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The ROAD To ROD

Tips for Remedial Project Managers

Working Together to Get There Faster

Jointly Prepared by:

The U.S. Environmental Protection Agency
The U.S. Department of Defense

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ACKNOWLEDGMENT

The recommendations presented in this guide were developed by a work group of representatives from EPA, DoD, and each of the DoD services. Through effective communication and a Total Quality Management (TQM) approach to coordination and analysis, this work group quickly researched opportunities for improving the current ROD development procedures and for approving NPL site documents, namely the PP and the ROD. The guide tries to keep a balanced perspective of the demands and schedules placed on each of the participants in the ROD process, and to look at the statutory and regulatory guidance as a road map for the process.

The guide was developed over a 7-month period with concentrated effort and constant commitment from the following individuals:

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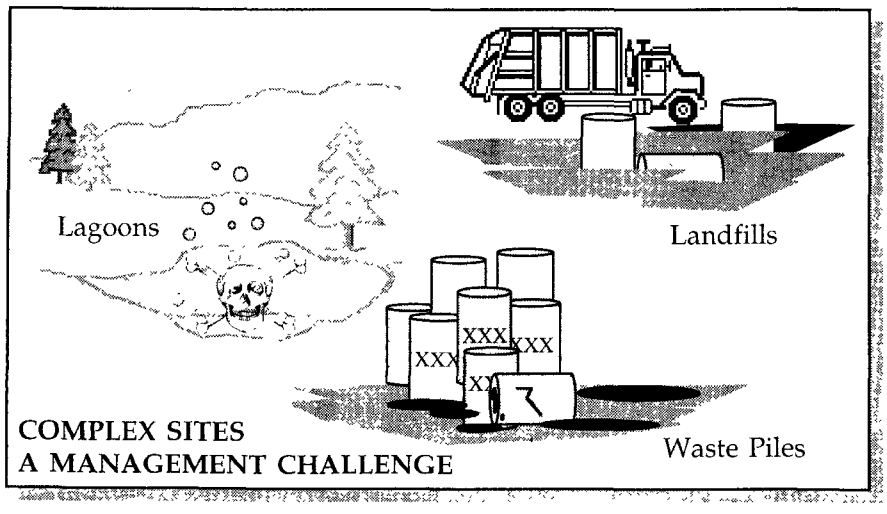
Many other people, in addition to the regular work group members, participated in the development of this guide, and their efforts were greatly appreciated at every step.

I. PURPOSE

This guide is designed to provide Environmental Protection Agency (EPA) and Department of Defense (DoD) Project Managers with an overview of the Record of Decision (ROD) process, and to identify opportunities for expediting the ROD process at DoD sites on the National Priorities List (NPL). The expertise that has been gained in managing the first group of DoD sites to go through the remedial process under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) provides valuable insights for Project Managers at future sites. This document focuses on one segment of the ROD process, the period between completion of the Feasibility Study (FS) and signature of the ROD, and on opportunities to minimize this time period.

DoD sites requiring CERCLA response present a formidable management challenge. Project Managers at EPA, DoD, and the States face a large universe of DoD sites on the NPL and the potential for many additional RODs to be completed during this decade. Innovative approaches are needed to expedite the ROD process.

It is important to examine the lessons that have been learned already in handling the complex challenges at DoD sites and apply these lessons to future NPL sites, with the ultimate goal of reducing potential risks to human health and the environment. Project Managers who have charted new courses and directed the first DoD sites through the ROD process have learned much from which others can benefit. Their



lessons are presented in this guide. Appendix A summarizes the identified threats and selected remedies at a variety of DoD sites for which RODs have been signed. This list provides Project Managers with EPA and DoD contacts who can share insights as similar sites go through the ROD process.

This guide is targeted to both new and experienced Project Managers. It provides new Project Managers with a description of DoD's role in CERCLA response actions at NPL sites and a concise explanation of the ROD process. It then provides tips on improving and expediting the ROD process, available resources that can assist Project Managers, and references others have found valuable. The tips are organized around the four objectives highlighted in Figure 1. Readers who are familiar with the ROD process and the unique challenges posed by DoD sites may want to proceed immediately to Chapter 4, "Tips to Expedite the ROD Process." The discussions throughout this guide focus on experiences at DoD sites on the NPL; however, these lessons provide valuable insight that can be applied to non-DoD and non-NPL sites as well.

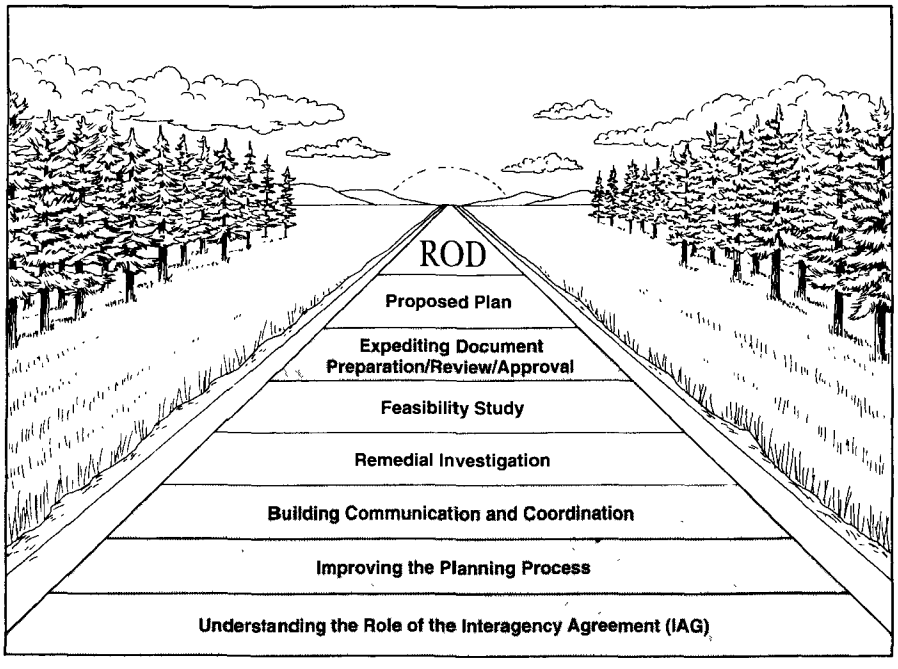
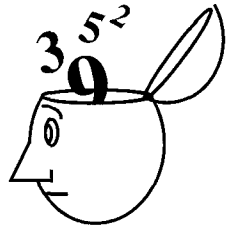


Figure 1.
The Road to ROD: A Pyramid to Progress

II. DoD INVOLVEMENT AT NPL SITES

Implementation of environmental protection programs at DoD sites poses numerous challenges. The Federal Government's commitment to protect human health and the environment and to become a model for environmental compliance is demonstrated by the large efforts under way not only at CERCLA sites, but also at the thousands of sites being addressed by the Defense Environmental Restoration Program (DERP). In addition to the 95 DoD facility listings on the NPL, DoD services are investigating or addressing potential risks at hundreds of sites. DoD and EPA Project Managers can obtain a broader picture of the number of DoD facilities in the CERCLA pipeline and progress already accomplished by reading the "Defense Environmental Restoration Program Annual Report to Congress for Fiscal Year 1990," February 1991.

EPA and DoD Project Managers face unique challenges, because environmental priorities must be integrated with the national security missions of each DoD service, including the Department of the Air Force, the Department of the Army, the Department of the Navy, and the Defense Logistics Agency (DLA). National security is paramount, however, it is also important for the Federal Government to present a unified picture to the public of a government committed to environmental protection and restoration at its own facilities to at least the same extent that it is committed to environmental protection at private sites. (Private sites here are defined as all non-DoD and non-Federal facility NPL sites.) To achieve this result, EPA and DoD must work closely to identify workable solutions for integrating environmental protection priorities with DoD missions.



This section describes some of the unique characteristics of DoD sites and the pertinent environmental regulations that govern their operations. Major issues confronting EPA, DoD, and State Project Managers are highlighted.

II.1 Characteristics of DoD Facilities

Several key differences exist between DoD and private industry operations that make remediation of DoD facilities unique. These dissimilarities include the size of the facility, the

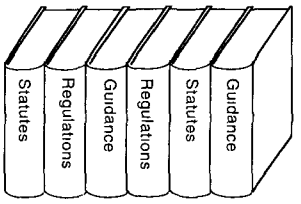
number of operable units,[1] and the types of industrial processes in which DoD is engaged. DoD sites on the NPL range in size from a few acres to tens of thousands of acres and frequently contain multiple contaminated areas. DoD sites on the NPL presently have from 1 to as many as 25 operable units.

Many of the problems existing at privately owned sites on the NPL also occur at DoD facilities. DoD facilities often have many wastes in common with private sites, but face a cleanup challenge due to the large quantity and variety of wastes. In addition, military-unique compounds such as pyrotechnics, explosives, and propellants are atypical of private industry and require special remedial investigative procedures and responses. Table 1 provides an overview of DoD facility characteristics.

[1] **AN OPERABLE UNIT,** *as defined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300.5), is "a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. Operable units may address geographical portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of a site."*

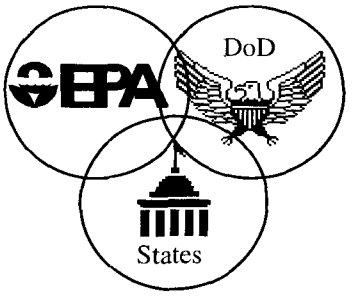
Military Activities	*Unique Military Wastes*	*Large Quantity and Varied Wastes*
• Explosive ordnance production and disposal	• Exotic fuels	• Benzene • Arsenic
• Demilitarization	• Explosive compounds (TNT, DNT, etc)	• Toluene • Zinc
• Ammunition plants	• Military chemicals (mustard gas, white phosphorus, Agent Orange, etc.)	• Xylene • Mercury
• Weapons systems development, testing, and evaluation	• Mixed waste (low-level radiation and hazardous waste)	• Lead • Acetone
• Shipbuilding		• Trichloroethylene
• Large industrial processes		• Tetrachloroethylene
• Training (land, sea, and air)		• Ethyl benzene
		• Chloroform
		• Chromium (III)
		• Methyl chloride

Table 1.
Characteristics of DoD Facilities



II.2 Statutory and Regulatory Framework

The number of DoD facilities to be investigated, the size of these facilities, and their types and sources of contamination combine to create a clear challenge in ensuring DoD compliance with hazardous waste laws. This challenge is heightened by the potential at each site for overlapping jurisdictions among Federal agency programs, State programs, and multiple statutes.



