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APR 13 1992
Sta. 21 (20)

ENGINEERING DATA TRANSMITTAL

Page 1 of 1
1. EDT 158325

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) 81225 Environmental Div.	4. Related EDT No.: n/a
5. Proj./Prog./Dept./Div.: EERA/EE/ED	6. Cog. Engr.: E. J. Millikin	7. Purchase Order No.: n/a
8. Originator Remarks: Approval/Release		9. Equip./Component No.: n/a
11. Receiver Remarks:		10. System/Bldg./Facility: n/a
		12. Major Assm. Dwg. No.: n/a
		13. Permit/Permit Application No.: n/a
		14. Required Response Date: March 25, 1992



15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	WHC-SD-EN-PD-005		0	Sodium Dichromate Barrel Disposal Site Expedited Response Action Proposal	4	2		

16. KEY		
Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 (see MRP 5.43)	1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)											
(G)	(H)	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G)	(H)
Reason	Disp.									Reason	Disp.
2	1	Cog. Eng. E. J. Millikin	<i>[Signature]</i>	3/23	H4-55						
2	1	Cog. Mgr. W. L. Johnson	<i>[Signature]</i>	3/23	H4-20						
		QA									
		Safety									
		Env.									
3	6	EDMC (2)			H4-22						
3	6	IRA Clearance			H4-17						

18. <i>[Signature]</i> E. J. Millikin Signature of EDT Originator	Date 3/23/92	19. _____ Authorized Representative for Receiving Organization	Date	20. <i>[Signature]</i> W. L. Johnson Cognizant/Project Engineer's Manager	Date 3/23/92	21. DOE APPROVAL (if required) Ltr. No. <input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved w/comments <input type="checkbox"/> Disapproved w/comments
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(USE BLACK INK OR TYPE)

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(9)	Equipment/Component No.	● Enter equipment/component number of affected item, if appropriate.
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COMPLETE FOR SPEECH OR PRESENTATION					
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Title of Conference or Meeting NA					
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Review Required per WHC-CM-3-4	Yes	No	Reviewer Name (printed)	Signature	Date
Classification/Uncontrolled Nuclear Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Patent - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	B. D. Williamson	<i>B. D. Williamson</i>	3/26/92
Legal - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	B. D. Williamson	<i>B. D. Williamson</i>	3/21/92
Applied Technology/Export Controlled Information or International Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
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References Available to Intended Audience	<input checked="" type="checkbox"/>	<input type="checkbox"/>	E. J. Millikin	<i>E. J. Millikin</i>	3/25/92
Transmit to DOE-HQ/Office of Scientific and Technical Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Information conforms to all applicable requirements. The above information is certified to be correct.					
Author/Requestor (Printed/Signature) E. J. Millikin <i>E. J. Millikin</i>			Date 3/23/92		
Responsible Manager (Printed/Signature) W. L. Johnson <i>W. L. Johnson</i>			Date 3/23/92		
Intended Audience			INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP Stamp is required before release. Release is contingent upon resolution of mandatory comments. 		
<input type="checkbox"/> Internal <input type="checkbox"/> Sponsor <input checked="" type="checkbox"/> External					
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SUPPORTING DOCUMENT		1. Total Pages 32
2. Title Sodium Dichromate Barrel Disposal Site Expedited Response Action Proposal	3. Number WHC-SD-EN-PD-005	4. Rev No. 0
5. Key Words Sodium Dichromate Landfill, 100-IU-4 Operable Unit, Non-Time Critical Expedited Response Action, Engineering Evaluation/Cost Analysis	6. Author Name: E. J. Millikin <i>E. J. Millikin</i> Signature Organization/Charge Code 81225/PK17A	
7. Abstract This document proposes a non-time critical Expedited Response Action be performed for the Sodium Dichromate Barrel Disposal Site in the 100 Area. Millikin, E. J., 1992, <i>Sodium Dichromate Barrel Disposal Site Expedited Response Action</i> , WHC-SD-EN-PD-005, Rev. 0, Westinghouse Hanford Company, Richland, Washington.		
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9. Impact Level 4		11. RELEASE STAMP OFFICIAL RELEASE BY WHC DATE APR 13 1992 <i>Sta. 21</i>
APPROVED FOR PUBLIC RELEASE <i>V. Burkland 4/2/92</i>		

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1.0 INTRODUCTION

1.1 PURPOSE

This document provides information on the proposed expedited response action (ERA) for the Sodium Dichromate Barrel Disposal Site. The information is presented to the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology) to provide a general understanding of the proposed project, which will lead to a decision regarding the continuance of this ERA process.

