



A Summary of the Resource Conservation and Recovery Act (RCRA)

Patrick Russie
Hazard Communication Expert

(734)-930-0009 ext 308
patrick.russie@usequantum.com

Anarkali Chhanda
Project Manager

(734)-930-0009 ext 228
achhanda@usequantum.com

Glenn Zhou
Director of Sales

(734)-930-0009 ext 211
glennz@usequantum.com



The Resource Conservation and Recovery Act (or the RCRA for short) is a federal law that gives the Environmental Protection Agency the authority to regulate waste materials. The RCRA was passed by congress in 1976, and was signed into law by President Gerald Ford.

The bill serves as the foundation of the EPA's larger RCRA program, which includes three core initiatives:

- 1. A cradle-to-grave hazardous waste management program**
- 2. Non-hazardous solid waste management regulations and recommendations**
- 3. Underground Storage Tank (UST) safety**

OVERVIEW OF THE RCRA

The RCRA program is the primary apparatus through which the federal government regulates industrial waste. Under this mandate, the EPA oversees the transport and disposal of nearly 2.5 billion tons of waste annually.

The necessity of the RCRA is hard to understate. This under-appreciated program serves as a lynchpin for many other federal programs, including those for public health, environmental protection, workplace safety, and even transportation.

To list a few of the major benefits:

- Safeguards public safety and environmental health
- Reduces costs overall by preventing major spills, which reduced often-expensive cleanups
- Helps manage resource conservation and recycling efforts
- Necessary for the efficacy of other pollution controls; as without proper disposal those pollutants will end up back in the environment.



The biggest challenge facing the RCRA is the scope and variety of its jurisdiction. The EPA estimates that over half a million facilities nationwide fall under their oversight. These facilities run the gamut from demolition sites to small manufacturers to sprawling factories, with each one presenting its own unique challenges.

HAZARDOUS WASTE MANAGEMENT



One of the most visible efforts of the RCRA program is its hazardous waste management program. These regulations set up a cradle-to-grave system for tracking, managing, and eliminating hazardous waste. Hazardous waste is defined fairly broadly, but generally includes anything that poses direct harm to humans or the environment.

Being a cradle-to-grave system, the RCRA requires that hazardous waste be classified at the point of generation. Because of this, the generator ultimately has responsibility for the waste throughout its “lifespan”. After initial notification, the hazardous waste is transported to a certified treatment, storage, and disposal facility (TSDF).

The cradle-to-grave system is currently managed with paper documentation in the form of Uniform Waste Manifests. According to the RCRA, these standardized forms must accompany all hazardous waste shipments from the point of generation to the TSDF. The EPA currently tracks about 40 million tons of waste a year using this system. There are currently plans to move to a paperless “eManifest” system, which could greatly streamline this process.



As part of this program, the EPA also regulates hazardous waste TSDFs. Every several years, the EPA must re-evaluate and attempt to improve the operation of some 900 facilities across the country. With this system the EPA ensures that waste is being disposed of safely and sustainably.

In addition to waste manifests and TSD permitting, the RCRA program also maintains partnerships with local authorities and businesses in order to maintain long-term stewardship of hazardous waste facilities. These obligations include keeping an eye on closed landfills, and a multitude of remediation work.

On occasion, the EPA must react to a major disaster or other unforeseen event. In the event of a major environmental disaster (such as the Deepwater Horizons spill), the EPA will coordinate with other government agencies in order to minimize the public's exposure to hazardous waste.

These events fall under the broader category of "unique waste streams" (UWS), which are any source of waste that is unusual or unprecedented to the point that general solutions do not apply. The RCRA program has a system for developing relevant guidelines to address the unique challenges of any UWS.

NON-HAZARDOUS SOLID WASTE MANAGEMENT

Another core component of the RCRA is the official guidelines for non-hazardous solid waste. This section of the act lays out a set of official guidelines for collecting, transporting, and disposing of solid waste. More specifically, it includes recommended practices for municipal landfills, incinerators, source separation, and commercial recycling.





Interestingly, most of these guidelines are merely recommendations; they represent industry best-practices but they don't really have the force of law behind them. Despite this, many of the guidelines have been adopted by state and municipal authorities.

Even if non-hazardous waste is mostly handled by local governments, it remains a key factor in public health and economic development. With these guidelines, the EPA does its part to keep America's cities and countryside clear of trash.

UNDERGROUND STORAGE TANK (UST) REGULATIONS



The EPA estimates that there are more than half a million large hazardous material tanks stored underground in the United States. These underground storage tanks (USTs) represent a major threat to the environment and health of the country. If a UST leaks or ruptures, it can seep toxic chemicals into the surrounding groundwater for years before anybody notices.

In an effort to reduce the rate of UST failure, the RCRA instituted strict technical guidelines for the construction and operation of USTs. Since 1976, the number of USTs has shrunk from more than 2 million to only half a million or so. Most of the drop is attributable to poorly-constructed tanks being decommissioned by the RCRA.

UST leaks can be very expensive to clean up, since oftentimes the damage has been accumulating and spreading for years. In order to contain costs and incentivize safe practices, the RCRA requires that each UST operator meets certain financial benchmarks. This, when combined with the Leaking UST trust fund, ensures that funds will always be available to mitigate any UST leak.

CORRECTIVE ACTIONS AND CLEANUPS

Under the RCRA, it is the TSDFs' responsibility to maintain environmental standards at the



point of disposal. Despite this, mistakes are still occasionally made. To help fix these mistakes, the EPA has a Corrective Action program in place to work with TSDFs.

The RCRA Corrective Action program administers approximately 18 million acres of polluted land across the nation. This land is spread across almost 4000 facilities, and includes landfills, recycling facilities, and waste incinerators. At these sites, the EPA cooperates with thousands of different TSDFs in order to reduce pollution and

improve performance.

Since the Corrective Action program is fundamentally cooperative in nature, the RCRA looks at results rather than methodology as a measure of success. This allows agents to choose the most efficient and effective method for every site.

ABOUT QUANTUM

Our mission is to help clients use their data to exceed regulation compliance, improve safety culture, and reduce risk exposure to hazardous situations and regulatory fines.

Quantum Compliance provides web-based Environmental Health and Safety (EH&S) software solutions that help businesses implement and maintain compliant and sustainable EH&S practices. Founded in 1985 by a team of environmental engineering and computer

science professionals, Quantum's EH&S Information Management Systems enable users to effectively store, retrieve, and analyze EH&S data.

Quantum's solutions are built on a foundation that defines a company's core business values, and provide a database structure that allows the company to easily identify fundamental EH&S issues within their organization. Our unique structure allows easy adaptability and implementation into almost any business practice. Additionally our products are fully configurable to our client's needs, and include Dashboard Reporting with relevant modules to generate comprehensive reports.