

Conf - 910981--47

Summary for Environmental Remediation '91
Cleaning Up the Environment for the 21st Century

ANL/CP--72946

DE92 003450

September 8-11, 1991
Pasco, Washington

**TAKING INTERIM ACTIONS:
INTEGRATING CERCLA AND NEPA TO MOVE AHEAD WITH SITE CLEANUP**

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NOV 23 1991

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ABSTRACT

The cleanup of contaminated sites can be expedited by using interim response actions in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). In fact, a major portion of some Superfund sites can be cleaned up using interim actions. For CERCLA sites being remediated by the U.S. Department of Energy (DOE), such actions must also comply with the National Environmental Policy Act (NEPA) because the DOE has established a policy for integrating CERCLA and NEPA requirements. A strategy for the integrated documentation and implementation of interim actions has been applied successfully at the Weldon Spring site, and major cleanup projects are currently underway. This paper discusses some of the issues associated with integrating CERCLA and NEPA for interim actions and summarizes those actions that have been identified for the Weldon Spring site.

INTRODUCTION

The cleanup of contaminated sites can be expedited by using interim response actions. These actions include both (1) removal actions that are conducted to respond to a release or a threat thereof, such as a leaking pit; and (2) interim or focused remedial actions that are conducted to address a separate operable unit of the site, such as a discrete source area or a specific environmental medium such as surface water or groundwater.

A major portion of some Superfund sites can be cleaned up entirely as removal actions, e.g., sites remediated by the U.S. Environmental Protection Agency (EPA) at which actions are taken solely in accordance with CERCLA and the NCP. For facilities being remediated by DOE, interim actions must also comply with NEPA, including the implementing regulations provided by the Council on Environmental Quality (CEQ). Hence, certain limitations must be addressed before interim actions can be selected to expedite cleanup at DOE Superfund sites under the integrated CERCLA/NEPA process.

SITE BACKGROUND AND INTERIM ACTION PROGRAM

The Weldon Spring site is located about 48 km (30 mi) west of St. Louis, Missouri, and consists of two noncontiguous areas: an 88-ha (217-acre) chemical plant area and a 3.6-ha (9-acre) limestone quarry. Both areas are radioactively and chemically contaminated as a result of past processing and disposal activities; the site has been inactive for more than 20 years. The chemical plant area contains about 40 buildings, several surface water impoundments (including four waste pits), and two former dump areas. The quarry was used to dispose of a variety of solid material such as process waste, building rubble, and equipment; surface water has ponded at the base of the quarry. The EPA listed the quarry on its National Priorities List in 1987, and the chemical plant was added to the listing in 1989.

An interim-action program has been successfully applied at the Weldon Spring site. That is, several compliance decisions have already been made in concert with the regional EPA office and the state of Missouri, and action is currently underway for a number of significant cleanup measures. In the meantime, preparation of the major compliance documentation that addresses the overall disposition of contaminated material from the site is continuing. This documentation consists of a CERCLA remedial investigation/feasibility study (RI/FS) integrated with an environmental impact statement (EIS) under NEPA, resulting in a hybrid RI/FS-EIS.

To scope the interim actions, the Weldon Spring site was evaluated for current and potential releases and for separately manageable problems. In this manner, a number of removal actions were identified in accordance with the CERCLA conditions listed in the NCP. These interim response actions have been targeted to help stabilize the site by addressing potential health and safety threats. The actions were also tailored to support the comprehensive cleanup effort for the site. A phased cleanup strategy that includes specific operable units and interim actions was presented in the work plan for the project.

The removal actions that have already been implemented to reduce health and safety threats to on-site personnel and/or to respond to off-site contaminant releases at the chemical plant area include the following:

- Inactive power lines and poles that were falling to the ground -- posing health and safety threats on-site -- have been taken down. Uncontaminated material has been released off-site for reuse, and contaminated material has been placed in temporary storage on-site pending upcoming disposal decisions for the project.
- Overhead external piping that was insulated with deteriorating asbestos coverings -- posing potential threats on-site and representing a potential source for off-site releases -- has been taken down. The asbestos coverings have been removed and all material has been surveyed and classified. Uncontaminated material was disposed of off-site (including most of the piping), and contaminated material was placed in controlled storage on-site.

- Old electrical equipment on-site containing polychlorinated biphenyls (PCBs) -- representing a source of potential release and subsequent health threats -- has been removed. The PCBs have been flushed from the equipment, and both the fluids and the containers have been transported off-site to a licensed treatment and disposal facility.
- Chemicals in drums, tanks, cylinders, bottles, and other containers that were scattered among the buildings and in certain outside areas -- posing a potential health threat on-site and representing a potential source for off-site releases -- have been containerized and consolidated within an empty nonprocess building that was converted for waste storage on-site.
- A small amount of radioactively contaminated soil at a vicinity property -- which could have posed a potential health threat off-site because of planned use of the area -- has been excavated, drummed, and placed in controlled storage on-site.
- Surface runoff around a contaminated dump area -- which represented a source of contaminant release off-site (notably uranium) -- has been diverted from the area by constructing a dike and diversion system.
- A number of the deteriorating chemical plant buildings -- which posed a health and safety threat on-site -- have been decontaminated and dismantled, and the material has been placed in temporary storage on-site. The remaining structures -- which include the highly contaminated process buildings, are targeted for decontamination and dismantlement in the near term; the compliance process for this follow-on action is almost complete (i.e., the evaluation and community participation phases have been completed, but the compliance closeout under NEPA is still in the final stages).

