

CERCLA: THE HAZARDOUS WASTE CLEANUP PROGRAM

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OVERVIEW

This chapter focuses on the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, which is a central part of the legislative framework for environmental protection. CERCLA is also commonly known as **Superfund**.

Whereas RCRA is a proactive program that regulates how wastes should be managed to avoid potential threats to human health and the environment, CERCLA is designed to remedy threats to human health and the environment from unexpected releases and historical mistakes in hazardous waste management. More specifically, RCRA authorizes a general regulatory program to manage all hazardous wastes from cradle to grave (i.e., from generation to ultimate disposal), while CERCLA authorizes a number of government

actions to remedy the conditions that could result in a release or the effects of a release itself. Both RCRA and CERCLA authorize EPA to act in the event of an imminent hazard.

This chapter discusses why CERCLA was enacted, summarizes the Law, and examines the major areas where the CERCLA and RCRA programs interact.

RCRA VS. CERCLA

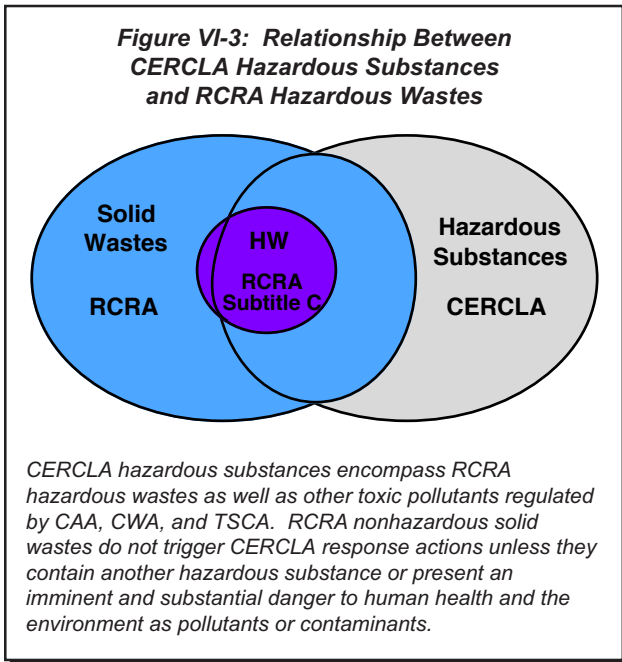
RCRA regulates how wastes should be managed to avoid potential threats to human health and the environment. CERCLA, on the other hand, comes into play when mismanagement occurs or has occurred (i.e., when there has been a release or a substantial threat of a release in the environment of a hazardous substance or of a pollutant or contaminant that presents an imminent and substantial threat to human health).

DEFINITIONS

RCRA and CERCLA both address hazards to the environment. However, CERCLA is a more comprehensive statute. CERCLA hazardous substances encompass RCRA hazardous wastes, as well as other toxic pollutants regulated by the Clean Air Act (CAA), the Clean Water Act (CWA), and the Toxic Substance Control Act (TSCA). Thus, all RCRA hazardous wastes are regulated as CERCLA hazardous substances, and releases of hazardous wastes may trigger CERCLA release notification requirements or response actions. RCRA nonhazardous solid wastes, on the other hand, do not trigger CERCLA response actions unless they

contain another hazardous substance or present an imminent and substantial danger as pollutants or contaminants (see Figure VI-3).

In addition to hazardous substances, CERCLA authorizes EPA to respond to releases and potential releases of **pollutants or contaminants**, which are broadly defined to include any substance that is



reasonably anticipated to cause illness or deformation in any organism. All three definitions specifically exclude petroleum and natural gas.

HISTORY AND PURPOSE OF CERCLA

CERCLA was established in response to the discovery, in the late 1970s, of a large number of abandoned, leaking, hazardous waste dumps that were a threat to human health and the environment. One of the best known examples is Love Canal (Niagara Falls, New York), where a chemical company buried large amounts of hazardous waste in an abandoned canal. In the mid-1950s, the company capped the canal with clay and soil and sold the land to the city of Niagara Falls for development.

