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# Site Selection Process for Expedited Response Actions at the Hanford Site



Prepared for the U.S. Department of Energy  
Office of Environmental Restoration and  
Waste Management



**Westinghouse**  
**Hanford Company** Richland, Washington

Hanford Operations and Engineering Contractor for the  
U.S. Department of Energy under Contract DE-AC06-87RL10930

Approved for Public Release

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## SITE SELECTION PROCESS FOR EXPEDITED RESPONSE ACTIONS AT THE HANFORD SITE

### 1.0 INTRODUCTION

#### 1.1 PURPOSE AND OBJECTIVES

This document describes the methods at the Hanford Site for selecting projects that are candidates for conducting expedited response actions (ERAs). The objectives are to provide a consistent process for selecting sites for conducting ERAs that comply with regulatory requirements and facilitates the overall cleanup of the Hanford Site within cost and schedule and to protect human health and the environment. The ERAs will be conducted in accordance with the U.S. Department of Energy (DOE), Environmental Protection Agency (EPA), and the Washington State Department of Ecology (Ecology) Hanford Federal Facility Agreement and Consent Order (Ecology et. al., 1989) [hereinafter referred to as the Tri-Party Agreement (TPA)], and the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and corresponding State of Washington laws and regulations. This document will be used as guidance by the Westinghouse Hanford Company in proposing potential ERA's. Sites proposed for ERAs will be approved by the three parties.

#### 1.2 OVERVIEW OF ERA PROCESS

The EPA is implementing a nationwide program to facilitate response actions at National Priorities List (NPL) sites through the ERA process. Quinn et al. 1987 states "The purpose of the ERA is to accomplish rapid cleanups by streamlining the remedial investigation/feasibility study (RI/FS) process for operable units or sites where the most effective mitigation effort is readily evident." In addition, they indicate the ERA process will:

- Accomplish partial site cleanup consistent with remedial response actions
- Make future remedial investigation (RI) activities easier to accomplish by removing or controlling onsite wastes
- Improve the public perception of the Superfund program by rapidly accomplishing partial site cleanups.

The DOE, EPA, and Ecology are developing a strategy for streamlining the remediation process at the Hanford Site, including using ERAs when appropriate. The draft Hanford Site Past Practice Investigation Strategy (Thompson 1991) defines ERA as any on-site response action to abate a threat to human health or welfare or the environment. ERAs are either removal actions under the DOE authority of the Atomic Energy Act, removal actions under 40 CFR 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) or interim measures (as deemed appropriate) under proposed corrective action rules in 40 CFR 264.540 under the Resource Conservation and Recovery Act (RCRA). ERAs include response to both time critical and non-time critical situations. The draft strategy emphasizes the use of ERAs, when appropriate, to streamline the past practice corrective action process and achieve rapid cleanup.

The desire to achieve quick cleanups must be balanced with the risks of undertaking an ERA when data are insufficient and an ERA is not appropriate or warranted. These risks may include:

- Conducting an ERA when risk to human health and the environment are such that no remedial action may be required or a lower cost remedy may be appropriate
- Implementing an ERA that is ineffective
- Implementing an ERA that is inconsistent with or precludes implementing an appropriate final remedy.

One of the objectives of this document is to provide a consistent process to prioritize ERA projects, helping to achieve this balance between the desire for quick action and the risk of taking inappropriate action.

The ERAs may be time critical or non-time critical. Time-critical ERAs are performed to abate a threat to human health or the environment when prolonged deliberation before initiation of actions is not desirable and response actions should be initiated in less than 6 months. Non-time critical ERAs are performed to abate a threat to human health or the environment when more than 6 months exists for formal planning before initiation of the response, but where action is warranted before completion of the RI/FS or RFI/CMS and record of decision (ROD) process. Such situations may include sites where there is a potential exposure if action is delayed, where the contamination may significantly spread, or where there is a potential for greater overall cost effectiveness by more timely response.

Figure 1 depicts the work flow for identifying, planning, approving, and implementing ERAs. The ERA process begins with identifying, selecting and documenting potential ERA projects. Potential ERA projects will be documented in a preliminary proposal. This initial part of the ERA process is the subject of this document. Once candidate projects are selected, an ERA project plan will be prepared. In accordance with Section 9 of the TPA, the ERA project plan is a secondary document and will be provided to Ecology and EPA for review.

