regulations, issued under RCRA Subtitle C, thousands of non-hazardous waste facilities,

^{14/} This retroactive effect is also contrary to the expectations of state regulators, many of whom have been authorized by EPA to administer their own hazardous waste programs in lieu of the federal program. 42 U.S.C. § 6926(b). For example, a number of state constitutions expressly prohibit retroactive laws. E.g., Colo. Const. art. II § 11; Mo. Const. art. 1, § 13; N.H. Const. pt. I, art. 23; Tenn. Const. art. I, § 20; Tex. Const. art. I, § 16. EPA could not have determined (as it is legally required to do) that such state programs were "equivalent" to the federal program if EPA believed that RCRA has retroactive effect.

regulated under RCRA Subtitle D, accepted solid wastes that EPA later listed as hazardous.^{15/} Under the Subtitle D regulatory scheme, these facilities have managed leachate as hazardous waste if it exhibited a hazardous characteristic. See *id.* at 20-26 (J.A. ____). If EPA prevails in applying RCRA retroactively, these facilities generally would be compelled to handle as listed hazardous waste any actively managed leachate derived from the disposal of any waste subsequently listed as hazardous. The Agency's position may deter voluntary and environmentally beneficial collection and management of leachate from Subtitle D units.

The record does not support treating leachate from solid waste facilities as listed hazardous waste. The Agency asserted this position without investigating whether leachate from solid waste facilities is in fact hazardous. Nor did EPA determine the volume of Subtitle D leachate generated or the industry's capacity to implement the August 8 rule.^{16/}

^{15/} See, e.g., Comments of Waste Management of North America, Inc. on May 17 proposal ("WMNA Comments"), Docket No. LDR8-0052, at 4, 16-17 (J.A. ____).

^{16/} EPA based its assessment of leachate on an incomplete survey of Subtitle C hazardous waste facilities, which included no data on Subtitle D facilities. See Docket No. LDR9-S0127 (J.A. at ____). The roughly 9,000 publicly-owned solid waste landfills in this country alone generate over one billion gallons of leachate. See GRCA Comments Docket No. LDR8-L038, at 1 (J.A. at ____). In response to comments that EPA had

[Footnote continued on following page]

Moreover, as discussed below, see infra at 43-44, the Agency's retroactivity principle will cause severe compliance problems for persons managing historical residues in non-hazardous waste facilities as part of remedial actions. Indeed, persons managing such residues under state administrative orders will be forced to violate either those orders or RCRA.

3. The Contained-in Principle.

In this rule, EPA has also significantly extended the sweep of the derived-from and mixture rules to require hazardous waste management of any environmental medium, such as soil and groundwater, containing any amount of any constituent from a listed hazardous waste. EPA has made no finding that such contaminated environmental media actually present any significant hazard. Nonetheless, many industrial facilities treating contaminated soil and groundwater would now be subject to RCRA requirements originally designed to ensure the environmentally sound management of truly hazardous waste.

16/ [Footnote continued]

underestimated the capacity necessary to treat leachate affected by the retroactivity principle, EPA acknowledged that it did not have adequate information regarding leachate generation from Subtitle D facilities, and that it "would need more data to further evaluate these volumes." Response to WMNA Comments, Docket No. LDR9-S0126.B, at XIV, p. 8 (J.A. ____). Despite this admission, EPA concluded, with no empirical support, that sweeping Subtitle D leachate into Subtitle C would not pose a capacity problem. See id. (J.A. at ____).

This principle, in combination with the waste code carry-through and retroactivity principles, vastly expands the universe of material that must be managed as hazardous wastes and poses a significant deterrent to environmentally desirable remedial activities.

C. The Stay Pending Review.

On August 9 and 10, 1988, Petitioners CWM and BFI were faced with the prospect of immediate forced noncompliance with the August 8 rule's leachate requirements at their commercial hazardous waste management facilities. Accordingly, they separately filed motions to stay the August 8 rule's application to leachates and leachate treatment residues pending review. This Court granted an administrative stay of the rule on August 9. The Court then, on August 18, 1988, stayed the rule's application to "leachate and anything contaminated by leachate" pending expedited review. On EPA's motion, that order was clarified on September 23, to stay the rule as it applies to "leachate, residues from treating such leachate, and groundwater contaminated with leachate." Thereafter, the Court ordered expedited briefing of the "leachate-related issues."

SUMMARY OF THE ARGUMENT

EPA's application of BDAT treatment standards intended for underlying listed hazardous wastes to leachates and leachate materials is arbitrary and capricious. EPA lacks a

rational basis in the administrative record to support its assumption that leachate can be treated to meet these standards through use of existing, proven technology.

The August 8 rule also incorporates three regulatory principles that lack legal or factual basis. First, EPA states that wastes, such as leachates, that are derived from disposal of hazardous wastes, are each of the listed hazardous wastes from which they derive. This use of the RCRA derived-from rule to carry waste codes through to residues is nothing more than a legal fiction with no basis in either the rule itself or chemistry.

Second, in the August 8 rule, EPA applies hazardous waste listings retroactively, thereby violating the tenet of statutory construction against retroactive application absent a clear and unequivocal congressional mandate. RCRA contains no such imperative, a fact EPA has consistently recognized in the past. EPA's reliance on the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") to support its conclusion that RCRA should be given retroactive effect is specious, and underscores the difference between the statutes. Further, retroactive application of RCRA and its regulations would cause the very hardship and inequity that the presumption against retroactivity was developed to prevent.

Third, the Agency's imposition of listed hazardous waste status on contaminated groundwater, soil and other

environmental media exceeds EPA's authority under RCRA to delineate hazardous wastes. Moreover, it is arbitrary and capricious because EPA failed rationally to explain this abrupt change in the regulatory treatment of these materials and the factual basis for its determination that these materials are hazardous under RCRA.

Finally, EPA has failed to provide adequate notice and opportunity for comment on these three "regulatory principles," which are substantive rules. The Agency's statements in the preambles to this rulemaking demonstrate that EPA did not have a flexible and open mind on these issues and, therefore, did not fairly consider the regulated community's views.

Accordingly, the August 8 rule is arbitrary and capricious as it applies to leachates and leachate materials, and it was promulgated without adherence to procedures required by law.

ARGUMENT

- I. THE BDAT TREATMENT STANDARDS ESTABLISHED IN THE AUGUST 8 RULE ARE ARBITRARY AND CAPRICIOUS AS APPLIED TO LEACHATES, LEACHATE TREATMENT RESIDUES, AND SUBSTANCES CONTAMINATED BY LEACHATES.

Through the mere application of the waste code carry-through principle, and without any supporting scientific or technical data, EPA imposes treatment standards designed for the underlying listed hazardous wastes to leachates and leachate materials. The August 8 treatment standards, as

applicable to these materials, lack adequate record support and are, therefore, arbitrary and capricious.

When EPA announced its framework for developing the BDAT treatment standards, the Agency declared that "the type of treatment technology used and the level of treatment achieved depend upon the physical and chemical characteristics of the waste." 51 Fed. Reg. 40572, 40588 (Nov. 7, 1986). EPA expressly acknowledged as "fundamental" the proposition that establishing levels to which wastes can successfully be treated, and identifying technologies by which those levels can be achieved, requires knowledge of the physical and chemical characteristics of the wastes in question. Id.

Unfortunately, EPA ignored this "fundamental" concept in setting land ban treatment standards for leachates and related materials. The Agency instead brought this major category of hazardous waste into the land ban indirectly, by glibly citing the derived-from rule and assuming that leachate derived from a particular listed waste can be treated to meet the standards for that waste even though the leachate may derive from hundreds of other wastes.

The Agency did not examine the characteristics or treatability of representative leachates and treatment residues in developing this rule. Instead, it took the regulatory short-cut of applying the standards for underlying wastes to

leachates.^{17/} EPA did no sampling or chemical analysis of leachate wastes, as it did for underlying wastes. 53 Fed. Reg. at 17583-84; *id.* at 11749. It established no "treatability groups" for leachates or leachate treatment residues.^{18/} Nor, prior to the April proposal, did EPA provide sufficient notice of its view of the status of derived-from wastes under the land ban to alert industry to the need to develop data on such wastes. See supra note 8.

Moreover, although leachates are potentially subject to scores of treatment standards, EPA also failed to indicate which technologies it believes are BDAT for leachate or its treatment residues or in what sequence such technologies should be employed. Instead of analyzing the treatability of derived-from wastes, EPA relied upon an unsupportable reading of the derived-from rule, see infra at 26-29, and a "belief" that such wastes can be treated to meet the standards for underlying wastes "because [leachate] contains lower

^{17/} Another EPA office has expressed disapproval of this type of scientific short-cut. EPA's January 16, 1987 "Policy for Managing Leachate at PCB Landfills" ("PCB Policy") states that PCB landfill leachate is "a category of material distinct from . . . 'PCB wastes,'" and therefore "subjecting such materials to disposal requirements which are based only on PCB concentration could produce results that are neither feasible nor environmentally sound." Docket No. LDR8-0051, Attachment, at 4, 5 (J.A. at ____).

^{18/} EPA has conceded that it has authority to establish separate treatment standards for leachate but it has chosen not to exercise this authority to conserve "time and resources." Respondent's Opposition to Stay, Dkt. 88-1581, at 27.

concentrations of the constituents of concern than the [underlying] wastes on which the treatment standards are based." 53 Fed. Reg. at 31150; see also id. at 31149.

In fact, leachates and leachate treatment residues bear little, if any, physical or chemical resemblance to the wastes from which they derive. Many physical and chemical processes and reactions take place within a hazardous waste landfill that significantly alter the character, composition and concentrations of the constituents involved.^{19/} Characteristic hazardous wastes, wastes not yet subject to the land ban, nonhazardous wastes and even the surrounding geology can contribute constituents to a leachate mixture that will affect its treatability. In fact, in cases involving wastewater treatment, EPA itself has argued that factors other than the concentration of waste constituents determine the treatability of those constituents.^{20/} EPA overlooked these facts in the August 8 rule.

^{19/} The chemical and physical character of leachate is highly variable, influenced by factors such as location, season and amount of precipitation. See Docket No. LDR8-L007, at 2-1 through 2-5 (J.A. ____). Thus, leachates vary not only from site to site but also from time to time at the same site. Id. at Table 3-1 (J.A. ____); see also PCB Policy at 3 (J.A. ____); CWM Comments at 10-13 (J.A. ____).

^{20/} See, e.g., Kennecott v. EPA, 780 F.2d 445, 451 (4th Cir. 1985), cert. denied, 479 U.S. 814 (1986) (solubility); Reynolds Metals Co. v. EPA, 760 F.2d 549, 561 (4th Cir. 1985) (solubility in oil and concentration of oil).

The administrative record contradicts both EPA's assertion that leachate is more dilute than the underlying wastes and its assumption that leachate can therefore be treated to meet the August 8 standards. The record instead contains evidence that: (1) certain constituents in some leachates are more, not less, concentrated than in the wastes for which BDAT wastewater treatment standards were set; (2) wastes more dilute than those for which EPA set treatment standards are not necessarily treatable to those standards; and (3) some treated leachates do not meet the standards.^{21/} The August 8 rule discusses none of these contradictory data.

It is irrational to assume, as EPA does, that "derived-from" wastes such as leachate can be treated to meet the lowest standard applicable to any underlying waste when the standards themselves vary widely even when based on the same technology. Application of the identical BDAT technology to

^{21/} See Exhibit A to Respondent's Memorandum of Law in Opposition to Motion for Stay, Dkt. No. 88-1592. Record data show that some leachates have constituent concentrations higher than the highest concentrations cited by EPA in wastes for which treatment standards were established under the August 8 rule. See id.; SAIC, "Composition of Leachates From Actual Hazardous Waste Sites," Tables 21, 23, 25 (J.A. at ____).

Moreover, many residues from treating leachate and other hazardous wastes result from processes that remove, and thereby concentrate, contaminants from waste streams. Treatment residues accordingly often contain much higher levels of hazardous constituents than do the underlying wastes. See generally Rulemaking Petition, submitted by Chemical Waste Management, Inc. on July 27, 1988, Docket No. LDR9-S0156 (J.A. ____).

three different wastestreams produced treatment standards for the same constituent that differ by a factor of from four to more than twenty.^{22/} EPA nevertheless assumes that some unspecified form or sequence of treatment will meet the lowest of all the standards for all constituents in leachates derived from hundreds of underlying wastes. 53 Fed. Reg. at 31146-47. The Agency's assumption has no basis in chemistry or reality and cannot be sustained.

The August 8 rule's application to leachates and leachate materials is perhaps most irrational with respect to wastes for which EPA has established a treatment standard of "no land disposal." Id. at 31151. EPA's rationale for these standards is, in part, that these wastes are no longer being generated or land disposed. Although leachates themselves are not subject to the "no land disposal" standards, id., non-wastewater derivatives of leachate (i.e., treatment residues) or other solids contaminated by leachates in many cases are. Consequently, filter cake or other residues from a wastewater treatment plant used to treat leachate from a landfill containing certain "no land disposal" wastes can never

^{22/} EPA based its treatment standards for waste codes K001, K019, and K087 on the same technology -- rotary kiln incineration. Yet the treatment standard for phenanthrene in K019 is 0.007 mg/l, in K087 is 0.028 mg/l, and in K001 is 0.15 mg/l. 53 Fed. Reg. at 31218, 31220. Even if a landfill contained 1,000 times as much K001 as K019, leachate from that landfill would have to meet the lower phenanthrene level established for K019.

be land disposed regardless of the treatment technology used or the level of treatment achieved. Nor could those residues be incinerated without subjecting the resulting ash to the "no land disposal" standard. These wastes have no lawful resting place.

Further examination of the August 8 treatment standards reveals that many of the wastewater standards are based on data for "scrubber waters." See, e.g., 53 Fed. Reg. at 31154 (K015), 31157 (K024). Scrubber waters are residues of incineration, during which organic waste constituents are destroyed. These standards can rationally apply to leachates and other residues only if the Agency assumes that all of the billions of gallons of leachate and contaminated groundwater produced in this country will be incinerated. This assumption is patently absurd. There is nowhere near the incinerator capacity necessary to accommodate these volumes. See supra note 11.

EPA has the burden to show that its standards are achievable for the range of conditions to which they apply.^{23/} Moreover, as this Court has stated, "EPA retains a

^{23/} National Lime Ass'n v. EPA, 627 F.2d 416, 433 (D.C. Cir. 1980); accord, Sierra Club v. Costle, 657 F.2d 298, 377 (D.C. Cir. 1981) (EPA must establish that it relied on test data representative of potential industry-wide performance, given the range of identified relevant variable conditions).

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duty to examine key assumptions as part of its affirmative 'burden of promulgating and explaining a nonarbitrary, noncapricious rule.'"^{24/} Among other things, this means that "the agency must make a reasonable effort to develop the facts. Where it has not made that effort, EPA cannot regulate on the basis of a guess about what the facts might be."^{25/} The Court is to make a "searching and careful" review of the record to ensure that the agency has considered "all of the relevant factors" and has demonstrated "a reasonable connection between the facts on the record and the resulting policy choice."^{26/}

These cases indicate that EPA cannot require industry to disprove its key assumptions. Rather, EPA has an affirmative duty to ascertain the relevant facts and document

^{23/} [Footnote continued]

National Lime Association and Sierra Club addressed technology-forcing standards under Section 111 of the Clean Air Act. Because EPA's BDAT standards are not technology-forcing, but are to be based on proven technology (see 51 Fed. Reg. 40572, 40578 (Nov. 7, 1986)), the burden on EPA to ensure that its land ban treatment standards are achievable is even heavier than the burden recognized in these Clean Air Act cases. The Agency has plainly failed to meet that burden.

^{24/} Small Refiner Lead Phasedown Task Force v. EPA, 705 F.2d 506, 534 (D.C. Cir. 1983) (quoting National Lime Ass'n v. EPA, 627 F.2d 416, 433 (D.C. Cir. 1980)).

^{25/} Id. at 531.

^{26/} Id. at 520 (quoting Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416 (1971) and Sierra Club v. Costle, 657 F.2d 298, 323 (D.C. Cir. 1981)).

them in the record. EPA has utterly failed to meet that burden here.^{27/}

II. THE AUGUST 8 RULE'S WASTE CODE CARRY-THROUGH PRINCIPLE IS ARBITRARY AND CAPRICIOUS.

Through its application of the derived-from rule, EPA imposes the land ban standards designed for particular listed hazardous wastes on separate and distinct wastes that are the product of the waste management process. This position is not supported by the plain language of the derived-from rule and causes the August 8 rule to be arbitrary and capricious.

A. Derived-From Wastes Are a Separate Category of Wastes and Are Not Listed Hazardous Wastes.

Under the derived-from rule: "[A]ny solid waste generated from the treatment, storage, or disposal of a

^{27/} EPA's suggestion that the potential availability of treatment variances, 40 C.F.R. § 268.44, provides a "safety valve" for leachates must be rejected. 53 Fed. Reg. at 31147. While a variance may be appropriate for "unusual waste matrices," EPA cannot use a variance to evade its obligation to establish achievable standards for a substantial and common class of hazardous wastes such as leachates. See United Steelworkers v. Marshall, 647 F.2d 1189, 1299 (D.C. Cir. 1980), cert. denied, 453 U.S. 913 (1981) ("variance procedures should come into play only after the agency has justified a presumption of feasibility, at least for most of the operations within the industry").

Moreover, the Agency cannot possibly act promptly on variance petitions from all facilities that generate leachates or handle treatment residues. These facilities might also be forced to file variance requests to correspond to variabilities in leachates. While their variance requests are pending, Petitioners would be unable to comply with the August 8 rule and would risk prosecution.

hazardous waste, including any . . . spill residue . . . or leachate . . . is a hazardous waste." 40 C.F.R.

§ 261.3(c)(2)(i) (emphasis added). Contrary to EPA's contention, this rule does not state that a waste derived from a listed waste is that listed waste. Rather, the rule explicitly recognizes that derived-from wastes are newly generated wastes, chemically and physically distinct from the underlying wastes.^{28/}

EPA's regulations make clear that derived-from wastes are separate from the listed wastes from which they may derive. Section 260.22, which governs petitions to exclude particular wastes from RCRA regulation, contains separate provisions for excluding listed hazardous wastes, 40 C.F.R. § 260.22(a), and derived-from wastes, id. § 260.22(b). If derived-from wastes were the listed wastes from which they derive, the second provision for excluding derived-from wastes

^{28/} Other portions of EPA's regulations confirm that hazardous waste management facilities become generators of new hazardous wastes pursuant to the derived-from rule. The regulations require that a facility determine if the leachate it collects is hazardous, thus indicating that a facility that produces leachate is a generator of new waste. 40 C.F.R. § 262.11; see 45 Fed. Reg. 86968, 86969 (December 31, 1980). The same is true of a facility that produces a treatment residue from treating a listed waste. Indeed, the August 8 rule recognizes that a waste and a residue from that waste's prescribed treatment are different wastes, and the treatment facility must comply with the requirements applicable to generators. See § 268.7(b)(6), 53 Fed. Reg. at 31214. This result is compelled by RCRA Section 3004(m), 42 U.S.C. § 6924(m), which allows land disposal of the treatment residue.

would be superfluous. Finally, both sections 260.22(b) and 261.3(d)(2) refer to listed wastes and derived-from wastes in the disjunctive, cataloging the requirements applicable to "a waste which is . . . either a waste listed in Subpart D, contains a waste listed in Subpart D, or is derived from a waste listed in Subpart D." (Emphasis added).^{29/}

In the August 8 rule itself, EPA has once again recognized the fundamental distinction between leachates and listed wastes. The listed "first-third" hazardous wastes for which EPA has not promulgated treatment standards are subject to a "soft hammer," meaning they may be land disposed but only in facilities meeting certain strict specifications. See 42 U.S.C. § 6924(g). EPA exempted leachates derived from the disposal of "soft hammer" first-third wastes, as well as groundwater contaminated with those first-third wastes, from the "soft hammer" provisions by rescheduling these wastes to the third-third. See 53 Fed. Reg. at 31184. In so doing, EPA recognized that these materials are not the listed wastes from which they were derived. This conclusion is reinforced by

^{29/} EPA tacitly recognized that the derived-from rule does not identify leachate as any particular listed hazardous waste when it conducted a survey of the available treatment capacity for listed land ban wastes. The survey's instructions directed use of a special waste code ("XLEA") for leachates from hazardous waste landfills. See National Survey of Hazardous Waste Treatment, Storage, Disposal and Recycling Facilities Docket No. LDR8-S0374, at C-2 n.1 (June 1988) (J.A. at ____).

EPA's suggestion that it may establish separate treatment standards for "soft hammer" leachates. Id.^{30/}

- B. EPA's Waste Code Carry-Through Principle Is Unworkable and, Therefore, the August 8 Rule Is Arbitrary and Capricious.

