- Solvent waste which is a solvent-water mixture containing less than one percent total F001-F005 solvent constituents or containing less than one percent total organic carbon.
- Solvent waste which is a solvent-inorganic sludge mixture or solvent-contaminated soil (non-CERCLA or RCRA corrective action) containing less than one percent total F001-F005 solvent constituents.

Spent solvent wastes not covered by the two-year variance are restricted from land disposal effective November 8, 1986.

Q Where can managers of hazardous waste get further information and assistance?

A For answers to questions on the new federal requirements or hazardous waste regulations in general, managers may wish to contact EPA's toll-free RCRA/Superfund Hotline, (800) 424-9346 (in Washington, D.C., 382-3000).

For information on specific aspects of the land disposal restrictions, managers may contact: Stephen R. Weil, Office of Solid Waste (WH-562B), U.S. Environmental Protection Agency, 401 M. Street, SW., Washington, DC 20460, (202) 382-4770.

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Questions and Answers on the Land Disposal Restrictions Program

In 1976, Congress enacted the Resource Conservation and Recovery Act (RCRA) to protect human health and the environment from improper waste management practices. On November 8, 1984, the Hazardous and Solid Waste Amendments (HSWA) were signed into law, imposing substantial new responsibilities on those who manage hazardous waste. Among other things, the amendments prohibit land disposal of hazardous wastes beyond specified dates, unless a petitioner demonstrates to the Administrator of EPA that there will be no migration of hazardous constituents from the land disposal unit for as long as the waste remains hazardous. The prohibitions are intended to protect our environment from contamination by land disposal.

Concurrently with the land disposal prohibitions, HSWA directs EPA to develop treatment standards for all hazardous wastes. These treatment standards will substantially reduce the toxicity of the waste or the likelihood of migration of hazardous constituents from the waste. Wastes that meet these treatment standards are not subject to the land disposal prohibitions.

The amendments restrict the land disposal of various classes of hazardous wastes by certain dates:

November 8, 1986:
DIOXIN-CONTAINING WASTES (EPA Hazardous Waste Numbers: F020, F021, F022, F023, F026, F027, F028)
SPENT SOLVENTS (EPA Hazardous Waste Numbers: F001, F002, F003, F004, F005)

July 8, 1987:
SPECIFIED WASTES (liquid hazardous wastes containing free cyanides, PCBs, corrosives, or certain metals, and hazardous wastes containing halogenated organic compounds)

August 8, 1988:
AT LEAST ONE-THIRD OF ALL LISTED HAZARDOUS WASTES

June 8, 1989:
AT LEAST TWO-THIRDS OF ALL LISTED HAZARDOUS WASTES

May 8, 1990:
ALL REMAINING LISTED HAZARDOUS WASTES AND ALL CHARACTERISTIC HAZARDOUS WASTES

To implement the deadlines for "the thirds" in 1988, 1989, and 1990, the amendments required EPA to rank all listed hazardous wastes so that wastes with high intrinsic hazard and volume would be restricted from land disposal first, and wastes with low intrinsic hazard and volume would be dealt with last. The amendments also required the Agency to use this ranking to separate the list of wastes into a schedule of thirds. EPA published this schedule on May 28, 1986, in the Federal Register (51 FR 19300).

The prohibitions for any particular waste become effective on the applicable statutory deadline, unless there is insufficient national capacity for alternative treatment, recovery, or disposal. If EPA determines that such a shortage exists, the Agency may grant a national extension to the effective date (not to exceed two years beyond the statutory deadline). The Agency may also grant extensions to the effective date on a case-by-case basis.

EPA has promulgated a final rule which establishes a regulatory framework to implement the land disposal prohibitions. This framework includes procedures for setting treatment standards for hazardous wastes; for granting nationwide variances from the statutory effective dates; for granting case-by-case extensions to the effective dates; and for evaluating petitions that attempt to demonstrate that continued land disposal is protective of human health and the environment. In addition, the rule also establishes treatment standards and effective dates for the first class of hazardous wastes to be prohibited: certain dioxin-containing wastes and spent solvent wastes.

The following are answers to some basic questions concerning the restrictions.

Q What is meant by land disposal?

A For purposes of the restrictions, Congress defined land disposal under RCRA section 3004(k) to include, but not be limited to, any placement of hazardous waste in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome or salt bed formation, or underground mine or cave. As a result of the inclusion of the phrase "any placement" in the definition, the restrictions extend beyond what is often considered "land disposal." For example, under this definition the restrictions also apply to treatment and storage surface impoundments.

Q How is EPA going to implement the land disposal prohibitions?