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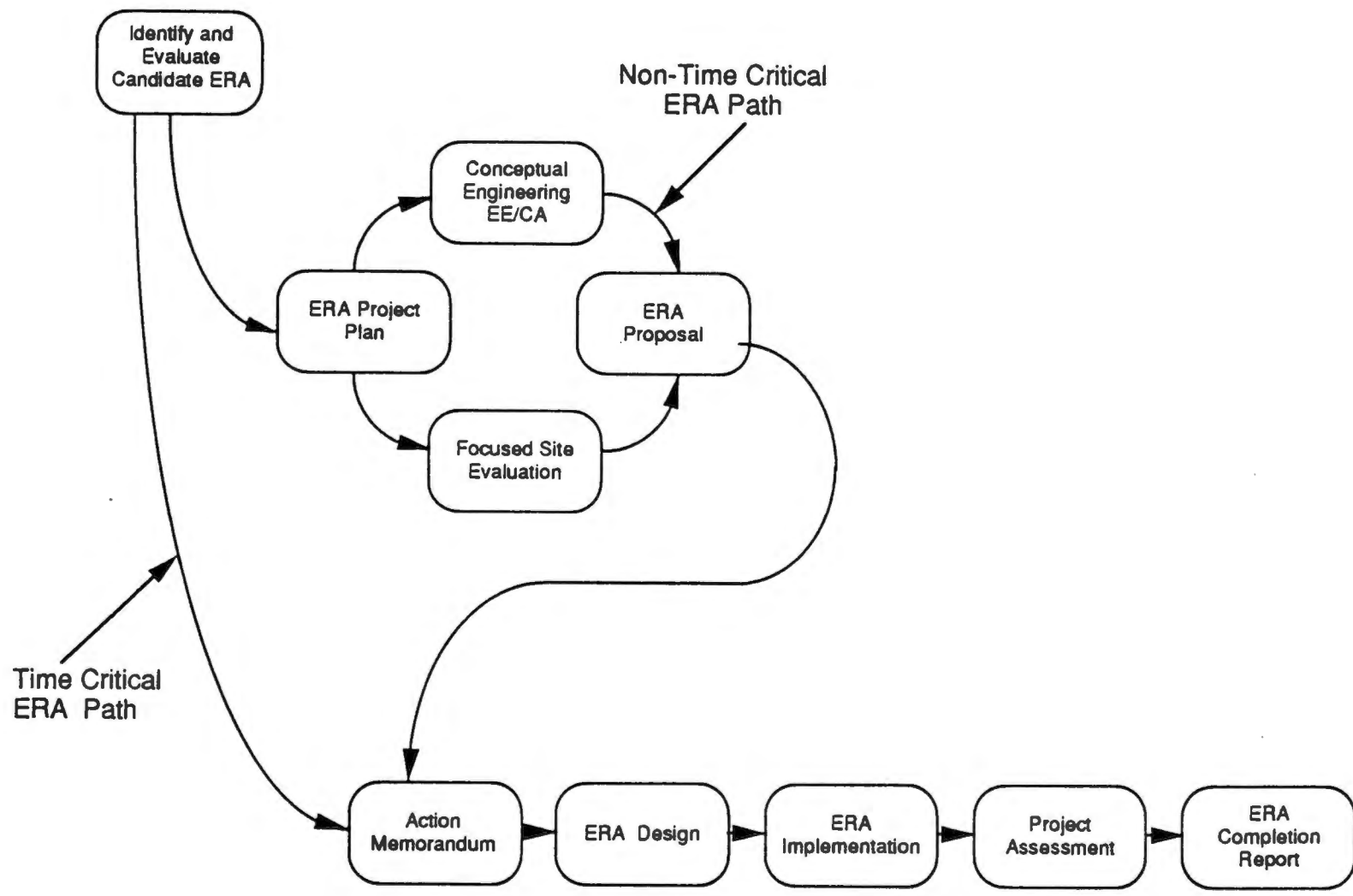


Figure 1. Expedited Response Action Work Flow Scenario.

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The ERA project plan will provide the following information:

- Description of the site characteristics
- Preliminary screening of remedial alternatives
- Site evaluation tasks, as needed
- Engineering evaluation and cost analysis (EE/CA) tasks
- ERA design and implementation tasks
- Project schedule.

The ERA project plan describes the tasks needed to complete the ERA proposal. The ERA proposal will include the ERA EE/CA, which is referred to as the IRA proposal or IM proposal in Section 7.2.4 of the TPA Action Plan. The ERA proposal is a primary document subject to Ecology review and EPA approval. As indicated on Figure 1, the EE/CA will be conducted concurrently with site evaluation activities if they are needed. This will ensure that the EE/CA is completed in a timely manner.