The Statement of the Case, see supra at 6-13, and the motions for stay filed by CWM and BFI, recite in detail the permitting and other compliance problems engendered by the waste code carry-through principle. A rulemaking that cannot be complied with and that renders substantial volumes of waste unmanageable is arbitrary and capricious.

III. THE AUGUST 8 RULE GIVES IMPERMISSIBLE RETROACTIVE EFFECT TO RCRA AND ITS REGULATIONS.

- A. Statutes Must Be Applied Prospectively Unless There Is Unequivocal Legislative Intent To The Contrary; There Is No Such Intent In RCRA.

On August 8, EPA declared for the first time in a rulemaking that its hazardous waste listings and the derived-from rule apply retroactively to material disposed of before the effective date of RCRA regulations. EPA states: "Hazardous waste listings are retroactive, so that once a particular waste is listed, all wastes meeting that description

^{30/} Nothing in the legislative history of HSWA suggests that Congress intended to expand the scope of EPA's rules beyond their commonly accepted meaning in 1984. Despite repeated opportunities during Congressional consideration of the HSWA land ban, EPA conspicuously failed to suggest to Congress either that derived-from wastes are in fact the listed wastes from which they derive or the substantial consequences that flow from this position.

are hazardous waste no matter when disposed." 53 Fed. Reg. at 31147; see also 53 Fed. Reg. at 17586.

In deciding that hazardous waste listings and the derived-from rule are retroactive, EPA has violated a fundamental canon of statutory construction:

A judicial preference for prospective as opposed to retroactive legislative endeavor is well entrenched. . . . Consequently, "statutes are not to be applied retroactively 'unless the words used are so clear, strong and imperative that no other meaning can be annexed to them or unless the intention of the legislature cannot otherwise be satisfied.'"^{31/}

There is no "clear, strong and imperative" language in Subtitle C of RCRA commanding retroactive application of the statute and its implementing regulations. In fact, the statute affirmatively provides for prospective application of the Subtitle C regulations. Following identification or listing of a waste as hazardous, a person handling or managing that waste has ninety days to so notify the Agency. 42 U.S.C. § 6930(a). Moreover, EPA's hazardous waste management regulations do not become effective for six months after their promulgation. *Id.* § 6930(b). EPA's regulations confirm this prospective application. Those regulations do not require facilities that

^{31/} In re District of Columbia Workmen's Comp. Act, 554 F.2d 1075, 1079 (D.C. Cir.), cert. denied, 429 U.S. 820 (1976) (emphasis added) (quoting International Bhd. of Boilermakers v. NLRB, 316 F.2d 373, 375 (D.C. Cir. 1963), which quotes United States Fidelity & Guar. Co. v. United States ex rel. Struthers Wells Co., 209 U.S. 306, 314 (1908)).

have historically managed hazardous waste to comply with the statutory notification requirement or any other Subtitle C regulations if the facility is no longer actively managing that waste on the effective date of an otherwise applicable RCRA statutory or regulatory amendment. See 40 C.F.R. §§ 270.10(e), 270.70(a). Thus, Congress and EPA have directed that any decision by EPA to list a particular waste as hazardous has only prospective effect.^{32/}

Similarly, retroactive application of RCRA and the Subtitle C regulations is not necessary to effectuate the intent of the legislature. In 1976, Congress in RCRA directed EPA to establish a new cradle-to-grave management system under Subtitle C to address the current and future disposal of hazardous waste. It was precisely because RCRA (1) did not address prior disposal and (2) was not intended to be retroactive that, in 1980, Congress passed CERCLA, which created a system to clean up the problems caused by previous disposal of hazardous wastes. See 126 Cong. Rec. S14962-63 (daily ed. Nov. 24, 1980) (remarks of Sen. Randolph).

^{32/} As EPA stated in promulgating the regulations first listing wastes under section 3001 of RCRA: "These regulations . . . become effective on November 19, 1980, which is six months from the date of promulgation as section 3010 requires. Today's promulgation begins the various schedules provided by RCRA for filing notifications" 45 Fed. Reg. 33084 (May 19, 1980). EPA has repeated essentially the same statement as each additional waste has been added to the list. See, e.g., 51 Fed. Reg. 37723, 37725 (Oct. 24, 1986); 50 Fed. Reg. 53315, 53317 (Dec. 31, 1985); 49 Fed. Reg. 19921, 19923 (May 10, 1984); 46 Fed. Reg. 4614 (Jan. 16, 1981).

In 1978, when EPA first proposed regulations to implement RCRA, it recognized that "[e]normous technical, legal and economic problems would arise if standards were to be applied directly to inactive facilities . . ." and that such application was unwarranted because RCRA was written in the present tense. 43 Fed. Reg. 58946, 58984 (Dec. 18, 1978). In promulgating the first comprehensive RCRA regulations in 1980, EPA expressly noted RCRA's prospective nature:

RCRA is written in the present tense and its regulatory scheme is prospective. Therefore, the Agency believes Congressional intent to be that the hazardous waste regulatory program under Subtitle C of RCRA is to control primarily hazardous waste management activities which take place after the effective date of these regulations.

45 Fed. Reg. 33154, 33170 (May 19, 1980).^{33/}

Until now, EPA has consistently applied RCRA only prospectively. For example, in 1982, groundwater protection standards were promulgated that applied only to "regulated units," defined as those receiving hazardous waste after the effective date of the regulations. 47 Fed. Reg. 32274, 32291 (July 26, 1982). In the initial land ban regulations, EPA stated that the restrictions had only prospective effect and did not apply to previously buried waste left in the ground. See, e.g., 51 Fed. Reg. 40572, 40577 (Nov. 7, 1986).

^{33/} EPA suggested only one practical exception to this broad principle: that immediate physical proximity of closed and open waste management units might require special regulatory treatment. *Id.*

When Congress amended RCRA in 1984 to add the land ban, it was concerned about the number of solid waste landfills requiring remedial attention under CERCLA due to the pre-1980 disposal of hazardous materials and the subsequent escape of leachate. S. Rep. No. 284, 98th Cong., 1st Sess. 5, 49 (1983); H.R. Rep. No. 1133, 98th Cong., 2d Sess. 117, reprinted in 1984 U.S. Code Cong. & Admin. News 5576, 5688 (Conference Report). If Congress wanted waste codes and the derived-from rule to apply retroactively, this was the obvious time to make that intent clear. Although Congress grilled EPA regarding the cleanup of hazardous materials at solid waste facilities, the Agency never suggested that leachate from these facilities was or could be regulated by retroactive application of the Subtitle C regulations.^{34/} Consequently, Congress enacted a prospective program for upgrading regulation of solid waste management facilities under Subtitle D of RCRA and did not suggest that leachate from these facilities would be subject to regulation as listed hazardous waste.^{35/}

^{34/} See WMNA Comments, at 26 n.4 (J.A. at ____).

^{35/} EPA had a similar opportunity during the 1986 amendments to CERCLA to persuade Congress that waste codes and the derived-from rule should retroactively apply to contaminated soil and groundwater. The legislative history of CERCLA and of the Superfund Amendments and Reauthorization Act of 1986 ("SARA") does not support the view that Congress intended that wastes disposed of prior to 1980 were or could be Subtitle C listed hazardous waste subject to RCRA. See WMNA Comments, at 35 (J.A. at ____).

B. RCRA Cannot Be Given Retroactive Effect Through Reliance On CERCLA.

EPA reaches to a second statute, CERCLA, in an attempt to support its new claim of retroactivity. 53 Fed. Reg. at 31148.. CERCLA uses RCRA hazardous waste classifications as a basis for identifying past disposal sites possibly deserving of attention. The fundamental flaw in EPA's position is that RCRA can be given retroactive effect only if the statutory language of RCRA is so plain as to leave no doubt that Congress intended such effect. Evidence of Congressional intent that CERCLA have retroactive effect is wholly irrelevant.

Courts have found that Congress intended CERCLA to have significant retroactive effect.^{36/} In fact, CERCLA was expressly designed to address the consequences of past activities not addressed by RCRA, and establishes liability for present cleanup on the basis of what was then -- and might still be -- fully legal disposal.

CERCLA provides no basis for imputing a retroactive intent to RCRA itself, however. In fact, the logic runs the other way. RCRA's prospective nature was a significant reason why Congress found it necessary to address the consequences of past disposal under CERCLA.

^{36/} See, e.g., United States v. Northeastern Pharmaceutical & Chemical Co., 810 F.2d 726 (8th Cir. 1986), cert. denied, 108 S. Ct. 146 (1987).

C. Retroactive Application of RCRA and Its Regulations Creates the Very Type of Hardship and Unfairness That the Presumption Against Retroactivity Was Developed to Prevent.

"It is a fundamental principle of jurisprudence that retroactive application of new laws involves a high risk of being unfair." United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 1413 (D.N.H. 1985) (quoting 2 Sutherland, Statutory Construction § 41.02, at 247 (4th ed. 1973)). If the August 8 rule stands, its retroactive application of RCRA will create just such unfairness and unjustified hardship.

The retroactive application of waste listings and the derived-from rule upsets the regulatory scheme Congress devised to separate RCRA Subtitle C hazardous waste facilities from Subtitle D solid waste facilities. For example, leachate from a facility that manages only nonhazardous waste is not hazardous under the derived-from rule. Under EPA's position, however, if EPA reclassifies as a hazardous waste any solid waste that the facility has taken in the past, the facility's leachate generally would immediately become a listed hazardous waste. This change would radically alter the options available for management and disposal of the leachate without regard to whether the chemical or physical character of the leachate meets the statutory definition of hazardous waste. See infra at 37-38 and note 38. Congress enacted in 1976 and revised in 1980 and 1984, and EPA has implemented since 1979, a prospective program for the management of solid waste

facilities under Subtitle D that does not even suggest that leachate from these facilities could be subject to regulation as listed hazardous waste.^{37/}

Moreover, EPA's retroactive application of hazardous waste listings immediately places facilities treating leachate in nonhazardous waste management units pursuant to state cleanup orders in an untenable position of forced non-compliance. These facilities cannot immediately comply with all RCRA requirements. In fact, as demonstrated in Section I and II supra, leachate cannot be treated in compliance with the August 8 rule and, due to the waste code carry-through principle, cannot be managed in compliance with RCRA. Yet these facilities can avoid noncompliance with RCRA only by allowing leachate to flow unabated in violation of the cleanup orders. This environmentally undesirable result demonstrates clearly the fundamental unfairness of EPA's regulatory decision.

^{37/} Congress rejected the notion that Subtitle C standards ought to be applied to establish criteria for Subtitle D facilities. See, e.g., S. Rep. No. 284, 98th Cong., 1st Sess. 49-50 (1983); 130 Cong. Rec. S9150 (daily ed. July 25, 1984) (remarks of Sen. Randolph); 129 Cong. Rec. H9162 (daily ed. Nov. 3, 1983) (remarks of Rep. Florio).

IV. EPA'S DERIVED-FROM AND MIXTURE RULES CANNOT LAWFULLY TRANSFORM CONTAMINATED GROUNDWATER, SOIL, OR OTHER ENVIRONMENTAL MEDIA INTO HAZARDOUS WASTE.

The preamble to the August 8 rule asserts a third new regulatory principle: that the derived-from and mixture rules command hazardous waste status for any environmental media, such as groundwater, contaminated by any concentration of listed hazardous waste or residues such as leachate. 53 Fed. Reg. at 31142, 31146-47, 31150. Thus, for example, groundwater contaminated by leachate from listed hazardous waste at a concentration level below health-based standards is subject to all RCRA hazardous waste management requirements, including those pertaining to the land ban. This "principle" exceeds the Agency's authority under RCRA and lacks any regulatory basis. In combination with the waste code carry-through and retroactivity principles, this principle will vastly expand the volume of "hazardous waste" subject to all RCRA Subtitle C requirements, force widespread non-compliance with these requirements, and delay and deter remedial activities.

A. EPA's Extension of the Derived-From and Mixture Rules to Contaminated Environmental Media Exceeds Its Statutory Authority.

Congress directed EPA to list "particular hazardous waste (within the meaning of section 1004(5)), which shall be subject to the provisions of [Subtitle C]." 42 U.S.C. § 6921. Section 1004(5), 42 U.S.C. § 6903(5), defines "hazardous waste" as a solid waste that may:

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

(B) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

EPA has never shown, or even attempted to show, that dilute, contaminated environmental media will cause increased mortality, illness or otherwise pose substantial hazards and has never demonstrated that these materials are "hazardous wastes."^{38/} Thus, EPA exceeds its statutory authority when it extends the reach of regulatory presumptions such as the derived-from and mixture rules to embrace any environmental medium containing any detectable amount of a hazardous constituent deriving from a listed hazardous waste.

B. EPA's Application of Its Derived-From and Mixture Rules to Contaminated Environmental Media Is Arbitrary and Capricious.

When, as here, agency action changes the obligations of the regulated community, it must be accompanied by a reasoned explanation for the change. Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co., 463 U.S. 29, 43 (1983). EPA

^{38/} This failure renders EPA's regulatory determination illegal. See supra at 25. EPA has similarly failed to make this requisite showing for leachate derived from wastes disposed of prior to their listing. Such wastes may have been disposed of decades ago and, thus, may have been rendered nonhazardous by virtue of natural degradation or attenuative processes.

has offered no such explanation for its assertion that contaminated environmental media must be managed as hazardous wastes.

When EPA originally promulgated its regulatory definition of hazardous waste in 1980, it did not address management of contaminated environmental media such as soil and groundwater except in the very limited cases discussed below. EPA decided to regulate "derivative" wastes as hazardous wastes, stating "it is reasonable to assume that these wastes, which are derived from hazardous wastes, are themselves hazardous." 45 Fed. Reg. 33066, 33096 (May 19, 1980). EPA indicated that this rule would apply to leachate, wastewater treatment sludges that typically would contain concentrated amounts of toxic substances, and incinerator ash that would often contain concentrated, heavy metals. *Id.* The Agency never signalled, however, that its derived-from rule would also attach hazardous waste status to soil and groundwater that had come into contact with a residue resulting from management of a hazardous waste.^{39/}

^{39/} The derived-from and mixture rules, by their very terms, do not extend to contaminated environmental media. The mixture rule states that mixtures of solid wastes and listed hazardous wastes are hazardous. 40 C.F.R. § 261.3(a)(2)(iv). Similarly, the derived-from rule states that solid wastes derived from the treatment, storage, or disposal of listed hazardous wastes are hazardous. 40 C.F.R. § 261.3(c)(2)(i). Soil and groundwater

[Footnote continued on following page]

EPA first addressed contaminated groundwater in July 1982 when it issued regulations to govern permitting of land disposal units such as landfills and surface impoundments. 47 Fed. Reg. 33274 (July 26, 1982). These regulations imposed obligations to monitor groundwater and to take corrective action if groundwater became contaminated by leachate. See 40 C.F.R. § 264.100. Nowhere, however, did the Agency state or imply that groundwater undergoing corrective action would have to be managed as a hazardous waste pursuant to the derived-from or mixture rule.

When EPA has intended contaminated soil or groundwater to be hazardous waste, it has made this intent explicit. The Agency has specifically listed certain discarded commercial chemical products and manufacturing intermediates as hazardous waste, and has applied these listings to "[a]ny [discarded] residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any

39/ [Footnote continued]

are part of the environment, not "solid wastes," which are defined under RCRA as "any garbage, refuse, sludge . . . and other discarded material" 42 U.S.C. § 6903(27) (emphasis added). In fact, EPA does not contest this point. In a recent letter to several Senators who inquired regarding the Agency's policy with respect to remedial residues, the Agency stated that soil or groundwater contaminated with hazardous waste "must be managed as if it were a hazardous waste . . .," but made clear that the soil or groundwater would not normally be considered a "solid waste." (Attachment A hereto.)

commercial chemical products or manufacturing chemical intermediate [listed in section 261.33]." Id. § 261.33(d). Significantly, however, the regulations make clear that the phrase "commercial chemical product or manufacturing chemical intermediate" refers exclusively to "the commercially pure grade of the chemical, any technical grades of chemical that are produced and marketed, and all formulations in which the chemical is the sole active ingredient." Id. Accordingly, the residues identified by EPA as hazardous wastes under section 261.33(d) involve soil and groundwater contaminated by highly concentrated forms of hazardous chemicals. Prior to this rulemaking, EPA has never contended that soil or groundwater contaminated by other hazardous wastes or by leachate must be considered listed hazardous wastes.

EPA has not offered any reasoned justification for its new approach, and the rulemaking record is devoid of any technical support. In its May 17 proposal, the Agency asserted that contaminated soil or groundwater could be deemed to be the listed waste from which the contaminants derive "either because of the derived-from rule, the mixture rule . . . or because the listed waste is contained in the matrix [see, e.g., 40 C.F.R. 261.33(d)]." 53 Fed. Reg. at 17586 (emphasis added). In the August 8 preamble, the Agency reiterated this statement but added two new citations in support of the proposition that residues are hazardous wastes because the waste itself is found

in a matrix -- 40 C.F.R. § 261.3(d)(2) and section 3004(e)(3) of RCRA, 42 U.S.C. § 6924(e)(3). 53 Fed. Reg. at 31142.

None of these provisions offers legal or logical support for the Agency's position. As discussed above, section 261.33(d) explicitly lists certain soils and groundwater, when discarded, as hazardous waste when contaminated by spills of commercial chemical products in relatively pure form. Section 261.3(d)(2) is designed simply to narrow, not expand the universe of hazardous wastes, by specifying that any waste independently designated as hazardous under 40 C.F.R. § 261.3(c) (i.e., any listed waste, mixture rule waste or derived-from waste) is not a hazardous waste if it has been excluded pursuant to 40 C.F.R. §§ 260.20 and 260.22.

Section 3004(e)(3) extends for two years the land disposal restrictions that would otherwise apply to "soil and debris" contaminated by certain enumerated, listed wastes. Of course, soil and debris that is not a hazardous waste is not subject to any land ban and needs no extension. However, some such soil and debris is listed hazardous waste. For instance, one of the listings enumerated in this section, proposed waste No. F023, covers discarded unused pesticide formulations containing certain chemical compounds previously listed as

commercial chemical products under 40 C.F.R. § 261.33.^{40/} As discussed supra, discarded soil and debris contaminated by such listed commercial chemical products are explicitly encompassed by EPA's hazardous waste listings.

Demonstrably, the derived-from and mixture rules do not encompass contaminated media, and EPA's "contained-in" principle lacks any legal support.

V. THE PRINCIPLES ENUNCIATED IN EPA'S AUGUST 8 RULE HAVE ALREADY COMBINED TO OBSTRUCT ENVIRONMENTALLY DESIRABLE ACTIVITY.

One Petitioner who was pumping contaminated groundwater pursuant to a state cleanup order has already been forced to cease this environmentally desirable activity. The Petitioner had been treating groundwater in a special pretreatment system and then in its plant's process wastewater secondary biological treatment system, which discharges to surface waters in full compliance with the Clean Water Act.

The low-level groundwater contamination at this site resulted in part from pre-RCRA landfilling of a waste subsequently listed as hazardous waste K015. EPA's position under the August 8 rule is that this groundwater is K015. This waste may lawfully be treated in the plant's process wastewater

^{40/} See 48 Fed. Reg. 14514, 14524 (Apr. 4, 1983). The proposed F023 listing was finalized as hazardous waste listing F027. See 40 C.F.R. § 261.31; 50 Fed. Reg. 1978, 2000 (Jan. 14, 1985).

treatment system, but that system generates a sludge, which under EPA's logic would also be K015. The sludge does not exhibit any of the characteristics of hazardous waste, as determined by empirical tests, and the Petitioner had not previously understood it to be a hazardous waste.

The August 8 rule sets a treatment standard of "no land disposal" for nonwastewater K015 and, thus, makes management of this sludge impossible. Commercial waste management facilities will not accept the sludge even knowing of this Court's stay.^{41/} Even if the groundwater or its resultant sludge were incinerated (assuming adequate capacity existed), any ash or other residue would also carry the K015 waste code and would be prohibited from land disposal. To ensure that it will have a lawful option for treating and disposing of sludge from its process wastewater and to continue its manufacturing operations, this Petitioner has had to cease its effort to clean up contaminated groundwater.^{42/}

^{41/} If the Court lifts its stay, any leachate (or leachate treatment residue) from landfilling this sludge during pendency of the stay would be tainted by the derivative K015 listing code.

^{42/} In some cases, even discontinuing remedial efforts may not forestall the inequitable results of EPA's newly-announced regulatory principles. For example, before August 8 and pursuant to an enforceable state agreement, one member of one of the Petitioners treated a small amount of groundwater affected by a pre-RCRA landfill in its nonhazardous wastewater

[Footnote continued on following page]

VI. THE AUGUST 8 RULE, WHICH ESTABLISHED NEW REGULATORY PRINCIPLES, VIOLATES THE NOTICE AND COMMENT REQUIREMENTS OF THE ADMINISTRATIVE PROCEDURE ACT.