Additional removal actions that have been documented and are in various stages of design and implementation include the following:

- A water treatment plant is being constructed at the quarry to treat water removed from the quarry pond -- which represents a source of contaminant release that is threatening a nearby drinking water supply via contaminant migration to groundwater.
- A water treatment plant is being constructed at the chemical plant area to treat water removed from the various impoundments -- which represents a source of contaminant release and exposure; this plant will also provide the capacity for treating additional water that may be generated by other response actions at the site (e.g., water collected from decontamination facilities and storage areas).

In addition, an interim remedial action was identified in accordance with the CERCLA process. This action involves removing solid waste from the quarry for consolidation with the remainder of site material at the chemical plant area. This waste represents a source of contaminant release into air (radon) and also into groundwater (both radiological and nonradiological contaminants). The migration to groundwater potentially threatens the nearby drinking water supply. As for other interim actions, the waste resulting from each of these actions is to be stored on-site pending the disposal decision for the project. These decisions will be determined from the RI/FS-EIS that is currently in preparation and will be documented in the subsequent record of decision (ROD).

ISSUES

Many issues were raised and resolved during the planning and documentation of interim actions for the project, including (1) CERCLA justification and NEPA constraints, (2) CERCLA schedule and cost limitations, (3) integration with other site activities, (4) compliance documentation and closeout, (5) cumulative impacts, (6) applicable or relevant and appropriate requirements (ARARs), and (7) community involvement. These issues are addressed individually below.

Compliance with Procedural CERCLA and NEPA Requirements

Eight factors to be considered in determining the appropriateness of a removal action under CERCLA are listed in the NCP (see *40 Code of Federal Regulations [CFR] 300.415*). These factors address a variety of conditions that may be common at DOE Superfund sites. For example, they include (1) the actual or potential exposure of humans or biota; (2) actual or potential contamination of drinking water supplies; and (3) the presence of contaminated material in drums, tanks, or other bulk storage containers that may pose a threat of release. In addition, the "other" category -- which is the eighth factor listed and addresses "other situations or factors that may pose threats to public health or welfare or the environment" -- may be appropriate to a wide variety of problems at a specific site.

The CEQ regulations given in 40 CFR 1506.1 identify conditions under which interim actions would be limited for DOE Superfund sites. For example, when an EIS is in progress and the interim action is not covered by an existing EIS, no action can be taken that may significantly affect the quality of the human environment unless it is independently justified and would not prejudice the ultimate project decision; adequate environmental documentation must also be prepared. Because an RI/FS-EIS is currently in progress for the Weldon Spring project, these conditions apply to interim response actions at the site. For the quarry bulk waste action, this constraint focused the selection of alternatives. No disposal decisions have been made for material generated by the interim actions that would prejudice the ultimate project decision. That is, the material is generally to be placed in controlled storage on-site pending the disposal decisions that will be made using information from the analyses in the RI/FS-EIS; these decisions will be presented in the ROD.

Schedule and Cost Constraints

Removal actions should comply with the schedule and cost limits identified in the NCP -- i.e., one year and \$2 million -- unless one of the waiver conditions given in the NCP applies. These conditions are (1) the action is required on an emergency basis or (2) a continued response is otherwise appropriate and consistent with the remedial action for the site. Although these schedule and cost limits are identified for Superfund-financed actions, DOE also considers them in evaluating departmentally funded actions. In fact, several of the removal actions proposed for the Weldon Spring site exceed these limits (e.g., the water treatment and building decontamination and dismantlement actions). However, the actions were deemed appropriate because they met the second of the two waiver conditions identified in the NCP.

Integration with Other Site Activities

The sequencing and physical integration of interim actions can be a problem when the activities are interrelated and the site area is limited, as is the case at the Weldon Spring site. For example, to support the quarry bulk waste action, (1) a water treatment plant had to be available at the quarry; (2) a storage area and water treatment plant had to be available at the chemical plant area (to treat water collected at the storage area); and (3) several buildings and other structures had to be removed to build the storage area and treatment plant, so a staging area was also needed for the structural debris. The timing and content of appropriate documentation and decisions under both NEPA and CERCLA had to be carefully planned for each of these separate but interrelated activities in order to move forward with specific cleanup activities.

Documentation Process

The basic compliance document prepared for a DOE removal action is the CERCLA engineering evaluation/cost analysis (EE/CA) report, supplemented to meet the requirements of NEPA. For the more significant removal actions at the site, such as the water treatment and building dismantlement actions, this has been at the level of an environmental assessment (EA). Interim remedial actions are documented in an RI/FS under CERCLA, also supplemented to meet NEPA requirements. For the quarry bulk waste action, a focused RI/FS was prepared for which the NEPA analysis was at an EA level.