Overlapping Jurisdictions and Programs

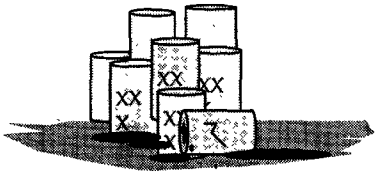
DoD facilities are subject to the requirements of other regulatory environmental laws and programs in addition to CERCLA, such as the National Pollution Discharge Elimination System (NPDES) program under the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Toxic Substances Control Act (TSCA). Most CERCLA response activities at these facilities are the result of a release or threat of release of hazardous substances from hazardous materials and waste management practices that occurred before enactment of these statutes or that violate their requirements.

Hazardous waste management activities at DoD facilities can encompass a wide range of practices and are dependent on the individual type of facility and its function. Because DoD facilities are usually large operations that treat, store, and dispose of hazardous wastes, situations may arise where solid waste management units are subject to RCRA Subtitle C regulations (management, closure, or Corrective Action) concurrent with a CERCLA response activity (non-RCRA hazardous waste activity).

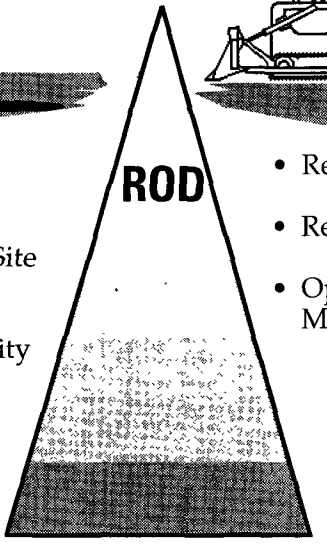
Project Managers should be aware of the need to satisfy multiple statutory requirements concurrently. For example, CERCLA/RCRA interface issues at NPL sites are addressed in a site-specific Interagency Agreement (IAG), also called a Federal Facility Agreement (FFA), before initiating a Remedial Investigation (RI).

THE ROD: THE LINK TO CLEANUP

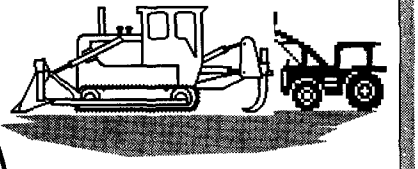
Pre - ROD



- Site Discovery
- Preliminary Assessment/ Site Investigation
- National Priority List
- Remedial Investigation/ Feasibility Study



Post - ROD



- Remedial Design
- Remedial Action
- Operation and Maintenance

- Documentation of the selected remedy in a ROD, with all the facts and analyses supporting this preference.

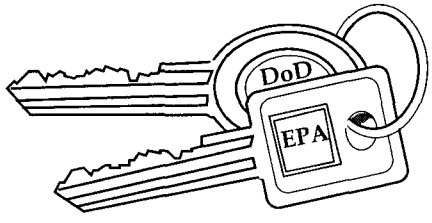
Project Managers are responsible for developing these documents and guiding the remedy selection process. In this role, they are the keys to careful planning, time management, coordination, and document preparation. They are the ones who develop schedules and can take innovative approaches to expedite the ROD process.

Throughout the remedy selection process, States may provide support to EPA and DoD. In this role, the designated lead agency within the State for CERCLA activities provides a single point of contact for communication and oversees State involvement in the review of documents or data.

Early in the process, EPA and DoD Project Managers should assess carefully what is needed to complete the three steps identified above (presenting the PP, selecting the remedy, and preparing the ROD) and should begin thinking about how a dedicated team can proceed effectively and efficiently through the steps. These next two sections of this guide provide detailed information on the PP and ROD, and the following chapter describes specific opportunities for improving the overall ROD process.

III.1 The Importance of the Proposed Plan

The PP identifies and explains the rationale for the preferred remedial alternative and addresses the threats to human health and the environment at the site or operable unit. It must describe all remedial alternatives that were evaluated, explain the nine criteria used to evaluate and compare the alternatives, provide the rationale for the preferred alternative, and solicit public review and comment on all alternatives presented.



The evaluation criteria are the standards by which all the alternatives are assessed and are the basis of the remedy selection process. They can be separated into three levels: threshold, balancing, and modifying criteria, which must be considered in this order. Threshold criteria must be evaluated first and are strict requirements for the remedy selection process. In considering balancing criteria, and then modifying criteria, there is slightly more subjectivity and flexibility. Table 2 briefly describes each of the nine evaluation criteria.

III. THE ROD PROCESS

Signing the ROD is the stepping-stone between identifying and assessing CERCLA sites and beginning on-site remedial activities. It is the critical link between site identification and cleanup.

Although removal actions can occur at any point during the CERCLA process, this guide focuses solely on remedial activities. Additional information on removal actions can be found in Section 300.415 of the NCP.

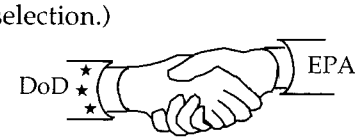
The purpose of the remedy selection process is to choose remedies that eliminate, reduce, or control risks. With the potential for hundreds of additional RODs at DoD facilities in the next few years, expediting the ROD process can mean earlier reductions in risk to human health and the environment. EPA and DoD Project Managers overseeing the remedy selection process for these sites are at the core of decision making and can have tremendous influence over environmental restoration and cleanup decisions at these sites. Project Managers must always be alert to opportunities for taking early action where appropriate to contain, treat, or remove wastes and reduce risk to human health and the environment.

EPA's and DoD's goal for the remedy selection process is to select remedies that protect human health and the environment, maintain protection over time, and minimize untreated waste. Once an RI/FS has been completed, the site characteristics should be known and a range of remedial alternatives should be identified. At DoD facilities, selection of the remedy progresses with the following steps:

- Presentation of a summary of the information and analyses that support the proposed decision in a Proposed Plan (PP) for public comment. Through announcements in local newspapers and open communication with the public, EPA and DoD must establish at least a 30-day period for public comments.

News Proposed Plan

- Joint selection of the remedy by EPA and DoD. (In cases of disagreement, EPA is ultimately responsible for the remedy selection.)



THRESHOLD criteria are requirements that each alternative must meet in order to be eligible for selection.

1 *Overall Protection of Human Health and the Environment.* Addresses whether a remedy provides adequate protection of human health and the environment from unacceptable risks posed by hazardous substances, pollutants, or contaminants present at the site by eliminating, reducing, or controlling exposures through treatment, engineering, or institutional controls.

2 *Compliance with Applicable or Relevant and Appropriate Requirements (ARARs).* Addresses whether the alternative attains all ARARs under Federal environmental laws or State environment or facility-siting laws or provides the grounds for invoking one of the six ARAR waivers stated in the NCP.

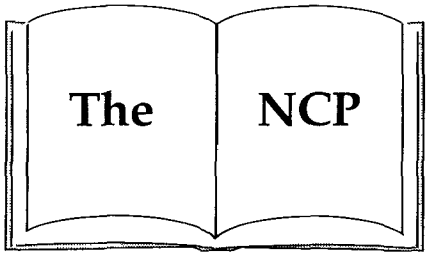


Table 2.
The Nine Evaluation Criteria for Remedy Selection [1]

[1] Criteria are established in Section 300.430(e)(9)(iii) and 300.430(f) of the NCP.

BALANCING criteria are factors with which trade-offs between alternatives are assessed so that the best option will be chosen, given site-specific data and conditions.

3 *Long-term Effectiveness and Permanence.* Refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once remedial action goals have been met. Permanence for this criterion is viewed along a continuum, and an alternative can be described as offering a greater or lesser degree of permanence.

4 *Reduction of Toxicity, Mobility, and Volume (TMV) Through Treatment.* Assesses the relative performance of recycling or treatment technologies on the TMV of contaminants.

5 *Short-term Effectiveness.* Addresses the adverse impacts on human health and the environment that may be posed in the time it takes to implement the remedy and achieve the remediation goals.

6 *Implementability.* Looks at the technical and administrative feasibility of the remedy, including the availability of materials and services needed to implement each component of the option in question.

7 *Cost.* Includes estimated capital and operation and maintenance costs, and net present value of capital and operation and maintenance costs.

Table 2. (continued)
The Nine Evaluation Criteria for Remedy Selection [1]

[1] Criteria are established in Section 300.430(e)(9)(iii) and 300.430(f) of the NCP.

MODIFYING criteria should be considered in the remedy selection based on the comments received on the PP during the comment period.

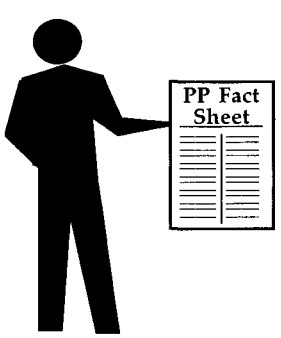
8 *State Acceptance.* Addresses the State comments and concerns for each potential remedy. Indicates whether the State concurs with the preferred or the selected remedy in the PP or the ROD.

9 *Community Acceptance.* Summarizes the public's general response to the alternatives described in the PP or the FS.

Table 2. (continued)
The Nine Evaluation Criteria for Remedy Selection [1]

[1] Criteria are established in Section 300.430(e)(9)(iii) and 300.430(f) of the NCP.

The PP is intended to facilitate public participation in the remedy selection process and satisfies the CERCLA requirements concerning public participation. The PP can be written in a fact-sheet format or an expanded format. The fact-sheet format is usually 10 to 15 pages although a longer PP may be necessary, depending on the specific site conditions. Circumstances that may warrant an expanded format include technically complex issues, multiple operable units that are being remediated at the same time, or a high level of community concern. The PP is probably the most effective method of written communication targeted to the public, because the average citizen is more likely to read a fact sheet summary of the site.