- A. The Regulatory Principles Announced in the August 8 Rule Are Substantive Rules for Which EPA Must Provide Adequate Notice and Opportunity for Comment.

The Administrative Procedure Act ("APA") requires notice and opportunity for comment on "substantive" or

42/ [Footnote continued]

treatment system. The surface impoundments within this treatment system no longer receive the groundwater in question. However, under the August 8 rule, the groundwater formerly treated in those impoundments could constitute a hazardous waste.

EPA might seek civil or even criminal penalties against this company on the grounds that, prior to August 8, it treated hazardous groundwater in the surface impoundments without a permit. Moreover, the Agency could claim that the company is currently continuing to manage hazardous wastes in the impoundments, under the theory that (1) the units are "storing" sludges derived from the past treatment of hazardous groundwater, or (2) the units are treating wastewaters that are hazardous by virtue of being mixed with groundwater from operations before August 8. Finally, because the impoundments no longer receive the small quantities of "hazardous" groundwater (or any other hazardous waste), they might have to be closed immediately under 40 C.F.R. § 265.113. Closure of the impoundments would jeopardize the continued operation of the entire facility, which uses the impoundments to treat nonhazardous wastewaters from manufacturing operations.

Petitioners believe that such application of EPA's regulatory principles, particularly in the context of a criminal enforcement action, would violate the constitutional prohibition against ex post facto laws. U.S. Const. art. I, § 9, cl. 3; see generally United States v. Affleck, 765 F.2d 944, 949 (10th Cir. 1985) (discussing criminal laws) and One Lot Emerald Cut Stones & One Ring v. United States, 409 U.S. 232 (1972) (discussing civil laws). EPA may nonetheless disagree with this position, and seek to impose such fundamentally unfair results.

"legislative" rules. 5 U.S.C. § 553; Community Nutrition Inst. v. Young, 818 F.2d 943, 946 (D.C. Cir. 1987). In violation of this requirement, EPA failed to provide adequate notice of, and opportunity for comment on, the new regulatory principles asserted in the August 8 rule.

"Substantive" or "legislative" rules have "a present-day binding effect;" these rules "impose . . . rights and obligations upon affected parties, and curtail agency discretion."^{43/} Petitioners have demonstrated that EPA's three principles impose immediate and substantial new obligations.^{44/} The plain language in EPA's rulemaking reveals that these principles were intended to have a binding effect and that the Agency did not intend to retain discretion to deviate from them.^{45/} See American Bus Ass'n v. United States, 627 F.2d 525, 529 (D.C. Cir. 1980). EPA's decisions at issue here are clearly substantive rules.

^{43/} Id. at 946. This Court has variously characterized substantive or legislative rules as those that "narrowly limit administrative discretion" (Guardian Federal Savings & Loan Institution v. FSLIC, 589 F.2d 658, 666-67 (D.C. Cir. 1978)); "conclusively dispos[e] of certain issues" (McLouth Steel Products Corp. v. Thomas, 838 F.2d 1317, 1321 (D.C. Cir. 1988)); or contain "mandatory, definitive language" (Community Nutrition, 818 F.2d at 947).

^{44/} Petitioners do not suggest that the Court adopt the "substantial impact test" for determining whether a rule is "substantive." See, e.g., American Bancorp., Inc. v. Board of Governors, 509 F.2d 29, 33 (8th Cir. 1974). Petitioners merely point out the nature of the binding obligations imposed by the rule in question.

^{45/} See, e.g., infra note 48.

B. EPA Failed to Provide Adequate Notice and Opportunity to Comment on These Regulatory Principles.

In this rulemaking, EPA decided upon a final action that dramatically expands the obligations of the regulated community under Subtitle C of RCRA without providing notice sufficient to allow an opportunity for meaningful public comment. These principles, which result in the classification of new materials as listed hazardous wastes, were enunciated in preambles to a narrow rulemaking establishing BDAT standards under the land ban program for 37 listed hazardous wastes.^{46/} As this Court recently instructed in McLouth Steel Products Corp. v. Thomas, 838 F.2d 1317, 1322-23 (D.C. Cir. 1988), notice of generic regulatory principles of vast consequence provided in a preamble to a narrowly focused rulemaking is not adequate under the APA.^{47/}

^{46/} Persons who generate wastes not in the first-third might not carefully study the preamble of this rule. Such persons could nonetheless be greatly affected by the Agency's decisions of general applicability classifying certain materials as particular listed wastes.

^{47/} In McLouth Steel, EPA's decision to base action on a delisting petition on an analytical model was found to be a substantive rule. EPA's announcement, within the preamble of a rule delisting six specific wastes, of its intent to use this model in all delisting cases "would not have alerted a reader to the stakes" involved and thus was not adequate. *Id.* at 1323. If anything, the notice in EPA's August 8 rule was even more deficient than that in McLouth. In the latter case, the Agency described the analytical model and specifically invited comments on it. In this rulemaking, EPA provided no indication that it would entertain comment on the three new regulatory principles and the significant issues they present.

The notice and opportunity for comment required by the APA must also be provided "before that action is embedded in a final rule," thereby allowing "the agency to benefit from the parties' suggestions." Council of Southern Mountains, Inc. v. Donovan, 653 F.2d 573, 580 (D.C. Cir. 1981). The purpose of this requirement is "to see to it that the agency maintains a flexible and open-minded attitude toward its own rules." National Tour Brokers Ass'n v. United States, 591 F.2d 896, 902 (D.C. Cir. 1978).

In its April 8 and May 17 proposals, EPA made clear that it was not interested in considering comment on these principles. EPA stated, for example, that the retroactive application of hazardous waste listings represents a "long-standing interpretation" and that there could not be "any argument that a residue from managing a listed waste is not considered to be the listed waste." 53 Fed. Reg. at 17586.^{48/} The Agency's mind obviously was made up. EPA did not solicit comments on its positions and, as in McLouth Steel,

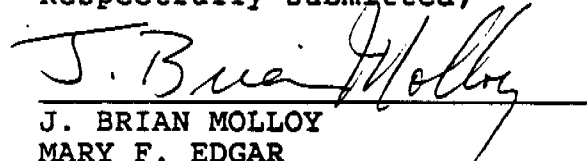
^{48/} EPA also stated that if contaminated soil or leachate is derived from managing a listed waste, "the mixture is still deemed to be the listed waste. . . . The prohibition for the particular listed waste consequently applies to this type of waste." 53 Fed. Reg. at 17586 (emphasis supplied). In a like vein, EPA stated that "residues (leachate, for example) that derive from treatment, storage, or disposal of wastes that were disposed before the effective date of the listing are nevertheless subject to the derived-from rule . . . hazardous waste listings are retroactive--that is, once a particular material is identified as a hazardous waste, all of that material, whenever disposed, is a listed hazardous waste . . . residues derived-from treating, storing, or disposing . . . of these wastes are also hazardous by virtue of the derived-from rule." Id. (emphasis added).

was "simply unready to hear new argument" on these issues. 838 F.2d at 1321. Thus, EPA has approached these new principles as foregone conclusions, thereby cutting off Petitioners' rights under the APA. Under these circumstances, the proper remedy is remand to the Agency for proceedings consistent with the APA.

CONCLUSION

For the foregoing reasons, this Court should declare unlawful and set aside the August 8 rule to the extent that it: (1) applies the treatment standards developed therein to leachates, leachate treatment residues and anything contaminated by leachate; (2) establishes that derived-from hazardous wastes are the listed wastes from which they derive; (3) establishes that hazardous waste listings and the derived-from rule have retroactive effect; and (4) establishes that environmental media contaminated by any concentration of listed hazardous wastes are themselves listed hazardous wastes.

Respectfully submitted,



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October 27, 1988



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Honorable Sam Nunn
Committee on Armed Services
United States Senate
Washington, D.C. 20510

OFFICE OF
SOLID WASTE AND EMERGENCY

Dear Senator Nunn:

Thank you for your April 15, 1988, letter expressing the concerns of the wood preserving industry.

Your letter suggests that the industry may not understand the Environmental Protection Agency's (EPA) designation of groundwater or soil that is contaminated with hazardous waste. EPA does not designate groundwater or soil as hazardous waste. Rather, groundwater (or soil) that is contaminated with a hazardous waste must be managed as if it were a hazardous waste until it is decontaminated. The underlying principle is that, when soil or groundwater contains hazardous waste, it must be managed safely until the hazardous waste is removed. In this situation, EPA is regulating the hazardous waste present in the soil or groundwater, as required by the Resource Conservation and Recovery Act (RCRA). In addition, EPA is required to regulate soil and groundwater directly if they become solid wastes and exhibit the characteristics of hazardous wastes (see 40 CFR Sections 260.20-260.24).

We are currently considering and developing methods and techniques that would allow us to more accurately assess the threats from contaminated soil and groundwater. Until these methods and techniques are fully developed and validated, and until we develop regulations for the separate treatment of contaminated soil and groundwater, we are required to subject these wastes to the existing regulations.

The most important point is that the regulations apply only when hazardous waste is actually contaminating soil or groundwater, or when soil and groundwater become wastes themselves and exhibit characteristics of hazardous wastes. Soil, groundwater, or other material contaminated by hazardous constituents from materials that are not hazardous waste (i. . . solid wastes or products that are not listed and do not exhibit a characteristic) generated through a cleanup must be evaluated (40 CFR section 262.11) against the RCRA characteristics as would any other solid waste. If the removed materials do not exhibit any of those characteristics, they need not be managed under the EPA hazardous waste rules.

ATTACHMENT A

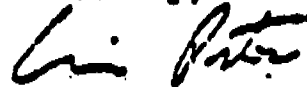
CMA 053554

The second issue relates to constraints the wood preserving industry believes EPA has placed on biodegradation as a viable technology for conducting voluntary cleanups. The Hazardous and Solid Waste Amendments of 1984 (HSWA) prohibit the land disposal of untreated hazardous wastes and require EPA to set pretreatment standards for all listed and characteristic wastes (Sections 3004(d)-(g)), which must be met before the wastes can be disposed of in or on land. We have viewed that prohibition as prospective--that is, generators and disposers need not exhume and treat previously disposed of wastes. However, HSWA does specifically refer to wastes from RCRA and CERCLA activities, requiring them to meet the treatment standards after certain dates. Thus, the prohibitions apply to previously disposed of wastes that are managed after the effective dates of the regulation. The legislative history indicates that the treatment standards must be based on the Best Demonstrated Available Technology (BDAT). We have been setting treatment standards for the most part as concentrations that are based on the performance of the BDAT.

The net result is that bioremediation is not prohibited, except in a few (albeit important) instances. It can be used on previously disposed of wastes, so long as they are not removed from the disposal unit and subsequently managed and disposed of again. Thus, bioremediation of wastes disposed of before the effective date of the land disposal ban that only involved tilling and aeration, plus addition of microorganisms and nutrients, would normally not trigger the land disposal prohibitions. Biological treatment can also be carried out in tanks, and the residuals of such treatment can be disposed of in or on land, so long as the residuals meet the relevant treatment standards. However, the statute does prohibit disposing of wastes that do not meet the treatment standards on land for the purposes of bioremediation. This practice, long used by the wood preserving and petroleum refining industries, is known as land treatment or land farming, and is specifically defined as land disposal by the statute (3004(x)).

We do not believe that these requirements constitute unnecessary roadblocks to voluntary cleanup. Rather, they are required by existing law and regulations. As you may know, members of my staff met with representatives of the wood preserving industry in April, in both Portland and Atlanta, to discuss issues of general concern to the industry. We will be glad to meet with the industry to clarify these issues. To arrange a meeting, please contact Ed Abrams at (202) 475-8551.

Sincerely,



CMA 053555

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ADDENDUM

STATUTES AND REGULATIONS

CMA 053558

ADDENDUM
CONSTITUTIONS, STATUTES AND REGULATIONS

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**Section 9, Clause 3. Bills of Attainder and Ex Post Facto
Laws**

No Bill of Attainder or ex post facto Law shall be passed.

Section 11. Ex post facto laws. No ex post facto law, nor law impairing the obligation of contracts, or retrospective in its operation, or making any irrevocable grant of special privileges, franchises or immunities, shall be passed by the general assembly.

§ 13. Ex post facto laws—impairment of contracts—irrevocable privileges

Section 13. That no ex post facto law, nor law impairing the obligation of contracts, or retrospective in its operation, or making any irrevocable grant of special privileges or immunities, can be enacted.

CONSTITUTION OF NEW HAMPSHIRE Pt. 1, Art. 23

[Art.] 23d. [Retrospective Laws Prohibited.] Retrospective laws are highly injurious, oppressive, and unjust. No such laws, therefore, should be made, either for the decision of civil causes, or the punishment of offenses.

Art. I, § 20

CONSTITUTION OF TENNESSEE

Sec. 20. No retrospective laws. — That no retrospective law, or law impairing the obligations of contracts, shall be made.

§ 16. Bills of attainder; ex post facto or retroactive laws; impairing obligation of contracts

Sec. 16. No bill of attainder, ex post facto law, retroactive law, or any law impairing the obligation of contracts, shall be made.

§ 553. Rule making

(a) This section applies, according to the provisions thereof, except to the extent that there is involved—

(1) a military or foreign affairs function of the United States; or

(2) a matter relating to agency management or personnel or to public property, loans, grants, benefits, or contracts.

(b) General notice of proposed rule making shall be published in the Federal Register, unless persons subject thereto are named and either personally served or otherwise have actual notice thereof in accordance with law. The notice shall include—

(1) a statement of the time, place, and nature of public rule making proceedings;

(2) reference to the legal authority under which the rule is proposed; and

(3) either the terms or substance of the proposed rule or a description of the subjects and issues involved.

Except when notice or hearing is required by statute, this subsection does not apply—

5 § 553

THE AGENCIES GENERALLY

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(A) to interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice; or

(B) when the agency for good cause finds (and incorporates the finding and a brief statement of reasons therefor in the rules issued) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.

(c) After notice required by this section, the agency shall give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments with or without opportunity for oral presentation. After consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose. When rules are required by statute to be made on the record after opportunity for an agency hearing, sections 556 and 557 of this title apply instead of this subsection.

(d) The required publication or service of a substantive rule shall be made not less than 30 days before its effective date, except—

(1) a substantive rule which grants or recognizes an exemption or relieves a restriction;

(2) interpretative rules and statements of policy; or

(3) as otherwise provided by the agency for good cause found and published with the rule.

(e) Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.

Pub.L. 89-554, Sept. 6, 1966, 80 Stat. 383.

§ 706. Scope of review

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall—

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;

(D) without observance of procedure required by law;

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

Pub.L. 89-554, Sept. 6, 1966, 80 Stat. 393.

(5) The term "hazardous waste" means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may—

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

(B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

(27) The term "solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 1342 of Title 33, or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923) [42 U.S.C.A. § 2011 et seq.].

SUBCHAPTER III—HAZARDOUS WASTE MANAGEMENT

§ 6921. Identification and listing of hazardous waste

[See main volume for text of (a)]

(b) Identification and listing

(1) Not later than eighteen months after October 21, 1976, and after notice and opportunity for public hearing, the Administrator shall promulgate regulations identifying the characteristics of hazardous waste, and listing particular hazardous wastes (within the meaning of section 6903(5) of this title), which shall be subject to the provisions of this subchapter. Such regulations shall be based on the criteria promulgated under subsection (a) of this section and shall be revised from time to time thereafter as may be appropriate. The Administrator, in cooperation with the Agency for Toxic Substances and Disease Registry and the National Toxicology Program, shall also identify or list those hazardous wastes which shall be subject to the provisions of this subchapter solely because of the presence in such wastes of certain constituents (such as identified carcinogens, mutagens, or teratogens) at levels in excess of levels which endanger human health.

[See main volume for text of (2) and (3); (c)]

(d) Small quantity generator waste

(1) By March 31, 1986, the Administrator shall promulgate standards under sections 6922, 6923, and 6924 of this title for hazardous waste generated by a generator in a total quantity of hazardous waste greater than one hundred kilograms but less than one thousand kilograms during a calendar month.

(2) The standards referred to in paragraph (1), including standards applicable to the legitimate use, reuse, recycling, and reclamation of such wastes, may vary from the standards applicable to hazardous waste generated by larger quantity generators, but such standards shall be sufficient to protect human health and the environment.

(3) Not later than two hundred and seventy days after November 8, 1984, any hazardous waste which is part of a total quantity generated by a generator generating greater than one hundred kilograms but less than one thousand kilo-

grams during one calendar month and which is shipped off the premises on which such waste is generated shall be accompanied by a copy of the Environmental Protection Agency Uniform Hazardous Waste Manifest form signed by the generator. This form shall contain the following information:

(A) the name and address of the generator of the waste;

(B) the United States Department of Transportation description of the waste, including the proper shipping name, hazard class, and identification number (UN/NA), if applicable;

(C) the number and type of containers;

(D) the quantity of waste being transported; and

(E) the name and address of the facility designated to receive the waste.

If subparagraph (B) is not applicable, in lieu of the description referred to in such subparagraph (B), the form shall contain the Environmental Protection Agency identification number, or a generic description of the waste, or a description of the waste by hazardous waste characteristic. Additional requirements related to the manifest form shall apply only if determined necessary by the Administrator to protect human health and the environment.

(4) The Administrator's responsibility under this subchapter to protect human health and the environment may require the promulgation of standards under this subchapter for hazardous wastes which are generated by any generator who does not generate more than one hundred kilograms of hazardous waste in a calendar month.

(5) Until the effective date of standards required to be promulgated under paragraph (1), any hazardous waste identified or listed under section 6921 of this title generated by any generator during any calendar month in a total quantity greater than one hundred kilograms but less than one thousand kilograms, which is not treated, stored, or disposed of at a hazardous waste treatment, storage or disposal facility with a permit under section 6925 of this title, shall be disposed of only in a facility which is permitted, licensed, or registered by a State to manage municipal or industrial solid waste.

(6) Standards promulgated as provided in paragraph (1) shall, at a minimum require that all treatment, storage, or disposal of hazardous wastes generated by generators referred to in paragraph (1) shall occur at a facility with interim status or a permit under this subchapter, except that onsite storage of hazardous waste generated by a generator generating a total quantity of hazardous waste greater than one hundred kilograms, but less than one thousand kilograms during a calendar month, may occur without the requirement of a permit for up to one hundred and eighty days. Such onsite storage may occur without the requirement of a permit for not more than six thousand kilograms for up to two hundred and seventy days if such generator must ship or haul such waste over two hundred miles.

(7)(A) Nothing in this subsection shall be construed to affect or impair the validity of regulations promulgated by the Secretary of Transportation pursuant to the Hazardous Materials Transportation Act [49 U.S.C.A. § 1401 et seq.].

(B) Nothing in this subsection shall be construed to affect, modify, or render invalid any requirements in regulations promulgated prior to January 1, 1983 applicable to any acutely hazardous waste identified or listed under section 6921 of this title which is generated by any generator during any calendar month in a total quantity less than one thousand kilograms.

(8) Effective March 31, 1986, unless the Administrator promulgates standards as provided in paragraph (1) of this subsection prior to such date, hazardous waste generated by any generator in a total quantity greater than one hundred kilograms but less than one thousand kilograms during a calendar month shall be subject to the following requirements until the standards referred to in paragraph (1) of this subsection have become effective:

(A) the notice requirements of paragraph (3) of this subsection shall apply and in addition, the information provided in the form shall include the name of the waste transporters and the name and address of the facility designated to receive the waste;

(B) except in the case of the onsite storage referred to in paragraph (ii) of this subsection, the treatment, storage, or disposal of such waste shall occur at a facility with interim status or a permit under this subchapter;

(C) generators of such waste shall file manifest exception reports as required of generators producing greater amounts of hazardous waste per month except that such reports shall be filed by January 31, for any waste shipment occurring in the last half of the preceding calendar year, and by July 31, for any waste shipment occurring in the first half of the calendar year; and

(D) generators of such waste shall retain for three years a copy of the manifest signed by the designated facility that has received the waste.

Nothing in this paragraph shall be construed as a determination of the standards appropriate under paragraph (1).

(9) The last sentence of section 6930(b) of this title shall not apply to regulations promulgated under this subsection.

(e) Specified wastes

(1) Not later than 6 months after November 8, 1984, the Administrator shall, where appropriate, list under subsection (b)(1) of this section, additional wastes containing chlorinated dioxins or chlorinated-dibenzofurans. Not later than one year after November 8, 1984, the Administrator shall, where appropriate, list under subsection (b)(1) of this section wastes containing remaining halogenated dioxins and halogenated-dibenzofurans.

(2) Not later than fifteen months after November 8, 1984, the Administrator shall make a determination of whether or not to list under subsection (b)(1) of this section the following wastes: Chlorinated Aliphatics, Dioxin, Dimethyl Hydrazine, TDI (toluene diisocyanate), Carbamates, Bromacil, Linuron, Organo-bromines, solvents, refining wastes, chlorinated aromatics, dyes and pigments, inorganic chemical industry wastes, lithium batteries, coke byproducts, paint production wastes, and coal slurry pipeline effluent.

