



The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Objectives

Terminal Objective

Given the Environmental Laws and Regulations course manual as a reference, you will be able to:

- **Explain the primary components of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and how they impact the DOE.**

Objectives

Enabling Objectives

- **Define a hazardous substance under CERCLA.**
- **State the purpose of the National Oil and Hazardous Substances Pollution Contingency Plan.**
- **Determine when a hazardous substance release is subject to CERCLA reporting requirements.**

Objectives

Enabling Objectives (continued)

- **State the objectives of the National Priorities List and Hazard Ranking System.**
- **Explain the difference between deletion and deferral when referring to site listings on EPA's National Priorities List**
- **Convey how CERCLA affects the DOE.**

Objectives

Enabling Objectives (continued)

- **Describe EPA's policy on the use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites.**
- **Explain the difference between removal actions and remedial actions**

Overview

In 1980, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as “Superfund,” to respond to the national concern that uncontrolled releases of hazardous substances threatened public health and finite natural resources.



Scope of CERCLA Authority

CERCLA's authority is triggered by:

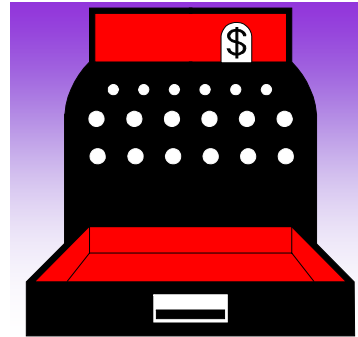
- A “release,” or
- A “substantial threat of a release” of a hazardous substance into the environment



Scope of CERCLA Authority

The CERCLA cleanup fund, known as the Hazardous Substance Response Trust Fund (Superfund), is financed through:

- **A special tax on the chemical and petroleum industries**
- **General revenues**
- **Costs recovered**
- **Interest earned**



Liability for Costs of Response

Certain categories of persons (known as “potentially responsible parties” or PRPs) are “strictly” and “jointly and severally” liable for all costs of response.



CERCLA and DOE

CERCLA Section 120 addresses Federal facilities, which are defined as:

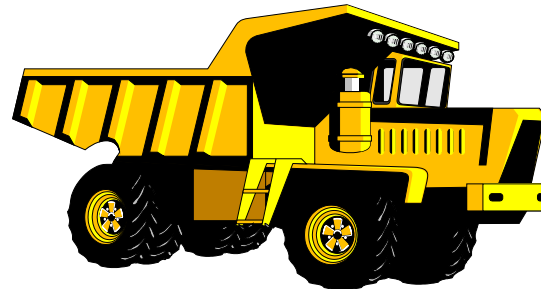
- **Contiguous land owned by a Federal department or agency**
- **Individual sites or units on such land**



DOE Liability

The DOE may be a PRP:

- **As the owner or operator of a “facility” where a release has occurred**
- **As a generator of substances transported offsite to another facility where a release has occurred**



CERCLA Releases

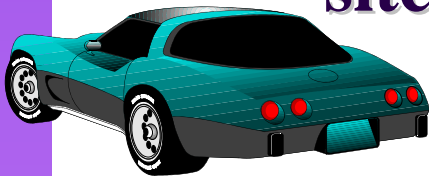


- **Spilling**
- **Leaking**
- **Pumping**
- **Pouring**
- **Emitting**
- **Discharging**
- **Injecting**
- **Escaping**
- **Leaching**
- **Dumping**
- **Disposing**
- **Emptying**

CERCLA Releases

The CERCLA release definition excludes any:

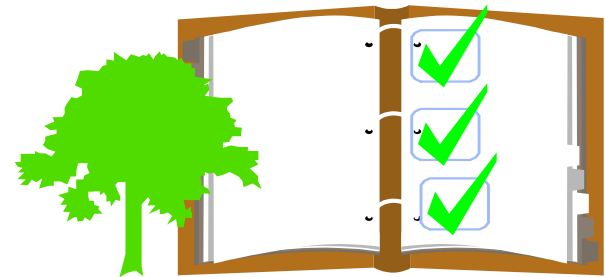
- **Releases solely within a workplace**
- **Emissions from motor vehicles**
- **Releases of source, byproduct, or special nuclear material from a “nuclear incident” or from a processing site regulated by UMTRCA**



