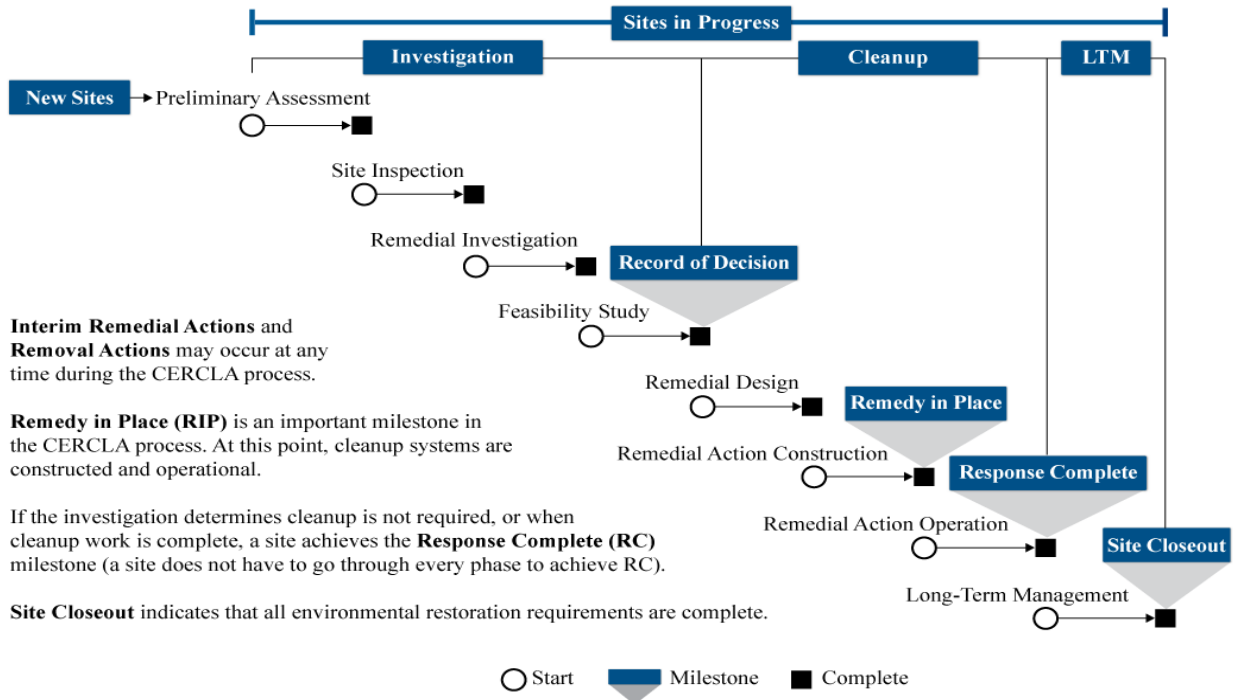


Comprehensive Environmental Response, Compensation, and Liability Act Process

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides a consistent approach across the Nation for cleanup. The Defense Environmental Restoration Program (DERP) statute provides authorities to the Department of Defense (DoD) to perform and fund actions and requires they be carried out in accordance with CERCLA. This paper summarizes the major CERCLA phases and milestones, although actual timing and scope of response actions will be tailored to site conditions and funding priorities. The timeline for each phase represents the typical timeline for both installation restoration program (IRP) and military munitions response program (MMRP) sites. Note that all sites do not have to progress through all phases. For example, no further action may be required at the end of the Preliminary Assessment (PA)/Site Inspection (SI) or Remedial Investigation (RI)/Feasibility Study (FS) phases. Also, some sites may not require either an RA-O or LTM phase if response actions completed during the Remedial Design (RD)/Remedial Action (RA) phase are sufficient to cleanup the site.

Before DoD conducts any of the phases described below, it drafts a scope of work or performance work statement and then competes and awards a contract. DoD must follow federal and DoD contracting regulations and requirements for work not performed by government staff. Contract scoping to award can take anywhere from 6-24 months depending on the size and complexity of the contract. Contracts can include one or more sites, multiple phases of work, or multiple contracts may be necessary to complete a single phase of work based on the contract objectives, period of performance, and overall contractor performance.

Figure. CERCLA and DERP Phases and Milestones



The Figure illustrates phases and milestones DoD uses to cleanup a site. The actual sequence, timing, and scope of cleanup actions will be tailored to site conditions and funding priorities.