(f) Delisting procedures

(1) When evaluating a petition to exclude a waste generated at a particular facility from listing under this section, the Administrator shall consider factors (including additional constituents) other than those for which the waste was listed if the Administrator has a reasonable basis to believe that such additional factors could cause the waste to be a hazardous waste. The Administrator shall provide notice and opportunity for comment on these additional factors before granting or denying such petition.

(2)(A) To the maximum extent practicable the Administrator shall publish in the Federal Register a proposal to grant or deny a petition referred to in paragraph (1) within twelve months after receiving a complete application to exclude a waste generated at a particular facility from being regulated as a hazardous waste and shall grant or deny such a petition within twenty-four months after receiving a complete application.

(B) The temporary granting of such a petition prior to November 8, 1984, without the opportunity for public comment and the full consideration of such comments shall not continue for more than twenty-four months after November 8, 1984. If a final decision to grant or deny such a petition has not been promulgated after notice and opportunity for public comment within the time limit prescribed by the preceding sentence, any such temporary granting of such petition shall cease to be in effect.

(g) EP toxicity

Not later than twenty-eight months after November 8, 1984, the Administrator shall examine the deficiencies of the extraction procedure toxicity characteristic as a predictor of the leaching potential of wastes and make changes in the extraction procedure toxicity characteristic, including changes in the leaching media, as are necessary to insure that it accurately predicts the leaching potential of wastes which pose a threat to human health and the environment when mismanaged.

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(h) Additional characteristics

Not later than two years after November 8, 1984 the Administrator shall promulgate regulations under this section identifying additional characteristics of hazardous waste, including measures or indicators of toxicity.

(i) Clarification of household waste exclusion

A resource recovery facility recovering energy from the mass burning of municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subchapter, if—

(1) such facility—

(A) receives and burns only—

(i) household waste (from single and multiple dwellings, hotels, motels, and other residential sources), and

(ii) solid waste from commercial or industrial sources that does not contain hazardous waste identified or listed under this section, and

(B) does not accept hazardous wastes identified or listed under this section, and

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

(As amended Pub.L. 98-616, Title II, §§ 221(a), 222, 223(a), Nov. 8, 1984, 98 Stat. 3248, 3251, 3252.)

Unconstitutionality of Legislative Veto Provisions

The provisions of section 1254(c)(2) of Title 8, Aliens and Nationality, which authorize a House of Congress, by resolution, to invalidate an action of the Executive Branch, were declared unconstitutional in Immigration and Naturalization Service v. Chadha, 1983, 103 S.Ct. 2764. See similar provisions in this section.

Reformers in Text. The Hazardous Materials Transportation Act referred to in subsec. (d)(7), is Pub.L. 93-633, title I, Jan. 3, 1975, 88 Stat. 2156, as amended, which is classified principally to chapter 27 (§ 1801 et seq.) of the appendix to Title 49, Transportation. For complete classification of this Act to the Code, see Short Title note set out under section 1801 of Title 49 appendix and Tables.

1984 Amendment. Subsec. (b)(1). Pub.L. 98-616, § 222(b), added "The Administrator, in cooperation with the Agency for Toxic Substances and Disease Registry and the National Toxicology Program, shall also identify or list those hazardous wastes which shall be subject to the provisions of this subchapter solely because of the presence in such wastes of certain constituents (such as identified carcinogens, mutagens, or teratogens) at levels in excess of levels which endanger human health."

Subsec. (d). Pub.L. 98-616, § 221(a), added subsec. (d).

Subsecs. (e) to (h). Pub.L. 98-616, § 222(a), added subsecs. (e), (f), (g) and (h).

Subsec. (i). Pub.L. 98-616, § 223(a), added subsec. (i).

Regulation Under the Solid Waste Disposal Act. Pub.L. 99-499, Title I, § 124(b), Oct. 17, 1986, 100 Stat. 1689, provided: "Unless the Administrator of the Environmental Protection Agency promulgates regulations under subtitle C of the Solid Waste Disposal Act [42 USCA § 6901 et seq.] addressing the extraction of wastes from landfills as part of the process of recovering

methane from such landfills, the owner and operator of equipment used to recover methane from a landfill shall not be deemed to be managing, generating, transporting, treating, storing, or disposing of hazardous or liquid wastes within the meaning of that subtitle. If the aqueous or hydrocarbon phase of the condensate or any other waste material removed from the gas recovered from the landfill meets any of the characteristics identified under section 3001 of subtitle C of the Solid Waste Disposal Act [42 USCA § 6921], the preceding sentence shall not apply and such condensate phase or other waste material shall be deemed a hazardous waste under that subtitle, and shall be regulated accordingly."

Small quantity generator waste; Administrator of Environmental Protection Agency; information and education; waste generators. Section 221(b) of Pub.L. 98-616 provided that: "The Administrator of the Environmental Protection Agency shall undertake activities to inform and educate the waste generators of their responsibilities under the amendments made by this section [enacting subsec. (d) of this section] during the period within thirty months after the enactment of the Hazardous and Solid Waste Amendments of 1984 [Nov. 8, 1984] to help assure compliance."

Administrative burdens; small quantity generators; retention of current system; report; Congress; Administrator of Environmental Protection Administration; Secretary of Transportation. Section 221(e) of Pub.L. 98-616 provided that: "The Administrator of the Environmental Protection Agency, in conjunction with the Secretary of

§ 6921. Identification and listing of hazardous waste

(a) Criteria for identification or listing

Not later than eighteen months after October 21, 1976, the Administrator shall, after notice and opportunity for public hearing, and after consultation with appropriate Federal and State agencies, develop and promulgate criteria for identifying the characteristics of hazardous waste, and for listing hazardous waste, which should be subject to the provisions of this subchapter, taking into account toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics. Such criteria shall be revised from time to time as may be appropriate.

(b) Identification and listing

(1) Not later than eighteen months after October 21, 1976, and after notice and opportunity for public hearing, the Administrator shall promulgate regulations identifying the characteristics of hazardous waste, and listing particular hazardous wastes (within the meaning of section 6903(5) of this title), which shall be subject to the provisions of this subchapter. Such regulations shall be based on the criteria promulgated under subsection (a) of this section and shall be revised from time to time thereafter as may be appropriate.

(2)(A) Notwithstanding the provisions of paragraph (1) of this subsection, drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy shall be subject only to existing State or Federal regulatory programs in lieu of this subchapter until at least 24 months after October 21, 1980, and after promulgation of the regulations in accordance with subparagraphs (B) and (C) of this paragraph. It is the sense of the Congress that such State or Federal programs should include, for waste disposal sites which are to be closed, provisions requiring at least the following:

(i) The identification through surveying, platting, or other measures, together with recordation of such information on the public record, so as to assure that the location where such wastes are disposed of can be located in the future; except however, that no such surveying, platting, or other measure identifying the location of a disposal site for drilling fluids and associated wastes shall be required if the distance from the

disposal site to the surveyed or platted location to the associated well is less than two hundred lineal feet; and

(ii) A chemical and physical analysis of a produced water and a composition of a drilling fluid suspected to contain a hazardous material, with such information to be acquired prior to closure and to be placed on the public record.

(B) Not later than six months after completion and submission of the study required by section 6982(m) of this title, the Administrator shall, after public hearings and opportunity for comment, determine either to promulgate regulations under this subchapter for drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy or that such regulations are unwarranted. The Administrator shall publish his decision in the Federal Register accompanied by an explanation and justification of the reasons for it. In making the decision under this paragraph, the Administrator shall utilize the information developed or accumulated pursuant to the study required under section 6982(m) of this title.

(C) The Administrator shall transmit his decision, along with any regulations, if necessary, to both Houses of Congress. Such regulations shall take effect only when authorized by Act of Congress.

(3)(A) Notwithstanding the provisions of paragraph (1) of this subsection, each waste listed below shall, except as provided in subparagraph (B) of this paragraph, be subject only to regulation under other applicable provisions of Federal or State law in lieu of this subchapter until at least six months after the date of submission of the applicable study required to be conducted under subsection (f), (n), (o), or (p) of section 6982 of this title and after promulgation of regulations in accordance with subparagraph (C) of this paragraph:

(i) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.

(ii) Solid waste from the extraction, beneficiation, and processing of ores and minerals, including phosphate rock and overburden from the mining of uranium ore.

(iii) Cement kiln dust waste.

(B)(i) Owners and operators of disposal sites for wastes listed in subparagraph (A) may be required by the Administrator, through regulations prescribed under authority of section 6912 of this title—

(I) as to disposal sites for such wastes which are to be closed, to identify the locations of such sites through surveying, platting, or other measures, together with recordation of such information on the public record, to assure that the locations where such wastes are disposed of are known and can be located in the future, and

(II) to provide chemical and physical analysis and composition of such wastes, based on available information, to be placed on the public record.

(ii)(I) In conducting any study under subsection (f), (n), (o), or (p), of section 6982 of this title, any officer, employee, or authorized representative of the Environmental Protection Agency, duly designated by the Administrator, is authorized, at reasonable times and as reasonably necessary for the purposes of such study, to enter any establishment where any waste subject to such study is generated, stored, treated, disposed of, or transported from; to inspect, take samples, and conduct monitoring and testing; and to have access to and copy records relating to such waste. Each such inspection shall be commenced and completed with reasonable promptness. If the officer, employee, or authorized representative obtains any samples prior to leaving the premises, he shall give to the owner, operator, or agent in charge a receipt describing the sample obtained and if requested a portion of each such sample equal in volume or weight to the portion retained. If any analysis is made of such samples, or monitoring and testing performed, a copy of the results shall be furnished promptly to the owner, operator, or agent in charge.

(II) Any records, reports, or information obtained from any person under subclause (I) shall be available to the public, except that upon a showing satisfactory to the Administrator by any person that records, reports, or information, or particular part thereof, to which the Administrator has access under this subparagraph if made public, would divulge information entitled to protection under section 1905 of Title 18, the Administrator shall consider such information or particular portion thereof confidential in accordance with the purposes of that section, except that such record, report, document, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out this chapter. Any person not subject to the provisions of section 1905 of Title 18 who knowingly and willfully divulges or discloses any information entitled to protection under this subparagraph shall, upon conviction, be subject to a fine of not more than \$5,000 or to imprisonment not to exceed one year, or both.

(iii) The Administrator may prescribe regulations, under the authority of this chapter, to prevent radiation exposure which presents an unreasonable risk to human health from the use in construction or land reclamation (with or without revegetation) of (I) solid waste from the extraction, beneficiation, and processing of phosphate rock or (II) overburden from the mining of uranium ore.

(iv) Whenever on the basis of any information the Administrator determines that any person is in violation of any requirement of this subparagraph, the Administrator shall give notice to the violator of his failure to comply with such requirement. If such violation extends beyond the thirtieth day after the Administrator's notification, the Administrator may issue an order requiring compliance within a specified time period or the Administrator may commence a civil action in the United States district court in the district in which the violation occurred for appropriate relief, including a temporary or permanent injunction.

(C) Not later than six months after the date of submission of the applicable study required to be conducted under subsection (f), (n), (o), or (p), of

section 6982 of this title, the Administrator shall, after public hearings and opportunity for comment, either determine to promulgate regulations under this subchapter for each waste listed in subparagraph (A) of this paragraph or determine that such regulations are unwarranted. The Administrator shall publish his determination, which shall be based on information developed or accumulated pursuant to such study, public hearings, and comment, in the Federal Register accompanied by an explanation and justification of the reasons for it.

(c) *Petition by State Governor*

At any time after the date eighteen months after October 21, 1976, the Governor of any State may petition the Administrator to identify or list a material as a hazardous waste. The Administrator shall act upon such petition within ninety days following his receipt thereof and shall notify the Governor of such action. If the Administrator denies such petition because of financial considerations, in providing such notice to the Governor he shall include a statement concerning such considerations.

(Pub.L. 89-272, Title II, § 3001, as added Pub.L. 94-580, § 2, Oct. 21, 1976, 90 Stat. 2806 and amended Pub.L. 96-482, § 7, Oct. 21, 1980, 94 Stat. 2336.)

Historical Note

1980 Amendment. Subsec. (b). Pub.L. 96-482 designated existing provisions as par. (1) and added pars. (2) and (3).

Transfer of Functions. For transfer of certain enforcement functions of Administrator or other official of the Environmental Protection Agency under this chapter to Federal Inspector, Office of Federal Inspector for the

Alaska Natural Gas Transportation System, see Transfer of Functions note set out under section 6903 of this title.

Legislative History. For legislative history and purpose of Pub.L. 94-580, see 1976 U.S. Code Cong. and Adm. News, p. 6238. See, also, Pub.L. 96-482, 1980 U.S. Code Cong. and Adm. News, p. 5019.

Cross References

Hazardous waste as having the characteristics identified in this section subject to taxation, see section 4682 of Title 26, Internal Revenue Code.

West's Federal Forms

Actions by United States or officers thereof, see §§ 1069 to 1072.

Jurisdiction and venue in district courts, matters pertaining to, see § 1000 et seq.

Preliminary injunctions and temporary restraining orders, matters pertaining to, see § 5271 et seq.

Sentence and fine, see § 7531 et seq.

Code of Federal Regulations

Hazardous waste, identification and listing of, see 40 CFR 261.1 et seq.

Hazardous waste management, generally, see 40 CFR 260.1 et seq.

Standards, see 40 CFR 262.10 et seq.

Notes of Decisions

Leachate 1

Sewage sludge 2

1. Leachate

A "hazardous waste" does not lose that description because it is mixed with some oth-

er waste or is found in leachate, but, rather, leachate from hazardous waste is important target of this section and thus regulatory definition of "discarded" waste, in turn including materials "disposed of," points directly to contaminated leachate. *O'Leary v. Moyer's Landfill, Inc.*, D.C.Pa.1981, 523 F.Supp. 642.

(d) Prohibitions on land disposal of specified wastes

(1) Effective 32 months after November 8, 1984 (except as provided in subsection (f) of this section with respect to underground injection into deep injection wells), the land disposal of the hazardous wastes referred to in paragraph (2) is prohibited unless the Administrator determines the prohibition on one or more methods of land disposal of such waste is not required in order to protect human health and the environment for as long as the waste remains hazardous, taking into account—

(A) the long-term uncertainties associated with land disposal,

(B) the goal of managing hazardous waste in an appropriate manner in the first instance, and

(C) the persistence, toxicity, mobility, and propensity to bioaccumulate of such hazardous wastes and their hazardous constituents.

For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment for a hazardous waste referred to in paragraph (2) (other than a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m) of this section), unless, upon application by an interested person, it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

(2) Paragraph (1) applies to the following hazardous wastes listed or identified under section 6921 of this title:

(A) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing free cyanides at concentrations greater than or equal to 1,000 mg/l.

(B) Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing the following metals (or elements) or compounds of these metals (or elements) at concentrations greater than or equal to those specified below:

- (i) arsenic and/or compounds (as As) 500 mg/l;
- (ii) cadmium and/or compounds (as Cd) 100 mg/l;
- (iii) chromium (VI) and/or compounds (as Cr VI) 500 mg/l;
- (iv) lead and/or compounds (as Pb) 500 mg/l;
- (v) mercury and/or compounds (as Hg) 20 mg/l;
- (vi) nickel and/or compounds (as Ni) 134 mg/l;
- (vii) selenium and/or compounds (as Se) 100 mg/l; and
- (viii) thallium and/or compounds (as Th) 130 mg/l.

(C) Liquid hazardous waste having a pH less than or equal to two (2.0).

(D) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 50 ppm.

(E) Hazardous wastes containing halogenated organic compounds in total concentration greater than or equal to 1,000 mg/kg.

When necessary to protect human health and the environment, the Administrator shall substitute more stringent concentration levels than the levels specified in subparagraphs (A) through (E).

(3) During the period ending forty-eight months after November 8, 1984, this subsection shall not apply to any disposal of contaminated soil or debris resulting from a response action taken under section 9604 or 9606 of this title or a corrective action required under this subchapter.

(e) Solvents and dioxins

(1) Effective twenty-four months after November 8, 1984 (except as provided in subsection (f) of this section with respect to underground injection into deep injection wells), the land disposal of the hazardous wastes referred to in paragraph (2) is prohibited unless the Administrator determines the prohibition of one or more methods of land disposal of such waste is not required in order to protect human health and the environment for as long as the waste remains hazardous, taking into account the factors referred to in subparagraph (A) through (C) of subsection (d)(1) of this section. For the purposes of this paragraph, a method of land disposal may not be determined to be protective of human health and the environment for a hazardous waste referred to in paragraph (2) (other than a hazardous waste which has complied with the pretreatment regulations promulgated under subsection (m) of this section), unless upon application by an interested person it has been demonstrated to the Administrator, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous.

(2) The hazardous wastes to which the prohibition under paragraph (1) applies are as follows--

(A) dioxin-containing hazardous wastes numbered F020, F021, F022, and F023 (as referred to in the proposed rule published by the Administrator in the Federal Register for April 4, 1983), and

(B) those hazardous wastes numbered F001, F002, F003, F004, and F006 in regulations promulgated by the Administrator under section 3001 (40 C.F.R. 261.31 (July 1, 1983)), as those regulations are in effect on July 1, 1983.

(3) During the period ending forty-eight months after November 8, 1984, this subsection shall not apply to any disposal of contaminated soil or debris resulting from a response action taken under section 9604 or 9606 of this title or a corrective action required under this subchapter.

(g) Additional land disposal prohibition determinations

(1) Not later than twenty-four months after November 8, 1984, the Administrator shall submit a schedule to Congress for—

(A) reviewing all hazardous wastes listed (as of November 8, 1984) under section 6921 of this title other than those wastes which are referred to in subsection (d) or (e) of this section; and

(B) taking action under paragraph (5) of this subsection with respect to each such hazardous waste.

(2) The Administrator shall base the schedule on a ranking of such listed wastes considering their intrinsic hazard and their volume such that decisions regarding the land disposal of high volume hazardous wastes with high intrinsic hazard shall, to the maximum extent possible, be made by the date forty-five months after November 8, 1984. Decisions regarding low volume hazardous wastes with lower intrinsic hazard shall be made by the date sixty-six months after November 8, 1984.

(3) The preparation and submission of the schedule under this subsection shall not be subject to the Paperwork Reduction Act of 1980. No hearing on the record shall be required for purposes of preparation or submission of the schedule. The schedule shall not be subject to judicial review.

(4) The schedule under this subsection shall require that the Administrator shall promulgate regulations in accordance with paragraph (5) or make a determination under paragraph (5)—

(j) Storage of hazardous waste prohibited from land disposal

In the case of any hazardous waste which is prohibited from one or more methods of land disposal under this section (or under regulations promulgated by the Administrator under any provision of this section) the storage of such hazardous waste is prohibited unless such storage is solely for the purpose of the accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.

(m) Treatment standards for waste subject to land disposal prohibition

(1) Simultaneously with the promulgation of regulations under subsection (d), (e), (f), or (g) of this section prohibiting one or more methods of land disposal of a particular hazardous waste, and as appropriate thereafter, the Administrator shall, after notice and an opportunity for hearings and after consultation with appropriate Federal and State agencies, promulgate regulations specifying those levels or

methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized.

(2) If such hazardous waste has been treated to the level or by a method specified in regulations promulgated under this subsection, such waste or residue thereof shall not be subject to any prohibition promulgated under subsection (d), (e), (f), or (g) of this section and may be disposed of in a land disposal facility which meets the requirements of this subchapter. Any regulation promulgated under this subsection for a particular hazardous waste shall become effective on the same date as any applicable prohibition promulgated under subsection (d), (e), (f), or (g) of this section.

§ 6926. Authorized State hazardous waste programs

[See main volume for text of (a)]

(b) Authorization of State program

Any State which seeks to administer and enforce a hazardous waste program pursuant to this subchapter may develop and, after notice and opportunity for public hearing, submit to the Administrator an application, in such form as he shall require, for authorization of such program. Within ninety days following submission of an application under this subsection, the Administrator shall issue a notice as to whether or not he expects such program to be authorized, and within ninety days following such notice (and after opportunity for public hearing) he shall publish his findings as to whether or not the conditions listed in items (1), (2), and (3) below have been met. Such State is authorized to carry out such program in lieu of the Federal program under this subchapter in such State and to issue and enforce permits for the storage, treatment, or disposal of hazardous waste (and to enforce permits deemed to have been issued under section 6925(d)(1) of this title) unless, within ninety days following submission of the application the Administrator notifies such State that such program may not be authorized and, within ninety days following such notice and after opportunity for public hearing, he finds that (1) such State program is not equivalent to the Federal program under this subchapter, (2) such program is not consistent with the Federal or State programs applicable in other States, or (3) such program does not provide adequate enforcement of compliance with the requirements of this subchapter. In authorizing a State program, the Administrator may base his findings on the Federal program in effect one year prior to submission of a State's application or in effect on January 26, 1983, whichever is later.