A draft TPA action memorandum will be prepared for all approved ERA proposals. The public will have the opportunity to comment on nonemergency and other non-time critical draft TPA action memoranda. Following approval by EPA and the public comment period, the ERA process including design, implementation, assessment, and reporting will be completed.

### 1.3 EXPEDITED RESPONSE ACTIONS SITE SELECTION

Potential ERA projects will be identified by a variety of methods. Candidate sites for ERAs will be identified during the scoping process for aggregate area management studies and RI/FS work plan development. The ERA projects will continue to be identified during RI/FS implementation as sufficient data are obtained to justify and support the action. In addition, ERA projects will be identified through regularly scheduled meetings among the Westinghouse Hanford Company (Westinghouse Hanford), the U.S. Department of Energy-Richland Operations Office (DOE-RL), EPA, Ecology, or as a result of public concern.

All candidate sites for ERAs will be evaluated to determine whether to proceed with preparation of an ERA Project Plan. Section 2.0 provides an overview of regulations that provide criteria for conducting ERAs, Section 3.0 consolidates these criteria and describes their applicability to Hanford Site ERAs, and Section 4.0 describes the documentation that will be prepared for all ERA sites that have been evaluated. Once ERA site evaluations are completed and documented, the DOE, EPA, and Ecology will jointly select the sites that warrant proceeding with ERA project planning and implementation. The U.S. Army Corps of Engineers will also participate in ERA site selection.

## 2.0 REGULATORY OVERVIEW

The TPA serves as the umbrella regulatory document for implementing past practice corrective actions including ERAs at the Hanford Site. The TPA establishes the procedural framework for conducting ERAs under federal CERCLA, RCRA, and state regulations. The ERAs are specifically addressed in several sections of the TPA and the TPA Action Plan.

Article III 14. B. of the TPA states that a purpose of the agreement is to:

"Identify Interim Action (IA) alternatives which are appropriate at the Hanford Site prior to the implementation of final corrective and remedial actions under RCRA and CERCLA. IA alternatives shall be identified and proposed to the Parties as early as possible and prior to formal proposal, in accordance with the Action Plan. This process is designed to promote cooperation among the Parties in promptly identifying IA alternatives."

Article XIII, Sections 38 and 39 of the TPA state that the DOE shall develop IRAs and IMs at operable units under CERCLA or RCRA as set forth in Chapter 7.0 of the TPA Action Plan. The IRAs are required to the greatest extent practicable to attain applicable or relevant and appropriate requirements (ARARs) and be consistent with and contribute to the efficient performance of anticipated final response actions. The IMs are required to the greatest extent practicable to be consistent with and contribute to efficient performance of corrective actions.

Section 7.2.2 of the TPA Action Plan lists one of the specific scoping activities to be addressed in each RI/FS or RFI/CMS work plan:

"assessment of whether interim response actions (IRA) or interim measures (IM) may be necessary. Such assessments will be documented as part of the work plan and may result in IRA or IM proposals."

Section 7.2.3 of the TPA Action Plan specifies that the lead regulatory agency has authority to require DOE to abate hazards. This section is based on the regulatory authorities of Section 106 of CERCLA and Section 7003 of RCRA. These abatement responses address situations that are determined to represent an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance, hazardous waste, or solid waste at an operable unit. This section also indicates that DOE may voluntarily submit proposed methods for abatement at any time. In these cases EPA must approve the DOE's proposal prior to initiating field work.

Section 7.2.4 of the TPA Action Plan describes the process for IRAs and IMs. Expedited response may be required by the lead regulatory agency at any time that data or information indicate it is needed or appropriate. Additionally, the DOE may submit an ERA proposal at any time without request from the lead regulatory agency. The ERA process will be used in cases where early remediation will prevent the potential for an imminent and substantial endangerment or an imminent hazard to develop. Expedited action may also be used in cases where a single unit within an operable unit is a high priority for action, but the overall priority for the operable unit is low. This section also states that in addition to the CERCLA and RCRA authorities, Section 2 of Executive Order 12580, dated January 29, 1987, allows the DOE to implement removal actions in circumstances other than

emergencies. All ERAs must be conducted in accordance with applicable regulations and proposals must be approved by the EPA before initiation of field work. The EPA will approve the proposal via the TPA action memoranda.

As indicated previously, the DOE, EPA, and Ecology have been developing the Hanford Past Practice Investigation Strategy (Thompson 1991). The purpose of this document is to develop a strategy based on lessons learned from work plan development to streamline the past practice corrective action process. The strategy is to accelerate decision making by (1) optimizing the use of existing data and (2) undertaking expedited response actions as needed to remove threats to human health and welfare and the environment.