If the ERA process is continued, a comprehensive ERA proposal will be prepared as a primary document per the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) (Ecology et al. 1989). This will allow for public involvement and regulatory approval of the ERA prior to actual implementation of the proposed response action.

1.2 BACKGROUND

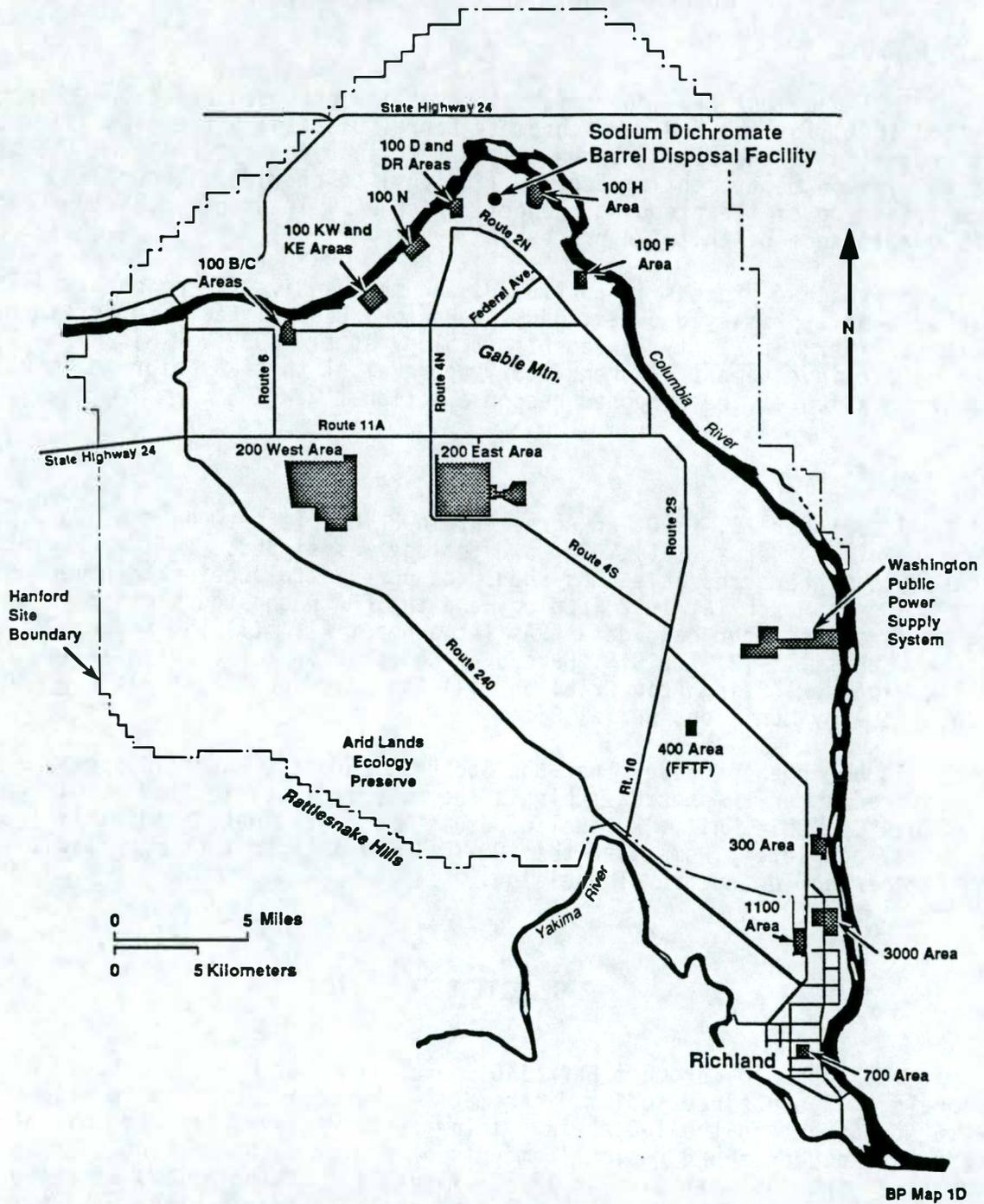
On October 18, 1990, an Agreement in Principle between the U.S. Department of Energy (DOE), EPA, and Ecology was signed. This agreement stated that where possible ERAs should be pursued to accelerate remediation of Hanford. On March 14, 1992, Ecology and the EPA requested planning proposals be prepared for four candidate ERAs (Attachment A): (1) the Sodium Dichromate Barrel Landfill; (2) the U.S. Bureau of Reclamation 2,4-D Burial Site; (3) the White Bluffs Pickling Acid Crib; and (4) the River Rail Wash Pit and the 600 Area Army Munitions Burial Site.