In the 1970s, an unusual number of community residents developed serious health problems. Moreover, the residents complained of noxious fumes and chemicals oozing out of the ground. Subsequent government investigations found extensive contamination of the area, including groundwater supplies. In 1978, President Carter declared Love Canal a federal disaster area, and most of the residents in the area around the site were relocated.

At the time, declaring the site a federal disaster area was the only viable option available to the federal government. RCRA could not provide relief because the problem did not involve the current or future management of wastes. Legal actions against the responsible parties could not offer a timely solution because such action was time consuming and costly. In addition, subsequent investigations indicated that the scope of the historical contamination problem went far beyond Love Canal, making the federal disaster relief option impractical. In December of 1980, Congress passed CERCLA to address uncontrollable hazardous waste sites throughout the country.

CERCLA amended the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) to provide a regulatory blueprint for federal response to releases of hazardous substance, pollutants, and contaminants (40 CFR Part 300). The primary objectives of the Superfund program include the following:

- Identify those sites where releases of hazardous substances have already occurred or might occur and posed a serious threat to human health, welfare, or the environment
- Take appropriate action to remedy the releases
- Force those parties responsible for the release to pay for the cleanup actions.

To accomplish these tasks, CERCLA provided the federal government with new response authority, created a \$1.6 billion trust fund to pay for federal response actions, and imposed cleanup liability on **potentially responsible parties (PRPs)**. The “Super Fund” was established primarily by tax assessments on oil and designated chemicals.

SUPERFUND REAUTHORIZATION AND TAXING AUTHORITY

The Superfund Amendments and Reauthorization Act (SARA) not only reauthorized the Superfund program for another five years, but it also increased the Fund from \$1.6 billion to \$8.5 billion. The taxing authority of SARA was to expire on December 31, 1991; however, the Omnibus Reconciliation Act of 1990 extended the taxes without modification for another four years, through December 31, 1995. Separately, the Superfund program was reauthorized, without changes to the text of the Statute, until September 30, 1994, a three-year extension from the expiration date of the SARA authorization in 1991. Congress failed to reauthorize the Superfund program before September 30, 1994 (the end of the fiscal year); however, the program is still operating because Congress continues to appropriate funds to the Superfund program.

Unfortunately, it became apparent that the problem of abandoned hazardous waste sites was more extensive than originally thought and its solution would be more complex and time consuming. Unlike RCRA response actions where the owner and operator of a site are known, CERCLA may deal with environmental threats due to historical activities and, thus, the responsible party may be unknown, no longer in existence (e.g., a defunct company), or unable to pay. To address these additional concerns, Congress passed the Superfund Amendments and Reauthorization Act (SARA) of 1986. SARA not only reauthorized the Superfund program for another five years, but it also increased the fund from a total of \$1.6 billion to \$8.5 billion. In addition, SARA established new standards and schedules for site cleanup, created new programs for informing the public of risks from hazardous substances in their community, and helped prepare communities for hazardous substance emergencies.

TRIGGER FOR STATUTORY RESPONSE

CERCLA response authorities are triggered by a release or a substantial threat of release of dangerous substances into the environment (e.g., a chemical spill from a tank truck accident or a leak from a damaged drum). The release must involve either:

- a hazardous substance, or
- a pollutant or contaminant.

In addition, a release must pose an imminent or substantial threat to the public health or welfare.

TYPES OF RESPONSE ACTIONS

Once a potential release has been identified, the information is entered into the **Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)**, a computerized database used to track hazardous substance sites. After being entered into CERCLIS, each site undergoes a **preliminary assessment (PA)** to determine if the site poses a potential hazard and whether further action is necessary. If the threat is immediate, a **removal action** may be conducted.

Removal actions are short-term cleanup actions that address immediate threats at a site. They are conducted in response to an emergency situation (e.g., to avert an explosion, to cleanup a hazardous waste spill, or to stabilize a site until a permanent remedy can be found). Removal actions are limited to 12 months duration or \$2 million in expenditures, although in certain cases these limits may be extended. Removals may occur at any point in time after the PA has been conducted and may be conducted in addition to remedial actions.

Remedial actions are response actions that ultimately represent the final remedy for a site and generally are more expensive and of a longer duration than removals. In the event that long-term cleanup is necessary, the site is referred to the remedial program for further investigation and assessment.