CERCLA Hazardous Substances

A CERCLA hazardous substance includes substances regulated under the:

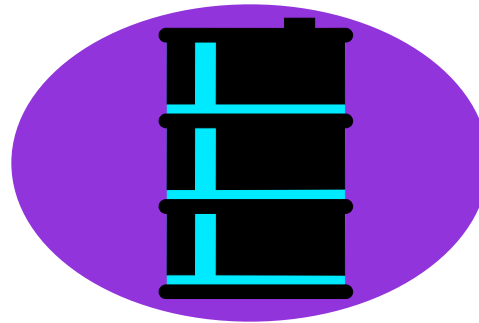
- **Resource Conservation and Recovery Act (RCRA)**
- **Clean Water Act (CWA)**
- **Toxic Substances Control Act (TSCA)**
- **Clean Air Act (CAA)**



The National Contingency Plan (NCP)

The NCP (40 CFR Part 300):

- Provides the detailed blueprint for implementing CERCLA requirements
- Establishes legal requirements enforceable by the EPA



The National Contingency Plan (NCP)

Key components of the CERCLA Process outlined in the NCP include:

- **Site discovery**
- **Site reporting**
- **Site assessment**
- **Removal Actions**
- **Remedial Actions**
- **Enforcement Activities**
- **State Involvement**
- **Public Participation**
- **Natural resource damage assessments**

The Response Action Process



A site evaluation is comprised of several primary steps:

- **Site discovery/reporting**
- **Preliminary assessment (PA)**
- **Site inspection (SI)**
- **Hazardous ranking system (HRS) scoring**
- **National Priorities List (NPL) listing**

The Response Action Process



- **Remedial Investigation/Feasibility Study (RI/FS)**
- **Record of Decision (ROD)**
- **Remedial Design/Remedial Action (RD/RA)**

Site Discovery/Reporting

Reporting requirements are triggered by knowledge of a hazardous substance release exceeding “reportable quantities.” Officials:

- **Must immediately notify the National Response Center (NRC)**
- **Who fail to provide proper notice of a release can be fined and imprisoned**



Preliminary Assessments

The four primary goals of a PA are to:

- **Determine if further action is required**
- **Compile existing information to support development of a HRS score**
- **Identify sites that require immediate response**
- **Set priorities for SI**



Preliminary Assessments

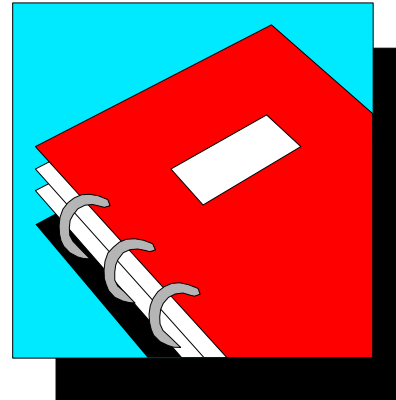


Typically performed in two phases:

- **Phase I is a record check to investigate post use & history of site**
- **Phase II consists of a site visit and is usually intrusive in nature.**

Site Inspection

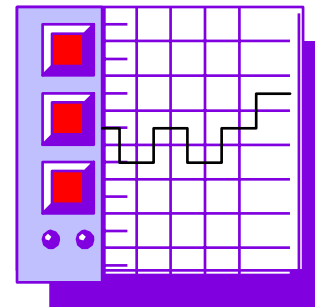
If a PA indicates that a release may threaten human health or the environment but does not pose an immediate threat, the NCP stipulates that a more extensive study, the SI, should be performed.