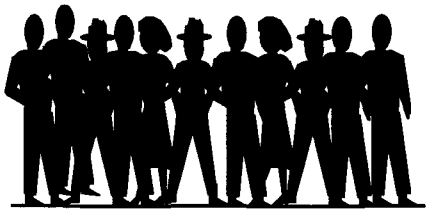
The process for developing the PP and its basic requirements are established in CERCLA as follows:

- Section 113(k)(2)(B) establishes minimum procedures for public involvement in the remedy selection process. These procedures include notice to the public, accompanied by a brief analysis of all the alternatives that were considered, and a reasonable opportunity to comment.

- Section 117(a) requires the lead agency to publish a notice and brief analysis of the PP and to make it available to the public. In addition, it requires that an opportunity for a public meeting at or near the facility be provided, and that a transcript of the meeting be made available to the public.

- Section 121(f)(1)(G) provides the requirements for State involvement in the remedial decision process, including notice to the State and an opportunity to comment on the PP. (See also Section 120(f)).

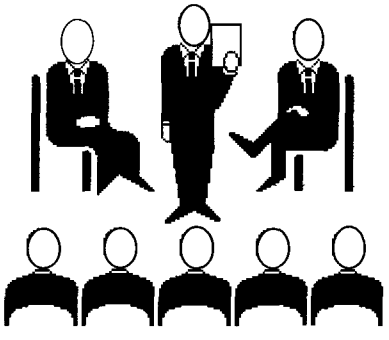
The PP should be written in a clear and concise manner. Use of technical jargon and administrative nomenclature should be kept to a minimum to make it understandable to the general public. The PP is a public participation document, not a technical or legal document. The information presented in this document is intended to inform and educate the local community on past and future activities at the site. The document (and subsequent public meeting) should emphasize that community acceptance is one criterion in selecting the remedy and that a final decision is pending, awaiting public input.



The period required for public comment on the PP is a constraint that the Project Manager should anticipate. The EPA Project Manager should plan on releasing the PP to the public 12 weeks before the date targeted in the EPA Superfund Comprehensive Accomplishments Plan (SCAP) for ROD signature to allow time for a 30-day comment period, as required by the NCP. Timeframes and requirements for public comment periods are established in Section 300. 430(f)(3)(C) of the NCP and are beyond the Project Manager's control.

12 Weeks to ROD !!!

Although the NCP requires a minimum of 30 calendar days for public comment on the PP, Project Managers should review the site-specific timeframes set forth in the FFA, since many agreements provide for a 45-day public comment period. In addition, if a timely request is submitted to extend the public comment period, the lead agency must provide a minimum of 30 additional days. As a result, this period can last from a minimum of 30 days to more than 75 days, which the Project Manager must take into account in planning. When the PP is issued, the public comment period officially begins. After the close of the comment period, the Responsiveness Summary is prepared describing the comments and how they have been addressed. During the public comment period, the lead agency must provide the opportunity for a public meeting at or near the site to discuss the PP and supporting analyses.



III.2 The Importance of the Record of Decision

The purpose of the ROD is to document the remedy selected by DoD and EPA, provide a rationale for the selected remedy, and establish performance standards or goals for the site or the operable unit under consideration. The ROD provides a plan for site design and remediation, and documents the extent of human health or environmental risks posed by the site or operable unit. It also

serves as legal certification that the remedy was selected in accordance with the requirements of CERCLA and the NCP. The ROD is one of the most important documents in the remedy selection process, because it documents all activities prior to the selection of remedy and provides a conceptual plan for all activities subsequent to the ROD.

The ROD consists of three basic components: the Declaration, the Decision Summary, and the Responsiveness Summary, which are described below:

- **The Declaration** is an abstract of the key information contained in the Decision Summary. This section is signed by the EPA Regional Administrator and the designated representative on behalf of the Assistant Secretary of Defense for Production and Logistics; once signed, this section makes the entire ROD legally binding.

- **The Decision Summary** is the core of the document and describes the site characteristics, the risks posed by the site, the remedial alternatives evaluated to mitigate those risks, the selected remedy and rationale for selection, and the performance goals of the remedy.

- **The Responsiveness Summary** addresses all significant questions and comments received from the public during the designated comment period.

Similar to the PP, the contents of the ROD are governed by CERCLA. Section 113(k)(2)(B)(v) of CERCLA requires a statement of "basis and purpose" for the selected remedy at a site. Section 117(b) requires that a notice of the final ROD be published and made available to the public in the Administrative Record (as provided for in the NCP) before commencing the remedial action. The ROD must document any significant changes from the PP and a response to all comments, written and oral, that were received during the public comment period. The ROD is signed after closure of the public comment period and once all significant comments or issues are addressed.

If public comments result in changes to the remedy, the changes should be clearly documented in the section of the ROD describing significant changes from the PP. If a fundamental change to the remedy is made between the PP and the ROD (such as changing a treatment remedy to a containment remedy), then an amended PP should be issued and a new public comment period must be opened.

III.3 Post-ROD Changes

After the ROD is signed, new information may come to light that may alter the effectiveness, extent, or implementation of the remedial action. Three types of changes may occur:

- Non-significant or minor
- Significant
- Fundamental.

Examples of these three types of post-ROD changes are presented in Figure 2. EPA guidance on addressing pre- and post-ROD changes is contained in the Office of Solid Waste and Emergency Response (OSWER) Publication 9355.3-02FS-4 (April 1991).

Non-significant changes are characterized as minor changes that do not overly affect the scope or the objectives of the selected remedy. Non-significant changes generally do not need formal documentation and approval. They should be noted in the post-decision document file. Non-significant changes can also be documented in an optional Remedial Design Fact Sheet.

A significant change does not modify the overall remedy but could alter a component of the remedy. If a significant change to a component of the remedy is needed, then an Explanation of Significant Differences (ESD) must be developed, approved, and released to the public in accordance with Section 300.435(c)(2)(i) of the NCP. A formal public comment period and Responsiveness Summary are not required but may be initiated at the discretion of both EPA and DoD. It may also be appropriate to prepare an ESD document when DoD and EPA decide to use a contingency remedy that was not fully described in the ROD.

An ESD document contains the following:

- Introduction, describing the circumstances that gave rise to the change

- Summary of the site history and the selected remedy

1. *Minor.* Testing during Remedial Design shows that the volume of soil requiring treatment is 75,000 cubic yards (yd^3) rather than the 60,000 yd^3 estimated in the ROD. However, the cost of the remedy will only increase by 5 percent because of economies of scale that can be realized.

2. *Significant.* Residuals from a treatment operation were not expected to be hazardous and it was planned to dispose of them on site in a Subtitle D unit. However, testing after treatment determines that the residuals are hazardous wastes, and off-site disposal at a Subtitle C facility is required.

3. *Fundamental.* The *in-situ* soil washing remedy selected in the ROD proves to be infeasible to implement after testing during Remedial Design. A decision is made to excavate and thermally treat the waste instead.

The Project Manager should consider these categories as guidance. The appropriate approach to responding to post-ROD changes is decided by EPA and DoD based on site-specific circumstances and discussion.

Figure 2.
Examples of Post-ROD Changes

- Description of the significant differences and the basis for those differences
- Affirmation of the statutory determinations
- Public participation activities.

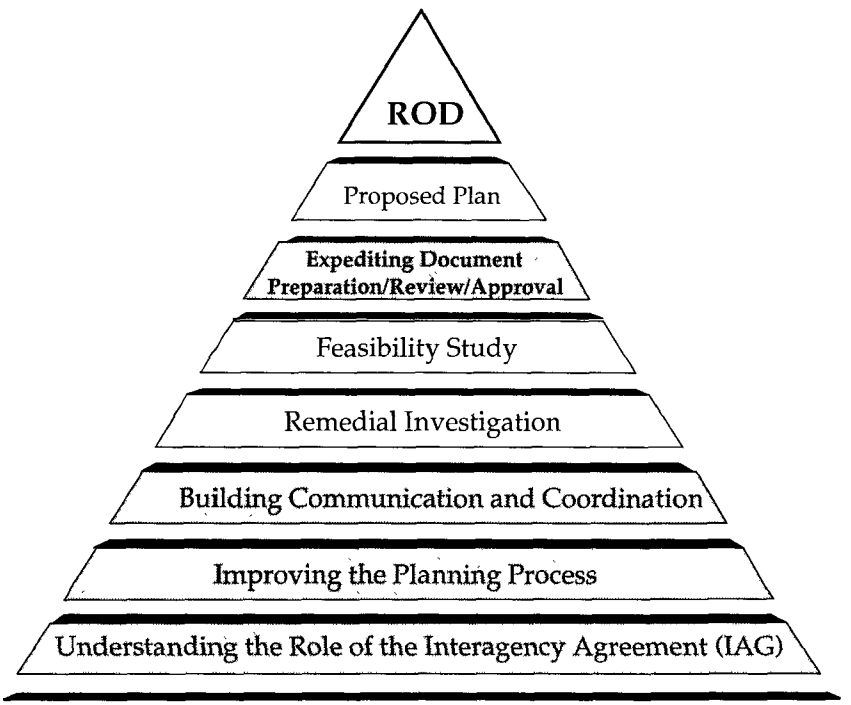
The ESD document should receive the same concurrences and approval as the ROD.

At the other end of the spectrum, a reconsideration of the hazardous waste management approach subsequent to the ROD is considered a fundamental change to the remedy and requires a ROD Amendment. When such fundamental changes are made to a remedy, a repetition of the ROD process, including issuance of a revised PP and a new public comment period, is necessary, in accordance with the requirements of Section 117 of CERCLA and Section 300.435(c)(2)(ii) of the NCP.

An amended ROD looks very similar to an initial ROD and should include a Responsiveness Summary;

however, the introductory sections (such as the site history, community relations, and site risks) do not need to be readdressed. Rather, the focus of the discussion should be on the rationale for the ROD Amendment, evaluating the alternatives in terms of the nine criteria, and providing assurances that the new proposed remedy satisfies the statutory requirements.

The NCP provides the policies for the remedy selection process under CERCLA. Interim Final Guidance is available on developing the PP and ROD in a document titled "Guidance on Preparing Superfund Decision Documents" (July 1989). Additional information can be found in the quick-reference fact sheet entitled "Guide to Addressing Pre-ROD and Post-ROD Changes" (April 1991).