If the PA reveals that a remedial action is necessary, EPA will conduct a more involved study of the site during a **site inspection (SI)**. Based on data collected during the PA and the SI, EPA will evaluate the site using the **Hazard Ranking System (HRS)**, a scoring system that determines the relative risk to public health and the environment posed by hazardous substances in ground water, surface water, air, and soil. Only those sites with a score of 28.5 (on a scale from 0 to 100) are eligible for placement

on the **National Priorities List (NPL)**, EPA's list of priority hazardous substance sites for cleanup. Fund monies are only available for remedial actions at (non-federal facility) hazardous waste sites on the NPL. As of September 2007, there are over 1,300 sites either on the NPL or proposed for inclusion. The majority of sites are placed on the NPL based on their HRS score. Under some circumstances, sites may also be placed on the NPL by the state in which the site is located or by the Agency for Toxic Substances and Disease Registry (ATSDR) in accordance with EPA.

Once a site is placed on the NPL, the remedial process begins. A remedial action has two main phases. The first phase, the **remedial investigation/feasibility study (RI/FS)**, involves evaluating site conditions at the site, defining any problems, and comparing alternative site cleanup methods. After the remedy has been selected, the decision is documented in the **record of decision (ROD)**. The second phase, the **remedial design/remedial action (RD/RA)**, involves designing the chosen cleanup and beginning construction.

Following the implementation of the remedy, the state or the PRP assumes responsibility for the **operation and maintenance (O&M)** of the site, which may include such activities as ground water pump and treat and cap maintenance. Once EPA has determined that all appropriate response actions have been taken and cleanup goals have been achieved, the site is deleted from the NPL through a formal rulemaking process.

EPA is committed to early and meaningful community participation during Superfund response actions. CERCLA, as implemented by the NCP, requires specific community involvement activities that must occur at certain points throughout the Superfund process. These activities include, but are not limited to, public meetings, requests for public comment, and availability of Superfund decision documents. In addition, most sites deleted from the NPL are still subject to **five-year reviews** to ensure the remedy continues to be protective of human health and the environment.

RCRA AND REMEDY SELECTION UNDER CERCLA

Rather than establishing individual cleanup standards, CERCLA assures that remedies are based on cleanup standards and criteria established by other laws (e.g., CAA, CWA, and RCRA) in conjunction with site-specific risk factors. CERCLA specifically requires that remedies attain any legally **applicable or relevant and appropriate requirements (ARARs)** (i.e., standards, criteria, or limitations under federal or more stringent state environmental laws). For example, whenever a remedial action involves on-site treatment, storage, or disposal of hazardous waste, the action must meet RCRA's technical standards for such treatment, storage, or disposal (as discussed in Chapter III, Regulations Governing Treatment, Storage, and Disposal Facilities).

Once hazardous wastes are transported from a CERCLA site, they are subject to full RCRA regulation. Therefore, all transportation and treatment, storage, and disposal facility (TSDF) requirements under RCRA must be followed. This means that off-site shipments must be accompanied by a manifest. In particular, the off-site disposal of hazardous wastes can occur only at a RCRA facility in a unit in full compliance with the Subtitle C requirements.

For off-site land disposal of wastes resulting from a CERCLA activity, the program requires the following: First, the unit in which the wastes are to be disposed must not be releasing hazardous wastes or constituents into ground water, surface water, or soil. Second, any releases from other units of the facility must be under an approved RCRA corrective

WHAT ARE ARARS?

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action program. This policy assures that wastes shipped off site from CERCLA sites are sent to environmentally sound waste management facilities.

Finally, EPA may not take or fund remedial actions in a state unless the state ensures the availability of hazardous waste treatment and disposal capacity by submitting a **capacity assurance plan (CAP)** to EPA. Under a CAP, a state assures the availability of treatment or disposal facilities that meet the following requirements: First, the treatment and disposal facilities must be in compliance with RCRA Subtitle C requirements. Second, the facilities must have the capacity to adequately manage hazardous wastes projected to be generated within the state over 20 years. This requirement limits and manages the amount of hazardous waste generated in the United States by encouraging waste minimization and recycling, interstate agreements, and efficient and realistic hazardous waste management systems. Currently, every state in the nation has submitted a CAP to EPA.