§ 6930. Effective date

(a) Preliminary notification

Not later than ninety days after promulgation of regulations under section 6921 of this title identifying by its characteristics or listing any substance as hazardous waste subject to this subchapter, any person generating or transporting such substance or owning or operating a facility for treatment, storage, or disposal of such substance shall file with the Administrator (or with States having authorized hazardous waste permit programs under section 6926 of this title) a notification stating the location and general description of such activity and the identified or listed hazardous wastes handled by such person. Not later than fifteen months after November 8, 1984—

(1) the owner or operator of any facility which produces a fuel (A) from any hazardous waste identified or listed under section 6921 of this title, (B) from such hazardous waste identified or listed under section 6921 of this title and any other material, (C) from used oil, or (D) from used oil and any other material;

(2) the owner or operator of any facility (other than a single- or two-family residence) which burns for purposes of energy recovery any fuel produced as provided in paragraph (1) or any fuel which otherwise contains used oil or any hazardous waste identified or listed under section 6921 of this title; and

(3) any person who distributes or markets any fuel which is produced as provided in paragraph (1) or any fuel which otherwise contains used oil or any hazardous waste identified or listed under section 6921 of this title

shall file with the Administrator (and with the State in the case of a State with an authorized hazardous waste program) a notification stating the location and general description of the facility, together with a description of the identified or listed hazardous waste involved and, in the case of a facility referred to in paragraph (1) or (2), a description of the production or energy recovery activity carried out at the facility and such other information as the Administrator deems necessary. For purposes of the preceding sentence, the term "hazardous waste listed under section 6921 of this title" also includes any commercial chemical product which is listed under section 6921 of this title and which, in lieu of its original intended use, is (i) produced for use as (or as a component of) a fuel, (ii) distributed for use as a fuel, or (iii) burned as a fuel. Notification shall not be required under the second sentence of this subsection in the case of facilities (such as residential boilers) where the Administrator determines that such notification is not necessary in order for the Administrator to obtain sufficient information respecting current practices of facilities using hazardous waste for energy recovery. Nothing in this subsection shall be construed to affect or impair the provisions of section 6921(b)(3) of this title. Nothing in this subsection shall affect regulatory determinations under section 6935 of this title. In revising any regulation under section 6921 of this title identifying additional characteristics of hazardous waste or listing any additional substance as hazardous waste subject to this subchapter, the Administrator may require any person referred to in the preceding provisions to file with the Administrator (or with States having authorized hazardous waste permit programs under section 6926 of this title) the notification described in the preceding provisions. Not more than one such notification shall be required to be filed with respect to the same substance. No identified or listed hazardous waste subject to this subchapter may be transport-

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ed. treated, stored, or disposed of unless notification has been given as required under this subsection.

(b) Effective date of regulation

The regulations under this subchapter respecting requirements applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste (including requirements respecting permits for such treatment, storage, or disposal) shall take effect on the date six months after the date of promulgation thereof (or six months after the date of revision in the case of any regulation which is revised after the date required for promulgation thereof). At the time a regulation is promulgated, the Administrator may provide for a shorter period prior to the effective date, or an immediate effective date for:

- (1) a regulation with which the Administrator finds the regulated community does not need six months to come into compliance;
- (2) a regulation which responds to an emergency situation; or
- (3) other good cause found and published with the regulation.

(As amended Pub.L. 98-616, Title II, §§ 204(a), 234, Nov. 8, 1984, 98 Stat. 3235, 3258.)

1984 Amendment. Subsec. (a). Pub.L. 98-616, § 204(a)(1), added provisions relating to the burning and blending of hazardous wastes, after the first sentence.

Pub.L. 98-616, § 204(a)(2), substituted "the preceding provisions" for "the preceding sentence" wherever appearing.

Subsec. (b). Pub.L. 98-616, § 234, added provision that at the time a regulation is promulgated, the Administrator may provide for a shorter period prior to the effective date, or an immediate effective date for a regulation with which the Administrator finds the regulated community does not need six months to come into compliance, a regulation which responds to an emergency situation, or other good cause found and published with the regulation.

Legislative History. For legislative history and purpose of Pub.L. 98-616, see 1984 U.S. Code Cong. and Adm. News, p. 5576.

Cross References

Small quantity generator waste, effective date of regulations, inapplicability of provisions relating to, see section 6921(d)(9) of this title.

Notes of Decisions

Evidence 2

Hazardous waste permit regulations 3

Proceedings for failure to promulgate regulations

1

2. Evidence

In action brought against operator of industrial waste disposal business to enjoin alleged violations of state and federal law, evidence that wastes were hauled onto operator's premises several months before the effective date of notification under this section was admissible, because the testimony was relevant to the issue of whether operator maintained his hazardous treatment, storage or disposal facility in violation of state or federal law, there was no hearsay component to the testimony, and the testimony was not unduly prejudicial. *Environmental Defense Fund, Inc. v. Lamphier*, C.A. Va. 1983, 714 F.2d 331.

3. Hazardous waste permit regulations

Hauler of hazardous wastes, who stopped hauling the wastes before effective date of hazardous waste treatment, storage and disposal regulations promulgated under the Resource Conservation and Recovery Act of 1976, but who owned sites on which the hazardous wastes were stored, was bound by permit and notification provisions of the regulations. *Finkel v. Weavinghouse Elec. Corp.*, M.D. Pa. 1980, 640 F.Supp. 442.

§ 6976. Judicial review

(a) Review of final regulations and certain petitions

Any judicial review of final regulations promulgated pursuant to this chapter and the Administrator's denial of any petition for the promulgation, amendment, or repeal of any regulation under this chapter shall be in accordance with sections 701 through 706 of Title 5, except that—

(1) a petition for review of action of the Administrator in promulgating any regulation, or requirement under this chapter or denying any petition for the promulgation, amendment or repeal of any regulation under this chapter may be filed only in the United States Court of Appeals for the District of Columbia, and such petition shall be filed within ninety days from the date of such promulgation or denial, or after such date if such petition for review is based solely on grounds arising after such ninetieth day; action of the Administrator with respect to which review could have been obtained under this subsection shall not be subject to judicial review in civil or criminal proceedings for enforcement; and

(2) in any judicial proceeding brought under this section in which review is sought of a determination under this chapter required to be made on the record after notice and opportunity for hearing, if a party seeking review under this chapter applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that the information is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Administrator, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Administrator, and to be adduced upon the hearing in such manner and upon such terms and

conditions as the court may deem proper; the Administrator may modify his findings as to the facts, or make new findings, by reason of the additional evidence so taken, and he shall file with the court such modified or new findings and his recommendation, if any, for the modification or setting aside of his original order, with the return of such additional evidence.

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Subpart B—Definitions

§ 260.10 Definitions.

When used in Parts 260 through 268 and 268 of this chapter, the following terms have the meanings given below:

"Aboveground tank" means a device meeting the definition of "tank" in § 260.10 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

"Act" or "RCRA" means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. section 6901 et seq.

"Active life" of a facility means the period from the initial receipt of hazardous waste at the facility until the Regional Administrator receives certification of final closure.

"Active portion" means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of Part 261 of this chapter and which is not a closed portion. (See also "closed portion" and "inactive portion".)

"Administrator" means the Administrator of the Environmental Protection Agency, or his designee.

"Ancillary equipment" means any device including, but not limited to, such devices as piping, fittings,

flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site.

"Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

"Authorized representative" means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility.

"Boiler" means an enclosed device using controlled flame combustion and having the following characteristics:

(1)(i) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(ii) The unit's combustion chamber and primary energy recovery sections(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream), and fluidized bed combustion units; and

(iii) While in operation, the unit must maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(iv) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feed-water pumps); or

(2) The unit is one which the Regional Administrator has determined, on a case-by-case basis, to be a boiler, after considering the standards in § 260.32.

"Certification" means a statement of professional opinion based upon knowledge and belief.

"Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion".)

"Component" means either the tank or ancillary equipment of a tank system.

"Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

"Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

"Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

"Corrosion expert" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional

engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

"Designated facility" means a hazardous waste treatment, storage, or disposal facility which has received an EPA permit (or a facility with interim status) in accordance with the requirements of Parts 270 and 124 of this chapter, a permit from a State authorized in accordance with Part 271 of this chapter, or that is regulated under § 261.6(c)(2) or Subpart F of Part 266 of this chapter, and that has been designated on the manifest by the generator pursuant to § 262.20.

"Dike" means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

"Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

"Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

"Elementary neutralization unit" means a device which:

(1) Is used for neutralizing wastes which are hazardous wastes only because they exhibit the corrosivity characteristic defined in § 261.22 of this chapter, or are listed in Subpart D of Part 261 of this chapter only for this reason; and,

(2) Meets the definition of tank, container, transport vehicle, or vessel in § 260.10 of this chapter.

"EPA hazardous waste number" means the number assigned by EPA to each hazardous waste listed in Part

261. Subpart D. of this chapter and to each characteristic identified in Part 261. Subpart C. of this chapter.

"EPA identification number" means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

"EPA region" means the states and territories found in any one of the following ten regions:

Region I—Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island.

Region II—New York, New Jersey, Commonwealth of Puerto Rico, and the U.S. Virgin Islands.

Region III—Pennsylvania, Delaware, Maryland, West Virginia, Virginia, and the District of Columbia.

Region IV—Kentucky, Tennessee, North Carolina, Mississippi, Alabama, Georgia, South Carolina, and Florida.

Region V—Minnesota, Wisconsin, Illinois, Michigan, Indiana and Ohio.

Region VI—New Mexico, Oklahoma, Arkansas, Louisiana, and Texas.

Region VII—Nebraska, Kansas, Missouri, and Iowa.

Region VIII—Montana, Wyoming, North Dakota, South Dakota, Utah, and Colorado.

Region IX—California, Nevada, Arizona, Hawaii, Guam, American Samoa, Commonwealth of the Northern Mariana Islands.

Region X—Washington, Oregon, Idaho, and Alaska.

"Equivalent method" means any testing or analytical method approved by the Administrator under §§ 260.20 and 260.21.

"Existing hazardous waste management (HWM) facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(1) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction; and either

(2)(i) A continuous on-site, physical construction program has begun; or

(ii) The owner or operator has entered into contractual obligations—which cannot be cancelled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

"Existing portion" means that land surface area of an existing waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

"Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all Federal, State, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous on-site physical construction or installation program has begun, or (2) the owner or operator has entered into contractual obligations—which cannot be canceled or modified without substantial loss—for physical construction of the site or installation of the tank system to be completed within a reasonable time.

"Facility" means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

"Federal agency" means any department, agency, or other instrumentality of the Federal Government, any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

"Federal, State and local approvals or permits necessary to begin physical construction" means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations or ordinances.

"Final closure" means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under Parts 264 and 265 of this chapter are no longer conducted at the facility unless subject to the provisions in § 262.34.

"Food-chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

"Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

"Freeboard" means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

"Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in Part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.

"Ground water" means water below the land surface in a zone of saturation.

"Hazardous waste" means a hazardous waste as defined in § 261.3 of this chapter.

"Hazardous waste constituent" means a constituent that caused the Administrator to list the hazardous waste in Part 261, Subpart D, of this chapter, or a constituent listed in Table 1 of § 261.24 of this chapter.

"Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

"In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

"Inactive portion" means that portion of a facility which is not operated after the effective date of Part 261 of this chapter. (See also "active portion" and "closed portion".)

"Incinerator" means any enclosed device using controlled flame combustion that neither meets the criteria for

classification as a boiler nor is listed as an industrial furnace.

"Incompatible waste" means a hazardous waste which is unsuitable for:

(1) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

(See Part 265, Appendix V, of this chapter for examples.)

"Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

"Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy:

- (1) Cement kilns
- (2) Lime kilns
- (3) Aggregate kilns
- (4) Phosphate kilns
- (5) Coke ovens
- (6) Blast furnaces
- (7) Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters, and foundry furnaces)
- (8) Titanium dioxide chloride process oxidation reactors
- (9) Methane reforming furnaces
- (10) Pulp and liquor recovery furnaces
- (11) Combustion devices used in the recovery of sulfur values from spent sulfuric acid
- (12) Such other devices as the Administrator may, after notice and comment, add to this list on the basis of one or more of the following factors:

(i) The design and use of the device primarily to accomplish recovery of material products;

(ii) The use of the device to burn or reduce raw materials to make a material product;

(iii) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;

(iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;

(v) The use of the device in common industrial practice to produce a material product; and

(vi) Other factors, as appropriate.

"Inground tank" means a device meeting the definition of "tank" in § 260.10 whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

"Injection well" means a well into which fluids are injected. (See also "underground injection".)

"Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

"Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

"International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

"Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

"Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

"Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

"Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

"Leak-detection system" means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

"Liner" means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

"Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

"Manifest" means the shipping document EPA form 8700-22 and, if necessary, EPA form 8700-22A, originated and signed by the generator in accordance with the instructions included in the Appendix to Part 262.

"Manifest document number" means the U.S. EPA twelve digit identification number assigned to the generator plus a unique five digit document number assigned to the Manifest by the generator for recording and reporting purposes.

"Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that de-

posit and is then used for reclamation of a surface mine.

"Movement" means that hazardous waste transported to a facility in an individual vehicle.

"New hazardous waste management facility" or "new facility" means a facility which began operation, or for which construction commenced after October 21, 1976. (See also "Existing hazardous waste management facility".)

"New tank system" or "new tank component" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after July 14, 1986; except, however, for purposes of § 264.193(g)(2) and § 265.193(g)(2), a new tank system is one for which construction commences after July 14, 1986. (See also "existing tank system".)

"Onground tank" means a device meeting the definition of "tank" in § 260.10 and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

"On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

"Open burning" means the combustion of any material without the following characteristics:

(1) Control of combustion air to maintain adequate temperature for efficient combustion.

(2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of emission of the gaseous combustion products.

(See also "incineration" and "thermal treatment".)

"Operator" means the person responsible for the overall operation of a facility.

"Owner" means the person who owns a facility or part of a facility.

"Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of Parts 264 and 265 of this chapter at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

"Person" means an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

"Personnel" or "facility personnel" means all persons who work at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of Part 264 or 265 of this chapter.

"Pile" means any non-containerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage.

"Point source" means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by section 502(4) of the CWA). This definition includes sewers, pipes, or other conveyances only if they convey

wastewater to a POTW providing treatment.

"Regional Administrator" means the Regional Administrator for the EPA Region in which the facility is located, or his designee.

"Representative sample" means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

"Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

"Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

"Small Quantity Generator" means a generator who generates less than 1000 kg of hazardous waste in a calendar month.

"Solid waste" means a solid waste as defined in § 261.2 of this chapter.

"State" means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

"Sump" means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities.

"Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of

earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

"Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

"Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

"Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also "incinerator" and "open burning".)

"Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

"Transfer facility" means any transportation related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

"Transportation" means the movement of hazardous waste by air, rail, highway, or water.

"Transporter" means a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

"Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

"Underground injection" means the subsurface emplacement of fluids through a bored, drilled or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

"Underground tank" means a device meeting the definition of "tank" in § 260.10 whose entire surface area is totally below the surface of and covered by the ground.

"Unfit-for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

"Unsaturation zone" or "zone of aeration" means the zone between the land surface and the water table.

"United States" means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

"Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

"Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

"Wastewater treatment unit" means a device which:

(1) Is part of a wastewater treatment facility which is subject to regulation under either section 402 or 307(b) of the Clean Water Act; and

(2) Receives and treats or stores an influent wastewater which is a hazardous waste as defined in § 261.3 of this chapter, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in § 261.3 of this chapter, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in § 261.3 of this chapter; and

(3) Meets the definition of tank in § 260.10 of this chapter.

"Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

"Well" means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

"Well injection": (See "underground injection".)

"Zone of engineering control" means an area under the control of the owner/operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.

[45 FR 33073, May 19, 1980, as amended at 45 FR 72028, Oct. 30, 1980; 45 FR 76075, Nov. 17, 1980; 45 FR 76830, Nov. 19, 1980; 45 FR 86968, Dec. 31, 1980; 46 FR 2348, Jan. 9, 1981; 46 FR 27476, May 20, 1981; 47 FR 32349, July 26, 1982; 48 FR 2511, Jan. 16, 1983; 48 FR 14293, Apr. 1, 1983; 49 FR 10500, Mar. 20, 1984; 50 FR 661, Jan. 4, 1985; 51 FR 10174, Mar. 24, 1986; 51 FR 16443, May 2, 1986; 51 FR 25471, July 14, 1986; 51 FR 40636, Nov. 7, 1986]

§ 260.11 References.

(a) When used in Parts 260 through 265 of this chapter, the following publications are incorporated by reference:

"ASTM Standard Test Methods for Flash Point of Liquids by Setflash Closed Tester," ASTM Standard D-3278-78, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80. D-93-80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"Flammable and Combustible Liquids Code" (1977 or 1981), available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 (Second Edition, 1982 as amended by Update I (April, 1984), and Update II (April, 1985)). The second edition of SW-846 and Updates I and II are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600, as document no. PB 87-120-291. The cost is \$48.95 for paper and \$13.50 for microfiche.

(b) The references listed in paragraph (a) of this section are also available for inspection at the Office of the Federal Register, 1100 L Street, NW, Washington, DC 20408. These incorporations by reference were approved by the Director of the Federal Register. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the FEDERAL REGISTER.

[46 FR 35247, July 7, 1981, as amended at 50 FR 18374, Apr. 30, 1985; 52 FR 8073, Mar. 16, 1987]

Subpart C—Rulemaking Petitions

§ 260.20 General.

(a) Any person may petition the Administrator to modify or revoke any provision in Parts 260 through 265 and 268 of this chapter. This section sets forth general requirements which apply to all such petitions. Section 260.21 sets forth additional requirements for petitions to add a testing or analytical method to Part 261, 264 or 265. Section 260.22 sets forth additional requirements for petitions to exclude a waste at a particular facility from § 261.3 of this chapter or the lists of hazardous wastes in Subpart D of Part 261.

(b) Each petition must be submitted to the Administrator by certified mail and must include:

(1) The petitioner's name and address;

(2) A statement of the petitioner's interest in the proposed action;

(3) A description of the proposed action, including (where appropriate) suggested regulatory language; and

(4) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(c) The Administrator will make a tentative decision to grant or deny a petition and will publish notice of such tentative decision, either in the form of an advanced notice of proposed rulemaking, a proposed rule, or a tentative determination to deny the petition, in the **FEDERAL REGISTER** for written public comment.

(d) Upon the written request of any interested person, the Administrator may, at his discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Administrator may in any case decide on his own motion to hold an informal public hearing.

(e) After evaluating all public comments the Administrator will make a final decision by publishing in the **FEDERAL REGISTER** a regulatory amendment or a denial of the petition.

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986]

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particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste; and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of Subpart C of Part 261.

(b) The procedures in this section and § 260.20 may also be used to petition the Administrator for a regulatory amendment to exclude from § 261.3(a)(2)(ii) or (c), a waste which is described in those sections and is either a waste listed in Subpart D, contains a waste listed in Subpart D, or is derived from a waste listed in Subpart D. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by paragraph (a) of this section, except that where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, his demonstration may be made with respect to each constituent listed waste or the waste mixture as a whole. A waste which is so excluded may still be a hazardous waste by operation of Subpart C of Part 261.

(c) If the waste is listed with codes "I", "C", "R", or "E", in Subpart D,

(1) The petitioner must show that the waste does not exhibit the relevant characteristic for which the waste was listed as defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein. The petitioner also must show that the waste does not exhibit any of the other characteristics defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein;

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to be-

§ 260.22 Petitions to amend Part 261 to exclude a waste produced at a particular facility.

(a) Any person seeking to exclude a waste at a particular generating facility from the lists in Subpart D of Part 261 may petition for a regulatory amendment under this section and § 260.20. To be successful:

(1) The petitioner must demonstrate to the satisfaction of the Administrator that the waste produced by a par-

lieve that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of Subpart C of Part 261.

(d) If the waste is listed with code "T" in Subpart D,

(1) The petitioner must demonstrate that the waste:

(i) Does not contain the constituent or constituents (as defined in Appendix VII of Part 261) that caused the Administrator to list the waste, using the appropriate test methods prescribed in Appendix III; or

(ii) Although containing one or more of the hazardous constituents (as defined in Appendix VII of Part 261) that caused the Administrator to list the waste, does not meet the criterion of § 261.11(a)(3) when considering the factors used by the Administrator in § 261.11(a)(3) (i) through (xi) under which the waste was listed as hazardous; and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in § 261.21, § 261.22, § 261.23, and § 261.24 using any applicable methods prescribed therein;

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of Subpart C of Part 261.

