

DEPARTMENT OF ENERGY SUPPORT TO OTHER FEDERAL AGENCIES:
EXPERIENCES WITH THE INSTALLATION RESTORATION PROGRAM

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ABSTRACT

The Hazardous Waste Remedial Actions Program (HAZWRAP), in addition to its role as the focus for hazardous waste management for the Department of Energy Defense Programs, also provides technical support to other federal agencies. HAZWRAP currently manages over 130 projects in support of the Department of Defense (DOD) Installation Restoration Program (IRP). The IRP is DOD's program for identifying past disposal sites and for mitigating hazards to public health and the environment. This paper relates the history of this involvement, lessons learned during the relationship, and initiatives that are being implemented to facilitate response to regulatory requirements.

INTRODUCTION

Through interagency agreements with various components of the Department of Defense (DOD), the Department of Energy (DOE) Oak Ridge Operations Office is providing technical resources for the characterization of and remedial planning for hazardous waste sites at military bases throughout the United States. The DOE assists the DOD in implementation of its Installation Restoration Program (IRP), by which DOD meets the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the Superfund Amendments and Reauthorization Act of 1986 (SARA), and other relevant statutes. The support is provided through the Hazardous Waste Remedial Actions Program (HAZWRAP) support contractor, Martin Marietta Energy Systems, Inc. (Energy Systems).

Energy Systems subcontracts with environmental services firms to complete the projects. Energy Systems provides subcontract management and technical oversight for the tasks. The types of projects conducted by HAZWRAP cover the full range of steps outlined in the National Contingency Plan (NCP) of CERCLA regulations - Preliminary Assessment (PA), Site Inspection (SI), Remedial Investigation/Feasibility Study (RI/FS), and Remedial Design (RD) - except for actual implementation of Remedial Actions.

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HAZWRAP is currently conducting about 130 projects at 100 military bases for several sponsors. A breakdown of the types of projects is given in Table 1. Very few of these projects include sites containing radioactive wastes. Since a large portion of DOE wastes are either radioactive or mixed (radioactive and chemical), a direct extrapolation from the IRP to DOE environmental restoration efforts may not be possible. However, there are a number of similarities between the situations facing the two agencies, and elements of the DOD experience can be of benefit to DOE. For example, both agencies maintain large facilities and have been the sole tenants for 30 to 40 years; thus there is no controversy as to the ownership of the wastes. Many of the facilities are listed on the National Priorities List (NPL) but include sites that range from the seriously threatening to those that pose little threat to health and the environment.

Table 1. Installation Restoration projects assigned to HAZWRAP.

Project description	In progress	Complete
Preliminary Assessments	5	22
Preliminary Assessments/ Site Inspections	2	0
Site Inspections	22	9
Remedial Investigations	9	1
Remedial Investigations/ Feasibility Studies	69	2
Feasibility Studies	0	0
Remedial Designs	2	1
Remedial Actions	2	1
Other Projects	<u>19</u>	<u>11</u>
Totals	130	42

This paper discusses some issues that have arisen during HAZWRAP's involvement with the DOD and that may have common application to remediation of low-level waste problems.

INTEGRATION OF NEPA AND CERCLA

The National Environmental Policy Act of 1969 (NEPA) requires that environmental considerations be a part of the decision-making process when significant amounts of federal dollars are being expended. Procedural requirements include assessment of environmental consequences of proposed actions, weighing of environmental impacts with other considerations, and public participation in decisions regarding selection among alternative actions. Implementation of these procedures can result in the preparation of either Environmental Assessment or Environmental Impact Statement documents with provision for regulatory and public comment.

CERCLA also requires evaluation of environmental impacts of remedial alternatives, along with engineering assessments of cost, schedule, and technical considerations in the RI/FS. Regulatory and public involvement is a clearly stipulated part of this process. However, EPA provides no definitive guidelines that stipulate that fulfilling CERCLA requirements satisfies an agencies' requirements to comply with NEPA.

The DOD's policy regarding the integration of NEPA and CERCLA recognizes that NEPA applies to actions taken under the IRP and that DOD cannot assume that IRP documents are the functional equivalent of NEPA documents. However, since it is not the purpose of NEPA to foster the generation of paperwork, DOD policy states that feasibility studies can be conducted in a manner that simultaneously ensures that the single FS report meets the requirements of NEPA and CERCLA. If this option is chosen, it is essential that all meetings with regulators and the public, as well as the FS report itself, make clear that the FS process is intended to meet both regulatory requirements.

