

Environmental Laws and Regulations



CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, \$1.6 billion was collected, and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites.

CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response.
- Long-term remedial actions, which permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These actions can be conducted at sites listed on the Environmental Protection Agency's (EPA's) National Priorities List, a listing of the nation's most hazardous waste sites.

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List. In December 1989, EPA added the Oak Ridge Reservation site to the National Priorities List.

Superfund Records of Decision

Under the CERCLA process, a Record of Decision (ROD) formally documents the selection of a preferred cleanup method at Superfund sites.

Before a final cleanup decision is reached, a series of steps are followed. The pre-remedial stage involves identifying, and investigating areas to be addressed at the National Priorities List site. The site is then divided into operable units (the scoping boundary of a remedial response taken as one part of the site

cleanup). The designated lead agency then performs a Remedial Investigation/Feasibility Study (RI/FS) and develops a preferred alternative for cleaning up an operable unit.

The preferred alternative is presented to the public for comment in a Proposed Plan, which briefly summarizes the alternatives studied in the RI/FS and identifies the preferred alternative. It also provides an evaluation of the alternatives against the following CERCLA-specified criteria: overall protection of human health and the environment; compliance with applicable requirements; short-term and long-term effectiveness; reduction of toxicity, mobility, or volume of contamination; implementability; cost; state acceptance; and community acceptance.

The Environmental Protection Agency, the state, and the lead agency select a remedy and document it in a ROD after receiving comments from the public.

The Oak Ridge Reservation was added to the National Priorities List in 1989, identifying it to be cleaned up under the provisions of CERCLA.

Removal Actions

Some cleanup activities on the Oak Ridge Reservation are conducted as Removal Actions under CERCLA. These actions provide an important method for moving sites more quickly through the CERCLA process.

Removal Actions are common at Superfund sites when the contamination poses an immediate threat to human health and the environment. Removals are classified as emergency time-critical or non-time-critical depending on the extent and type of contamination.

Generally, when a site presents a relatively time-sensitive, non-complex problem that can and should be addressed, a removal action would be warranted. However, even expensive and complex response actions may be candidates for removal action if they are time-sensitive. To determine if a removal action is war-



Environmental Laws and Regulations (continued)

ranted, a determination must be made, preferably in an Engineering Evaluation/Cost Analysis (EE/CA), that there is a release or threat of release of a hazardous substance or pollutant into the environment.

An EE/CA is required for non-time-critical removal actions. The EE/CA explains the basis for the decision to employ a non-time-critical removal action as opposed to initiating a more complex RI/FS. It will detail cost, complexity, comprehensiveness, and time sensitivity of the proposed action. The EE/CA and all other documentation associated with the Removal Action are kept in the Administrative Record File, which is publicly available.

Administrative Record File

Both CERCLA and the NCP require the Department of Energy (DOE) to create and maintain an Administrative Record for each response action (remedial or removal) on the Oak Ridge Reservation. The Administrative Record is the official body of documents that form the basis for the selection of a particular response action. An Administrative Record is developed for each project in which a ROD or Action Memorandum will be generated. The Administrative Record is closed with the signing of these documents.

The Administrative Record File serves two primary purposes. First, judicial review is limited to the contents of the Administrative Record in questions concerning the adequacy of the response that was selected. (Judicial review could include documentation outside of the Administrative Record if the record is deemed not to be complete or of appropriate quality.)

Second, the Administrative Record acts as a vehicle for and record of public participation in the response selection process. The Administrative Record files for the Oak Ridge Reservation are housed at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, Tenn.

Federal Facility Agreement

Cleanup activities on or near the Oak Ridge Reservation are being performed in accordance with relevant state and federal laws, requiring close interaction among EPA, the Tennessee Department of Environment and Conservation (TDEC), and DOE. The terms for this interaction have been defined in a Federal Facility Agreement, which is required by CERCLA.

The Agreement, implemented January 1, 1992, ensures that environmental requirements are met or exceeded and that cleanup is performed as quickly as possible. A key goal of the agreement is to identify individual cleanup steps that can be performed to manage, eliminate, or reduce contamination.

EPA and TDEC will review the effectiveness of the remedial actions on the Reservation no less than once every five years to ensure that human health and the environment continue to be protected. To facilitate this process, DOE produces an annual

Remediation Effectiveness Report, which is sent to EPA and TDEC for approval. This document reports the results of the monitoring performed on the Oak Ridge Reservation. This document is expanded every fifth year to satisfy the CERCLA five-year reporting requirement to evaluate the effectiveness of the cleanup activities.

Natural Resource Damage Assessment

CERCLA imposes responsible party liability for residual damages resulting from the injury, loss, or destruction of natural resources when environmental restoration activities incompletely correct such injuries because of release of CERCLA hazardous substances. CERCLA Section 107(f), Executive Order 12580, and NCP also authorize DOE, as a federal Natural Resource Trustee, to act in the public interest with regard to natural resources under its jurisdiction. When “residual damages” exist, a Trustee may perform a Natural Resource Damage Assessment (NRDA) to calculate monetary damages.