It has been proposed that the Sodium Dichromate Barrel Disposal Site be considered as an ERA because this is the only facility located within the 100-IU-4 Operable Unit. Removal of drums and contaminated sediments from this site may completely remediate the 100-IU-4 Operable Unit or may result in a no-further-action record of decision.

2.0 SITE DESCRIPTION

The Sodium Dichromate Barrel Disposal Site was used to dispose of barrels that contained sodium dichromate. The sodium dichromate was used for water treatment in the 100 Areas. Information received to date indicates that barrels that contained residual amounts of sodium dichromate were crushed and buried at the disposal site in 1945. Visual inspection of the site indicates that construction debris was also buried at the disposal site. The disposal site was backfilled; however, some debris is still exposed at the surface. No evidence exists to suggest that radioactive materials were buried. The site dimensions are 100 by 50 by 10 ft. There are no monitoring wells located in close proximity to the disposal site for providing an indication as to whether the drums have leaked. Depth to groundwater at the disposal site is approximately 50 ft.

Figure 1. Map of Hanford Site and Sodium Dichromate Barrel Disposal Site.



3.0 BENEFIT OF ERA

The recent increase in public awareness of activities that influence the environment has drawn considerable attention to the Hanford Site. Many of the concerns expressed by the public concerning the Hanford Site address the issue of offsite exposure of contaminants. The Sodium Dichromate Barrel Disposal Site is located approximately 1.5 mi from the Columbia River. Currently, there is a chromium plume under the 100-D and 100-H Areas that has slowly migrated into the Columbia River. Implementation of the ERA would reduce the potential for an additional amount of chromium to migrate into the Columbia River. Remediation of the disposal site today, could be more cost effective than postponing cleanup and allowing possible migration of the contaminants. In addition, removal of the drums and potentially contaminated sediments from this site may completely remediate the 100-IU-4 Operable Unit or may result in a no-further-action record of decision.

4.0 ERA CONCEPT

4.1 GOAL

The goal of the ERA is to remove barrels and associated debris from the disposal site. The overall result is to remove the potential threat to the vadose zone and underlying groundwater, thus preventing the possible migration of contaminants. The ultimate goal of the ERA is to complete all remediation activities in the 100-IU-4 Operable Unit.

4.2 MEASURE OF SUCCESS

Success of the ERA will be measured in terms of removal of the debris and barrels that may have contaminated the environment. Implementation of the action at the disposal site would result in the immediate reduction in the quantity of available contaminants that may cause continued contamination of the environment.

4.3 ERA IMPLEMENTATION

The process for implementing an ERA at the Sodium Dichromate Barrel Disposal Sites would follow the format outlined in the Tri-Party Agreement, and the Hanford Site Past-Practice Strategy (DOE-RL 1991, Draft, October 1990). The ERA is considered to be non-time critical, such that a planning period of at least 6 mo will occur prior to initiation of the activity. Implementation of a non-time critical ERA requires an engineering evaluation/cost assessment (EE/CA) to be conducted and submitted to the lead regulatory agency (EPA). The EE/CA will be contained in an ERA proposal which will provide the additional details necessary for implementing the alternative chosen in the EE/CA. The outline of the ERA implementation work flow is briefly described in the following paragraphs.

4.3.1 ERA Project Plan

A brief ERA project plan will be prepared that outlines how each phase of the ERA will be implemented (Attachment B). The project plan identifies each of the remediation alternatives (that will be considered by the EE/CA) and the site evaluation tasks necessary to evaluate the alternatives. This plan is considered to be a secondary document as defined in the Tri-Party Agreement.