GETTING TO THE ROD AT DOD FACILITIES

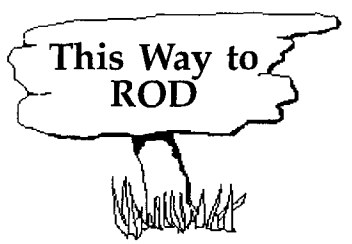
IV. TIPS TO EXPEDITE THE ROD PROCESS

This chapter identifies specific opportunities and methods to streamline the ROD process at DoD facilities. Throughout, special attention is given to how potential modifications to the ROD process at DoD facilities apply to each participant (EPA, DoD, other agencies, the State) and to milestones in the process (the PP and ROD). When possible, it includes references to actual case studies where changes to the process have been successful. Figure 3 presents a sample case study in which many of the tips described in this guide were applied and a ROD was prepared and signed within six months of the FS completion.

Although many opportunities exist to streamline the ROD process, they center around four objectives for the ROD process, which include the following:

- Understanding the role of the Interagency Agreement (IAG)
- Improving the planning process
- Building communication and coordination
- Expediting document preparation, and review and approval.

The steps that Project Managers can take to achieve each of these objectives are presented in the following sections.



IV.1 Understanding the Role of the IAG

- **Use the IAG as a benchmark.**
- **Identify opportunities to improve on maximum timeframes.**

Section 120(e)(2) of CERCLA requires DoD services to enter into an IAG with EPA for "the expeditious completion" of all necessary remedial actions at facilities on the NPL. Although CERCLA requires an IAG to be signed within 180 days of the completion of the RI/FS, EPA, DoD, and other Federal agencies have agreed that it is more appropriate to enter into an IAG before beginning the RI/FS. This way, all parties agree up front about the scope, timeframe, and approach for the RI/FS, and go

CASE STUDY

The following is an actual case study of how a ROD was prepared and signed in less than six months from the completion of the FS. The name of the actual facility is not presented, but all dates and activities are accurate.

Feb. 14, 1991	EPA, the facility, and the State had a meeting to form a work group and find ways to expedite cleanup consistent with the existing FFA. The group focused on measures to streamline the process and eliminate unnecessary delay. The group agreed to work toward completing the ROD by June 30, 1991, versus the original scheduled date of October 1991.
Feb. 25, 1991	The facility provided a copy of its draft ROD to EPA.
Feb. 28, 1991	Both EPA and the State provided comments on the Draft Final FS and reported early, rather than waiting for the full 30-business-day review period to expire. These actions allowed the FS Report to become final 10 days early.
Mar. 10, 1991	EPA reviewed the draft ROD and provided a revised version to the facility.
Mar. 22, 1991	Joint meeting between EPA, the facility, and the State was held over several days to prepare a version of the ROD and PP that was acceptable to all parties. Parties literally worked out differences in one room and eliminated review times. Meeting also enabled resolution of State ARAR issues.
Apr. 25, 1991	Public comment period for the Proposed Plan began.
May 8, 1991	Public hearing for the Proposed Plan was held.
Jun. 10, 1991	Public comment period ended, and Responsiveness Summary was prepared.
Jun. 15, 1991	ROD was prepared for final Headquarters and State review and signature.
Jun. 26, 1991	ROD was signed by all parties.

Figure 3.
Case Study of the ROD Process

through the process together thereby reducing the chance of disagreements about the remedy or the data used to support the remedy selection. The agencies have also agreed to call the IAG a "CERCLA Federal Facility Agreement (FFA)."

Although the FFA is primarily a legal document, Project Managers often rely on the FFA as a planning document to initiate and control the progress of the RI/FS. Project Managers should remember that the FFA usually is not tailored very specifically to the site, but rather identifies the maximum timeframes for site activities. An FFA frequently incorporates model language on such items as turnaround times for comment periods, extensions of comment periods, and dispute resolution.

In many cases, EPA and DoD Project Managers have assumed the maximum times for review and comment on provisions of the PP and ROD, and in some cases they have assumed that dispute resolution procedures would be invoked. Instead, Project Managers should seek to identify site-specific opportunities to streamline the process and to minimize review times.

"The Model Provisions for CERCLA Federal Facility Agreements" (June 1988)[1] identifies the ROD as a primary document that is critical to the RI/FS and RD/RA processes. Consequently, the ROD is subject to the provisions for comment periods, extensions, and other provisions of the review and comment process. The legal language contained in the FFA that establishes maximum timeframes is necessary, particularly if problems develop, but Project Managers should take a positive approach to planning schedules and not immediately build in time for extensions and disputes. Project Managers should view the FFA as a legal framework and benchmark for operations and then consider ways to streamline the process with aggressive submittal and review times.

FFA Establishes **Maximum** Timeframes

The following sections of this guide focus on opportunities and methods to streamline the process of completing the PP and ROD.

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[1] Porter, J. Winston, Assistant Administrator for Solid Waste and Emergency Response, Memorandum to Regional Administrator. Agreement with the Department of Defense — Model Provisions for CERCLA Federal Facility Agreements, June 17, 1988.

Project Managers should also consider incorporating many of the opportunities and methods described below into the FFA during FFA negotiations. Reviewing these opportunities will focus the attention of Project Managers on the task of streamlining the process and identifying additional opportunities for planning meetings to accelerate progress through joint document preparation, and concurrent ROD review.

IV.2 Improving the Planning Process

- **Think ahead, anticipate needs, and monitor progress.**

Planning may be the most important factor for timely completion of the ROD at Federal facilities. Effective planning is conducted early, monitored often, and focused on elements of the process that can critically affect progress. Planning can and should begin even before the FFA is developed and signed. Project Managers can improve their planning by focusing on the following issues:

- Early scoping of the RI/FS
- Early identification of ARARs and To Be Considered (TBC) requirements
- Early and accurate updates of targets tracked in EPA's SCAP and annual planning for remedial actions within DoD
- Sufficient time to circulate the PP to the public and for internal and external review
- Plans for contractor support
- Identification of training needs
- Use of project management tools.

Tips in each of these areas are described in the following sections.

IV.2.1 Early Scoping of the RI/FS

- **Assess the site and the risk.**

Scoping is a thorough planning process for Project Managers that requires them to look at their site and determine its overall level of complexity before work begins. Scoping involves an early assessment of the number of migration pathways at the site, the most imminent threats to human health and the environment, and the projected cost of actions needed at the site. The scoping process is described in more detail in EPA's publication, "Scoper's Notes" (February 1990). EPA has emphasized early scoping of the RI/FS for all sites, private and Federal. The purpose of scoping is

to help ensure that important site-specific aspects of the RI/FS are identified before work begins at the site.

During this early scoping of the site, the Project Manager should also look ahead to potential remedial actions that may be appropriate at the site. This is an important juncture at which the Project Manager should take the following actions:

- Contact EPA and DoD Project Managers for similar sites to discuss remedies that were effective

- Review guidance that identifies ways to streamline remediation, such as EPA's "Guidance on Remedial Actions for Superfund Sites with PCB Contamination" (August 1990) and "Conducting RI/FS for CERCLA Municipal Landfill Sites" (February 1991)

- Plan for a treatability study, if one is needed

- Identify an early action or an interim remedial measure (IRM) for the site.

In ways such as these, proper scoping will help to expedite the ROD process and can minimize risk to human health and the environment.

IV.2.2 Early Identification of ARARs and TBCs

- **A thorough effort the first time saves time and energy.**

- **Request specific State ARARs in writing.**

If all ARARs are not met by the preferred alternative, the ROD may be seriously delayed while the Project Managers conduct additional site investigation activities to meet particular ARARs. Such delays can be avoided by identifying all ARARs before beginning to draft the ROD.

Project Managers should develop a list of ARARs by asking the State and other agencies involved with the site to submit a list of their ARARs. To anticipate these requirements, Project Managers can examine existing RODs for similar sites in the same State and identify which ARARs are likely

to apply. Appendix A contains a summary of RODs at DoD sites that provides a starting point to identify similar sites; Project Managers can identify additional sites through use of the Records of Decision System (RODS) database that is described in Appendix A.

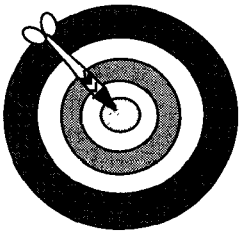
Project Managers should also refer to EPA's guidance contained in "CERCLA Compliance with Other Laws Manual: Parts I and II" (August 1989). By requesting specific State ARARs in writing as early as possible, reviewing RODs for similar sites, and referring to existing guidance, Project Managers can minimize the chance of surprises later in the process, and the need to address ARARs that could have been considered earlier.

Before releasing the PP, Project Managers should re-examine ARARs for the site to ensure that new requirements have not come into effect. ARARs are "frozen" at ROD signature. Changing an ARAR requires a ROD amendment or an ESD as described in Section III.3 of this guide. As part of the ROD process, ARARs that are in existence at the time the ROD is signed may be waived in situations consistent with the requirements of the NCP (40 CFR 300.430(f)(1)(ii)(c)). Therefore, Project Managers must consider all statutory and regulatory changes that can affect the ARARs for the site until the ROD is signed.

IV.2.3 Early and Accurate Updates of Targets Tracked in the SCAP

- **Coordinate in setting and updating targets.**

The SCAP is EPA's primary planning tool for setting targets and measuring progress for the CERCLA program. The SCAP is a computerized database that tracks the dates for accomplishments (milestones) at each CERCLA site from discovery through operation of the remedy, and is used for both forecasting and reporting. SCAP reports are typically given to upper management within EPA, and data are used in reports to Congress. The data also provide input to funding decisions for specific sites.



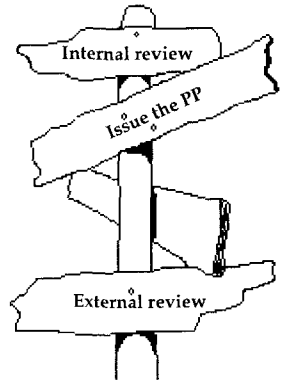
Since the SCAP tracks planned, as well as actual, accomplishments, DoD and EPA Project Managers should agree on the planned dates for their sites. By agreeing on these dates in advance of the site work and providing accurate updates as work progresses, Project Managers can avoid pressures to meet unrealistic targets. Similarly, by sharing these dates with each other,

Project Managers can ensure that DoD's planning systems (such as the Army's Fiscal Year (FY) Work Plan) and the SCAP are consistent. Updates to these systems occur at different times of the year for EPA and the DoD services. Both groups should be alert to these dates and coordinate accordingly.