FOCUSED FEASIBILITY STUDIES

One objective of the National Contingency Plan of CERCLA is to facilitate cost recovery from responsible parties. To accomplish this, sites must be characterized, and cost-effective alternatives must be selected. The RI/FS in these cases must be detailed and completed to reduce potential litigation. At federal facilities, ownership of the wastes is generally not in question, and the cognizant agency has assumed responsibility for cleanup. For some types of waste sites, remedial alternatives are few and have often been well demonstrated. It is therefore superfluous to conduct a full FS to select a remedial action. It is necessary, however, for the federal decision maker to document the selection process and to record the rationale upon which the selection was made. An FS can be conducted to consider a narrow

list of criteria and to set options that have been proven to be applicable to the specific waste type. Sound engineering judgement must be used to decide whether this approach is justified on a case-by-case basis. If appropriate, such a "focused" FS can be completed in less time and for a lower cost than a full FS. Nonetheless, in certain situations defensible decisions can be made and effective remediations can be implemented sooner.

DECISION DOCUMENTS

Under the NCP, a Record of Decision (ROD) document is the process by which the course of action for NPL sites was selected and concurrence reached among concerned parties. For non-NPL sites, it is no less important to formalize the decision-making process and to obtain agreement with regulatory agencies. The ROD is often an unsatisfactory vehicle for non-NPL sites because the scope and cost are not needed for these lesser sites. Beginning in 1986, HAZWRAP, in coordination with the Air Force, initiated development of a Decision Document (DD) to record decisions at a non-NPL site at an Air Force Base in Florida. This document became the model for an Air Force policy letter issued in January 1988. The DD is used whenever a significant event needs to be made part of the administrative record. Among the events that call for documentation are decisions to (1) take no further action, (2) select a remedial alternative, (3) implement an immediate removal, and (4) implement long-term monitoring.

HAZWRAP has completed DDs for nearly 50 sites at multiple installations across the country and is preparing many more. The DDs are limited in scope and are not intended to be stand-alone documents. Rather they summarize previously published data and reference the reports in which detailed information is to be found. A suggested format for the DD is given in Table 2.

As can be seen from the table, the DD is a simple document. Typically the DD consists of from 10 to 15 pages. The Introduction merely states the objectives of the DD. The Background section provides summary information on past waste disposal activities and site characterization efforts, an assessment of the types of wastes found, and a description of potential pathways and receptors with a brief assessment of risks. Section 3 of the DD lists potential remedial measures, the criteria against which the measures were evaluated, and the rationale for selection of the preferred alternative. The selection is reaffirmed in the Conclusions section below to which signatures of the cognizant federal agency and the concurring regulatory agencies are affixed.

The Air Force has been successful in removing many sites from further consideration using the DD. The DOE may be able to use a similar mechanism to reduce the number of sites it must continue to track and fund.

Table 2. Format for a Decision Document

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1. Introduction
 2. Background
 - 2.1 Site Description
 - 2.2 Chemical Characteristics
 - 2.3 Migration Pathways and Receptors
 - 2.4 Risk Assessment
 3. Control Measures
 - 3.1 Identification of Control Measures
 - 3.2 Evaluation of Control Measures
 - 3.3 Selection of Control Measures
 4. Conclusions
 5. References
- Signatures - Cognizant Agency and Regulatory Agency
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MULTIDISCIPLINARY REVIEW

Although HAZWRAP has employed highly qualified environmental services firms to carry out IRP projects, we have found it necessary to institute multidisciplinary technical and management review of contracted work to ensure consistency, cost-effectiveness, and technical adequacy. To this end, HAZWRAP has assembled a staff that includes geologists, chemists, environmental scientists, engineers, and specialists for risk assessment and quality assurance that are available as needed to support projects. The benefits of this review are many. First, contractors may not be sensitive to policies regarding response to regulatory requirements which can vary among sponsors. Review from the policy perspective ensures consistency of approach in fulfilling these requirements.

In our experience, contractors usually take a conservative approach to the design of remedial investigations that can result in high cost. Often such investigations produce data in excess of what is needed to make sound judgements regarding selection of alternatives. In other cases, inadequate provisions are made for data collection. Review of project plans for data objectives and supporting rationale for the RI can focus the approach more directly to obtain the necessary information at a reduced cost. Review of the plans for technical content, including details of field procedures and quality control requirements, helps to ensure that the data collected will be of sufficient quality to defend selection of the preferred alternatives.

Included in the review of contractor performance should be periodic field audits and surveillances to monitor the implementation of project plans. Our experience reveals that contractors often ignore approved sampling plans, especially procedures for equipment decontamination and sample preservation. Likewise, deviation from plans in the field is generally poorly documented. Audits identify deficiencies and recommend resolutions for preventing repeated violations.

Validation of analytical data and review of conclusions presented in reports also need review from management and technical viewpoints. Recommendations for actions may be highly dependent upon funding and schedule information that may not be available to the contractors.

SUMMARY

In 4 years of support to DOD's CERCLA program, HAZWRAP has gained experience that can be of use to DOE in management and restoration of low-level waste problems. Exchange of lessons learned between the two federal agencies is an effective use of funds and expertise in efforts to solve national environmental problems. This paper has given examples of policy implementation and technical approaches that may benefit low-level waste programs.

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