4.3.2 Site Evaluation

The principle purpose of the site evaluation is to determine the nature and configuration of the disposal site. Prior to excavation, all possible information regarding the site will be reviewed. In addition, data are used to assess worker health and safety. Activities that are proposed to be performed in support of the ERA include, but are not limited to, historical research and geophysical surveys.

4.3.3 ERA Proposal and ERA Action Memorandum

The ERA proposal includes an analysis of the various remediation alternatives. The EE/CA provides refinement and specification of the alternatives, followed by a detailed analysis based on: (1) public health, welfare, and environmental impacts; (2) technical feasibility; (3) institutional considerations; and (4) cost. Attachment C provides an annotated outline for the ERA proposal. Excavation and subsequent disposal of the waste in compliance with federal and state regulations is the alternative which is the basis for planning purposes.

The EE/CA report is documented in the ERA proposal, and will undergo review by the DOE, followed by a second review by the EPA and Ecology. The public will also review the document. As specified in the Tri-Party Agreement, the EPA will ultimately be responsible for selecting a remediation alternative for implementation by issuing an ERA Action Memorandum. The lead agency for implementation of the ERA would be Ecology since the past practice site is within the 100-IU-4 Operable Unit.

4.3.4 Design and Implementation

Following approval of the ERA proposal, the chosen alternative will be developed for implementation.

4.3.5 Reporting

A final report assessing and evaluating the ERA will be prepared on completion of the ERA. This information will be used in making a final decision on the operable unit.

4.4 ERA SELECTION WORKSHEET

An ERA selection worksheet has been completed for the project and provided in Attachment D.

4.5 COST AND SCHEDULE SUMMARY

The estimated cost and preliminary schedule for the ERA are provided in Attachments E and F, respectively. Should the proposal be accepted, a final cost estimate will be defined in the formal ERA proposal.

5.0 REFERENCES

Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*, State of Washington Department of Ecology, U.S. Environmental Protection Agency, and the U.S. Department of Energy, Olympia, Washington.

DOE-RL, 1991, *Hanford Site Past-Practice Strategy*, DOE-RL-91-40, Draft A, U.S. Department of Energy, Richland Operations, Richland, Washington.

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ATTACHMENT A
LETTER FROM ECOLOGY AND EPA

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Mail Stop PV-77 • Olympia, Washington 98504-8711 • (206) 459-6000

March 4, 1992

Mr. Steven H. Wisness
Hanford Project Manager
U.S. Department of Energy
P.O. Box, 550 A5-19
Richland, WA 99352

Re: Expedited Responses Action Planning Proposals and Implementation

Dear Mr. Wisness:

On January 22, 1992, a meeting was held to discuss the selection of new Expedited Response Actions (ERA). The Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) assumed the task of identifying candidate sites for planning proposal preparation, and identification of lead regulatory agency.

The primary reasons to perform ERAs are to minimize or eliminate the potential for release of hazardous substances and/or radionuclides in the environment and to initiate actions consistent with anticipated remedy selections. The final remedy selection would be made after completion of a Remedial Investigation/Feasibility Study (RI/FS) or a RCRA Facility Investigation/Corrective Measures Study (RFI/CMS).

On December 12, 1991, a meeting was held to discuss selection of new ERAs. In this meeting, the U.S. Department of Energy (DOE) and Westinghouse Hanford Company (WHC) provided EPA and Ecology with a list of twenty-two (22) candidate sites. In addition, DOE and WHC were seeking approval to proceed with EE/CA preparation for the 300 Area Burial Grounds. Based on this meeting and a continuing dialogue between Ecology, EPA, DOE, and WHC, four (4) sites from the candidate list have been selected for planning proposal preparation. In addition, we request DOE submit planning proposals for two additional sites that were drafted previously for DOE, but as yet have not been submitted to Ecology and EPA.

Ecology and EPA prefer to delay initiation of an ERA on the 300 Area Burial Grounds. With the use of test pits in both the liquid disposal sites and the burial grounds, it appears the schedule for completion of RI/FS activities in 300-FF-1 may be accelerated. In addition, treatability tests planned for this year may identify appropriate means for remediating contaminated sediments from the liquid disposal sites as well as the burial grounds. Early completion of these investigations could result in a final Record of Decision for the 300-FF-1 Operable Unit earlier than projected. Ecology and EPA prefer

Mr. Steve H. Wisness
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this course of action because it would potentially eliminate the need to handle waste from the burial grounds twice (once as part of the ERA and again as part of the final remedy).