Hazard Ranking System

Based on the information gathered from the PA/SI, a HRS score is developed to:

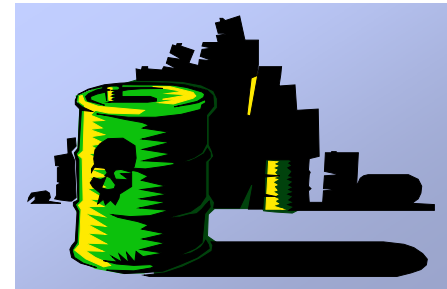
- **Calculate the relative risks to public health and the environment posed by the facility**
- **Determine eligibility for the NPL**



Removal Actions

Removal actions are short-term actions, including:

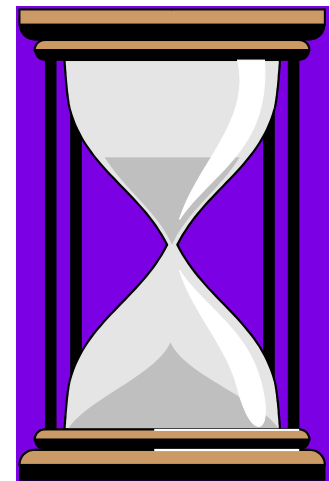
- **Restricting public access**
- **Removal and disposal of leaking barrels**
- **Excavation of highly contaminated soils**



Removal Actions

CERCLA removal actions include:

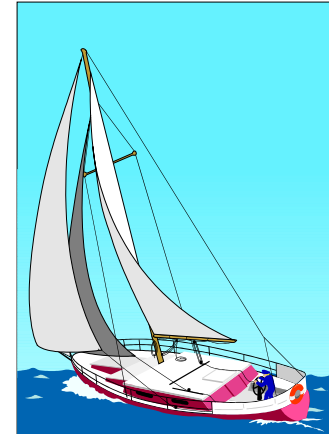
- **Emergency Removal Actions**
- **Time-Critical Removal Actions**
- **Nontime-Critical Removal Actions**



Remedial Actions

Remedial actions must meet the following requirements:

- **Protect human health and the environment**
- **Comply with applicable or relevant and appropriate requirements (ARARs)**



Remedial Actions

Remedial actions must meet the following requirements (continued):

- **Use permanent solutions and treatment technologies to the maximum extent practicable**
- **Be cost effective**
- **Provide for State and community participation**



Remedial Actions

The remedial action process has six phases:

- **Remedial Investigation (RI)**
- **Feasibility Study (FS)**
- **Selection of Remedy/Proposed Plan/Record of Decision (ROD)**
- **Remedial Design (RD)**
- **Remedial Action (RA)**
- **Operation and Maintenance (O&M)**

Remedial Investigation

**The RI must begin within 6 months of NPL listing.
The RI consists of 3 phases:**

- **Planning Phase, which results in**
 - **Work Plan**
 - **Sampling and Analysis Plan**
 - **Health and Safety Plan**
 - **Community Relations Plan**
- **Site Characterization Phase**
- **Treatability Studies Phase**



Feasibility Study

- **Evaluates proposed remedies**
- **One alternative must be discussed for following categories:**
 - **Treatment alternatives**
 - **Alternatives attaining ARARs**
 - **Alternatives Exceeding ARARs**
 - **Alternatives that do not attain ARARs**
 - **No Action**

Feasibility Study



RA alternatives are evaluated based on three categories of criteria:

- **Threshold**
- **Balancing**
- **Modifying**

Feasibility Study

Threshold Criteria

- **Overall protection of human health and the environment**
- **Compliance with ARARs**



Feasibility Study

Balancing Criteria

- **Long-term effectiveness and permanence**
- **Reduction of toxicity, mobility, or volume through treatment**
- **Short-term effectiveness**
- **Implementability**
- **Cost**



Feasibility Study

Modifying Criteria

- **State acceptance**
- **Community acceptance**



Remedy Selection

A Proposed Plan:

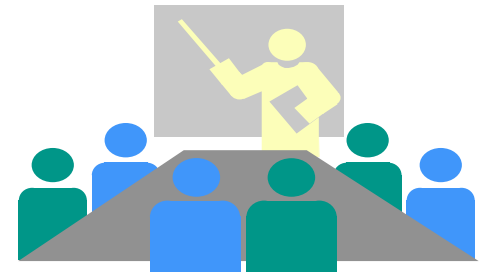
- **Describes the remedial alternatives analyzed**
- **Identifies the preferred alternative**
- **Summarizes relied upon information**
- **Solicits public comment**



Remedy Selection

Once comments have been evaluated, a final remedy is selected and documented in the ROD, which:

- **Provides a rationale for the selected remedy**
- **Establishes performance goals and standards**
- **Provides a plan for remedy design and remediation**
- **Documents whether and how the remedy has changed since the proposed plan**



Remedial Design/Remedial Action

Cleanup is accomplished during the RD/RA stage, which includes:

- **Engineering (design, cost estimates)**
- **Approval (permits, public involvement)**
- **Implementation (contractor procurement, inspections, closeout)**

Closeout

To close out a site:

- **Waste must be disposed**
- **Equipment decontaminated and demobilized**
- **Any temporarily relocated citizens returned to homes**
- **A report documenting the ongoing operational or maintenance (including monitoring) activities that will be performed**

The NPL

- **Mandated under CERCLA**
- **List of sites where uncontrolled releases of hazardous substances have occurred.**
- **Updated twice each year**

NPL Listing



A site is listed on the NPL if:

- **Score exceeds 28.5 using Hazard Ranking System, or**
- **Host state designates the release as highest priority, or**

NPL Listing



**New EPA policies issued in 1995 and 1997,
included new definitions:**

- **Deletion**
- **Deferral**

NPL Listing

A site is listed on the NPL if: (continued)

- **Agency for Toxic Substances and Disease Registry (ATSDR) issues a health advisory, EPA determines the release poses a significant threat, and EPA determines it is more cost effective to use remedial actions to respond to the release**

NPL Deletion/Deferral

Deletion:

- **NPL removal because cleanup is complete**

OR

- **Because another cleanup authority can be used to remediate the site or parcel**

NPL Deletion/Deferral

Deferral:

- **Decision not to list**

OR

- **Decision not to continue listing a site on the NPL**
- **To allow other statutory authority to replace CERCLA response authority for handling remediation at the site.**

NPL Deletion/Deferral

Policies also provided for partial deletion of Federal facilities from the NPL if:

- **A parcel has been cleaned up**

OR

- **Never contaminated**

Hanford's 1100 Area was deleted from the NPL under this policy

Natural Resource Damage Trustees

CERCLA directs the President to designate Federal officials “who shall act on the behalf of the public as trustees for natural resources.”



Natural Resource Damage Trustees

Trustees are authorized:

- **To recover damages resulting from a release of a hazardous substance or oil spill in water**
- **To restore natural resources to their prior condition**



CERCLA Requirements



CERCLA:

- **Requires Federal agencies to meet its requirements**
- **Precludes Federal agencies from using Trust Fund monies**

EPA Enforcement Authority

Section 109 of CERCLA provides the EPA with authority to assess civil penalties for a number of violations:

- **Administrative - \$25K for violation of a CERCLA requirement, order, consent decree, or Interagency Agreement (IAG)**
- **Ongoing Violations - \$25K for each day a violation continues**



Citizen Suits

In addition to EPA enforcement powers, CERCLA Section 310 authorizes citizens to bring judicial action against Federal agencies alleged to be in violation of CERCLA requirements.



Community Relations/Public Participation

The NCP requires the lead agency to:

- **Conduct interviews with local parties before commencing field work**
- **Prepare a formal, site-specific, Community Relations Plan**
- **Establish at least one local information repository**



Community Relations/Public Participation

After preparation of the Proposed Plan, the lead agency must:

- **Publish a notice of availability and brief analysis of the Proposed Plan in a major local newspaper**
- **Make the Proposed Plan and supporting information available to the public**
- **Provide an opportunity to submit comments on the Proposed Plan**



CERCLA and Other Legislation

The most prominent statutes are:

- **RCRA**
- **NEPA**
- **CAA**
- **SDWA**



CERCLA and Other Legislation

Many Federal laws have been enacted to protect the environment from the threat of hazardous substances, with each statute having its own particular focus. Additionally, States may also have significant parallel or independent statutes.