The determinations for compliance closeout are typically documented separately. For a removal action, a removal action decision document is prepared under CERCLA and a finding of no significant impact (FONSI) is prepared under NEPA. In many cases, a categorical exclusion rather than a FONSI may be appropriate; this should be determined by reviewing the types of activities that have been proposed for consideration as categorical exclusions by DOE Headquarters. (Certain of the early removal actions at the chemical plant area were conducted prior to SEN-15, and the memorandum-to-file was used as the NEPA decision document.) For interim remedial actions, the CERCLA decision document is a ROD and the NEPA decision document is that appropriate for the scope of the action. The CERCLA and NEPA closeout documents for the interim remedial action at the quarry were a ROD (essentially an interim ROD) and a FONSI, respectively.

As indicated in the discussion of the previous issue, certain actions depended on the components of others. This interrelationship was factored into the compliance closeout process. The on-site water treatment plant was considered integral to the quarry bulk waste action because the potential impacts associated with this action depended on the availability of treatment capacity for water collected from the temporary storage area and from the truck decontamination facility. Hence, the related EE/CA documentation was included with the RI/FS-EA in a "combined EA package" for which a single FONSI determination was made. The closeout documents for these separate removal actions under CERCLA remained separate, for inclusion in the administrative record files for each action. Similarly, EE/CA documents that were prepared to address different chemical plant structures were grouped into a combined EA package to support a second FONSI determination, while the CERCLA decision documents for each activity package remained separate.

Cumulative Impacts

Cumulative impacts are considered so the sum of impacts associated with various individual actions does not result in an unacceptable threat to human health or the environment. The potential cumulative impacts associated with the project's interim actions were presented in the compliance documents for each, rolling forward as appropriate as the actions were developed to consider all reasonable overlaps. For example, health effects associated with the surface discharges from each of the water treatment plants were combined for potential downstream users, and environmental impacts of construction activities for the treatment and storage facilities were combined to evaluate effects on nonhuman resources. In this manner, overall impacts can be maintained within acceptable levels as site cleanup progresses.

ARARs

The ARAR process can be extremely time-consuming, and a project can benefit a great deal by addressing potentially controversial regulatory requirements early in the compliance process. Although the interim-remedy waiver condition for ARAR attainment given in the NCP does apply to such actions, an attempt must be made to meet pertinent requirements to the maximum extent practicable, in accordance with the NCP.

Considerable progress was made on the project's ARAR development process by emphasizing this issue as part of the interim actions. An understanding has been reached with both the state and the regional EPA office on a variety of requirements for the project, including water quality limits for off-site surface water releases and the determination of specific waivers for the action period, e.g., the state limit for radon (relative to the quarry bulk waste action) and federal time limits for storing certain chemically contaminated material (relative to storage activities at the chemical plant area).

Community Involvement

An aggressive community involvement strategy can influence the success of an interim action program. Examples of how this strategy has been applied at the Weldon Spring project include (1) meeting with local interest groups prior to full release of the plan, in order to receive

early input; (2) notifying the press with more than the newspaper notices required for such actions, e.g., by being accessible for briefings; (3) preparing "progress report" inserts for distribution to local newspapers; (4) holding public meetings for potentially sensitive removal actions, even though this is not required; and (5) providing the opportunity for follow-up meetings with interested individuals or groups, in order to assure the continuity of effort and responsibility for the planned activity.

CONCLUSIONS

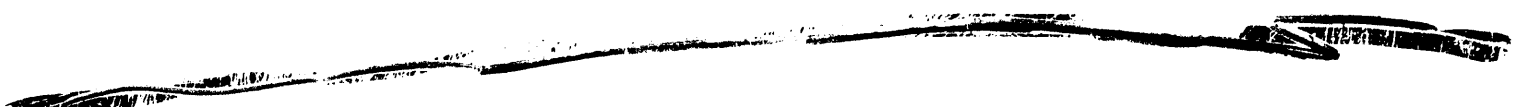
The application of an integrated interim-action program can have multiple benefits for a site. The obvious benefit is that discrete cleanup activities can begin in the field in a very timely manner, i.e., without being delayed by the schedule for comprehensive project decisions. These decisions typically address difficult issues such as the location for waste disposal and the levels of specific cleanup criteria, and they often involve policy issues that take some time to resolve.

In addition, preparing the compliance documents for interim actions affords the chance to address issues ranging from presentation and format to ARARs and regular interagency coordination; facing these issues early can greatly facilitate the subsequent compliance process for major site decisions. Finally, an interim-action program demonstrates to the public the project's commitment to move forward with cleanup, and it can improve relationships considerably. Many of the lessons learned during the development and implementation of interim actions at the Weldon Spring site may help other DOE facilities move more smoothly through the interim-action process to facilitate site cleanup.

ACKNOWLEDGMENTS

Work supported by the U.S. Department of Energy, Office of Environmental Restoration and Waste Management, under contract W-31-109-Eng-38.

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