Ecology and EPA have selected the following four sites for planning proposal preparations:

Sodium Dichromate Barrel Disposal Landfill in 100-IU-4 Operable Unit

The sodium dichromate barrel disposal site in the 100-IU-4 Operable Unit was selected in part due because this is the only facility located within the 100-IU-4 Operable Unit. Also, early remedial action at this operable unit may abate the potential of more extensive environmental degradation. Any ground water contamination from the sodium dichromate barrel site would be addressed as part of the 100-HR-3 Operable Unit. Removal of drums and contaminated sediments from this site may completely remediate the 100-IU-4 Operable Unit or may result in a no further action record of decision. This ERA would be designated as an Ecology lead site due to its location within the 100-HR-3 ground water operable unit for which Ecology is also the lead regulatory agency. An ERA at the sodium dichromate barrel disposal site should not require extensive planning or characterization prior to initiation and therefore field work should begin in fiscal year 1992.

U.S. Bureau of Reclamation 2,4-D Burial Site in 100-IU-3 Operable Unit

The U.S. Bureau of Reclamation 2,4-D burial site in the 100-IU-3 Operable Unit was also selected in part because it is the only documented hazardous waste disposal area located north of the Columbia River on the Hanford Site. In addition, this site is one of the few waste sites where DOE does not control access. Removal of drums and contaminated sediments from this site could eliminate the primary source of hazardous waste from this part of the Hanford Site and enhance public safety. The north slope area of the Hanford Site has been of particular interest to Ecology due to public access and the existing lease agreement between DOE and the Washington State Department of Fish and Wildlife. Ecology would be designated lead regulatory agency for both this ERA and the 100-IU-3 Operable Unit.

White Bluffs Pickling Acid Crib in 100-IU-5 Operable Unit

The White Bluffs pickling acid crib in the 100-IU-5 Operable Unit represents a significant source of acidic metal waste solution. This waste was generated from the final cleaning of reactor cooling pipes prior to installation in Hanford's eight single-pass reactors. These liquid disposal sites are located approximately one mile west of the 100-F Area near the old White Bluffs town site. Again, this site represents the primary source of contamination within the 100-IU-5 Operable Unit and a removal action at this facility will likely limit

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the need for and extensive investigation through an RI/FS. Since little is known about the extent of contamination associated with the White Bluffs pickling acid crib, some degree of characterization will likely be required as part of an ERA at this site. Due to its location upgradient of 100-F Area, EPA would be designated as lead regulatory agency for both this ERA and the 100-IU-5 Operable Unit.

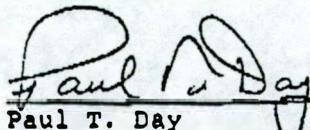
100-IU-1 River Rail Wash Pit and 600 Area Army Munitions Burial Site

The 100-IU-1 operable unit contains two units. The riverland railroad car wash pit was decontaminated in 1963, and subsequently released from radiation zone status. Site records indicate that all items were removed from the munitions burial site in 1986. These sites are both located west of Highway 240 and lack the access controls present at nearly all other past practice sites at Hanford. EPA will be lead agency for this ERA and the 100-IU-1 Operable Unit. This presents the potential opportunity to reach a decision to take no further action at an operable unit after performing a confirmatory investigation. We expect that the entire investigation could be done as part of the ERA. If that is the case, the ERA would be followed by administrative steps to reach a final ROD.

Planning proposals for two additional sites are already drafted, but not released. These are for the 100 Area river outfall pipes and the 618-11 burial ground. These planning proposals should be transmitted to Ecology and EPA without delay. The regulatory lead agency will be identified for these proposals in the notice to proceed with EE/CA preparation.

Should you have any questions about the selection of candidate sites for planning proposal preparation or implementation, please contact either Steve Cross of Ecology (206) 459-6675 or Doug Sherwood of EPA (509) 376-9529.