## 2.1 FEDERAL REGULATIONS

As indicated previously, federal CERCLA and RCRA regulations are being implemented under the TPA. It is the intent of the TPA that past practice corrective actions including ERAs be conducted under one consistent process. The following discussion is intended to highlight regulatory criteria and limitations applicable to ERAs at the Hanford Site.

### 2.1.1 Comprehensive Environmental Response Compensation and Liability Act

While CERCLA provides the regulatory authority for conducting response actions, it does not provide a great deal of specific criteria or limitations relevant to selecting ERAs at the Hanford Site. Sections 104 and 106 of CERCLA address response actions where there is an imminent and substantial endangerment due to releases of hazardous substances.

Section 104 of CERCLA describes the EPA's response authorities (as delegated by the President) for conducting fund-financed removal actions and the limitations on that authority. Some excerpts of this section include:

- Section 104 (a)(2) states that any removal action "... should, to the extent the President deems practicable, contribute to the efficient performance of any long-term remedial action with respect to the release or threatened release concerned."
- Section 104 (a)(3) contains limitations on response for releases of (1) naturally occurring substances, (2) from products that are part of the structure of, and result in exposure within, residential buildings or business or community structures, or (3) into public or private drinking water supplies because of deterioration of the system through ordinary use. Although not directly applicable, these limitations are appropriate at the Hanford Site. ERAs should not be conducted to address these situations.
- Section 104 (c)(1) imposes limitations (with exceptions) on the duration (12 months) and cost (\$2,000,000) for fund-financed response actions. These limitations are not required under Section 106 and are not relevant to the Hanford Site. However, cost and duration of ERAs will certainly have to be considered at the Hanford Site when prioritizing and selecting sites.

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Section 106 of CERCLA provides for the EPA to issue orders to responsible parties to abate an "imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility." This authority is reiterated in Section 7.2.3 of the TPA Action Plan.

The regulations implementing CERCLA are contained in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) in 40 CFR Part 300 (EPA 1990b). The NCP addresses removal actions in more detail than is provided in CERCLA and is the primary basis for establishing criteria for prioritizing ERAs at the Hanford Site. Sections of the NCP that may be relevant to ERAs at the Hanford Site are summarized in the following text.

Section 300.415 (b)(2) describes factors that should be considered in determining the appropriateness of a removal action including:

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
- Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;
- High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;
- Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
- Threat of fire or explosion;
- The availability of other appropriate federal or state response mechanisms to respond to the release, and;
- Other situations or factors that may pose threats to public health or welfare or the environment.

Section 300.415 (b)(4) states in part that whenever a planning period of at least 6 months exists before onsite activities must be initiated that:

- The lead agency shall conduct an EE/CA, which is an analysis of removal alternatives
- Prepare sampling and analysis plans for EPA approval if environmental samples are needed.

Section 300.415 (c) states that removal actions shall, to the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action with respect to the release concerned.

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Section 300.415 (d) provides a list of removal actions which may be appropriate to certain situations. The list is not exhaustive and is not intended to prevent the lead agency from taking other actions deemed necessary and does not create a duty on the lead agency to take action at any particular time. The list includes:

- Fences, warning signs, or other security or site control precautions--where humans or animals have access to the release;
- Drainage controls, for example, run-off or run-on diversion--where needed to reduce migration of hazardous substances or pollutants or contaminants off-site or to prevent precipitation or run-off from other sources, for example, flooding, from entering the release area from other areas;
- Stabilization of berms, dikes, or impoundments or drainage or closing of lagoons--where needed to maintain the integrity of the structures;
- Capping of contaminated soils or sludges--where needed to reduce migration of hazardous substances or pollutants or contaminants into the soil, ground or surface water, or air;
- Using chemicals and other materials to retard the spread of the release or to mitigate its effects--where the use of such chemicals will reduce the spread of the release;
- Excavation, consolidation, or removal of highly contaminated soils from drainage or other areas--where such actions will reduce the spread of, or direct contact with, the contamination;
- Removal of drums, barrels, tanks, or other bulk containers that contain or may contain hazardous substances or pollutants or contaminants--where it will reduce the likelihood of spillage; leakage; exposure to humans, animals, or food chains, or fire or explosion;
- Containment, treatment, disposal, or incineration of hazardous materials--where needed to reduce the likelihood of human, animal, or food chain exposure, and;
- Provision of alternative water supply--where necessary immediately to reduce exposure to contaminated household water and continuing until such times as local authorities can satisfy the need for a permanent remedy.