(e) If the waste is listed with the code "H" in Subpart D,

(1) The petitioner must demonstrate that the waste does not meet the criterion of § 261.11(a)(2); and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that additional factors (including additional constituents) other than

those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in § 261.21, § 261.22, § 261.23, and § 261.24 using any applicable methods prescribed therein;

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of Subpart C of Part 261.

(f) [Reserved for listing radioactive wastes.]

(g) [Reserved for listed infectious wastes.]

(h) Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time sufficient to represent the variability or the uniformity of the waste.

(i) Each petition must include, in addition to the information required by § 260.20(b):

(1) The name and address of the laboratory facility performing the sampling or tests of the waste;

(2) The names and qualifications of the persons sampling and testing the waste;

(3) The dates of sampling and testing;

(4) The location of the generating facility;

(5) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(6) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(7) Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, where the demonstration is based on the factors in § 261.11(a)(3);

(8) A description of the methodologies and equipment used to obtain the representative samples;

(9) A description of the sample handling and preparation techniques, in-

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cluding techniques used for extraction, containerization and preservation of the samples;

(10) A description of the tests performed (including results);

(11) The names and model numbers of the instruments used in performing the tests; and

(12) The following statement signed by the generator of the waste or his authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(j) After receiving a petition for an exclusion, the Administrator may request any additional information which he may reasonably require to evaluate the petition.

(k) An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to waste from any other facility.

(l) The Administrator may exclude only part of the waste for which the demonstration is submitted where he has reason to believe that variability of the waste justifies a partial exclusion.

[45 FR 33073, May 19, 1980, as amended at 50 FR 28742, July 15, 1985]

EDITORIAL NOTE: For information on the availability of a guidance manual for petitions to delist hazardous wastes, see 50 FR 21607, May 28, 1985.

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in Subpart D and has not been excluded from this paragraph under §§ 260.20 and 260.22 of this chapter; however, the following mixtures of solid wastes and hazardous wastes listed in Subpart D are not hazardous wastes (except by application of paragraph (a)(2) (i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and:

(A) One or more of the following spent solvents listed in § 261.31—carbon tetrachloride, tetrachloroethylene, trichloroethylene—*Provided, That the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million; or*

(B) One or more of the following spent solvents listed in § 261.31—methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent

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chlorofluorocarbon solvents—provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 25 parts per million; or

(C) One of the following wastes listed in § 261.32—heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050); or

(D) A discarded commercial chemical product, or chemical intermediate listed in § 261.33, arising from *de minimis* losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "*de minimis*" losses include those from normal material handling operations (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in Subpart D, *Provided, That the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system, or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.*

(c) Unless and until it meets the criteria of paragraph (d):

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

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in Subpart C.

(2) In the case of a waste which is a listed waste under Subpart D, contains a waste listed under Subpart D or is derived from a waste listed in Subpart D, it also has been excluded from paragraph (c) under §§ 260.20 and 260.22 of this chapter.

[45 FR 33119, May 19, 1980, as amended at 46 FR 56588, Nov. 11, 1981; 50 FR 14219, Apr. 11, 1985; 50 FR 49202, Nov. 29, 1985; 52 FR 11821, Apr. 13, 1987]

**Subpart C—Characteristics of
Hazardous Waste**

§ 261.20 General.

(a) A solid waste, as defined in § 261.2, which is not excluded from regulation as a hazardous waste under § 261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subpart.

[Comment: § 262.11 of this chapter sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in this subpart.]

(b) A hazardous waste which is identified by a characteristic in this subpart, but is not listed as a hazardous

waste in Subpart D, is assigned the EPA Hazardous Waste Number set forth in the respective characteristic in this subpart. This number must be used in complying with the notification requirements of section 3010 of the Act and certain recordkeeping and reporting requirements under Parts 262 through 265, 268, and Part 270 of this chapter.

(c) For purposes of this subpart, the Administrator will consider a sample obtained using any of the applicable sampling methods specified in Appendix I to be a representative sample within the meaning of Part 260 of this chapter.

[Comment: Since the Appendix I sampling methods are not being formally adopted by the Administrator, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in §§ 260.20 and 260.21.]

[45 FR 33119, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 51 FR 40636, Nov. 7, 1986]

§ 261.21 Characteristic of ignitability.

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

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see § 260.11), or a Setflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see § 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in §§ 260.20 and 260.21.

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

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods de-

scribed in that regulation or equivalent test methods approved by the Administrator under §§ 260.20 and 260.21.

(4) It is an oxidizer as defined in 49 CFR 173.151.

(b) A solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number of D001.

[45 FR 33119, May 19, 1980, as amended at 48 FR 35247, July 7, 1983]

§ 261.22 Characteristic of corrosivity.

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

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21. The EPA test method for pH is specified as Method 5.2 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 260.11).

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 260.11) or an equivalent test method approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21.

(b) A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number of D002.

[45 FR 33119, May 19, 1980, as amended at 48 FR 35247, July 7, 1983]

§ 261.23 Characteristic of reactivity.

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

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

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

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

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

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

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

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

(b) A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number of D003.

§ 261.24 Characteristic of EP toxicity.

(a) A solid waste exhibits the characteristic of EP toxicity if, using the test methods described in Appendix II or equivalent methods approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21, the extract from a representative sample of the waste contains any of the contaminants listed in Table I at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of this section.

(b) A solid waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

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TABLE I—MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF EP TOXICITY

EPA hazardous waste number	Contaminant	Maximum concentration (milligrams per liter)
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium	5.0
D008	Lead	5.0
D009	Mercury	0.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano-naphthalene)	0.02
D013	Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.4
D014	Methoxychlor (1,1,1-Trichloro-2,2-bis [p-methoxyphenyl]ethane)	10.0
D015	Toxaphene (C ₁₂ H ₈ Cl ₆ , Technical chlorinated camphene, 67-69 percent chlorine)	0.5
D016	2,4-D, (2,4-Dichlorophenoxyacetic acid)	10.0
D017	2,4,5-TP Silver (2,4,5-Trichlorophenoxypropionic acid)	1.0

**Subpart D—Lists of Hazardous
Wastes**

§ 261.30 General

(a) A solid waste is a hazardous waste if it is listed in this subpart, unless it has been excluded from this list under §§ 260.20 and 260.22.

(b) The Administrator will indicate his basis for listing the classes or types of wastes listed in this Subpart by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
EP Toxic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix VII identifies the constituent which caused the Administrator to list the waste as an EP Toxic Waste (E) or Toxic Waste (T) in §§ 261.31 and 261.32.

(c) Each hazardous waste listed in this subpart is assigned an EPA Haz-

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ardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the Act and certain record-keeping and reporting requirements under Parts 262 through 265, 268, and Part 270 of this chapter.

(d) The following hazardous wastes listed in § 261.31 or § 261.32 are subject

to the exclusion limits for acutely hazardous wastes established in § 261.5: EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, and F027.

(45 FR 33119, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 2000, Jan. 14, 1985; 51 FR 40636, Nov. 7, 1986)

§ 261.31 Hazardous wastes from non-specific sources.

The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001.....	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002.....	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003.....	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T) (R)
F004.....	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005.....	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T) (R)
F006.....	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basin) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F019.....	Wastewater treatment sludges from the chemical conversion coating of aluminum.	(T)
F007.....	Spent cyanide plating bath solutions from electroplating operations.	(R, T)
F008.....	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R, T)
F009.....	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R, T)
F010.....	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R, T)

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Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F011.....	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012.....	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F024.....	Wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. (This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.32.)	(T)
F020.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F021.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F023.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F026.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027.....	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from purified 2,4,5-trichlorophenol as the sole component.)	(H)
F028.....	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.	(T)

*(I,T) should be used to specify mixtures containing ignitable and toxic constituents.

[46 FR 4617, Jan. 16, 1981, as amended at 46 FR 27477, May 20, 1981; 49 FR 5312, Feb. 10, 1984; 49 FR 37070, Sept. 21, 1984; 50 FR 665, Jan. 4, 1985; 50 FR 2000, Jan. 14, 1985; 50 FR 53319, Dec. 31, 1985; 51 FR 2702, Jan. 21, 1986; 51 FR 6541, Feb. 25, 1986]

§ 261.32 Hazardous wastes from specific sources.

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Wood preservatives: K001.....	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic pigments:		
K002.....	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003.....	Wastewater treatment sludge from the production of molybdate orange pigments.	(T)
K004.....	Wastewater treatment sludge from the production of zinc yellow pigments.	(T)
K006.....	Wastewater treatment sludge from the production of chrome green pigments.	(T)
K008.....	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007.....	Wastewater treatment sludge from the production of iron blue pigments.	(T)
K008.....	Oven residue from the production of chrome oxide green pigments.	(T)
Organic chemicals:		
K009.....	Distillation bottoms from the production of acetaldehyde from ethylene.	(T)
K010.....	Distillation side cuts from the production of acetaldehyde from ethylene.	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tails from the production of methylethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)
K083	Distillation bottoms from aniline production	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C, T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane	(T)
K034	Fiber solids from the filtration of hexachlorocyclopentadiene in the production of chlordane	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)

Industry and EPA hazardous waste No	Hazardous waste	Hazard code
K039	Filter cake from the filtration of diethyphosphorodithioic acid in the production of phosphate.	(T)
K040	Wastewater treatment sludge from the production of phosphate.	(T)
K041	Wastewater treatment sludge from the production of toxaphene.	(T)
K098	Untreated process wastewater from the production of toxaphene.	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D.	(T)
K099	Untreated wastewater from the production of 2,4-D.	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenedithiocarbamic acid and its salts.	(T)
K124	Reactor vent scrubber water from the production of ethylenedithiocarbamic acid and its salts.	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenedithiocarbamic acid and its salts.	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenedithiocarbamic acid and its salts.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(R)
K045	Spent carbon from the treatment of wastewater containing explosives.	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations.	(R)
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	(T)
K049	Slop oil emulsion solids from the petroleum refining industry.	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	(T)
K051	API separator sludge from the petroleum refining industry.	(T)
K052	Tank bottoms (lead) from the petroleum refining industry.	(T)
Iron and steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C, T)
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting.	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink formulation: K086		
	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations.	(T)
K087	Decanter tank tar sludge from coking operations.	(T)

[46 FR 4618, Jan. 16, 1981, as amended at 46 FR 27476-27477, May 20, 1981; 49 FR 37070, Sept. 21, 1984; 50 FR 42942, Oct. 23, 1985; 51 FR 5330, Feb. 13, 1986; 51 FR 19322, May 28, 1986; 51 FR 33612, Sept. 22, 1986; 51 FR 37729, Oct. 24, 1986]

§ 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in § 261.2(a)(2)(i), when they are mixed with waste oil or used

oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component

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of) a fuel, distributed for use as a fuel, or burned as a fuel.

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

(c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) of this section, unless the container is empty as defined in § 261.7(b)(3) of the chapter.

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

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other

debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either § 261.31 or § 261.32 or will be identified as a hazardous waste by the characteristics set forth in Subpart C of this part.]

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to be the small quantity exclusion defined in § 261.5(e).

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

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Pub. No. with the No.	Chemical abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	501-00-2	Acetamide, N-(aminothiomethyl)-
P057	640-10-7	Acetamide, 2-fluoro-
P050	62-74-8	Acetic acid, fluoro-, sodium salt
P066	10752-77-5	Acetic acid, N-[(methylcarbamoyloxy)thio-, methyl ester
P002	501-00-2	1-Acetyl-2-thiourea
P003	107-02-6	Acrolein
P070	116-00-3	Aldicarb
P004	300-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20850-73-6	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazol
P008	504-24-5	4-alpha-Aminopyridine
P009	131-74-6	Ammonium picrate (R)
P118	7803-55-6	Ammonium vanadate
P010	7778-39-4	Arsenic acid
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P030	692-42-2	Arsine, diethyl
P036	698-26-6	Arsinous dichloride, phenyl-
P054	151-50-4	Azidine
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P026	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-09-6	Benzenesethanamine, alpha,alpha-dimethyl-
P014	106-96-5	Benzenethiol
P001	51-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts
P026	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium dust
P016	542-86-1	Bis(chloromethyl) ether
P017	506-31-2	Bromoacetone
P018	357-67-3	Brucine
P021	502-01-8	Calcium cyanide
P022	75-15-0	Carbon bisulfide
P022	75-15-0	Carbon disulfide
P096	75-44-5	Carbonic dichloride
P023	107-20-0	Chloroacetaldehyde
P024	106-47-6	p-Chloroaniline
P029	544-82-3	Copper cyanide

P030	-	Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P036	696-28-8	Dichlorophenylarsine
P037	90-57-1	Dieldrin
P038	682-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropyl fluorophosphate (DFP)
P004	308-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)
P037	80-57-1	2,7,3,6-Dimethanonaphth[2,3b]oxirane, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6alpha,6beta,7beta,7aalpha)
P051	72-20-8	2,7,3,6-Dimethanonaphth[2,3b]oxirane, octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)
P044	60-51-5	Dimethoate
P045	38196-18-4	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino)carbonyl] oxime
P048	122-09-8	alpha, alpha-Dimethylphenethylamine
P047	534-52-1	4,6-Dinitro-o-cresol and salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Onoseb
P085	152-18-9	Diphosphoramide, octamethyl-
P039	298-04-4	Disulfoton
P049	541-53-7	2,4-Dithioburel
P050	116-28-7	Endosulfan
P086	145-73-3	Endothal
P051	72-20-8	Endrin
P042	51-43-4	Epinephrine
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethylbenzene
P087	52-85-7	Famphur
P058	7782-41-4	Fluorine
P057	840-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P065	828-88-4	Fulminic acid, mercury(2+) salt (R,T)
P058	78-44-8	Heptachlor
P062	757-58-4	Hexaethyltetraphosphate
P118	78-18-8	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P088	7803-51-2	Hydrogen phosphide
P084	624-83-8	Isocyanic acid, methyl ester
P080	485-73-8	Isodrin
P007	2783-86-4	3(2H)-isoxazolone, 5-(aminomethyl)-
P082	62-38-4	Mercury, (acetato-O)phenyl-
P065	828-88-4	Mercury fulminate (R,T)
P082	62-75-9	Methamine, N-methyl-N-nitroso-
P018	542-88-1	Methane, oxybis(chloro-

Haz- ardous waste No.	Chemical abstract No.	Substance
P112	508-14-8	Methane, tetrafluoro- (R)
P118	75-70-7	Methanethiol, isochloro-
P050	115-28-7	6,8-Methano-2,4,3-benzodioxathiepan, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,8,9a hexahydro-, 3-oxide
P058	78-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	18752-77-5	Methomyl
P067	75-55-8	2-Methylaziridine
P068	80-34-4	Methyl hydrazine
P064	824-83-9	Methyl isocyanate
P068	75-86-5	2-Methylacetonitrile
P071	298-00-0	Methyl parathion
P072	86-88-4	alpha-Naphthylthiourea
P073	13483-38-3	Nickel carbonyl
P073	13483-38-3	Nickel carbonyl, (T-4)-
P075	54-11-5	Nicotine and salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P078	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO ₂
P081	55-43-0	Nitroglycerine (R)
P082	82-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P074	557-18-7	Nickel cyanide
P085	152-16-8	Octamethylpyrophosphoramide
P087	20818-12-0	Osmium oxide
P087	20818-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P088	56-38-2	Parathion
P034	131-88-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	534-52-1	Phenol, 2-methyl-4,6-dinitro- and salts
P020	88-85-7	Phenol, 2-[1-methylpropyl]-4,6-dinitro
P008	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P082	82-38-4	Phenylmercury acetate
P083	103-85-5	Phenylthiourea
P084	298-02-2	Phorate
P085	75-44-5	Phosgene
P088	7803-51-2	Phosphene
P041	311-45-5	Phosphonic acid, diethyl 4-nitrophenyl ester
P038	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P084	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	80-51-5	Phosphorodithioic acid, O,O-dimethyl S[2-(methylamino)-2-oxoethyl] ester
P043	56-81-4	Phosphorofluoric acid, bis(1-methylethyl)- ester

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P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P099	508-81-8	Potassium silver cyanide
P070	118-06-3	Propenal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	107-12-0	Propenenitrile
P027	542-78-7	Propenenitrile, 3-chloro-
P089	75-86-8	Propenenitrile, 2-hydroxy-2-methyl-
P081	55-83-0	1,2,3-Propenetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-8	2-Propen-1-ol
P087	75-55-8	1,2-Propylenimine
P102	591-08-2	2-Propyn-1-ol
P008	504-24-5	Pyridinamine
P075	54-11-8	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
P111	107-49-3	Pyrophosphoric acid, tetraethyl ester
P103	830-10-4	Selenourea
P104	508-84-8	Silver cyanide
P105	26826-22-8	Sodium azide
P106	143-33-8	Sodium cyanide
P107	1314-86-1	Strontium sulfide
P108	57-24-8	Strychnidin-10-one, and salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	57-24-8	Strychnine and salts
P115	10031-59-1	Sulfuric acid, thallium(I) salt
P109	3889-24-8	Tetraethylthiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethylpyrophosphate
P112	508-14-8	Tetramethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-6	Thallic oxide
P113	1314-32-5	Thallium(III) oxide
P114	12039-52-0	Thallium(I) selenate
P115	10031-59-1	Thallium(I) sulfate
P109	3889-24-5	Thiodiphosphoric acid, tetraethyl ester
P046	38188-18-4	Thiofuran
P049	541-53-7	Thionododicarbonic diamide
P014	106-88-9	Thiophenol
P116	78-19-8	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P080	103-85-6	Thiourea, phenyl-
P123	8001-36-2	Tenaphene

Hazardous waste No.	Chemical abstracts No.	Substance
P116	75-70-7	Trichloromethanol
P119	7803-55-8	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium(V) oxide
P084	4548-40-0	Vinylamine, N-methyl-N-nitroso-
P001	81-81-2	Warfarin
P121	567-21-1	Zinc cyanide
P122	1314-64-7	Zinc phosphide (R,T)

¹ CAS Number given for parent compound only

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(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in § 261.5 (a) and (g).