Sincerely,


Paul T. Day
Hanford Project Manager
EPA Region 10


David B. Jansen, P.E.
Hanford Project Manager
Washington State
Department of Ecology

cc: T. Veneziano, WHC

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WHC-SD-EN-PD-005, Rev. 0

ATTACHMENT B
PROJECT PLAN OUTLINE

CONTENTS

- 1.0 INTRODUCTION
 - 1.1 PURPOSE
 - 1.2 BACKGROUND
 - 1.3 ORGANIZATION
- 2.0 SITE CHARACTERIZATION
- 3.0 PRELIMINARY SCREENING OF ALTERNATIVES
- 4.0 SITE EVALUATION TASKS
- 5.0 ERA PROPOSAL TASKS
- 6.0 ERA DESIGN AND IMPLEMENTATION TASKS
- 7.0 PROJECT SCHEDULE
- 8.0 REFERENCES

ATTACHMENTS

- 1. Data Management Plan
- 2. Community Relations Plan
- 3. Memos, Letters

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ATTACHMENT C

ANNOTATED ERA PROPOSAL OUTLINE

1.0 INTRODUCTION

The introduction defines the purpose and scope of the expedited response action (ERA) proposal. The discussion includes the various reasons and requirements for performing the ERA. The relationship between the ERA and the ongoing remedial investigation/ feasibility study activities will also be described.

2.0 SITE DESCRIPTION

This section provides a brief description of the site being considered for an ERA. A summary of the information that is pertinent to the selection of the preferred alternative is included.

3.0 SITE EVALUATION ACTIVITIES

This section describes the activities conducted for characterization of the site. Information gathered during those activities are also included, evaluated, and summarized.

4.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

This section identifies applicable or relevant and appropriate requirements to be considered in the engineering evaluation/cost analysis.

5.0 IDENTIFICATION OF RESPONSE TECHNOLOGIES

Response technologies that could achieve the objectives of the ERA are evaluated. A summary of the evaluation process is provided.

6.0 ANALYSIS OF RESPONSE ACTION ALTERNATIVES

Various response action alternatives are assembled and evaluated. Those alternatives warranting further evaluation are summarized.

7.0 ENGINEERING EVALUATION/COST ANALYSIS

Each criterion to be used to evaluate the ERA alternatives summarized in Chapter 6 is identified in this section. The method of scoring the alternatives against these criteria is also explained. The alternatives are first screened against the two following criteria: (1) timeliness, and (2) protection of the environment and public health. Those alternatives that meet the screening criteria are further evaluated against the following criteria: (1) reliability/technical feasibility; (2) administrative/managerial feasibility, and (3) reasonable cost.

8.0 IMPLEMENTATION OF PREFERRED ERA ALTERNATIVE

This section provides a discussion detailing the implementation of the preferred ERA alternative chosen in Chapter 7. All procedures that will be used or that need development will be identified. All permits, such as excavation permits and Hazardous Waste Operators Permits, will also be mentioned. Health and safety, waste management, waste minimization, and environmental monitoring will be discussed.

9.0 PROJECT MANAGEMENT PLAN

Each of the organizations that will participate in the implementation of the ERA and their roles is identified in this section. A flow chart showing the management structure, a detailed schedule for implementation, and cost estimates for implementing the ERA activity are provided.

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ATTACHMENT D
ERA SITE SELECTION WORKSHEET

SELECTION WORKSHEET

Project Name: Sodium Dichromate Barrel Disposal Facility

Project Description: The project would consist of removing crushed barrels which contained residual sodium dichromate. In addition, some additional debris may be present.

ERA Category: Time Critical Non-Time Critical

Evaluation Checklist

Time Critical ERAs:

Actual Exposure/Release Yes No

Imminent Exposure/Release Yes No

Rationale:

Non-Time Critical ERAs:

1. Potential Exposure: Yes No

Rationale: The drums have been allowed to degrade in the landfill since 1945. There was residual sodium dichromate present in the barrels, and as a result it may have migrated beyond the disposal facility.

2. Potential Increased Degradation: Yes No

Rationale: Should the barrels be allowed to continue to degrade, the potential remains for residual contamination to migrate beyond the disposal facility.

3. Implementability: Yes No

Rationale: The ERA is highly implementable since it is suspected that no radioactive materials were buried in the disposal facility. In addition, it is not expected that the contaminants have significantly migrated outside the disposal facility.