IV.2.4 Sufficient Time to Circulate the PP

- **Plan on 12 weeks between issuing the PP and the ROD.**
- **Account carefully for comment periods in setting a target date for the ROD.**

Project Managers need to carefully map a schedule of milestones to the ROD and to account for a potentially lengthy public comment period in response to the PP. As the Project Managers set target dates for the ROD with their management, Project Managers should estimate approximately 12 weeks for these activities. The NCP requires that EPA provide the opportunity for a public meeting to be held during the public comment period, and generally one is held and must be planned. Project Managers should also ensure internal and external coordination in developing the PP for release to the public to facilitate its completion. Section III.1, "The Importance of the Proposed Plan," of this guide describes many of the regulatory requirements that govern activities during this time.



IV.2.5 Plans for Contractor Support

- **Delegate and direct.**

Project Managers should evaluate their support needs, scope of work, and contract options well in advance of site work. All the work to be performed must be within the scope of work for the contract and needs to be clearly identified early in the process to ensure a smooth procurement process.

Contractors can provide a wide range of support to the ROD process. For example, they can provide support in the following tasks:

- Prepare draft site plans
- Perform on-site activities (for example, set up and maintain Administrative Records)

- Review site reports
- Assist in overseeing site progress
- Assist in community relations initiatives
- Arrange meetings
- Assist in preparation of preliminary drafts of the PP and ROD.

To obtain support, Project Managers need to define their needs clearly, identify procurement options, and monitor progress carefully. Project Managers should check with their local contracting office in preparing a specific scope of work to ensure that it is consistent with appropriate contracting activities.

IV.2.6 Identification of Training Needs

- **Stay alert to changing requirements through training.**
- **Investigate training opportunities early in the year.**

Many internal training courses are offered by EPA and DoD, as well as commercially, that can help ensure a more timely RI/FS and ROD. Examples include the courses offered through the EPA CERCLA Education Center implemented by EPA's Technology Innovation Office (TIO), and commercial courses on technical issues such as boreholes and monitoring well installation. Project Managers can obtain details on available courses from TIO at (703) 308-8800 and the Superfund University Training Institutes, Executive Director, Bruce Potoka, (513) 569-7537.

Project Managers should note that each year EPA conducts a ROD Forum in every Region, usually in April or May. This Forum is intended to provide training on the proper contents of RODs and to improve their overall quality. The ROD Forum can keep Project Managers posted on new language that is required in RODs; ROD checklists; and national and Regional trends, such as utilizing interim action and no action RODs.

For example, the EPA 1991 ROD Forum (which analyzed 1990 RODs) provided participants with the following:

- A comprehensive analysis of the ROD universe, Regional comparisons, and recommendations for improving the ROD process

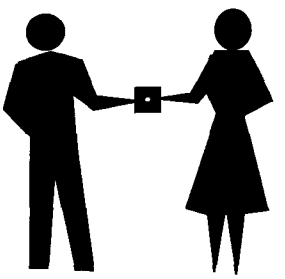
- An overview of risk assessment issues and approaches
- An update on regulatory requirements, such as RCRA Land Disposal Restrictions
- A summary of key terms and definitions
- A sample ROD
- Checklists for preparing RODs, including interim source actions, final source actions, interim groundwater actions, final groundwater actions, and no action RODs
- Numerous fact sheets on the Superfund and ROD processes.

In addition to the organized training, ROD Forums provide a valuable opportunity to interact with other Project Managers, hear their stories, and learn from their experiences. For all of these reasons, EPA Project Managers should contact the ROD Forum Coordinator in their Region early in the calendar year and make a concerted effort to participate in these sessions if possible. DoD Project Managers should contact the EPA Project Manager for information on these training opportunities.

IV.2.7 Use of Project Management Tools

- **Use compatible project management tools.**

Project management tools, such as computer scheduling and tracking systems, can make it easier for Project Managers to monitor major milestones. Available software can vary among offices, but both off-the-shelf and customized systems designed to project specifications exist. EPA and DoD Project Managers should identify the software available in their respective offices and coordinate early in the planning process on the use of compatible project management tools. One software package used by EPA is Milestone. Ideally, Project Managers would use the same software and share computer diskettes containing updates through the mail.



IV.3 Building Communication and Coordination

- **Good communication promotes effective working relationships.**

The FFA provides a foundation, and effective planning identifies the path for developing a ROD. Getting there efficiently demands good communication and coordination to ensure effective working relationships.

DoD and EPA Project Managers need to prepare and organize individually, but equally important, they continually need to work with each other toward their common goal of signing the ROD. Project Managers can communicate and coordinate effectively by viewing the ROD process as a team effort, frequently contacting other team members, coordinating closely with other agencies, and using the Technical Review Committee as a communication tool. These four opportunities to improve communication and coordination are described in the following sections.

IV.3.1 A Team Approach

- **Approach the ROD as one team with one goal.**

DoD and EPA Project Managers should approach the RI/FS as team members committed to a common goal: a high-quality, signed ROD. For each ROD, EPA and DoD Project Managers should take a fresh approach, realizing that both are committed to the process and are not adversaries. Constraints and goals of the individual organizations are now the constraints and goals of the whole team.

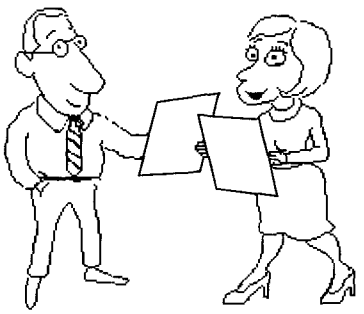
A team approach can also enhance the public's perception of the project. The public is eager to see progress made and potential risks evaluated. The public holds the Federal Government responsible and wants to see a commitment to environmental restoration in its neighborhoods. A unified approach can enhance the public's perception of the process and can defuse further public concerns.

IV.3.2 Frequent Contact and Face-to-Face Meetings

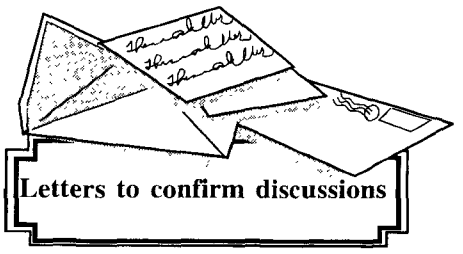
- **Talk first, type second.**

Project Managers should maintain frequent contact regarding site progress and meet as often as possible throughout the course of the RI/FS, particularly while preparing the ROD. Frequent

contact reinforces a team approach, makes it easier to identify concerns, and facilitates conversations that can lead to solutions.



Letters and lengthy memoranda are better suited to documenting issues or following up on action items. They are not substitutes for telephone calls and meetings, where questions can often be answered promptly. Project Managers should consider scheduling a biweekly conference call and a monthly meeting held in alternating locations to foster interaction, communication, and good working relationships. During the period in which the PP and ROD are being prepared, even more frequent communication can be beneficial.



IV.3.3 Coordination With Other Agencies

- **Consider and coordinate with reviewers in external agencies.**
- **Build early agreement with Federal and State agencies.**
- **Agree on the ROD and agree on site deletion from the NPL.**

Good communication is just as valuable among agencies as among Project Managers. Project Managers will find that their jobs are easier when information flows quickly and smoothly. A few minutes of communicating can save hours of clarifying misunderstandings or coping with surprises. To this end, Project Managers should identify the critical parties and specific contacts involved in their site in each agency early in the ROD process.

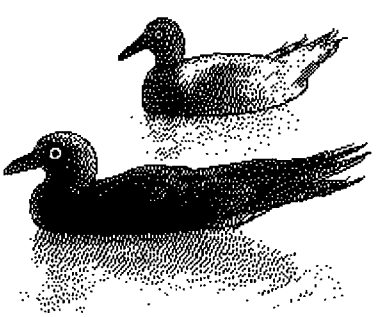
EPA and DoD Project Managers may find that sharing these responsibilities is more efficient. The DoD Project Manager should identify the appropriate agencies and contacts within the service responsible for the site, such as those at the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA), the Naval Facilities Engineering Command (NAVFAC-ENGCOM), or the Air Force Major Command (MAJCOM). The NCP requires each State to designate a single agency as the point of

contact, which is the lead agency within the State for Superfund activities.

If there are potential threats to natural resources at the site or migrating off site, the DoD and EPA Project Managers should notify the Trustees for natural resources as designated in Section 300.600 of the NCP. Project Managers need to coordinate with the Trustees during RI/FS activities to identify the extent of damage to natural resources.

Most EPA Regions have a Biological Technical Assistance Group (BTAG) that reviews and comments on the ROD before it is signed. This group includes scientists that advise and assist Project Managers in planning, conducting, and evaluating ecological studies that are needed in conjunction with the RI/FS. BTAG members typically include representatives from EPA, the U.S. Fish and Wildlife Service, the National Oceanographic and Atmospheric Administration, State agencies, and other organizations. Although DoD Project Managers are not BTAG members, they may find it helpful to attend these meetings and participate in discussions that pertain to their sites.

As with other participants in the ROD process, EPA Project Managers should coordinate with the BTAG early and frequently during the RI/FS process to provide opportunities for input on ecological issues at the site before the BTAG reviews the ROD. The first line of communication for Project Managers is the BTAG Coordinator in each EPA Region, who can convene meetings and help select appropriate data for BTAG review. The structure and function of the BTAG is discussed in more detail in the EPA publication "ECO Update: The Role of BTAGs in Ecological Assessment" (September 1991).



Although State concurrence on a DoD ROD is not required, it is required for a site to be deleted from the NPL. By actively seeking State review and comment on work plans and reports, Project Managers can promote open communication and good will. More than one State agency may be involved in the process. The EPA Project Manager should review the FFA and speak with the lead agency in the State to identify all State offices that should be kept abreast of activities. When a Defense and State Memorandum of Agreement (DSMOA) is in place with the State, DoD is funding State activities and State involvement should be approached consistent with the scope of the agreement. The goals again are to limit surprises, obtain the support of the State agencies early, and pursue a smooth path to the ROD completion.