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

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Haz- ardous waste No	Chemical abstract No	Substance
U001	75-07-0	Acetaldehyde (R)
U034	75-07-8	Acetaldehyde, trichloro-
U187	82-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl
U112	141-78-6	Acetic acid, ethyl ester (R)
U144	301-04-2	Acetic acid, lead salt
U214	583-88-8	Acetic acid, thallium (1+) salt
U232	83-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	87-84-1	Acetone (R)
U003	75-05-8	Acetonitrile (R,T)
U004	98-06-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	78-06-1	Acrylamide
U008	78-10-7	Acrylic acid (R)
U009	107-13-1	Acrylonitrile
U011	81-82-5	Anisole
U012	82-53-3	Aniline (R,T)
U014	482-90-8	Azaxene
U015	115-02-6	Azaxene
U010	50-07-7	Azino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 8-amino-8-[[[aminocarbonyloxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl- Benz[<i>j</i>]aceanthrylene, 1,2-dihydro-3-methyl-
U157	50-48-5	
U016	225-51-4	3,4-Benzoxadine
U017	98-87-3	Benzal chloride
U182	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-diethyl-2-propynyl)-
U018	58-55-3	Benz[a]anthracene
U094	57-87-6	Benz[a]anthracene, 7,12-dimethyl-
U012	82-53-3	Benzenamine (R,T)
U014	482-90-8	Benzenamine, 4,4'-carbonicdoylbis[N,N-dimethyl-
U048	3185-83-3	Benzenamine, 4-chloro-2-methyl-
U083	80-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	85-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-6	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene
U036	510-15-6	Benzenecetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenesulfonic acid, 4-[bis(2-chloroethyl)amino]-
U037	108-90-7	Benzene, chloro-
U221	25378-45-8	Benzenesulfonamide, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester

U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U068	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-48-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethyldene)bis[4-chloro-
U017	86-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diacetylanisomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (R,T)
U201	106-48-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U058	110-82-7	Benzene, hexahydro- (R)
U220	106-88-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U108	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-6	Benzene, (1-methylethyl)- (R)
U186	86-95-3	Benzene, nitro- (I,T)
U183	606-83-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-
U020	98-08-9	Benzenesulfonic acid chloride (C,R)
U020	98-08-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-28-3	Benzene, 1,1'-(2,2,2-trichloroethyldene)bis[4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethyldene)[4-methoxy-
U023	86-07-7	Benzene, (trichloromethyl) (C,R,T)
U234	90-35-4	Benzene, 1,2,5-trinitro- (R,T)
U021	82-87-5	Benzidine
U202	81-07-2	1,2-Benzothiazol-3-(2H)-one, 1,1-dioxide and salts
U203	84-58-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	84-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzol[1a]pentalene
U022	50-32-6	Benzol[a]pyrene
U187	106-51-4	p-Benzquinone
U023	98-07-7	Benzotrifluoride (C,R,T)
U085	1484-53-5	2,2'-Bisoxarene (R,T)
U021	82-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	81-84-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U081	119-80-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U085	119-83-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U027	29636-32-9	Bis[2-chloropropyl] ether
U024	111-91-1	Bis[2-chloromethoxy] ethane
U026	117-91-7	Bis[2-ethylhexyl] phthalate
U225	75-25-2	Bromoforn
U030	101-55-3	4-Bromophenyl phenyl ether
U129	97-68-3	1,3-Bisulfolene, 1,1,2,3,4,4-hexachloro-

Hazardous waste No.	Chemical abstract No.	Substance
U172	824-18-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (R)
U158	78-83-3	2-Butanone (R,T)
U186	1338-23-4	2-Butanone peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	784-41-0	2-Butene, 1,4-dichloro- (R,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[[2,3-dihydroxy-2-[(1-methoxyethyl)-3-methyl-1-oxobutonyl]methyl]-2,3,5,7a-tetrahydro-1-pyrrolo[2,1-f]pyridin-1-yl] ester, [(1S-[1alpha(2),7(2S,3R),7aalpha)]]-
U031	71-36-3	n-Butyl alcohol (R)
U138	75-60-5	Caecylic acid
U032	13765-18-0	Calcium chromate
U238	61-78-8	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U087	79-44-7	Carbamic chloride, dimethyl-
U114	111-54-8	Carbamodithioic acid, 1,2-ethanedithio-, salts and esters
U082	2303-18-4	Carbamothioic acid, bis[1-methylethyl]-S-(2,3-dichloro-2-propenyl) ester
U215	8533-73-8	Carbonic acid, diethanol(1+) salt
U033	353-50-4	Carbonic difluoride
U158	78-22-1	Carbonochloronic acid, methyl ester (R,T)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	58-23-5	Carbon tetrachloride
U034	75-87-8	Chloral
U035	305-03-3	Chlorambucil
U038	12788-03-8	Chlorodene
U028	484-03-1	Chloromaphazine
U037	108-90-7	Chlorobenzene
U038	58-50-7	p-Chloro-m-cresol
U041	108-88-8	1-Chloro-2,3-epoxypropene
U042	110-75-8	2-Chloroethyl vinyl ether
U044	87-68-3	Chloroform
U048	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	alpha-Chlorophenol
U049	3165-83-3	4-Chloro-o-tolidine, hydrochloride
U032	13765-18-0	Chromic acid, calcium salt
U050	218-01-9	Chrysene
U051	8021-38-4	Cresosols
U052	1319-77-3	Cresols (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	88-82-8	Cumene (R)
U248	506-88-3	Cyanogen bromide
U197	106-51-4	2,5-Cyclohexadiene-1, 4-diene
U058	110-82-7	Cyclohexane (R)

U057	108-94-1	Cyclohexanone (R)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	¹ 84-75-7	2,4-D, salts and esters
U059	20630-81-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-18-4	Delesta
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-8	Dibenz[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-8	1,2-Dichloroethylene
U025	111-44-1	Dichloroethyl ether
U061	120-83-2	2,4-Dichlorophenol
U082	97-85-0	2,6-Dichlorophenol
U240	¹ 84-75-7	2,4-Dichlorophenoxyacetic acid, salts and esters
U063	78-87-8	1,2-Dichloropropane
U064	542-75-8	1,3-Dichloropropane
U085	1464-53-5	1,2,3,4-Diisopropylbutane (I,T)
U106	123-91-1	1,4-Diethyleneoxide
U086	1615-80-1	N,N-Diethylhydrazine
U087	3266-58-2	O,O-Diethyl-S-methyl-dithiophosphate
U088	84-68-2	Diethyl phthalate
U089	56-53-1	Diethylstilbestrol
U090	84-56-8	Dihydrostilole
U081	119-80-4	3,3'-Dimethoxybenzidine
U082	124-40-3	Dimethylamine (R)
U083	60-11-7	Dimethylaminoazobenzene
U084	67-87-8	7,12-Dimethylbenz[a]anthracene
U085	119-83-7	3,3'-Dimethylbenzidine
U086	80-15-9	alpha, alpha-Dimethylbenzylhydroperoxide (R)
U087	78-44-7	Dimethylcarbamoyl chloride
U088	57-14-7	1,1-Dimethylhydrazine
U089	540-73-8	1,2-Dimethylhydrazine
U101	105-67-8	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	806-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate

Hazardous waste No	Chemical abstracts No	Substance
U106	123-91-1	1,4-Dioxane
U106	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-84-7	Di-n-propylnitrosamine
U001	75-07-0	Ethanal (I)
U174	65-18-5	Ethanamine, N-ethyl-N-nitroso-
U155	81-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-phenylmethyl)-
U067	106-83-4	Ethene, 1,2-dibromo-
U076	75-34-3	Ethene, 1,1-dichloro-
U077	107-06-2	Ethene, 1,2-dichloro-
U131	87-72-1	Ethene, hexachloro-
U024	111-81-1	Ethene, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	80-29-7	Ethene, 1,1'-oxybis- (I)
U025	111-44-4	Ethene, 1,1'-oxybis[2-chloro-
U184	78-01-7	Ethene, pentachloro-
U208	630-20-6	Ethene, 1,1,1,2-tetrachloro-
U209	78-34-5	Ethene, 1,1,2,2-tetrachloro-
U216	62-55-5	Ethanethioamide
U227	110-80-5	Ethanol, 2-ethoxy-
U359	78-00-5	Ethene, 1,1,2-trichloro-
U173	1118-54-7	Ethanol, 2,2'-(nitrosomino)bis-
U004	88-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethene, chloro-
U042	110-76-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	158-80-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro
U226	78-01-6	Ethene, trichloro
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	81-79-8	Ethyl carbamate
U038	510-15-8	Ethyl 4,4'-dichlorobenzate
U114	111-54-8	Ethylenebisdithiocarbamic acid, salts and esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U358	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I,T)
U118	88-45-7	Ethylene thiourea
U117	80-29-7	Ethyl ether (I)
U078	75-34-3	Ethylidene dichloride
U116	87-83-2	Ethyl methacrylate
U119	62-50-0	Ethylmethanesulfonate
U120	208-44-0	Fluoranthene

U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-0	Furan (R)
U125	98-01-1	2-Furancarboxaldehyde (R)
U147	106-31-6	2,5-Furandione
U213	106-80-9	Furan, tetrahydro- (R)
U125	98-01-1	Furfural (R)
U124	110-00-0	Furfural (R)
U206	18883-86-4	D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosouracil)-
U126	785-34-4	Glycidylaldehyde
U163	70-25-7	Guandine, N-methyl-N-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-88-3	Hexachlorobutadiene
U129	56-88-8	Hexachlorocyclohexane (gamma isomer)
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1858-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1815-80-1	Hydrazine, 1,2-diethyl-
U088	57-14-7	Hydrazine, 1,1-dimethyl-
U086	540-73-6	Hydrazine, 1,2-dimethyl-
U106	122-86-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U086	80-15-8	Hydroperoxide, 1-methyl-1-phenylethyl (R)
U136	75-80-5	Hydroxymethylarsine oxide
U116	86-45-7	2-Imidazolidinethione
U137	183-38-5	Indeno[1,2,3-cd]pyrene
U139	9004-86-4	Iron dextran
U180	85-44-9	1,3-Isobenzoxurandione
U140	78-83-1	Isobutyl alcohol (R,T)
U141	120-56-1	Isoeikrene
U142	143-60-0	Kapone
U143	303-34-4	Lamocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxy-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U128	56-88-8	Lindene
U147	106-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7438-97-6	Mercury
U162	126-98-7	Methacrylonitrile (R,T)
U082	124-40-3	Methanamine, N-methyl- (R)

Haz- ardous waste No.	Chemical abstract No	Substance
U029	74-83-6	Methane, bromo-
U045	74-87-8	Methane, chloro- (I,T)
U046	167-30-2	Methane, chloromethoxy-
U066	74-85-3	Methane, dibromo-
U080	75-08-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U116	82-50-0	Methanesulfonic acid, ethyl ester
U211	58-23-6	Methane, tetrachloro-
U153	74-83-1	Methanethiol (I,T)
U225	75-25-2	Methane, tribromo-
U044	67-86-3	Methane, trichloro-
U121	75-96-4	Methane, trichlorofluoro-
U123	84-16-8	Methanoic acid (C,T)
U154	67-56-1	Methanol (I)
U155	81-80-5	Methapyrene
U142	143-50-0	1,3,4-Methano-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-
U247	72-43-6	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-8	Methyl bromide
U188	504-80-9	1-Methylpulegone (I)
U045	74-87-3	Methyl chloride (I,T)
U156	78-22-1	Methylchlorocarbonate (I,T)
U226	71-55-6	Methylchloroform
U157	56-48-5	3-Methylcholanthrene
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-85-3	Methylene bromide
U080	75-08-2	Methylene chloride
U159	78-83-3	Methyl ethyl ketone (MEK) (I,T)
U180	1336-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U163	70-25-7	N-Methyl-N'-nitro-N-nitrosoguanidine
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiourea
U010	50-07-7	Mitomycin C
U068	20830-81-3	5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[[[3-amino-2,3,6-indeoxy]-alpha-L-lyxo-hexopyranosyloxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
U165	81-20-3	Naphthalene
U047	81-56-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-67-1	2,7-Naphthalenedisulfonic acid, 3,3'-[[[3,3-dimethyl-(1,1'-biphenyl)-4,4'-diyl]]bis(azo)]bis(5-amino-4-hydroxy)-, tetrasodium salt
U166	130-15-4	1,4-Naphthoquinone

U167	134-32-7	alpha-Naphthylamine
U168	81-59-8	beta-Naphthylamine
U026	484-03-1	2-Naphthylamine, N,N'-bis(2-chloromethyl)-
U167	134-32-7	1-Naphthylamine
U168	81-59-8	2-Naphthylamine
U217	10102-45-1	Nitric acid, dithionyl (+) salt
U168	88-96-3	Nitrobenzene (R,T)
U170	100-02-7	p-Nitrophenol
U171	78-46-9	2-Nitropropene (R,T)
U172	824-18-3	N-Nitrosodl-n-butylamine
U173	1118-54-7	N-Nitrosodiethanolamine
U174	55-18-8	N-Nitrosodimethylamine
U176	758-73-8	N-Nitroso-N-ethylurea
U177	684-83-5	N-Nitroso-N-methylurea
U178	815-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	830-55-2	N-Nitrosopyrrolidine
U181	98-55-8	5-Nitro-o-toluidine
U183	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	80-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxane (R,T)
U128	785-34-4	Oxanecarboxaldehyde
U041	108-68-8	Oxane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	78-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
U242	87-88-5	Pentachlorophenol
U186	504-60-8	1,3-Pentadene (R)
U187	82-44-2	Phenacetin
U188	108-95-2	Phenol
U048	85-57-8	Phenol, 2-chloro-
U038	58-50-7	Phenol, 4-chloro 3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-68-0	Phenol, 2,6-dichloro-
U088	58-53-1	Phenol, 4,4'-(1,2-dihydro-1,2-ethenediylbis-, (E)-
U181	105-67-8	Phenol, 2,4-dimethyl-
U052	1318-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U178	100-02-7	Phenol, 4-nitro-
U242	87-88-5	Phenol, pentachloro-
U212	58-90-2	Phenol, 2,3,4,6-tetrachloro-
U230	95-84-4	Phenol, 2,4,5-trichloro-
U231	88-08-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7448-27-7	Phosphoric acid, isad salt
U067	3288-58-2	Phosphorodithioic acid, O,O-dimethyl-, ester
U188	108-95-2	Phosphorous sulfide (R)

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Hazardous waste No	Chemical abstracts No	Substance
U180	85-44-6	Phthalic anhydride
U181	109-06-6	2-Picoline
U179	100-75-4	Pipendine, 1-nitroso-
U182	23960-58-5	Pronamide
U184	197-16-9	1-Propanamine (I,T)
U111	821-84-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U088	98-12-8	Propene, 1,2-dibromo-3-chloro-
U148	108-77-3	Propenenitrile
U171	78-46-8	Propene, 2-nitro- (I,T)
U027	30638-32-8	Propene, 2,2'-oxybis(2-chloro-
U183	1120-71-4	1,3-Propane sulfone
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3 I)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U002	87-84-1	2-Propanone (I)
U084	542-75-6	1-Propene, 1,3-dichloro-
U152	126-86-7	2-Propenenitrile, 2-methyl- (I,T)
U007	79-06-1	2-Propenamide
U243	1888-71-7	1-Propene, hexachloro-
U008	187-13-1	2-Propenenitrile
U006	78-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-83-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-86-2	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U233	93-72-1	Propionic acid, 2-(2,4,6-trichlorophenoxyl)-
U184	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U146	123-33-1	3,6-Pyridinedione, 1,2-dihydro-
U186	110-86-1	Pyridine
U181	109-08-8	Pyridine, 2-methyl-
U237	86-75-1	2,4(1H,3H)-Pyrimidinone, 5-[bis(2-chloroethyl)amino]-
U184	58-04-2	4-(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thio-
U180	930-55-2	Pyrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	81-07-2	Saccharin and salts
U203	84-58-7	Selrole
U204	7783-00-8	Selenous acid
U204	7783-00-8	Selenium dioxide
U205	7446-34-6	Selenium sulfide (I,T)
U015	115-02-6	L-Serine, diisopropylate (ester)
U233	83-72-1	Silver
U286	18883-86-4	Streptozotocin

U100	77-78-1	Sulfuric acid, dimethyl ester
U188	1314-80-3	Sulfur phosphide (R)
U232	93-78-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	830-20-8	1,1,1,2-Tetrachloroethane
U209	78-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
U212	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-8	Tetrahydrofuran (H)
U214	15843-14-8	Thallium(I) acetate
U215	8533-73-8	Thallium(I) carbonate
U216	7781-12-0	Thallium chloride
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U153	74-83-1	Thiomethanol (H,T)
U244	137-26-8	Thioperoxydicarbonic diamide, tetramethyl-
U219	62-58-8	Thiourea
U244	137-26-8	Thuram
U220	108-88-3	Toluene
U221	25378-45-8	Toluenediamine
U223	26471-42-5	Toluene diisocyanate (R,T)
U328	85-53-4	o-Toluidine
U353	108-49-0	p-Toluidine
U222	838-21-5	o-Toluidine hydrochloride
U011	81-82-5	1H-1,2,4-Triazol-3-amine
U226	71-55-8	1,1,1-Trichloroethane
U227	78-00-5	1,1,2-Trichloroethane
U228	79-01-8	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
U230	85-95-4	2,4,5-Trichlorophenol
U231	88-08-2	2,4,6-Trichlorophenol
U234	88-35-4	sym-Tribromobenzene (R,T)
U182	123-83-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	128-72-7	Tre (2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	88-75-1	Uracil mustard
U176	758-73-8	Urea, N-ethyl-N-nitroso-
U177	884-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	81-81-2	Warfarin, when present at concentrations of 0.3% or less
U238	1330-20-7	Xylene (H)
U200	50-55-5	Yohimben-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyloxy)-], methyl ester
U248	1314-84-7	Zinc phosphide, when present at concentrations of 10% or less

* CAS Number given for parent compound only

(Approved by the Office of Management and Budget under control number 2050-0047)

[45 FR 78529, 78541, Nov. 28, 1980, as amended at 46 FR 27477, May 20, 1981; 49 FR 19923, May 10, 1984; 50 FR 2000, Jan. 14, 1985; 50 FR 28744, July 15, 1985; 50 FR 42942, Oct. 23, 1985; 51 FR 6541, Feb. 25, 1986; 51 FR 10175, Mar. 24, 1986; 51 FR 28298, Aug. 6, 1986; 52 FR 21306, June 5, 1987; 52 FR 26012, July 10, 1987]

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§ 262.11 Hazardous waste determination.

A person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:

(a) He should first determine if the waste is excluded from regulation under 40 CFR 261.4.

(b) He must then determine if the waste is listed as a hazardous waste in Subpart D of 40 CFR Part 261.

NOTE: Even if the waste is listed, the generator still has an opportunity under 40 CFR 260.22 to demonstrate to the Administrator that the waste from his particular facility or operation is not a hazardous waste.

(c) If the waste is not listed as a hazardous waste in Subpart D of 40 CFR Part 261, he must determine whether the waste is identified in Subpart C of 40 CFR Part 261 by either:

(1) Testing the waste according to the methods set forth in Subpart C of 40 CFR Part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or

(2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(d) If the waste is determined to be hazardous, the generator must refer to Parts 264, 265, 268 of this chapter for possible exclusions or restrictions pertaining to management of his specific waste.

[45 FR 33142, May 19, 1980, as amended at 45 FR 76624, Nov. 19, 1980; 51 FR 40637, Nov. 7, 1986]

§ 264.100 Corrective action program.

An owner or operator required to establish a corrective action program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must take corrective action to ensure that regulated units are in compliance with the ground-water protection standard under § 264.92. The Regional Administrator will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under § 264.93;

(2) Concentration limits under § 264.94 for each of those hazardous constituents;

(3) The compliance point under § 264.95; and

(4) The compliance period under § 264.98.

(b) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(c) The owner or operator must begin corrective action within a reasonable time period after the ground-water protection standard is exceeded. The Regional Administrator will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of § 264.99(1)(2).

(d) In conjunction with a corrective action program, the owner or operator must establish and implement a ground-water monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under § 264.99 and must be as effective as that program in determining compliance with the ground-water protection standard under § 264.92 and in determining the success of a corrective action program under paragraph (e) of this section, where appropriate.

(e) In addition to the other requirements of this section, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under § 264.93 that exceed concentration limits under § 264.94 in ground water between the compliance point under § 264.95 and the downgradient facility property boundary. The permit will specify the measures to be taken.

(1) Corrective action measures under this paragraph must be initiated and completed within a reasonable period of time considering the extent of contamination.

(2) Corrective action measures under this paragraph may be terminated once the concentration of hazardous constituents under § 264.93 is reduced to levels below their respective concentration limits under § 264.94.

(f) The owner or operator must continue corrective action measures during the compliance period to the extent necessary to ensure that the ground-water protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he must continue that corrective action for as long as necessary to achieve compliance with the ground-water protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate, based on data from the ground-water monitoring program under paragraph (d) of this section, that the ground-water protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

(g) The owner or operator must report in writing to the Regional Administrator on the effectiveness of the corrective action program. The owner or operator must submit these reports semi-annually.

(h) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

(Approved by the Office of Management and Budget under control number 2050-0033)

[47 FR 32350, July 26, 1985, as amended at 50 FR 4514, Jan. 31, 1985]

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

§ 265.113 Closure: time allowed for closure.

(a) Within 90 days after receiving the final volume of hazardous wastes at a hazardous waste management unit or facility, or within 90 days after approval of the closure plan, whichever is later, the owner or operator must treat, remove from the unit or facility, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Regional Administrator may approve a longer period if the owner or operator demonstrates that:

(1)(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes at the hazardous waste management unit or facility, or 180 days after approval of the closure

plan, if that is later. The Regional Administrator may approve an extension to the closure period if the owner or operator demonstrates that:

(1) (i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii) (A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable interim status requirements.

(c) The demonstrations referred to in § 265.113(a) and (b) must be made as follows: (1) The demonstrations in paragraph (a) must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a); and (2) the demonstrations in paragraph (b) must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b).

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

(1) For wastes with treatment standards expressed as concentrations in the waste extract (§ 268.41), the owner or operator of the treatment facility must test the treatment residues, or an extract of such residues developed using the test method described in Appendix I of this part, to assure that the treatment residues or extract meet the applicable treatment standards.

(2) For wastes that are prohibited under § 268.32 of this part or RCRA section 3004(d) but not subject to any treatment standards under Subpart D of this part, the owner or operator of the treatment facility must test the treatment residues according to the generator testing requirements specified in § 268.32 to assure that the treatment residues comply with the applicable prohibitions.

(3) For wastes with treatment standards expressed as concentrations in the waste (§ 268.43), the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that the treatment residues meet the applicable treatment standards.

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

Subpart B—Schedule for Land Disposal Prohibition and Establishment of Treatment Standards

Source: 51 FR 19305, May 28, 1986, unless otherwise noted.

§ 268.10 Identification of wastes to be evaluated by August 8, 1988.

EPA will take action under sections 3004(g)(5) and 3004(m), of the Resource Conservation and Recovery Act, by August 8, 1988, for the follow-

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ing wastes (for ease of understanding the wastes have been listed by the section of 40 CFR Part 261 under which they were listed):

§ 261.31 Wastes

- F006—Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
- F007—Spent cyanide plating bath solutions from electroplating operations.
- F008—Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process.
- F009—Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
- F019—Wastewater treatment sludges from the chemical conversion coating of aluminum.