Preliminary Assessment (Timeframe: approximately 1-2 years)

During the Preliminary Assessment (PA), DoD reviews existing information and may conduct site reconnaissance to determine locations where DoD activities may have caused a release of a hazardous substance or pollutant or contaminant. This phase involves steps such as reviewing historic operations, documents, and maps located both on installations and in the national archives, as well as, interviewing Service members and civilians who have historic knowledge of the operations that may have contributed to a potential release. DoD summarizes the information in a draft PA report that goes through an internal review and is then provided to the regulators for review. Once completed, the PA identifies sites that may require a CERCLA response action.

Site Inspection (Timeframe: approximately 1-3 years)

The next step is to perform a Site Inspection (SI) on locations identified in the PA to confirm the release. This is accomplished through a site visit with the permission of the landowner if the site is not under the control of DoD. The SI typically involves sampling environmental media, such as soil or groundwater, and collecting and analyzing other data to determine the need for further action. DoD develops the draft SI workplan in collaboration with the regulators to determine the number and location of samples, media to be sampled, chemicals to sample for, and the screening criteria. This workplan goes through a quality assurance internal review and then is provided to the regulators for review and comment. After resolving the comments, DoD schedules the fieldwork. Depending on the location's climate challenges (remote location with limited construction season or sampling a stream in the dry season), endangered species issues (avoiding mating season or migration times) and access issues (military training or landowner activities), scheduling this work can be delayed for several months. The samples are sent to a laboratory for analysis and typically receives results in 6-8 weeks. DoD compiles the information collected into a draft report. This report includes the history of the site, maps, sampling locations and results, and recommends whether the site should continue to the next phase. After an internal DoD review, the draft report is sent to the regulators for their review. Review times vary, but it typically takes regulators 4 -16 weeks for review depending on workload and staffing levels. DoD reviews and incorporates the comments into the SI report and may meet with regulators to discuss some comments. DoD then finalizes the SI report.

DoD uses the data gathered in the PA/SI to prioritize sites that require further action. DoD uses risk-based methodologies to determine the sequence for funding actions at Installation Restoration Program sites and Munitions Response Sites. DoD will provide regulatory agencies and community stakeholders with the opportunity to provide input and comment on the priority determinations.

Remedial Investigation/ Feasibility Study (Timeframe: approximately 4-10 years)

DoD characterizes the site and evaluates various alternatives for remediating the site during the Remedial Investigation/Feasibility Study (RI/FS). During the RI, DoD collects detailed information through field investigations to characterize site conditions. This includes determining the nature and extent of the contamination (e.g., source where the contamination is coming from, how widespread the contamination is in the soil, groundwater, or other media); assessing actual and potential exposure pathways; and evaluating risks to human health and the environment (e.g., conduct an ecological and human health risk assessment). Specific RI activities include developing an RI Workplan in collaboration with the regulators, obtaining site access, performing one or more seasons of fieldwork, evaluating current and reasonably anticipated future land use, conducting the baseline risk assessment, drafting an RI report, refining the conceptual site model, initiating public involvement through a Restoration Advisory Board if warranted, implementing a Community Relations Plan, and establishing and maintaining an Administrative Record file and information repository.

Many of these activities involve internal document reviews, coordinating with regulators and the public, and comment adjudication before finalizing the document. DoD works with the regulators to support buy in upfront. Although this may take additional review time in the beginning of the cleanup process, DoD has found that it reduces the need to repeat fieldwork or to conduct additional sampling later in the cleanup process. Typically regulators are given at least 4 – 8 weeks for each review, but regulators often ask for one or more extensions depending on the complexity of the site, their familiarity with the site, or competing workload challenges. There may be some additional exchanges between DoD and the regulators to ensure that DoD addresses regulator comments.

If contamination at the site is below the unacceptable risk level, no further work is required. If the site-related contamination results in an unacceptable risk, then DoD will conduct a FS. During the FS, DoD develops, screens, and evaluates remedial cleanup alternatives in detail; assesses the performance; and selects a permanent solution that is protective of human health and the environment. All cleanup remedy evaluations must be based on an analysis using the nine criteria found in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). DoD also develops a draft FS report, which goes through internal and regulator reviews and comment adjudication.