IV.3.4 Use of the Technical Review Committee

- **Communicate on an ongoing basis.**

Every DoD facility on the NPL has a Technical Review Committee (TRC) that consists of representatives from local communities, environmental groups, the public, and other State, Federal, and local agencies. The TRC is not a decision-making body; rather the TRC provides Project Managers with an opportunity to meet, coordinate, and communicate. The TRC usually meets quarterly to discuss issues regarding site cleanup.

EPA and DoD Project Managers should meet before the TRC so that they can agree on the progress and any concerns. Presentations to the TRC should represent the views of both EPA and DoD; this should not be a time for surprises. It is critical that EPA and DoD appear as a unified body at the TRC with a common goal of cleanup. Before developing and signing the ROD, the TRC can be used as a sounding board for issues to anticipate how the public may react to provisions in the ROD. Thus, the TRC offers opportunities to inform the public of site activities, obtain early feedback, and build consensus among public groups before the PP and the ROD are issued.

IV.4 Expediting Document Preparation and Review/ Approval

- **The final step will move faster if you work together.**

The goal of the opportunities and methods described above, and the goal of this entire guide, is to expedite document preparation and review en route to a signed ROD. Project Managers can streamline the writing of the PP

and ROD by encouraging EPA and DoD team members to work closely in the preparation and review of these documents. Project Managers can accomplish this final step in the ROD process by pursuing concurrent preparation of the two documents, joint preparation by the EPA and DoD Project Managers, and concurrent reviews of the documents. Specific suggestions for implementing these approaches are presented in the following sections.

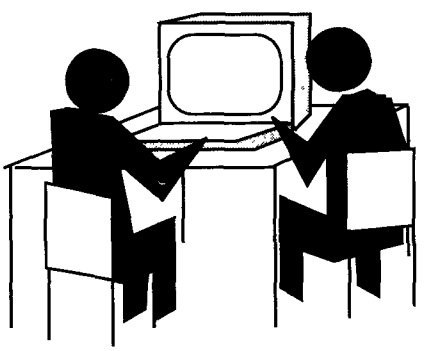
IV.4.1 Joint DoD and EPA Preparation of the PP and ROD

- **Learn from others who have managed similar sites.**
- **Work side-by-side to progress quickly.**

Once the draft FS is available, joint preparation of the PP and ROD can start. Rather than waiting for DoD's first submittal of the PP and ROD to EPA for review and approval, the DoD and EPA Project Managers can write the PP and the ROD together. This approach allows the Project Managers to respond immediately to specific language, format, or other components of the PP that they know their agencies or other agencies may not approve.

Project Managers should always begin by looking at other sites that have posed similar issues. The list of RODs contained in Appendix A provides information with which Project Managers can target existing RODs that may be helpful. It is a good idea to call the Project Manager for similar sites, find out what lessons were learned, and listen for similar problems that may arise.

When it comes to putting pen to paper, Project Managers can take several approaches. For example, the Project Managers can meet for as long as necessary in the same room to write the sections of the PP and ROD. Similarly, the Project Managers can jointly write the documents by sending draft copies (hard copy or computer diskettes) via facsimile or overnight mail. In actual case studies, both of these approaches have been successful in streamlining the ROD process.



IV.4.2 Concurrent Preparation of the PP and the ROD

- **Prepare the PP and the ROD as soon as possible.**
- **Complete non-remedy-specific sections of the ROD first.**
- **Remain flexible if changes are needed.**

Although the PP is released for public comment before the ROD is finalized and signed, Project Managers can prepare both documents nearly simultaneously. Time can be saved by submitting both documents for internal DoD and EPA review and approval if Project Managers follow three basic steps. First, develop a draft PP. Second, prepare a draft of the ROD. Third, submit both documents for internal review.

A draft ROD can be developed at the same time the PP is being prepared by beginning with topics that are not dependent on the remedy, such as background on the site and extent of contamination. Since the ROD contains many more details than the PP for legal purposes, a summary of the issues can be developed in the PP simultaneously in nearly all cases. Project Managers can often save substantial amounts of time by coordinating preparation of these documents, as long as they maintain an open mind to changes that may be needed once the PP is issued. By proceeding in this way, both documents can go through the internal review process once. Thus, the overall time for preparation and internal review of the documents is compressed.

IV.4.3 Concurrent Reviews of the PP and ROD

- **Develop a complete list of reviewers early.**
- **Pursue parallel review tracks to eliminate unnecessary delays.**

Once the Project Managers have prepared the PP and ROD, the formal reviews can also be approached concurrently. Early in the process, DoD and EPA Project Managers should identify all the agencies that will need to review the PP and the ROD. For example, each of the services have health agencies that need to be included. These are as follows, by service:

- Army: Army Environmental Hygiene Agency
- Navy: Navy Environmental Health Center
- Air Force: Office of the Surgeon General
- Defense Logistics Agency: ATSDR.

Project Managers should develop a complete list of required reviewers

through discussions with their management. Figure 4 presents an initial list of reviewers as a starting point for Project Managers.

Project Managers will submit the PP or the ROD for formal review by EPA, the State, other agencies, and each office within the Project Managers' chain of command simultaneously. This way, Project Managers do not have to wait for EPA's review and concurrence, then seek the State's review and comment, and then repeat the process with other agencies. If a reviewing agency does have comments or changes, the Project Managers must ensure that the changes are conveyed to each party reviewing the document simultaneously. The ROD process is complete once the document has been signed by each required signatory, culminating with the signatures of the EPA Regional Administrator and his or her counterpart in the DoD service responsible for the site. Once signed, the DoD Project Manager should ensure that a copy of the ROD is included in the Administrative Record for the site.

EPA

- Project Manager and Management
- Underground Injection Control Staff
- RCRA Technical Support Staff
- CERCLA Technical Support Staff *
- BTAG Staff *
- Air Staff
- Water Staff
- Regional Counsel and Management
- Headquarters Staff, as Needed

* *Review only*

Army

- Army Secretariat
- Army Staff (Army Environmental Office)
- Major Command
- USATHAMA
- Installation Staff
- Army Environmental Hygiene Agency

Air Force

- Installation Commander
- Installation Staff
- Major Command Environmental Office with copies for the Office of the Surgeon General, the Judge Advocate General, and the Office of Public Affairs

Navy

- Commanding Officer of the Engineering Field Division
- Installation Commanding Officer
- Naval Facilities Engineering Command Headquarters

DLA

- Director, Installation Services and Environmental Protection
- Chief, Environmental Division
- U.S. Army Corps of Engineers–Huntsville Division
- Installation Commanding Officer

Figure 4.
Potential Reviewers

CONCLUSIONS

Project Managers can influence the pace of the ROD process in many ways. The lessons presented in this guide are approaches that have proven effective at other DoD facilities on the NPL. EPA and DoD Project Managers are encouraged to consider each of the opportunities for expediting the ROD process that are presented in this guide and to share other innovative approaches they find successful along their road to ROD.

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AVAILABLE RESOURCES

Hot Lines

- The Federal Facilities Docket Hotline (1-800-548-1016).
- The RCRA/Superfund Hotline (1-800-424-9346).

Databases

These may only be accessible to operating agency personnel.

- EPA: Superfund Comprehensive Accomplishments Plan (SCAP), Robin Richardson (202) 260-9367.
- EPA: The Records of Decision System (RODS) Database. Thomas Batts (202) 260-3770.
- EPA: The Cleanup Information Bulletin Board (CLU-IN). Dan Powell (703) 308-8827.
- EPA: Vendor Information System for Innovative Treatment Technologies (VISITT) Linda Fiedler (703) 308-8799.
- DoD: Defense Environmental Restoration Program Management Information System (DERPMIS). Patricia Janssen (703) 695-8360.
- Department of the Navy: The Navy Pollution Control Report (PCR), Contact: NAVFACENGCOM (code 18) Alexandria, VA 22332 (703) 325-8538.
- Department of the Air Force: Work Information Management System–Environmental Subsystem (WIMS-ES), DERA Module. R.J. Furlong, HQUSAF/CEVR (202) 767-4616
- Department of the Air Force: Installation Restoration Program Information Management System (IRPIMS) Phil Hunter AFCEE/ESRD, Brooks AFB, TX (800) 821-4528 ext. 281.

EPA Dockets

- Superfund Docket
  (202) 260-3046.

- RCRA Docket
  (202) 260-9327.

- Toxic Substances Docket
  (202) 260-3587.

- Air Docket
  (202) 260-7548.

- Drinking Water Docket
  (202) 260-9598.

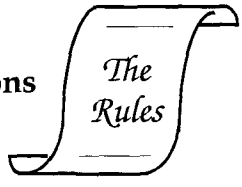
REFERENCES

Statutes

- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. §§ 9601-9675 (1982 & Supp. IV 1986).

- The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6921- 6939b (1982 and Supp. IV 1986).

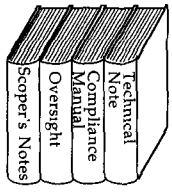
Regulations



- The National Oil and Hazardous Substances Contingency Plan (40 CFR Part 300), March 8, 1990.

- Army Regulation (AR) 200-1, "Environmental Protection and Enhancement," Chapter 9, April 1990.

Guidance



EPA Guidance

- "ECO Update: The Role of BTAGs in Ecological Assessment," U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Hazardous Site Evaluation Division (OS-230), OSWER Publication 9345.0-051, September 1991.

- "ROD Annual Report FY 1990," EPA/540/8-91/067, Publication 9355.6-04, July 1991.

- "Conducting RI/FS for CERCLA Municipal Landfill Sites," EPA Publication 540/P-91/001, February 1991.

- "Guidance on Remedial Actions for Superfund Sites With PCB Contamination," EPA Publication 540/G-90/007, August 1990.

- "Scoper's Notes," Publication No. EPA/540/G-90/002, OS-240, February 1990.

- "Guidance on Oversight of Potentially Responsible Party RI/FS,"

EPA Publication 540/2-90-011, OSWER Directive 9835.1 (c)(d), Volumes 1 and 2.