Section 300.415 (i) states in part that removal actions shall, "to the extent practicable considering the emergencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws. Waivers described in Section 300.430 (f)(1)(ii)(C) may be used for removal actions.

Section 300.415 (j) states in part that removal actions pursuant to abatement authority of Section 106 of CERCLA are not subject to the requirements to (1) consider the availability of other appropriate federal or state response and enforcement mechanisms to respond to the release and (2) to terminate response after \$2 million has been spent or 12 months have elapsed.

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Section 300.415 (m) describes requirements for community relations while conducting removal actions. For time critical removal actions the lead agency is required to publish a notice of availability of the administrative record file within 60 days of initiation of the removal action, provide a 30 day public comment period and prepare a written response to significant comments. When more than 120 days are expected prior to initiation of on-site removal actions, a more comprehensive community relations effort is required, including: solicitation of public concerns, information needs and citizen involvement; preparation of a formal community relations plan; and establishment of an information repository. Where a planning period of a least six months is available, these community relations activities must be established prior to the approval of the EE/CA and issuance of the action memorandum. Notice of availability of the EE/CA must be provided with an opportunity for public comment, and the lead agency must provide a written response to comments.

The preamble to the NCP at 55 FR 8704, contains language that emphasizes EPA's intent to streamline the RI/FS process with a 'bias for action' that is relevant to the conduct of ERAs at the Hanford Site. The preamble states:

"The EPA encourages the taking of early actions, under removal or abatement authority, to abate the immediate threat to human health and the environment. Early actions using remedial authorities, are initiated as operable units. In deciding between using removal and remedial authorities, the lead agency should consider the following: (i) The criteria requirements for taking removal actions in today's rule (ii) the statutory limitations on removal actions and the criteria for waiving those limitations; (iii) the availability of resources; and (iv) the urgency of the site problem."

#### 2.1.2 Resource Conservation and Recovery Act

Under RCRA, ERAs are conducted as IMs when response is appropriate prior to completion of the RFI/CMS. These actions are normally required by an enforcement action or are included as a permit condition. The EPA has proposed rules for "Corrective Action for Solid Waste Management Units (SWMUs) at Hazardous Waste Management Facilities" (55 FR 30798) (EPA 1990a). These rules express EPA's management philosophy for corrective actions that is consistent with CERCLA and the NCP as stated previously. The following is a pertinent citation from the proposed rule:

"In managing the corrective action program, the Agency will emphasize early actions and expeditious remedy decisions. One of the Agency's overriding goals in managing the corrective action program will be to expedite cleanup results by requiring sensible early actions to control environmental problems on an interim basis, and using flexible and pragmatic approaches in making final remedy decisions. The EPA believes that in many cases it will be possible to identify early corrective action process actions which can and should be taken to control exposure to contamination, or to stop further environmental degradation from occurring. Such interim measures may be relatively straightforward, such as erecting a fence or removing small numbers of drums, or may involve more elaborate measures such as installing a pump and treat system to prevent further migration of a groundwater contaminant plume. In another example, where it is obvious that the eventual remedy will require excavation and treatment or removal of contaminated 'hotspots,' such action should be initiated as an interim measure, rather than deferring it until after final remedy selection."

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Remedies for RCRA facilities are determined on the basis of Corrective Measures Studies (CMS). The EPA includes several situations in the proposed rule at 55 FR 30821 (EPA 1990a), where a streamlined or highly focused CMS will be appropriate. Some of the situations that may be relevant to ERAs at the Hanford Site include:

- 'Low risk' facilities. Facilities where environmental problems are relatively small and where releases present minimal exposure concerns
- Facilities with straightforward remedial solutions. For some contamination problems, standard engineering solutions can be applied that have proven effective in similar situations. An example might be cleanup of soils contaminated with PCBs
- Phased remedies. At some facilities the nature of the environmental problem will dictate development of the remedy in phases, which would focus on one aspect (e.g., groundwater remediation) of the remedy, or one area of the facility that deserves immediate measures to control further environmental degradation or exposure problems. In these situations the CMS would be focused on that specific element of the overall remedy with follow-on studies, as appropriate, to deal with the remaining remedial needs at the facility.

In the proposed rulemaking [Section 264.540(b)(1) through (9)], EPA has identified nine factors to consider in determining whether interim measures are required. These factors are basically identical to the factors described previously in Section 415(b)(2) of the NCP. The EPA has also issued guidance for conducting IMs (EPA 1988a). The guidance provides additional discussion of the criteria to consider when determining whether IMs are warranted. These factors include characteristics of the release and pathways of migration, potential for human exposure, potential for environmental exposure, and consideration of how the situation will change if response is delayed.

