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HETI Horizons

EPA Rules For Hazardous Waste Management: A Primer on RCRA

The Resource Conservation and Recovery Act (RCRA) is the primary federal law governing the disposal of solid and hazardous waste and was signed by President Ford on October 21, 1976 as an amendment to the 1965 Solid Waste Disposal Act. RCRA was enacted to address problems from the improper storage and disposal of ever increasing volumes of municipal and industrial waste. Mismanagement and unregulated disposal of hazardous waste resulted in contamination of soil, groundwater and surface water.

The initial goals of RCRA were to: protect human health and the environment; reduce waste and conserve energy; reduce or eliminate the generation of hazardous waste; and ensure that wastes are managed in an environmentally sound manner.

RCRA is the term frequently used to describe the law *and* the regulations. However, of most concern to hazardous waste generators are the regulations developed by the Environmental Protection Agency (EPA) to implement the law and provide explicit and legally enforceable requirements for waste management. RCRA is currently divided into ten Subtitles that address different aspects of the law. Subtitle C – Hazardous Waste Management – is one of the largest and most comprehensive parts of RCRA and pertains to hazardous waste generators and transporters of hazardous waste, and presents requirements for hazardous waste treatment, storage and disposal facilities.

RCRA does not address abandoned or historical hazardous waste sites, which are managed under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – commonly known as Superfund.

Waste Classification

To be considered hazardous, a waste must first meet the definition of a solid waste. The term “solid waste” is very broad and includes household garbage and discarded material from industrial, commercial, mining and agricultural operations. Solid wastes may be solid, semi-solid, liquid or gaseous material. A solid waste is considered hazardous if it possesses certain defined characteristics, or is specifically listed in the regulations based on the source or process by which it is generated.

The EPA defined four characteristics for hazardous waste: ignitability, corrosivity, reactivity and toxicity. Any solid waste that exhibits one or more of the characteristics, as defined in the RCRA regulations, is considered a hazardous waste.

A waste is also considered hazardous if it is included on one of three lists developed by EPA:

1. Wastes from non-specific sources such as spent halogenated solvents and wastewater treatment sludge from electroplating operations.
2. Wastes from specific sources such as distillation bottoms from aniline production.
3. Discarded commercial chemical products such as cumene, trichloroethene and pentachlorophenol.

The waste generator is responsible for determining if a particular solid waste is considered hazardous using test methods described in the regulations, or by using "process knowledge" about how the waste was generated and whether it exhibits any of the characteristics. Each hazardous waste has been assigned a unique Hazardous Waste ID Number by the EPA that corresponds to the characteristic that caused it to be considered a hazardous waste.

Generator Classification

Under RCRA there are three categories of hazardous waste generators:

- Large Quantity – more than 1,000 kilograms of hazardous waste or more than one kilogram of acutely hazardous waste in a calendar month.
- Small Quantity – less than 1,000 kilograms of hazardous waste or less than one kilogram of acutely hazardous waste in a calendar month.
- Conditionally Exempt Small Quantity – no more than 100 kilograms of hazardous waste and less than one kilogram of acutely hazardous waste in a calendar month.

A large quantity generator may accumulate waste at their facility for 90 days or less if the waste is properly stored and labeled, a contingency plan has been developed, and facility personnel have received training in the proper handling of hazardous waste. Small quantity generators may store hazardous waste on-site for up to 180 days if certain criteria are met.

One way EPA tracks the generation and management of hazardous waste is by requiring large and small quantity generators to obtain an EPA ID number. Generators must prepare hazardous waste for transport off-site to prevent leakage and spills and comply with labeling and placarding requirements that identify the characteristics and dangers associated with the waste.

A properly completed Uniform Hazardous Waste Manifest must be completed and accompany all off-site waste shipments. The manifest is the primary means by which EPA tracks the movement of hazardous waste from "cradle to grave" – a term often used to describe the scope of a generator's responsibility with respect to the management of hazardous waste from the time of generation to its ultimate disposal. Generators must also submit a biennial report to EPA describing the quantities and classification of hazardous waste generated, the name and location of the disposal facility, and efforts made to reduce the volume and toxicity of waste generated.

RCRA places a greater regulatory burden on large quantity generators; so it is usually in a generator's best interest to seek small quantity or conditionally exempt small quantity generator (CESQG) status, if possible. A CESQG had the option to treat or dispose of waste on-site, ensure that it is recycled, or dispose of the waste at a permitted hazardous waste or solid waste disposal facility.

40 Years of RCRA

The regulations summarized above provide general guidance appropriate for most hazardous waste generators. However, the RCRA regulations contain exclusions from regulation and exemptions for certain wastes depending on the process by which they were generated and how they are managed. EPA has also issued hundreds of explanatory memos and directives in response to specific questions posed by the regulated community.

EPA has delegated primary responsibility for implementing the basic parts of the RCRA program to all 50 states. Some states have also received authorization to administer additional parts of RCRA – including corrective action and land disposal restrictions. State programs must be at least as stringent as the federal requirements.

RCRA recently celebrated its 40-year anniversary and continues to evolve in response to changes in technology and emerging waste streams and disposal techniques.

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HETI is available to provide valuable technical support and professional services in connection with regulatory compliance. Our staff has the extensive, in-depth experience and expertise needed for assuring and maintaining compliance with the full spectrum of federal and state environmental regulations.

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