4. Short-Term Effectiveness: Yes No

Rationale: Implementation of this project would result in permanent removal of potential waste from the disposal facility; therefore, the project would be effective in the short-term.

5. Reduction of Toxicity, Volume, Migration: Yes No

Rationale: Implementation of this project would eliminate toxicological and migratory hazards.

6. Cost Effectiveness: Yes No

Rationale: Removal of the waste in the near future would most likely be more cost effective than postponing removal activities and allowing the barrels to further degrade.

7. Long-Term Effectiveness: Yes No

Rationale: Implementation of this project would result in permanent elimination of any human health and environmental hazards that currently exist at the disposal facility.

8. Consistent with Final Remedy: Yes No

Rationale: Removal of the waste may be the final remedial action for the 100-IU-4 OU and will not preclude additional actions at the disposal site.

9. Compliance with ARARs: Yes No

Rationale: The goal of the ERA would strive to achieve final ARARs.

10. Information for RI/FS or Remedial Design: Yes No

Rationale: The project would provide additional information for use in future removal/remediation projects as well as support the final record of decision for the 100-IU-4 OU.

11. Demonstrate Technologies: Yes No

Rationale: Implementation of the project will utilize proven technologies.

12. Community Acceptance: Yes No

Rationale: Positive acceptance of this project by the community is anticipated since removal actions are being taken in the near future at a past practice site. In addition, this project will support the final record of decision for the 100-IU-4 OU.

ATTACHMENT E

SODIUM DICHROMATE DISPOSAL SITE ERA
COST ESTIMATE

The attached cost estimate for the proposed ERA is preliminary and should be considered rough order-of-magnitude. The basis for many of the costs was primarily from costs associated with the 316-5 Process Trenches and the 618-9 Burial Ground ERA. A 30% contingency cost factor was included in the estimate. A definitive cost estimate will be provided in the ERA proposal for the selected remediation alternative.

PROPOSAL COST ESTIMATE

Project Management		\$440,000
Project Manager	0.10 FTE/yr. @ 2.5y =	25,000
Project Engineer	1.0 FTE/yr. @ 2.5y =	250,000
Clerk/Typist	0.10 FTE/yr. @ 2.5y =	25,000
Quality Assurance	0.125 FTE/yr. @ 2.5y =	31,250
Health/Safety	0.125 FTE/yr. @ 1.0y =	12,500
Community Relation	0.125 FTE/yr. @ 2.5y =	31,250
Facility Safety	1.0 FTE/yr. @ .5y =	50,000
Other Permits	0.125 FTE/yr. @ 1.0y =	<u>12,500</u>
	Subtotal	437,500
Preliminary Investigation		\$30,000
Historical Research	0.5 FTE @ 2 mo	\$ 8,333
Geophysical Survey	3.0 FTE @ 4 wk	<u>25,000</u>
	Subtotal	33,333
ERA Proposal		\$30,000
Development of the Proposal	0.5 FTE @ 7.0 mo	29,166
Project Implementation		\$1,080,000
o Site Preparation/Waste Excavation and Segregation	8.0 FTE @ 4 mo	266,667
o Waste and Disposal Site Characterization	\$5,000/sample @ 30 samples	150,000
o Data Validation	\$2,000/sample @ 30 samples	60,000
o Waste Disposal		500,000(1)
o Project Closeout		
Develop and Issue Report	1.0 FTE @ 7 mo	58,333
Site Stabilization	3.0 FTE @ 2 mo	<u>50,000</u>
	Subtotal	1,085,000

Total Project Cost \$2,050,000

(1) cost estimate based on disposing 2% as hazardous waste

1 FTE/yr. = \$100,000.

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ATTACHMENT F**ERA SCHEDULE**

The attached schedule for the proposed ERA is preliminary. Additional data about site conditions and health and safety requirements are required to produce an accurate schedule. A final schedule will be provided in the ERA proposal.