The guidance provides an extensive list of example IMs to address different types of hazardous waste management units and affected environmental media. The guidance also provides annotated outlines for an IM work plan, IM investigation program, IM design program, and IM construction quality assurance plan.

## 2.2 STATE REGULATIONS

### 2.2.1 The Model Toxic Control Act Cleanup Regulation (Chapter 173-340 WAC)

The Model Toxic Control Act (MTCA) cleanup regulation contains requirements for interim actions in WAC 173-340-430 (Ecology 1990b). The definition of interim actions used by MTCA and the general requirements are slightly different than provided in the NCP. The regulations describe an interim action as one of the following:

- An action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance at a facility;
- An action that corrects a problem that may become substantially worse or cost substantially more to address if the action is delayed, and;
- An action needed to provide for completion of a site hazard assessment, state RI/FS, or design of a cleanup action.

The last item expands upon interim actions described in the NCP and may prove to be relevant for ERAs at the Hanford Site.

The general requirements in the MTCA regulations state that interim actions may:

- Achieve cleanup standards for a portion of the site;
- Provide a partial cleanup; e.g., cleanup hazardous substances from all or part of the site, but not achieve cleanup standards, and;
- Provide a partial cleanup of hazardous substances and not achieve cleanup standards, but provide information on how to achieve cleanup standards for a cleanup. For example, demonstration of an unproven cleanup method.

Use of interim actions to demonstrate unproven cleanup methods is another situation not addressed specifically in the NCP. The MTCA regulations also state the requirement that interim actions shall be consistent with and not foreclose reasonable alternatives for the final cleanup action, which is consistent with the NCP.

In regards to timing of interim actions, MTCA states that "interim action may occur at any time during the cleanup process. Interim actions shall not be used to delay or supplant the cleanup process. An interim action may be done prior to or in conjunction with a site hazard assessment and hazard ranking. However, sufficient technical information must be available regarding the facility to ensure the interim action is appropriate and warranted."

The MTCA regulations also require that any interim action reports prepared pursuant to an order or consent decree be submitted to Ecology for review and approval. Information required in the report is consistent with information that will be submitted in the EE/CA described in Section 1.2.

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2.2.2 Washington State Dangerous Waste Regulations (Chapter 173-303 WAC)

Currently, Ecology's Dangerous Waste Regulations (Ecology 1990a) do not contain specific criteria for selecting ERAs. Ecology has proposed amendments to the regulations (Washington State Register, WSR 90-20-101 October 17, 1990), which address corrective action and include a provision to exempt MTCA cleanup actions taken pursuant to an order or consent decree from permitting requirements. In addition, following finalization of EPA corrective action rules, Ecology will likely promulgate substantially equivalent state regulations as part of the continuing delegation of the RCRA program to the state.

3.0 CRITERIA FOR CONDUCTING EXPEDITED RESPONSE ACTIONS AT THE HANFORD SITE

The regulatory overview presented in the previous section provides the basis for defining criteria for conducting ERAs at the Hanford Site. The NCP, the proposed rules for RCRA corrective action, and the MTCA regulations state that ERAs should be conducted whenever data are sufficient to indicate it is appropriate and warranted. The rules describe slightly different situations where ERAs might be appropriate. As scoping studies are conducted at the Hanford Site and RI/FS implemented, additional situations that cannot be anticipated at this time may be identified that warrant implementing ERAs. Therefore, during the early stages of environmental restoration at the Hanford Site it is important that ERAs, for a wide range of situations, be considered and criteria be flexible and not overly limiting.

The Hanford Site Past Practice Investigation Strategy (Thompson 1991) identified situations that might trigger ERAs at the Hanford Site, they are:

- (A) Actual or potential exposure to nearby human populations, biota, or the food chain from hazardous substances, radioactive and/or mixed waste contaminants
- (B) Actual or potential contamination of drinking water supplies or sensitive ecosystems
- (C) Threats of release of hazardous substances and radioactive or mixed waste contaminants
- (D) High levels of hazardous substances, radioactive and/or mixed waste contaminants in soils that pose or may pose a threat to human health or the environment, or have the potential for migration
- (E) Weather conditions that may increase potential for release or migration of hazardous substances, radioactive, and/or mixed waste contaminants

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- (F) The availability of other appropriate federal or state response mechanisms to respond to the release
- (G) Time required to develop and implement a final remedy
- (H) Further degradation of the medium, which may occur if a response action is not expeditiously implemented
- (I) Risks of fire or explosion or potential for exposure as a result of an accident or failure of a container or handling system
- (J) Other situations or factors that may pose threats to human health or welfare or the environment.