- "The Federal Facilities Hazardous Waste Compliance Manual," U.S. Environmental Protection Agency, Office of Waste Programs Enforcement, Publication 9992.4, January 1990. This document contains multiple guidance documents issued by both EPA and DoD, which include the following:

  - Executive Order 12580 of January 23, 1987.

  - "Agreement with the Department of Defense — Model Provisions for CERCLA Federal Facility Agreements": Memorandum from J. Winston Porter, U.S. EPA to Regional Administrators, June 17, 1988.

  - "Management Guidance for Execution of the FY 1990/91 Defense Environmental Restoration Program," Memorandum from the Office of the Assistant Secretary of Defense, September 29,1989. (Please note this has been superseded by the November 15, 1991 document issued by DoD and identified under "DoD Guidance" below.)

  - "Defense Priority Model: Defense Environmental Restoration Program," 54 Federal Register 43104, October 20, 1989.

- "CERCLA Compliance With Other Laws Manual: Parts I and II, " EPA Publications 9234.1-01 August 1988, and 9234.1-02, August 1989.

DoD Guidance

- ODASD(E) "Management Guidance for Execution of the FY 1992/93 Defense Environmental Restoration Program," Memorandum from the Office of the Assistant Secretary of Defense, November 15, 1991.

Army

- DA Pamphlet 40-578, "Health Risk Assessment Guidance for the Installation Restoration Program and Formerly Used Defense Sites," AEHA, February 25, 1991.

- "U.S. Army Installation Restoration Program Guidance and Procedure," USATHAMA, December 1990.

- "Commander's Guide to Public Involvement in the Army's Installation Restoration Program," USATHAMA, November 1990.

- "Commander's Guide to Environmental Management," USATHAMA, October 1990.

- Technical Note No. 420-10-2, "Work Classification Guidance for Defense Environmental

Restoration Program (DERP)," U.S. Army Engineering and Housing Support Center, Fort Belvoir, VA, April 6, 1990.

Navy

- OPNAVINST 5090.1A, "Environmental and Natural Resources Program Plan," October 1990.

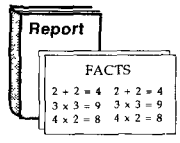
Air Force

- "U.S. Air Force Installation Restoration Program Management Guidance," 1989.

DLA

- "Environmental Protection Manual," Defense Logistics Agency Manual (DLAM) 6050.1, July 1991.

Report and Fact Sheets



- "ARARs-Assist System, Availability of [Computer-aided Environmental Legislative Data System] CELDS Computerized Database for the Identification of ARARs," OSWER Publication 9234.2-19FS, September 1991.

- "Guide to Addressing Pre-ROD and Post-ROD Changes," OSWER Publication 9355.3-02FS-4, April 1991.

- "Guide to Developing Superfund No Action, Interim Action, and Contingency Remedy RODs," OSWER Publication 9355.3-02FS-3, April 1991.

- "Defense Environmental Restoration Program Annual Report to Congress for Fiscal Year 1990," February 1991.

- "A Guide to Developing Superfund Records of Decision," OSWER Publication 9335.3-02FS-1, May 1990.

- "A Guide to Developing Superfund Proposed Plans," OSWER Publication 9335.43-02FS-2, May 1990.

- "A Guide to Selecting Superfund Remedial Actions," OSWER Publication 9355.0-27FS, April 1990.

- Additional fact sheets on ARARs (OSWER Publications 9234.1-01FS to -07FS); on Land Disposal Restrictions (OSWER Publications 9347.3-01FS to -08FS); and on the RI/FS (OSWER Publications 9355.3-01FS to -01FS4 and 9380.3-02FS).

- "Superfund Records of Decision Update," OSWER Publication 9200.5-2161, Intermittent Bulletins.

- Additional fact sheets on remediation and treatment technologies can be obtained from the Superfund Documents Coordinator, EPA Headquarters, (202) 260-9760.

LIST OF ACRONYMS

AEHA	Army Environmental Hygiene Agency
AFB	Air Force Base
ARAR	Applicable and Relevant or Appropriate Requirements
ATSDR	Agency for Toxic Substances and Disease Registry
BTAG	Biological Technical Assistance Group
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CWA	Clean Water Act
DA	Department of the Army
DBCP	Dibromochloropropane
DERP	Defense Environmental Restoration Program
DLA	Defense Logistics Agency
DLAM	Defense Logistics Agency Manual
DNT	Dinitrotoluene
DoD	Department of Defense
DOE	Department of Energy
DSMOA	Defense and State Memorandum of Agreement
EPA	Environmental Protection Agency
ESD	Explanation of Significant Differences
FFA	Federal Facility Agreement
FY	Fiscal Year

LIST OF ACRONYMS (continued)

FS	Feasibility Study
GAC	Granulated Activated Carbon
GB	German Brown
GW	Ground Water
IAG	Interagency Agreement
IRM	Interim Remedial Measure
MAJCOM	Major Command
NAVFACENGCOM	Naval Facilities Engineering Command
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OERR	Office of Emergency and Remedial Response
OFFE	Office of Federal Facilities Enforcement
OSWER	Office of Solid Waste and Emergency Response
OU	Operable Unit
OWPE	Office of Waste Programs Enforcement
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl
PCE	Perchloroethylene
PP	Proposed Plan
RA	Remedial Action

LIST OF ACRONYMS (continued)

RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
RODS	Records of Decision System
RDX	Hexohydro-1,3,5-Trinitro-1,3,5-Triazine
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
SCAP	Superfund Comprehensive Accomplishments Plan
SI	Site Investigation
SW	Surface Water
TBC	To Be Considered
TCE	Trichloroethylene
TMV	Toxicity, Mobility, and Volume
TNT	Trinitrotoluene
TRC	Technical Review Committee
TQM	Total Quality Management
TSCA	Toxic Substances Control Act
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
UV	Ultraviolet
VOC	Volatile Organic Compound

Appendix A.
ROD Summary for DoD Sites [1, 2]

Site Name, State	Signed ROD Date	Threat
West Virginia Ordnance, WV	3/27/87	Organics and asbestos in soil, sediments, and SW line
Rocky Mountain Arsenal, CO	6/4/87	VOCs, TCE, and inorganics in GW
West Virginia Ordnance, WV	9/30/88	Nitroaromatics and lead in soil, sediments, and GW
Twin Cities Army Ammunition Plant, New Brighton/Arden Hills, MN	8/11/89	VOCs, TCE, PCE, PCBs, and metals in soil
Picatinny Arsenal, NJ	9/28/89	VOCs, TCE, and metals in GW
Sacramento Army Depot, CA	9/29/89	VOCs, PCE, and TCE in GW
Rocky Mountain Arsenal (O.U. 23), CO	2/26/90	Organics, arsenic, mercury, pesticides, TCE, DBCP, organosulfur compounds

[1] *Much of the information presented in Appendix A is available from the Records of Decision System (RODS) database, which is stored on EPA's IBM mainframe in Research Triangle Park, North Carolina. The RODS database tracks information on each ROD such as signature date, site name, remedy, key contaminants, and a full text of the ROD. The database is menu-driven and allows rapid searches on these data. Direct access to the RODS database is available to EPA staff, EPA contractors, State personnel, and Federal facility representatives who can register for a user account established by EPA's Office of Emergency and Remedial Response. Information on accessing the RODS database is available from the RODS staff at (202)260-3770.*

Selected Remedy	EPA Contact	DoD Contact
In-situ flaming treatment; cap; excavation, flushing, and back-filling; off-site disposal	Robert Thomson FTS 597-7858 (215)597-7858	Joseph Turner (304)529-5282
Construction of GAC water treatment; replacement of well pumps and motors; installation of transmission piping	Connally Mears FTS 330-1528 (303)293-1528	Kevin Blose (303)289-0201
GW treat and pump with discharge to SW; cap	Robert Thomson FTS 597-7858 (215)597-7858	Joseph Turner (304)529-5282
On-site mobile infrared thermal treatment	Tom Baroonis (312)353-5575	Martin Cleary (612)633-2301 Extension 662
GW pump and treat with discharge to SW	Bill Roach FTS 264-8775 (212)264-8775	Ted Gabel (201)724-6748
GW pump and treat	Marlin Mezquita FTS 484-2393 (415)744-2393	Thomas Baker (209)726-4841
In-situ vitrification; vapor extraction; GW extraction and treatment with GAC; slurry wall; vegetative cap	Connally Mears FTS 330-1528 (303)293-1528	Kevin Blose (303)289-0201

[2] *All acronyms used in this appendix are defined in the "List of Acronyms" section of this guide.*

Appendix A.
ROD Summary for DoD Sites (continued)

Site Name, State	Signed ROD Date	Threat
Rocky Mountain Arsenal (O.U. 20), CO	3/20/90	Pesticides, heavy metals, organics
Tinker AFB, OK	8/15/90	VOCs including benzene, PCE, TCE, toluene and xylenes; other organics, and metals in GW and soil
Ogden Defense Depot, UT	9/27/90	Solvents and pesticides in GW
Dover AFB, DE	9/28/90	Petroleum hydrocarbons in soil
Naval Industrial Reserve Ordnance, Plant, MN	9/28/90	VOCs including PCE, TCE, toluene, and xylene in GW
Naval Air Engineering Center (Area C), NJ	2/4/91	GW contamination, petroleum hydrocarbons
Naval Air Engineering Center (Area H), NJ	2/4/91	GW contamination, petroleum hydrocarbons
Rocky Mountain Arsenal, South Tank Plume Farm, CO	6/6/91	Benzene, toluene, xylene, and bicycloheptadiene
Robins AFB, GA	6/26/91	GW contamination, organics, metals (primarily arsenic, cadmium, lead), tetrachloroethylene, trichloroethylene