An NRDA is used to identify additional actions, beyond the initial cleanup response, to address injuries to natural resources. Examples include actions needed to restore the productivity of habitats or the species diversity that were injured by the past releases or to replace them with substitute resources. A Trustee may also seek compensation for the loss of injured natural resources from the time of injury until the time they are fully restored by assessing lost services. Regulations for assessing natural resource damage have been promulgated under both CERCLA and the Oil Pollution Act.

In the early 1990s, a DOE Oak Ridge Reservation Natural Resource Trustee Council was formed. The council is composed of representatives from DOE, the State of Tennessee, Tennessee Valley Authority, and U.S. Fish & Wildlife Service. A memorandum of understanding was written that established the roles and responsibilities of the council members. Once a Record of Decision was written for the Lower Watts Bar Reservoir, the council began to evaluate impacts to natural resources in the reservoir. In an attempt to compensate for damages to the reservoir, DOE and the State of Tennessee signed an Agreement in Principle in December 2002 to establish a conservation easement on 3,000 acres of land along Black Oak Ridge.

NEPA

The National Environmental Policy Act (NEPA), signed into law on January 1, 1970, established a national environmental policy and goals for the protection, maintenance, and enhancement of the environment. NEPA also provides a procedural process for implementing these goals within the federal agencies.

Environmental Laws and Regulations (continued)

NEPA's policies and goals are to

- consider the environmental consequences of proposed actions;
- act as an environmental trustee for future generations;
- ensure healthful, productive, and aesthetically and culturally pleasing surroundings;
- attain the widest possible range of beneficial uses of the environment without degradation or risk to health and safety;
- preserve historic and cultural heritage;
- achieve a balance between population and resource use; and
- enhance the quality of renewable resources and encourage recycling of depletable resources.

The Council on Environmental Quality, created to oversee NEPA, produces regulations that provide a procedural process for implementing these goals within federal agencies. CEQ was assigned the lead role in giving both structure and substance to the broad and very general mandates of the Act.

CEQ regulations were first issued in 1978 and required federal agencies to issue NEPA implementation procedures. The regulations place emphasis on informed decision-making based on understanding the environmental consequences of a proposed action. DOE's NEPA implementing regulations are found in 10 CFR 1021.

The first step in the NEPA process is scoping, the early and open process for determining the range of issues to be addressed and for identifying the significant issues related to a proposed action.

An action with no individual or cumulative significant effects on the quality of human environment is given a Categorical Exclusion. No Environmental Assessments or Environmental Impact Statements are required.

An Environmental Assessment determines whether an action would significantly affect the environment, and if so, an Environmental Impact Statement is prepared. If not, a "Finding of No Significant Impact" is issued.

For actions that significantly affect the environment, federal agencies are required to prepare Environmental Impact Statements, assessing the impact of, and alternatives to, the proposed action. A Notice of Intent is published in the *Federal Register* if an Environmental Impact Statement is planned.

In cases requiring an Environmental Impact Statement, DOE will prepare a concise public ROD stating that the decision is based on the Environmental Impact Statement. The ROD will state whether all practical means to avoid or minimize environmental harm from the alternatives selected have been adopted, and if not, why.

RCRA

The Resource Conservation and Recovery Act of 1976 (RCRA) addresses management of the country's huge volume of solid waste. The law requires that EPA regulate the management of hazardous waste, which includes waste solvents, batteries, and many other substances deemed potentially harmful to human health and the environment. RCRA also regulates underground tanks used to store petroleum and hazardous substances, recyclable used oil and batteries, mercury thermostats, selected pesticides, and fluorescent/hazardous light bulbs as universal wastes.

East Tennessee Technology Park, Oak Ridge National Laboratory, and the Y-12 National Security Complex are considered RCRA large-quantity generators. Each facility generates RCRA hazardous waste, some of which contains radionuclides.

The RCRA corrective action processes are similar to the CERCLA process and includes a RCRA facility assessment to identify releases needing further investigation; RCRA facility investigation, which characterizes the nature, extent, and rate of contaminant releases; a corrective measure study, which evaluates alternatives and details the remedy chosen; and corrective measure implementation. The RCRA process also includes public participation during the decision-making process.

Environmental Justice

Studies have shown that minority and low-income communities experience higher than average exposure to pollutants than the general population. In 1994, "environmental justice" was established as a national priority in the federal government through Executive Order 12898.

DOE is taking several steps to incorporate environmental justice into all decision-making processes. These steps include developing ways to lessen adverse human health or environmental effects to minority and disadvantaged populations, and determining and using, where possible, materials, technologies, and industry processes that are friendly to the environment.

Public participation is also an essential element in reaching environmental justice goals. DOE is making efforts to improve communications with minority and disadvantaged communities by scheduling more accessible public meetings, providing information in a timely and understandable manner, and involving the communities in all stages of cleanup decisions.