These situations basically paraphrase the situations identified in Section 300.415 of the NCP for conducting removal actions and proposed 40 CFR 264.560(d). As described in Sections 2.1.2 and 2.2.1, both RCRA and MTCA include additional situations where ERAs may be warranted. In addition to the situations described in the Hanford Past Practice Investigation Strategy, these situations should also be considered at the Hanford Site and include:

- "Low risk" situations where environmental problems are relatively small, and where releases present minimal exposure concerns. Although these would be low-priority ERAs, it may be cost effective to expedite and streamline the evaluation and remedy of these types of facilities
- Situations with straightforward remedies
- Situations where an ERA can be implemented to provide information needed for completing the RI/FS or design of an overall remedy
- Situations where an ERA may be used to demonstrate an unproven technology.

The above criteria will be used at Hanford to select both time critical and non-time critical ERAs. ERAs will be conducted for time critical situations where action is needed to abate imminent and substantial threats and less than 6 months is available prior to implementation. Although the highest priority, these situations are expected to be rare at the Hanford Site. Non-time critical ERAs will be conducted in situations where action is needed to abate potential threats or prevent significant increased degradation prior to the ROD. In addition, non-time critical ERAs will be conducted in other situations where the consequences of delaying action to conduct the formal RI/FS process do not cause significant increased threat of exposure or degradation, but an ERA can yield significant benefits in other ways.

### 3.1 TIME CRITICAL EXPEDITED RESPONSE ACTIONS

The TPA and federal and state regulations require conducting ERAs whenever data are sufficient to determine there is an immediate and/or imminent and substantial threat to human health or the environment from a release. These situations are high priority and considered time critical where planning periods of less than 6 months are available to implement response activities. It is expected that few, if any, of these situations will be identified at the Hanford Site. The following criteria should be used to determine whether an ERA is time critical:

- The degree of actual or imminent exposure to nearby human populations, animals, or the food chain from hazardous substances
- The degree of actual or imminent contamination of drinking water supplies or sensitive ecosystems
- Hazardous substances in drums, barrels, tanks, or other bulk storage containers that may pose an imminent threat of release
- High levels of hazardous substances in soils largely at or near the surface that may migrate and, unless quickly controlled, pose a threat to humans or sensitive environments
- Presence of hazardous substances in situations where weather conditions may cause them to migrate or be released and that would pose a threat to humans or sensitive environments or cause significant increased contamination of environmental media if not quickly controlled
- Threat of fire or explosion.

Surface radioactive contamination at the Hanford Site may meet several of these criteria; however, these situations are being remediated pursuant to the ongoing Radiation Area/Remedial Action (RA/RA) Program. The RA/RA program is being conducted outside the auspices of the TPA; therefore, these situations are not addressed as priority projects for formal ERAs.

Few time-critical ERAs are anticipated at the Hanford Site. Any time-critical ERAs that are identified will be assigned top priority for implementation.

### 3.2 NON-TIME CRITICAL EXPEDITED RESPONSE ACTIONS

The majority of ERAs at the Hanford Site are not expected to be time critical; however, many ERAs may be warranted to abate potential threats or prevent significant increased degradation that might occur if action were delayed until completion of the RI/FS and ROD. They will likely be conducted as partial or phased remedies that will be integrated with the final remedy to meet the overall goal of protection of human health and the environment. These may include partial or complete cleanup of a particular environmental media, a portion of an operable unit, or partial implementation of an overall remedy.

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Non-time critical ERAs may also be conducted in other types of situations including (1) where information obtained will facilitate completing the RI/FS and/or remedial design, (2) to demonstrate technologies that may be promising for widespread use at the Hanford Site, and (3) where the remedy is obvious for a portion of an operable unit. The ERAs in these situations may yield significant benefits and would be consistent with the philosophy of streamlining the cleanup process with a bias for action. It is expected that more of the ERAs will fit into this category as the higher priority ERAs are completed and as the overall environmental restoration efforts at the Hanford Site proceed. More ERAs can be conducted as land-use decisions are made, acceptable levels of contaminants in the various environmental media are determined, and remedial alternatives for the situations present at the Hanford Site are established.

In addition to evaluation of risk posed by a site, selection of non-time critical ERAs will be based on preliminary identification of likely remedial alternatives. The following criteria should be considered when selecting non-time critical ERAs. Additional information for evaluation of most of these criteria is provided in EPA's guidance for conducting RI/FS under CERCLA (EPA 1988b).