RCRA CORRECTIVE ACTION VS. CERCLA RESPONSE

The cleanup of a site with hazardous waste contamination may be handled under either CERCLA, as described above, or RCRA. RCRA authorizes EPA to require corrective action (under an enforcement order or as part of a permit) whenever there is, or has been, a release of hazardous waste or constituents at TSDFs. RCRA also provides similar corrective action authority in response to releases at interim status facilities. Further, RCRA allows EPA to require corrective action beyond the facility boundary. EPA interprets the term corrective action (as discussed in Chapter III, Corrective Action to Clean Up Hazardous Waste Contamination) to cover the full range of possible actions, from studies and interim measures to full cleanups.

RCRA and CERCLA cleanup programs have roughly the same approach to cleanups. In both, examinations of available data are made after discovery of a release to determine if an emergency action is warranted. Both programs authorize short-term measures to abate immediate adverse effects of

a release. In addition, once an emergency has been addressed, both programs provide for appropriate investigation to establish long-term cleanup options. One major difference between the two programs involves funding. CERCLA allows for the expenditure of Fund monies for removal actions and remedial actions at NPL sites (non-federal facility), in addition to strong liability provisions to ensure that the polluter pays whenever possible. There is no comparable fund under the RCRA corrective action program because the owner or operator of the site is responsible for the cost of the cleanup in all instances.

Another difference between the two programs is the implementation. The facility owner or operator implements RCRA corrective action. On the other hand, a number of different parties can implement a CERCLA remedial action in a number of different ways. For example, agreements may be reached that allow PRPs, the state, or the federal government to assume the lead for certain portions of a response action.

Generally, cleanups conducted solely under RCRA corrective action or CERCLA response authority will substantively satisfy the requirements of both programs. It is EPA's general policy for facilities subject to both CERCLA and RCRA to be deferred to RCRA authority. In some cases, however, it may be more appropriate to use both RCRA and CERCLA authorities. EPA has many procedures in place to facilitate coordination between RCRA and CERCLA programs.

IMMINENT HAZARDS UNDER RCRA AND CERCLA

Both RCRA and CERCLA contain provisions that allow EPA to require persons contributing to an imminent hazard to take the necessary actions to clean up releases. RCRA's §7003 imminent and substantial endangerment provision addresses nonhazardous as well as hazardous solid waste releases. The authority under CERCLA §106 is essentially the same, except that CERCLA's authority to force abatement of an imminent or substantial danger to public health or the environment is limited to hazardous substance

releases. In an enforcement action, the RCRA and CERCLA imminent hazard provisions may be used in tandem to ensure adequate protection of human health and the environment.

SUMMARY

CERCLA authorizes cleanup responses whenever there is a release, or a substantial threat of a release, of a hazardous substance, a pollutant, or a contaminant, that presents an imminent and substantial danger to human health or the environment. After the discovery of a potential release, the site is entered into CERCLIS, and undergoes a PA. If there is an immediate hazard, EPA may require a removal action. If long-term remediation is necessary, EPA will conduct an SI, evaluate the site using the HRS, and possibly place the site on the NPL. After NPL listing, a site undergoes further investigation (RI/FS) and remedial alternatives are evaluated. After a remedy has been selected, the decision is documented in the ROD, the RD/RA is implemented, and the state or PRP assumes responsibility for O & M of the site. When all appropriate remedial actions have been taken and the cleanup goals have been achieved, the site is deleted from the NPL, although if waste remains on site, the action is subject to five-year reviews to ensure that the remedy remains protective of human health and the environment.

In general, RCRA authorizes the safe and protective management of wastes, while CERCLA authorizes cleanup responses whenever there is a release of hazardous substances, pollutants, or contaminants (e.g., hazardous wastes). However, the two programs do contain common elements. For example, RCRA standards may be considered ARARs and can be important in selecting remedies under CERCLA. Moreover, RCRA's corrective action and CERCLA's remedial action use parallel, but not identical, procedures. Finally, both statutes authorize EPA to act in the event of an imminent hazard.

ADDITIONAL RESOURCES

Additional information about the topics covered in this chapter can be found at www.epa.gov/superfund. Further information about EPA cleanup programs can be found at www.epa.gov/epaoswer/cleanup/index.htm.