Selected Remedy	EPA Contact	DoD Contact
Treat wastewater using physical/chemical methods, including UV oxidation and GAC	Connally Mears FTS 330-1528 (303)293-1528	Kevin Blose (303)289-0201
GW pump and treat; off-site disposal; cap; vapor extraction; GW monitoring	Susan Webster (214)655-6730	Cpt. Dan Welch (405)736-5102
Pump and treat GW; dispose of soils off site	Sandra Bourgeois FTS 330-1975 (303)294-1975	Dale Fredde (801)399-7848
Remove underground storage tanks and pipes	Bruce Beach (215)597-2317	Matt Parker (302)677-6817
GW pump and treat; off-site disposal	Thomas Bloom (312)886-7254	Jim Shafer (215)897-6432
GW pump and treat; on-site treatment; off-site disposal of residuals	Jeff Gratz (212)264-6667	Lucy Bottomley (908)323-2612
GW pump and treat; on-site treatment; off-site disposal of residuals	Jeff Gratz (212)264-6667	Lucy Bottomley (908)323-2612
Monitoring and reevaluation of contaminated GW plume	Connally Mears (303)293-1528	Daryl Smith (303)289-0239
"Source Control" to minimize release of contaminants; soil vapor extraction, solidification/stabilization; leachate collection	Rosanne Rudd (404)347-3016	Bill Downs (912)926-0983

Appendix A.
ROD Summary for DoD Sites (continued)

Site Name, State	Signed ROD Date	Threat
Letterkenny Army Depot, Southwest Area, PA	8/2/91	Soil contaminated with organic compounds, xylene, trans-1-2 dichloro-ethylene, ethylbenzene, trichoroethylene
Rocky Mountain Arsenal, RMA Chem-Process, CO	9/5/91	Nerve agents, blister agents (mustard gas, GB, lewisite)
Bangor Naval Marine Base (Site F), WA	9/19/91	Ordnances, TNT, RDX
McCord AFB, WA	9/19/91	GW contamination, trichloroethylene, dichloroethylene
Aberdeen Proving Ground/Michaelsville (O.U. 4), White Phosphorous Underwater Munitions Burial Area, MD	9/27/91	Environmental threat of white phosphorous in water
Aberdeen Proving Ground/Edgewood (O.U. 5), Old "O" Field Groundwater, MD	9/27/91	Metals, volatiles, and military-unique chemicals discharged to Chesapeake Bay
Hill AFB, UT	9/30/91	Dense nonaqueous phase liquid solvents, TCE, other solvents

Selected Remedy	EPA Contact	DoD Contact
Low-temperature thermal stripping	Dennis Orenshaw (215)597-7858	Peg Geiseking (717)267-9690
Decontamination and neutralization technique using sodium hydroxide and water	Connally Mears (303)293-1528	Gerald Barbieri (303)289-0125
GW pump and treat; treatability study with UV oxidation technology	Howard Blood (206)553-1172	Bela Varga (206)476-5775
GW pump and treat; GW extraction; carbon absorption treatment	Marie Jennings (206)553-6637	Michael J. Gremko (206)984-3913
No effective action; monitoring during storm events or dredging	Steve Hirsh (215)597-0549	John Wroble (301)671-3320
GW extraction and treatment with chemical precipitation and UV oxidation	Steve Hirsh (215)597-0549	Cindy Powell (301)671-3320
Pump and treat dense nonaqueous phase liquid	Robert Stites (303)294-1974	Bob James (801)777-8790

Appendix B.
Summary of Key Requirements

Section 120 of CERCLA

Upon the enactment of the Superfund Amendments and Reauthorization Act (SARA) in 1986, Federal facility involvement and compliance with CERCLA requirements became mandatory. Since then, DoD has been defining its role in the CERCLA process.

Section 120 clearly states that "each department, agency . . . of the United States shall be subject to, and comply with [CERCLA], in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity." In particular, Federal facilities are subject to EPA enforcement actions, public participation requirements, and citizen suits. The statute provides for joint selection of the remedy on NPL sites by EPA and the Federal agency; however, if no agreement can be reached, EPA will select the remedy. Section 120 does exempt Federal facilities from provisions in the law concerning financial assurances and contracts with State governments. In addition, the President can exempt DoD and the Department of Energy (DOE) facilities from any statutory requirements to protect national security interests.

One important provision of Section 120 of CERCLA was the requirement to establish a special Federal Agency Hazardous Waste Compliance Docket (Federal facilities Docket or the Docket). This Docket is an inventory of Federal facilities that generated, treated, stored, or disposed of hazardous waste or reported a release or potential release of hazardous substances. Of the 1,654 facilities listed on the Docket, DoD accounts for approximately 50 percent. Generally, any Federal facility that submitted information to EPA under Section 103 of CERCLA or Sections 3005, 3010, or 3016 of RCRA is added to the Docket. Once on the Docket, the Federal agency must conduct a Preliminary Assessment and, if warranted, a Site Investigation. Facilities will be evaluated with the Hazard Ranking System and possibly added to the NPL, thereby increasing the scope and requirements of the remedial response.

Section 120 of CERCLA also establishes strict scheduling requirements for the administrative process in evaluating and mitigating hazardous threats at Federal facilities. In addition, it specifies schedules for commencement of RI/FSs, negotiation of IAGs, and implementation and completion of Remedial Actions.

Section 211 of CERCLA

Section 211 of CERCLA amends Title 10 of the U.S. Code (Armed Forces), inserting a chapter on Environmental Restoration. This chapter requires the Secretary of Defense to carry out a program of environmental restoration at facilities under his jurisdiction. This program is known as the Defense Environmental Restoration Program (DERP). In establishing such a program in the statute, Congress required DoD to plan, budget for, and implement an environmental program to address threats to human health and the environment posed by DoD facilities.

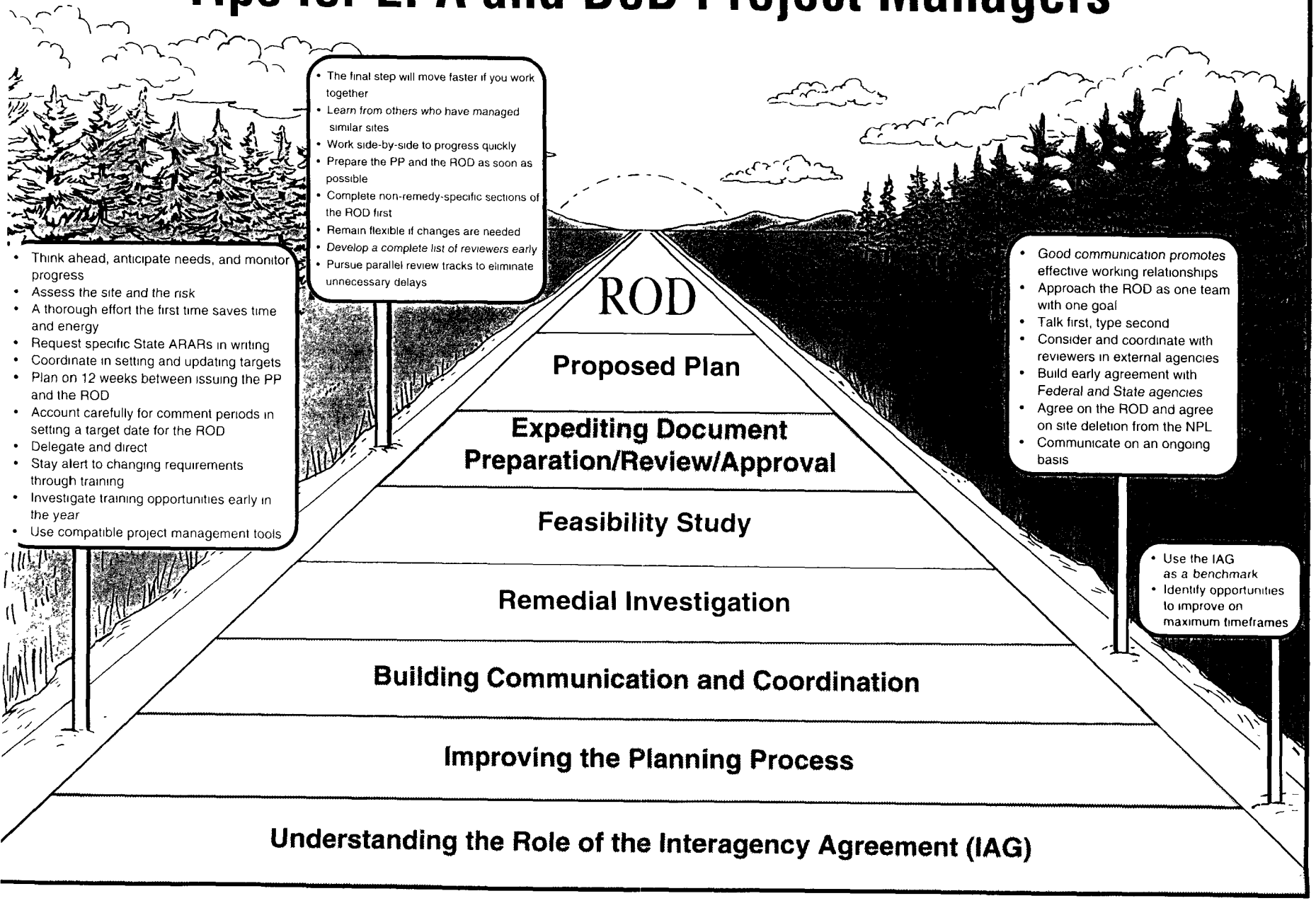
Executive Order 12580

Executive Order 12580, signed by President Reagan on January 23, 1987, delegated authority to Federal agencies to implement certain provisions of CERCLA. Specifically, Section 2(d) of the Executive Order delegates to the Secretaries of Defense and Energy the functions of CERCLA Sections 104(a) and (b) and c(4) [Investigations, Coordination, and Selection of Remedy]; Section 113(k) [Administrative Record]; Section 117(a) and (c) [Proposed Plan and Explanation of Differences]; Section 119 [Response Action Contractors]; and Section 121 [Clean-Up Standards] consistent with Section 120 of CERCLA.

What this order means is that instead of EPA having responsibility to implement the above provisions of CERCLA, DoD is responsible for its own sites. DoD will be held accountable by Congress for the meeting the requirements of these provisions.

Subpart K of the NCP

The regulations that interpret, clarify, and implement the provisions of CERCLA are found in the NCP (40 CFR Part 300, March 8, 1990). However, the regulations governing CERCLA activity at Federal facilities (Subpart K of the NCP) were reserved at that time.

Subpart K of the NCP will codify the requirements of Section 120 of CERCLA and provide a road map of the entire NCP by identifying the requirements of the NCP that are applicable to Federal agencies conducting CERCLA response actions.

Tips for EPA and DoD Project Managers