- The degree of potential for exposure to humans or sensitive environments if action is delayed.
- Potential for significant increased environmental degradation if remediation is delayed.
- Implementability. ERAs that are easily implemented both technically and administratively should have higher priority than those that do not. Availability of resources will be a key factor for determining implementability.
- Short-term effectiveness. The likely short-term effectiveness of an ERA should be evaluated based on availability of proven remedial alternatives to address the situation.
- Reduction in toxicity, mobility, or volume. It is expected that most candidate ERAs will meet this criteria at the Hanford Site. The degree to which ERAs are expected to reduce toxicity, mobility, or volume of contaminants will be a factor in prioritizing projects.
- Cost effectiveness. Sites where ERAs can result in significant cost benefits by not delaying response action should be given higher priority than those that do not. This might include sites where technologies are proven and ERAs can result in significant cost benefits compared to the normal RI/FS process.
- Long-term effectiveness and permanence. An ERA that is effective in the long term and utilizes permanent solutions should have a higher priority than those that do not.
- Consistency with likely final remedy. The ERA should contribute, to the extent practicable, to the efficient performance of the likely final remedy.

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- Compliance with ARARs. Sites where contamination is present or may migrate at concentrations far in excess of ARARs are likely candidates for an ERA. The ERA projects that will comply with or contribute to compliance with ARARs in the final remedy should be given higher priority than those that do not.
- The ERA will provide valuable information for the RI/FS and/or remedial design.
- The ERA can be used to demonstrate promising technology.
- Community Acceptance. The likelihood of community acceptance of the ERA should be considered in prioritizing projects.

#### 4.0 EXPEDITED RESPONSE ACTION SITE SELECTION DOCUMENTATION

This section briefly describes the ERA site-selection documentation that will be prepared for each candidate site that has been evaluated and selected for an ERA. A worksheet will be completed for all ERA projects that have been evaluated. An example worksheet is provided in Figure 2.

The worksheet includes:

- A brief project description
- The classification as time critical or non-time critical with an explanation of the rationale and justification for the classification
- An evaluation of the degree the ERA meets each of the criteria

The completed worksheet will be included in an ERA preliminary proposal document. This preliminary proposal will be submitted to the DOE-RL, EPA, and Ecology. These agencies will use the document for ascertaining if further action is necessary in determining the appropriateness of conducting an ERA at the site. The preliminary proposal will include:

- Brief description and history of the site
- Aerial photograph of the site (if available)
- Benefits of conducting an ERA at the site
- Conceptual discussion and graphics depicting the proposed ERA

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- Goal and measure of success of the proposed ERA
- Implementation methodology to be followed in conducting the ERA
- Completed prioritization worksheet
- Preliminary cost and schedule summaries.

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Figure 2. Worksheet for Selecting Expedited Response Action Projects. (sheet 1 of 3)

Project Name: \_\_\_\_\_  
Project Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ERA Category: Time Critical  Non-Time Critical

Evaluation Checklist

Time Critical ERAs

1. Actual Exposure/Release Yes  No   
2. Imminent Exposure/Release Yes  No

Rationale: \_\_\_\_\_  
\_\_\_\_\_

Non-Time Critical ERAs

3. Potential Exposure

Rationale: \_\_\_\_\_  
\_\_\_\_\_

4. Potential Increased Degradation

Rationale: \_\_\_\_\_  
\_\_\_\_\_

5. Implementability

Rationale: \_\_\_\_\_  
\_\_\_\_\_

6. Short-Term Effectiveness

Rationale: \_\_\_\_\_  
\_\_\_\_\_

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Figure 2. Worksheet for Selecting Expedited Response Action Projects. (sheet 2 of 2)

NON-TIME CRITICAL ERAs (cont)

7. Reduction of Toxicity, Volume, Migration

Rationale: \_\_\_\_\_  
\_\_\_\_\_

8. Cost Effectiveness

Rationale: \_\_\_\_\_  
\_\_\_\_\_

9. Long-Term Effectiveness

Rationale: \_\_\_\_\_  
\_\_\_\_\_

10. Consistent with Final Remedy

Rationale: \_\_\_\_\_  
\_\_\_\_\_

11. Compliance with ARARs

Rationale: \_\_\_\_\_  
\_\_\_\_\_

12. Information for RI/FS or Remedial Design

Rationale: \_\_\_\_\_  
\_\_\_\_\_

13. Demonstrate Technologies

Rationale: \_\_\_\_\_  
\_\_\_\_\_

14. Community Acceptance

Rationale: \_\_\_\_\_  
\_\_\_\_\_

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