§ 261.32 Wastes

- K001—Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.
- K004—Wastewater treatment sludge from the production of zinc yellow pigments.
- K008—Over residue from the production of chrome oxide green pigments.
- K011—Bottom stream from the wastewater stripper in the production of acrylonitrile.
- K013—Bottom stream from the acetonitrile column in the production of acrylonitrile.
- K014—Bottoms from the acetonitrile purification column in the production of acrylonitrile.
- K015—Still bottoms from the distillation of benzyl chloride.
- K016—Heavy ends or distillation residues from the production of carbon tetrachloride.
- K017—Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.
- K018—Heavy ends from the fractionation column in ethyl chloride production.
- K020—Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.
- K021—Aqueous spent antimony catalyst waste from fluoromethanes production.
- K022—Distillation bottom tars from the production of phenol/acetone from cumane.

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- K024—Distillation bottoms from the production of phthalic anhydride from naphthalene.
- K030—Column bottom or heavy ends from the combined production of trichloroethylene and perchloroethylene.
- K031—By-products salts generated in the production of MSMA and cacodylic acid.
- K035—Wastewater treatment sludges generated in the production of creosote.
- K036—Still bottoms from toluene reclamation distillation in the production of disulfoton.
- K037—Wastewater treatment sludge from the production of disulfoton.
- K044—Wastewater treatment sludges from the manufacturing and processing of explosives.
- K045—Spent carbon from the treatment of wastewater containing explosives.
- K046—Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.
- K047—Pink/red water from TNT operations.
- K048—Dissolved air flotation (DAF) float from the petroleum refining industry.
- K049—Stop oil emulsion solids from the petroleum refining industry.
- K050—Heat exchange bundle cleaning sludge from the petroleum refining industry.
- K051—API separator sludge from the petroleum refining industry.
- K052—Tank bottoms (lead) from the petroleum refining industry.
- K060—Ammonia still lime sludge from coking operations.
- K061—Emission control dust/sludge from the primary production of steel in electric furnaces.
- K062—Spent pickle liquor from steel finishing operations in chlorine production.
- K069—Emission control dust/sludge from secondary lead smelting.
- K071—Brine purification muds from the mercury cells process in chlorine production, where separately prepurified brine is not used.
- K073—Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes.
- K083—Distillation bottoms from aniline production.
- K084—Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
- K085—Distillation of fractionation column bottoms from the production of chlorobenzenes.
- K086—Solvent washes and sludges; caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pig-

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ments, driers, soaps, and stabilizers containing chromium and lead.
 K087—Decanter tank tar sludge from coking operations.
 K099—Untreated wastewater from the production of 2,4-D.
 K101—Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
 K102—Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.
 K103—Process residues from aniline extraction from the production of aniline.
 K104—Combined wastewater streams generated from nitrobenzene/aniline production.
 K106—Waste water treatment sludge from the mercury cell process in chlorine production.

§ 261.33(e) Wastes

P001—Warfarin, when present at concentration greater than 0.3%
 P004—Aldrin
 P005—Allyl alcohol
 P010—Arsenic acid
 P011—Arsenic (V) oxide
 P012—Arsenic (III) oxide
 P015—Beryllium dust
 P016—Bis-(chloromethyl) ether
 P018—Brucine
 P020—Dinoseb
 P030—Soluble cyanide salts not elsewhere specified
 P036—Dichlorophenylarsine
 P037—Dieldrin
 P039—Disulfoton
 P041—Diethyl-p-nitrophenyl phosphate
 P048—2,4-Dinitrophenol
 P050—Endosulfan
 P058—Fluoroacetic acid, sodium salt
 P059—Heptachlor
 P063—Hydrogen cyanide
 P068—Methyl Hydrazine
 P069—Methylacetonitrile
 P070—Aldicarb
 P071—Methyl parathion
 P081—Nitroglycerine
 P082—N-Nitrosodimethylamine
 P084—N-Nitrosomethylvinylamine
 P087—Osmium tetroxide
 P089—Parathion
 P092—Phenylmercuric acetate
 P094—Phorate
 P097—Famphur
 P102—Propargyl alcohol
 P105—Sodium azide
 P108—Strychnine and salts
 P110—Tetraethyl lead
 P115—Thallium (I) sulfate
 P120—Vanadium pentoxide
 P122—Zinc phosphide, when present at concentrations greater than 10%

P123—Toxaphene

§ 261.33(f) Wastes

U007—Acrylamide
 U009—Acrylonitrile
 U010—Mitomycin C
 U012—Aniline
 U016—Benz(c)acridine
 U018—Benz(a)anthracene
 U019—Benzene
 U022—Benzo(a)pyrene
 U029—Methyl bromide
 U031—n-Butanol
 U036—Chlordane, technical
 U037—Chlorobenzene
 U041—n-Chloro-2,3-epoxypropane
 U043—Vinyl chloride
 U044—Chloroform
 U046—Chloromethyl methyl ether
 U050—Chrysene
 U051—Creosote
 U053—Crotonaldehyde
 U061—DDT
 U063—Dibenz o (a, h) anthracene
 U064—1,2,7,8 Dibenzo(p)pyrene
 U066—Dibromo-3-chloropropane 1,2-
 U067—Ethylene dibromide
 U074—1,4-Dichloro-2-butene
 U077—Ethane, 1,2-dichloro-
 U078—Dichloroethylene, 1,1-
 U086—N,N Diethylhydrazine
 U089—Diethylstilbestrol
 U103—Dimethyl sulfate
 U105—2,4-Dinitrotoluene
 U108—Dioxane, 1,4-
 U115—Ethylene oxide
 U122—Formaldehyde
 U124—Furan
 U129—Lindane
 U130—Hexachlorocyclopentadiene
 U133—Hydrazine
 U134—Hydrofluoric acid
 U137—Indeno(1,2,3-cd)pyrene
 U151—Mercury
 U154—Methanol
 U155—Methapyrene
 U157—3-Methylcholanthrene
 U158—4,4-Methylene-bis-(2-chloroaniline)
 U159—Methyl ethyl ketone
 U171—Nitropropane, 2-
 U177—N-Nitroso-N-methylurea
 U180—N-Nitrosopyrrolidine
 U185—Pentachloronitrobenzene
 U188—Phenol
 U192—Pronamide
 U200—Reserpine
 U209—Tetrachloroethane, 1,1,2,2-
 U210—Tetrachloroethylene
 U211—Carbon tetrachloride
 U219—Thiourea
 U220—Toluene
 U221—Toluenediamine
 U223—Toluene dithiocyanate
 U226—Methylchloroform
 U227—Trichloroethane, 1,1,2-
 U228—Trichloroethylene

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U237—Uracil mustard
 U238—Ethyl carbamate
 U248—Warfarin, when present at concentrations of 0.3% or less
 U249—Zinc phosphide, when present at concentrations of 10% or less

§ 268.11 Identification of wastes to be evaluated by June 8, 1989.

EPA will take action under sections 3004(g)(5) and 3004(m) of the Resource Conservation and Recovery Act, by June 8, 1989, for the following wastes (for ease of understanding the wastes have been listed by the section of 40 CFR Part 261 under which they were listed):

§ 261.31 Wastes

F010—Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process.
 F011—Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.
 F012—Quenching wastewater treatment sludges from metal heat operations where cyanides are used in the process.
 F024—Wastes including but not limited to, distillation residues, heavy ends, tars and reactor clean-out wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. (This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.32.).

§ 261.32 Wastes

K009—Distillation bottoms from the production of acetaldehyde from ethylene.
 K010—Distillation side cuts from the productions of acetaldehyde from ethylene.
 K019—Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.
 K025—Distillation bottoms from the production of nitrobenzene by the nitration of benzene.
 K027—Centrifuge and distillation residues from toluene diisocyanate production.
 K028—Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.
 K029—Waste from the product steam stripper in the production of 1,1,1-trichloroethane.
 K038—Wastewater from the washing and stripping of phorate production.
 K039—Filter cake from the filtration of diethylphosphoro-dithioic acid in the production of phorate.

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K040—Wastewater treatment sludge from the production of phorate.
 K041—Wastewater treatment sludge from the production of toxaphene.
 K042—Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.
 K043—2,6-Dichlorophenol waste from the production of 2,4-D.
 K095—Distillation bottoms from the production of 1,1,1-trichloroethane.
 K096—Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.
 K097—Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.
 K098—Untreated process wastewater from the production of toxaphene.
 K105—Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.

§ 261.33(e) Wastes

P002—1-Acetyl-2-thiourea
 P003—Acrolein
 P007—5-(Aminoethyl)-3-isoxazolol
 P008—4-Aminopyridine
 P014—Thiophenol
 P026—1-(o-Chlorophenyl)thiourea
 P027—Propanenitrile, 3-chloro
 P029—Copper cyanides
 P040—O,O-Diethyl o-pyrazinyl phosphorothioate
 P043—Diisopropyl fluorophosphate
 P044—Dimethoate
 P049—2,4-Dithiobiuret
 P054—Aziridine
 P057—Fluoracetamide
 P060—Isodrin
 P062—Hexaethyltetraphosphate
 P066—Methomyl
 P067—2-Methylaziridine
 P072—Alpha-naphthylthiourea (ANTU)
 P074—Nickel cyanide
 P085—Octamethylpyrophosphoramide
 P098—Potassium cyanide
 P104—Silver cyanide
 P106—Sodium cyanide
 P107—Strontium sulfide
 P111—Tetraethylpyrophosphate
 P112—Tetranitromethane
 P113—Thallic oxide
 P114—Thallium (I) selenite

§ 261.33(f) Wastes

U002—Acetone
 U003—Acetonitrile
 U005—o-Acetylamino fluorene
 U008—Acrylic acid
 U011—Amitrole
 U014—Auramine
 U015—Azaserine
 U020—Benzenesulfonyl chloride
 U021—Benzidine

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U023—Benzotrithloride
 U025—Dichloroethyl ether
 U026—Chloronaphazene
 U028—Bis-(2-ethylhexyl)phthalate
 U032—Calcium chromate
 U035—Chlorambucil
 U047—Beta-chloronaphthalene
 U049—4-Chloro-o-toluidine, hydrochloride
 U057—Cyclohexanone
 U058—Cyclophosphamide
 U059—Daunomycin
 U060—DDD
 U062—Diallate
 U070—o-Dichlorobenzene
 U073—Dichlorobenzidine, 3,3-
 U080—Methylene chloride
 U083—Dichloropropane, 1,2-
 U092—Dimethylamine
 U093—Dimethylaminoazobenzene
 U094—Dimethylbenz(a)anthracene, 7,12-
 U095—Dimethylbenzidine, 3,3'-
 U097—Dimethylcarbamoyl chloride
 U098—Dimethylhydrazine, 1,1-
 U099—Dimethylhydrazine, 1,2-
 U101—Dimethylphenol, 2,4-
 U106—Dinitrotoluene, 2,6-
 U107—Di-n-octyl phthalate
 U109—1,2-Diphenylhydrazine
 U110—Dipropylamine
 U111—Di-N-Propylnitrosamine
 U114—Ethylenebis-(dithiocarbamic acid)
 U116—Ethylene thiourea
 U119—Ethyl methanesulfonate
 U127—Hexachlorobenzene
 U128—Hexachlorobutadiene
 U131—Hexachloroethane
 U135—Hydrogen sulfide
 U138—Methyl iodide
 U140—Isobutyl alcohol
 U142—Kepone
 U143—Lasiocarpine
 U144—Lead acetate
 U146—Lead subacetate
 U147—Maleic anhydride
 U149—Malononitrile
 U150—Melphalan
 U161—Methyl isobutyl ketone
 U162—Methyl methacrylate
 U163—N-Methyl-N-nitro-N-nitrosoguanidine
 U164—Methylthiouracil
 U165—Naphthalene
 U168—Naphthylamine, 2-
 U169—Nitrobenzene
 U170—p-Nitrophenol
 U172—N-Nitroso-di-n-butylamine
 U173—N-Nitroso-diethanolamine
 U174—N-Nitroso-diethylamine
 U176—N-Nitroso-N-ethylurea
 U178—N-Nitroso-N-methylurethane
 U179—N-Nitrosopiperidine
 U189—Phosphorus sulfide
 U193—1,3-Propane sultone
 U196—Pyridine
 U203—Safrole
 U205—Selenium disulfide
 U206—Streptozotocin
 U208—Tetrachloroethane, 1,1,1,2-

U213—Tetrahydrofuran
 U214—Thallium (I) acetate
 U215—Thallium (I) carbonate
 U216—Thallium (I) chloride
 U217—Thallium (I) nitrate
 U218—Thioacetamide
 U235—Tris (2,3-Dibromopropyl) phosphate
 U239—Xylene
 U244—Thiram

§ 268.12 Identification of wastes to be evaluated by May 8, 1990.

EPA will take action under sections 3004(g)(5) and 3004(m) of the Resource Conservation and Recovery Act, by May 8, 1990, for the following wastes (for ease of understanding, the wastes have been listed by the section of 40 CFR Part 261 under which they were listed):

§ 261.32 Wastes

K002—Wastewater treatment sludge from the production of chrome yellow and orange pigments.
 K003—Wastewater treatment sludge from the production of molybdate orange pigments.
 K008—Wastewater treatment sludge from the production of chrome green pigments.
 K006—Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
 K007—Wastewater treatment sludge from the production of iron blue pigments.
 K023—Distillation light ends from the production of phthalic anhydride from naphthalene.
 K026—Stripping still tails from the production of methyl ethyl pyridines.
 K032—Wastewater treatment sludge from the production of chlordane.
 K033—Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.
 K034—Filter solids from the hexachlorocyclopentadiene in the production of chlordane.
 K093—Distillation light ends from the production of phthalic anhydride from ortho-xylene.
 K094—Distillation bottoms from the production of phthalic anhydride from ortho-xylene.
 K100—Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.

§ 261.33(e) Wastes

P006—Aluminum phosphide
 P009—Ammonium picrate
 P013—Barium cyanide
 P017—Bromoacetone
 P021—Calcium cyanide

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P022—Carbon disulfide
P023—Chloroacetaldehyde
P024—p-Chloroaniline
P028—Benzyl chloride
P031—Cyanogen
P032—Cyanogen chloride
P034—4,6-Dinitro-o-cyclohexylphenol
P038—Diethylarsine
P042—Epinephrine
P045—Thiofanox
P046—Alpha, alpha-Dimethylphenethylamine
P047—4,6-Dinitro-o-cresol and salts
P051—Endrin
P056—Fluorine
P064—Methyl isocyanate
P065—Mercury fulminate
P073—Nickel carbonyl
P075—Nicotine and salts
P076—Nitric oxide
P077—p-Nitroaniline
P078—Nitrogen dioxide
P088—Endothall
P093—N-Phenylthiourea
P095—Phosgene
P096—Phosphine
P099—Potassium silver cyanide
P101—Propanenitrile
P103—Selenourea
P109—Tetraethyldithiopyrophosphate
P116—Thiosemicarbazide
P118—Trichloromethanethiol
P119—Ammonium vanadate
P121—Zinc cyanide

§ 261.33(f) Wastes

U001—Acetaldehyde
U004—Acetophenone
U006—Acetyl chloride
U017—Benzal chloride
U024—Bis(2-chloroethoxy)methane
U027—Bis(2-chloroisopropyl)ether
U030—Benzene, 1-bromo-4-phenoxy
U033—Carbonyl fluoride
U034—Chloral
U038—Ethyl-4,4'-dichlorobenzilate
U039—4-Chloro-m-cresol
U042—Vinyl ether, 2-chloroethyl
U043—Methyl chloride
U048—o-Chlorophenol
U052—Cresols
U055—Cumene
U056—Cyclohexane
U068—Methane, dibromo
U069—Dibutyl phthalate
U071—m-Dichlorobenzene
U072—p-Dichlorobenzene
U075—Dichlorodifluoromethane
U076—Ethane, 1,1-dichloro-
U079—1,2-Dichlorethylene
U081—2,4-Dichlorophenol
U082—2,6-Dichlorophenol
U084—1,3-Dichloropropene
U085—2,2'-Dioxirane
U087—0,0-Diethyl-S-methyl-
dithiophosphate
U088—Diethyl phthalate

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U090—Dihydrosafrole
U091—3,3'-Dimethoxybenzidine
U096—alpha, alpha-Dimethylbenzylhydroxyperoxide
U102—Dimethyl phthalate
U112—Ethyl acetate
U113—Ethyl acrylate
U117—Ethyl ether
U118—Ethylmethacrylate
U120—Fluoranthene
U121—Trichloromonofluoromethane
U123—Formic acid
U125—Furfural
U126—Glycidylaldehyde
U132—Hexachlorophene
U136—Cacodylic acid
U139—Iron dextran
U141—Isosafrole
U145—Lead phosphate
U148—Maleic hydrazide
U152—Methacrylonitrile
U153—Methanethiol
U156—Methyl chlorocarbonate
U160—Methyl ethyl ketone peroxide
U166—1,4-Naphthaquinone
U167—1-Naphthylamine
U181—5-Nitro-o-toluidine
U182—Paraldehyde
U183—Pentachlorobenzene
U184—Pentachloroethane
U186—1,3-Pentadiene
U187—Phenacetin
U190—Phthalic anhydride
U191—2-Picoline
U194—1-Propanamine
U197—p-Benzoquinone
U201—Resorcinol
U202—Saccharin and salts
U204—Selenious acid
U207—1,2,4,5-tetrachlorobenzene
U222—o-Toluidine hydrochloride
U225—Bromoform
U234—Sym-Trinitrobenzene
U236—Trypan blue
U240—2,4-D, salts and esters
U243—Hexachloropropene
U246—Cyanogen bromide
U247—Methoxychlor

Wastes identified as hazardous based on a characteristic alone (i.e., corrosivity, reactivity, ignitability and EP toxicity).

8. In § 268.12, the existing text is designated as paragraph (a) and paragraphs (b), (c) and (d) are added to read as follows:

§ 268.12 Identification of wastes to be evaluated by May 8, 1990.

(b) Wastewater residues (less than 1% total organic carbon and less than 1% suspended solids) resulting from the following well-designed and well-operated treatment methods for wastes listed in § 268.10 for which EPA has not promulgated wastewater treatment standards: metals recovery, metals precipitation, cyanide destruction, carbon adsorption, chemical oxidation, steam stripping, biodegradation, and incineration or other direct thermal destruction. The treatment standards applicable to wastes prohibited under §§ 268.30-268.33 of this part still apply.

(c) Leachate derived from the treatment, storage or disposal of wastes listed in § 268.10 for which EPA has not promulgated wastewater treatment standards, and contaminated ground water that contains such wastes. The treatment standards applicable to wastes prohibited under §§ 268.30-268.33 of this Part still apply.

(d) Hazardous wastes listed in § 268.10 which are mixed hazardous/radioactive wastes. The treatment standards applicable to wastes prohibited under §§ 268.30-268.32 of this part still apply.

(e) *Existing HWM facilities and interim status qualifications.* (1) Owners and operators of existing hazardous waste management facilities or of hazardous waste management facilities in existence on the effective date of statutory or regulatory amendments under the act that render the facility subject to the requirement to have a RCRA permit must submit Part A of their permit application no later than:

(i) Six months after the date of publication of regulations which first require them to comply with the standards set forth in 40 CFR Part 265 or 266, or

(ii) Thirty days after the date they first become subject to the standards set forth in 40 CFR Part 265 or 266, whichever first occurs.

(iii) For generators generating greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and treats, stores, or disposes of these wastes on-site, by March 24, 1987.

[NOTE: For facilities which must comply with Part 265 because they handle a waste listed in EPA's May 19, 1980, Part 261 regulations (45 FR 33006 *et seq.*), the deadline for submitting an application is November 19, 1980. Where other existing facilities must begin in complying with Part 265 or 266 at a later date because of revisions to Part 260, 261, 265, or 266, the Administrator will specify in the preamble to those revisions when those facilities must submit a permit application.]

Subpart G—Interim Status

§ 270.70 Qualifying for interim status.

(a) Any person who owns or operates an "existing HWM facility" or a facility in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to the requirement to have an RCRA permit shall have interim status and shall be treated as having been issued a permit to the extent he or she has:

(1) Complied with the requirements of section 3010(a) of RCRA pertaining to notification of hazardous waste activity.

[Comment: Some existing facilities may not be required to file a notification under section 3010(a) of RCRA. These facilities may qualify for interim status by meeting paragraph (a)(2) of this section.]

(2) Complied with the requirements of § 270.10 governing submission of Part A applications;

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Brief of Consolidated Petitioners on Leachate-Related Issues, as well as the Designation of Record Documents for Joint Appendix, was hand-delivered this 27th day of October, 1988, to the following:

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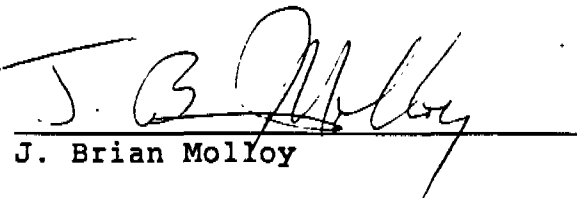
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