CERCLA and RCRA

- **Although the statutes are different, cleanups performed under either may be similar**
- **The major difference is that RCRA authority may be delegated to the state, while CERCLA authority always remains with EPA**

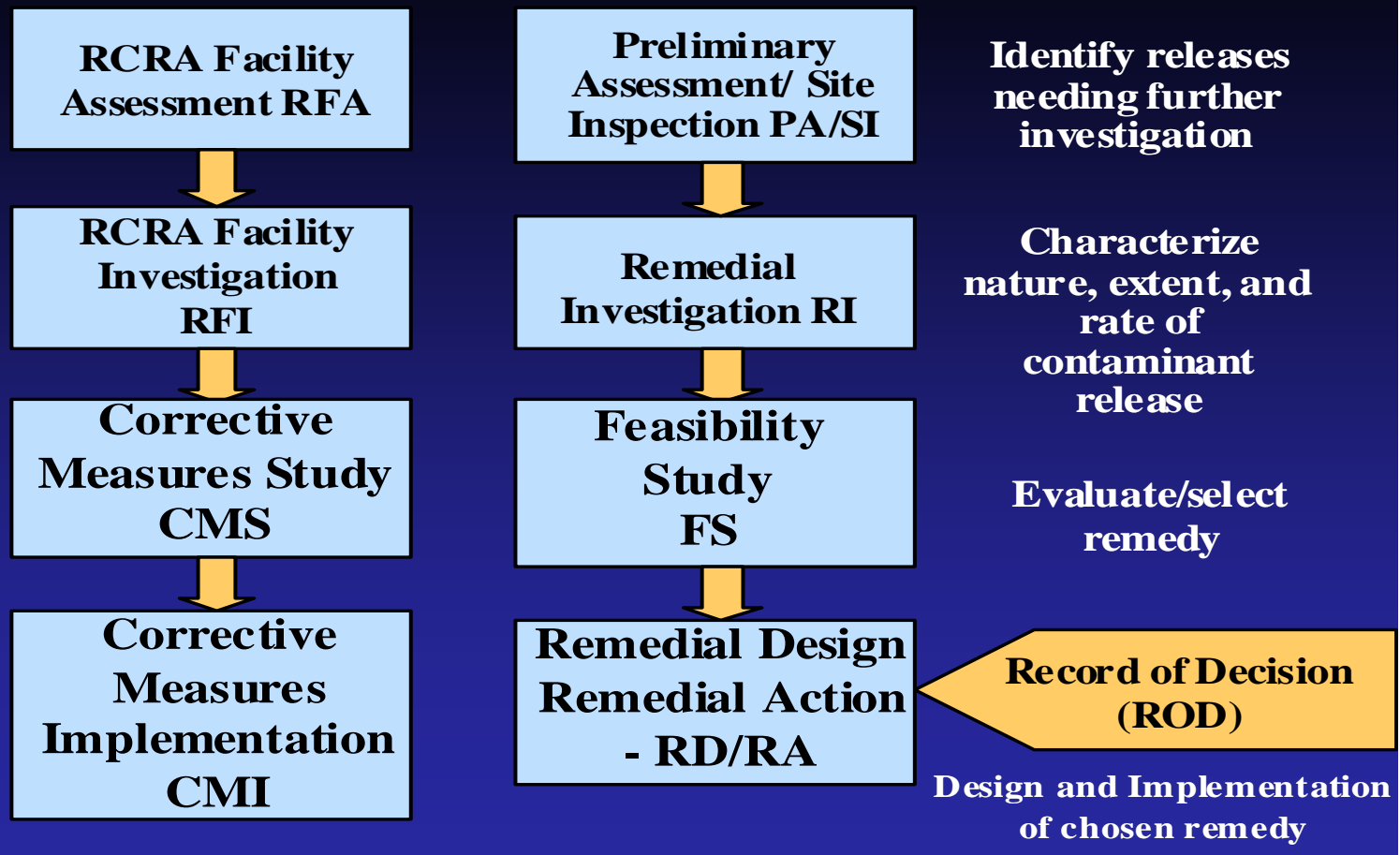
CERCLA and RCRA



- **NEPA may be triggered by a CERCLA action**
- **In order to streamline cleanups and reduce paperwork, it is DOE policy to incorporate NEPA values into CERCLA documentation**