A By each statutory deadline, EPA will promulgate treatment standards for the applicable hazardous wastes. Wastes that meet these treatment standards may be directly land disposed. Wastes that do not meet these standards must be treated before they are placed in a land disposal unit. The treatment standards are expressed as performance standards and are based on the best demonstrated available technologies (BDAT). Treatment technologies that may result in greater risk than direct land disposal of untreated wastes will not be considered in establishing the treatment standards.

Q Is there any way out of the treatment requirements?

A An applicant, usually the owner/operator of a treatment, storage, or disposal facility, may petition EPA to allow land disposal of a specific waste at a specific site. The applicant must prove that the waste can be contained safely in a particular type of disposal unit, so that no migration of any hazardous constituents occurs from the unit for as long as the waste remains hazardous. If EPA grants the petition, the waste is no longer prohibited from land disposal in that particular type of unit.

Q Will the wastes still be restricted if there is not enough alternative capacity?

A If there is insufficient capacity nationwide of alternative treatment, recovery, or disposal technologies for a particular waste or group of wastes, EPA may grant a nationwide extension to the effective date of the restriction. The purpose of the extension is to allow time for the development of capacity. This extension may not exceed two years beyond the applicable statutory deadline for the waste.

In addition, if individuals managing a restricted waste find that there is insufficient capacity for that waste, they may apply for a case-by-case extension to the effective date. Among other requirements, applicants must demonstrate that they have entered into a binding contractual commitment to construct or otherwise provide the alternative capacity. If the application is approved, EPA may allow up to a one-year extension (renewable once). During the period of the extension, the waste is not subject to the land disposal restrictions.

Q What if a waste cannot be treated to meet the standard?

A In some situations, due to unique physical and/or chemical characteristics, it may not be possible to treat a restricted waste to the levels or by the methods specified in the treatment standard. Persons managing such unique wastes can submit a rulemaking petition under 40 CFR Part 260.20 requesting a variance from the treatment standard. If the variance is granted, EPA will establish a treatment standard specific to the characteristics of that waste. Until such time, the waste may not be land disposed.

Q Can a restricted waste be stored?

A Storage is allowed for restricted wastes solely for the purpose of accumulating sufficient quantities of waste to allow for proper treatment, recovery, and disposal. EPA generally will assume that storage of less than one year is necessary for such purposes. However, an owner/operator storing for longer than one year must be prepared to demonstrate that such storage is necessary. (EPA is establishing a presumption that storage for over one year is not for the purpose of facilitating proper treatment, recovery, or disposal.) The limitation on storage applies only to restricted wastes. Therefore, wastes that meet the treatment standards, or are granted an approved petition or extension, are not subject to the storage restriction.

Q When does open detonation and open burning constitute land disposal?

A Open burning and open detonation generally are used to manage those wastes that are hazardous because they exhibit the characteristic of reactivity. The Agency believes open burning and open detonation of explosive waste generally constitutes treatment that should result in non-reactive residuals. The land disposal restrictions apply only in those instances when the residual produced continues to exhibit the characteristic of reactivity and, therefore, continues to be a hazardous waste. Treatment standards for characteristic wastes will be established by the May 1990 statutory deadline.

Q How will the November 8, 1986, final rule affect managers of hazardous wastes?

A It will affect them immediately in that it sets treatment standards and effective dates for the spent solvent wastes and certain dioxin-containing wastes. In addition, as noted above, it also establishes a framework for making future decisions implementing the land disposal restrictions for all hazardous wastes.

The treatment standards for solvents are based on data from the following technologies: incineration, biological treatment, steam stripping, and activated carbon adsorption. The standards range from 0.05 mg/l (milligrams per liter) to 12.7 mg/l for wastewaters containing spent solvents and from 0.05 mg/l to 5.0 mg/l for all other spent solvent wastes. The treatment standards for dioxin-containing wastes are based on data from the incineration of these wastes at 99.9999-percent destruction removal efficiency (DRE). The standards for the dioxin wastes require that the wastes be treated to a level below detection (currently one part per billion).

All treatment standards are expressed as concentrations in the leachate of the waste. The leachate is obtained by use of the toxicity characteristic leaching procedure.

EPA is granting a nationwide two-year variance to the effective date for all dioxin wastes and for certain solvent wastes due to capacity shortfalls. The solvent wastes which have been granted the variance are:

- Solvent waste generated by a small quantity generator of 100-1000 kilograms of hazardous waste per month.
- Solvent waste generated from any remedial or response action taken under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or any corrective action taken under the Resource Conservation and Recovery Act of 1976 (RCRA), except where the waste is contaminated soil or debris. HSWA specifies that contaminated soil and debris are not subject to the restrictions until November 8, 1988.