CERCLA also requires a Proposed Plan, which summarizes the RI/FS and highlights the key factors that led to identifying the preferred cleanup remedy. At a minimum, the Proposed Plan provides a brief description of the cleanup alternatives evaluated; a discussion of the rationale that supports the preferred cleanup alternative; and provides a summary of any formal comments received from supporting agencies. DoD coordinates the Proposed Plan with regulators. DoD must then make the Proposed Plan available for public comment, notify the stakeholders, provide an opportunity for a stakeholder meeting, and include the Proposed Plan in the information repository and the Administrative Record. DoD prepares a written summary of all significant comments, new or relevant information submitted during the public comment period, and a response to each issue.

A **Record of Decision (ROD)** is prepared following completion of the Proposed Plan and public comment period. The ROD identifies the final selected cleanup remedy and the cleanup level DoD is working to achieve. The ROD considers public comments and community concerns. At National Priority List (NPL) sites, DoD needs the U.S. Environmental Protection Agency's concurrence on the ROD and may also send to the state regulator for review. For non-NPL sites, after the internal review process, DoD offers the state regulator an opportunity to review and comment on the ROD.

Remedial Design /Remedial Action Construction (Timeframe: 2-10 years)

During the Remedial Design (RD) phase, DoD develops the design plans and specifications of the selected cleanup remedy. The RD may include a land use control (LUC) implementation plan, if LUCs are a required element of the selected cleanup remedy. The RD is coordinated internally within DoD to ensure compliance with environmental and safety standards and then with the lead regulatory agency. Typically regulators are given 4 – 8 weeks for review, but may ask for an extension. There may be some additional reviews to ensure that DoD addresses regulator comments. During the Remedial Action Construction (RAC) phase, DoD constructs or implements the selected cleanup remedy. Where construction will be performed, a work plan is prepared by DoD to document how the work will be done to ensure it meets the design plans and specifications. For example, DoD could build and install a pump and treat system for groundwater, install piping to connect the public to a municipal drinking water system, construct a cap for a landfill, or perform a removal of munitions. A remedial action completion report is prepared to document the remedy as implemented. This report also undergoes both internal and regulatory review.

Remedial Action-Operation (Timeframe: 1-30+ years)

During the Remedial Action-Operation (RA-O) phase, DoD operates, maintains, and monitors the cleanup system and site, until the cleanup level(s) in the ROD are achieved. For IRP sites, the RA-O phase can last for many years, as groundwater cleanup can be a slow process. During this time, DoD ensures the systems are operating properly, optimizes the systems, and performs sampling to monitor progress. These activities are summarized in periodic reports (e.g., quarterly, semi-annually) and 5-year reviews. These workplans and reports are submitted to regulators for review and comment. The RA-O phase may also include implementation, management, and maintenance of LUCs if part of the selected remedial action.

The Department measures cleanup progress against the **Response Complete** milestone, which occurs when the cleanup activities are complete (although DoD or a subsequent landowner may have a continuing responsibility to monitor the site). DoD provides regulatory agencies with the opportunity to comment on completion of response action activities.

Long-term Management (Timeframe: 1-30+ years)

Following achievement of the RC milestone, the DoD Component may be required to monitor long-term protectiveness of the remedy during the Long-term Management (LTM) phase. The

LTM phase is required when the cleanup levels do not allow unrestricted use of the property. Actions during this phase may involve monitoring site conditions, implementing and managing LUCs, and performing 5-year reviews. DoD will close out a DERP site only when there is no future environmental liability at the site (i.e., when cleanup goals have been achieved that allow unlimited use and unrestricted exposure). However, not all DERP sites can achieve unrestricted use of the property and may remain in LTM for perpetuity.

Removal Action (Timeframe: approximately 1-2 years)

DoD can initiate removal actions at any point throughout the cleanup process for a situation requiring a more immediate response, such as exposure to humans or animals that results in serious threats to public health or wildlife. Typically a removal action does not provide a final cleanup response action and the site will return to the CERCLA remedial process following completion of the removal action. Removal actions do not involve the extensive analyses used to select a remedial action, and, DoD executes them consistent with the National Oil and Hazardous Substances Pollution Contingency Plan.

Removal actions are classified differently based on the extent and type of contamination and the immediate need for action. Removal activities may include developing Engineering Evaluation/Cost Analysis, a workplan in collaboration with the regulators, Explosive Safety Submission (only at munitions sites), and action memorandum (a document justifying the need to the immediate action and explaining the removal activities to be undertaken); coordinating with local law enforcement; ensuring appropriate notifications; establishing or updating the administrative record and information repository; developing a community involvement plan and conducting outreach; performing the removal, and drafting a removal/completion report.