COMPARING RCRA CORRECTIVE ACTION AND SUPERFUND REMEDIAL PROCESSES

RCRA VS. CERCLA



Monitored Natural Attenuation Directive

- **Interim Final Directive on Use of Monitored Natural Attenuation (MNA) at Superfund, RCRA and UST Sites issued by EPA, December 8, 1997**
- **Promotes consistency in how MNA remedies are proposed, evaluated and approved**

Monitored Natural Attenuation Directive



- **Does not substitute for EPA's statues or regulations**
- **Is not legally binding on EPA, states, or the regulated community**

Monitored Natural Attenuation Directive

- **States EPA does not view MNA to be a “no action” or “walk-away” approach**
- **MNA is an alternative means of achieving remediation objectives**
- **MNA may be appropriate for a limited set of site circumstances**
- **MNA should be used cautiously as the sole remedy at contaminated sites**

Review Questions

- 1. Select the item that best describes what constitutes a hazardous substance under CERCLA.**
 - a. Radioactive materials; heavy metals such as mercury, cadmium, and lead; any known poison; and any toxic petroleum derivative.**
 - b. Substances defined as hazardous waste under RCRA; as well as substances regulated under the Clean Air Act, the Clean Water Act, or the Toxic Substances Control Act; and any compound, element, mixture, or solution of a substance designated by the Administrator of the EPA as a “hazardous substance”.**

Review Questions

1. **Select the item that best describes what constitutes a hazardous substance under CERCLA. (cont.)**
 - c. **Any substance that can irradiate, burn, corrode, cut, intoxicate, or accumulate in blood, lungs, throats, or internal organs of human beings, and cause harmful effects.**
 - d. **Radioactive materials; heavy metals such as gold, silver, platinum, mercury, lead, cadmium, or zinc; and any chemical mixture, solution, or element that can combine with living tissue to corrode, change, mutate, burn, or chemically alter an organ or a living organism.**

Review Questions

2. A site is placed on the National Priorities List when hazardous materials from the site have migrated off site.

- a. True**
- b. False**

Review Questions

3. Define this acronym:

b. ARAR

Review Questions

4. **Select the item that best describes why the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted.**
 - a. **To respond to nuclear and chemical releases from DOE facilities engaged in the production of weapons.**
 - b. **To address risks to human health and environment resulting from releases or threatened releases of hazardous substances to the environment.**

Review Questions

4. Select the item that best describes why the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted. (cont.)

- c. To provide a comprehensive law that the public could use as a basis for legal claims against the Government incident to personal injuries suffered due to Government negligence.**
- d. To provide legal recourse to the public for environmental problems caused by the Government, such as “Love Canal”.**

Review Questions

5. Cost and stakeholder acceptance are two of the nine criteria recognized by EPA for evaluating CERCLA remediation alternatives.

- a. True**
- b. False**

Review Questions

6. Once a site is deleted from the National Priorities List (NPL) it can never be put back on the NPL.

- a. True**
- b. False**



Related Courses

- **CERCLA Orientation and Remedial Investigation/Feasibility Study**
- **Pollution Prevention and Waste Minimization in Environmental Restoration**
- **Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)**
- **Monitored Natural Attenuation**



Related Courses

- **Principles for Accelerating Remedial Design and Implementation**
- **Managing Human Health & Ecological Risk Assessment Projects Under CERCLA & RCRA**

For more information, ask to see your instructor's copy of the NETO Course Catalog or view the catalog and the online schedule at: www.em.doe.gov/neto/