SODIUM DICHROMATE BARREL DISPOSAL SITE

SODIUM DICHROMATE PROJECT MANAGEMENT

- OVERALL PROJECT MANAGEMENT
- PROJECT PLAN
- SAFETY DOCUMENTATION
- NEPA DOCUMENTATION

PHASE I-SITE CHARACTERIZATION

- HISTORICAL RESEARCH
- GEOPHYSICAL SURVEY

PHASE II-ERA PROPOSAL

- PREPARE PROPOSAL
- DOE REVIEW
- REVISE PROPOSAL
- ECOLOGY/EPA REVIEW
- REVISE PROPOSAL
- PUBLIC REVIEW
- REVISE PROPOSAL

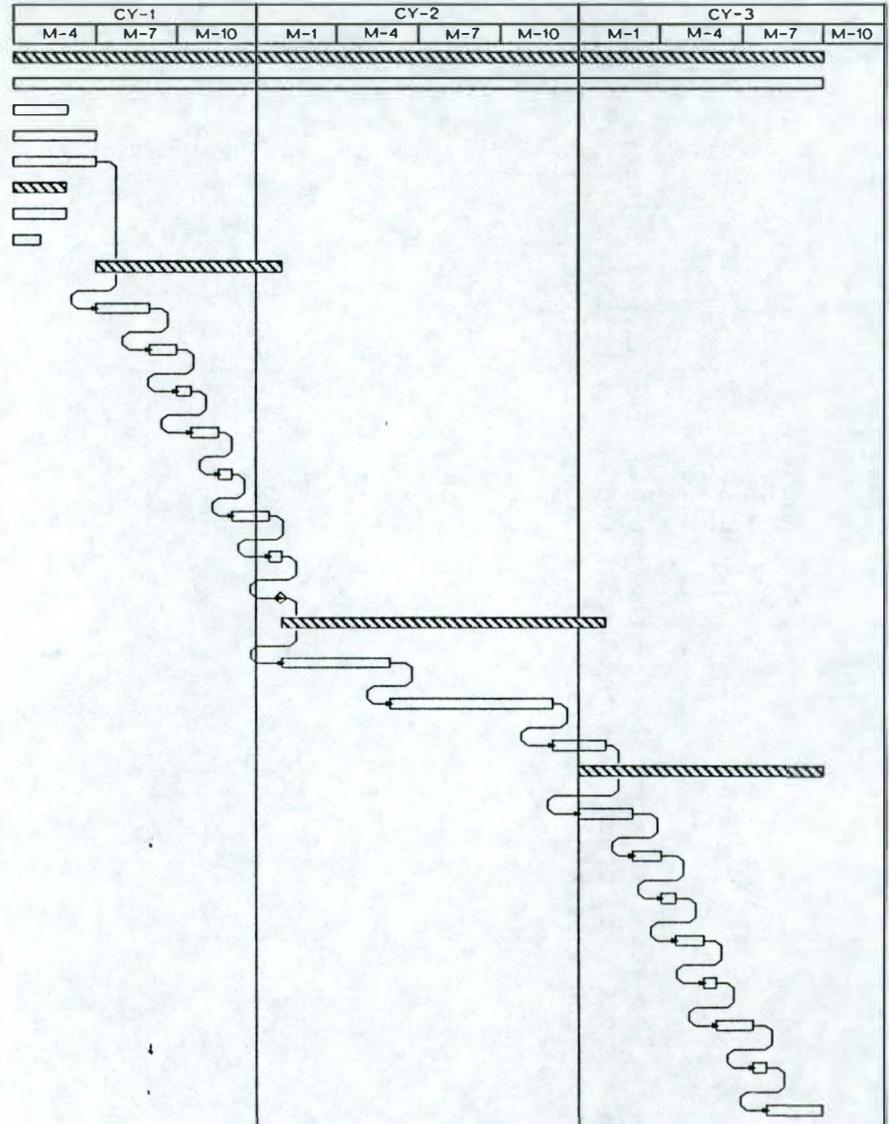
ISSUE DOCUMENT

PHASE III-PROJECT IMPLEMENTATION

- SITE PREPARATION-EXCAVATION/SEGREGATION
- WASTE AND BURIAL GROUND CHARACTERIZATION
- WASTE DISPOSAL

PHASE IV-PROJECT CLOSEOUT

- PREPARE PROJECT COMPLETION DOCUMENT
- DOE REVIEW
- REVISE PROPOSAL
- ECOLOGY/EPA REVIEW
- REVISE PROPOSAL AFTER ECOLOGY/EPA REVIEW
- PUBLIC REVIEW
- REVISE AND ISSUE PROPOSAL
- STABILIZE SITE



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Project:	EMPK17A	Date: 28 Feb 92 13:50
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