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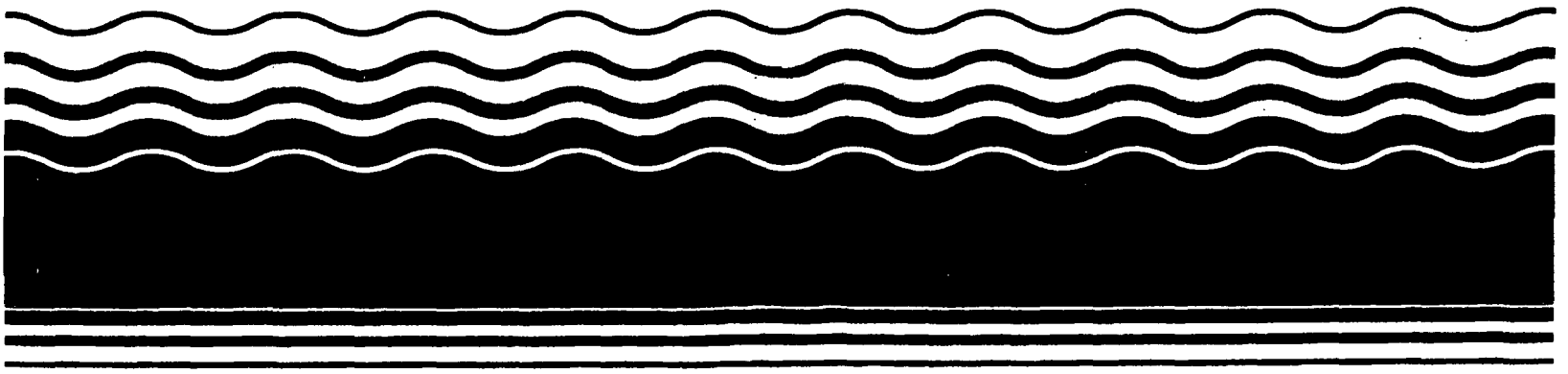
EPA Superfund

Explanation of Significant Difference for the Record of Decision:

Idaho National Engineering Lab (USDOE) Pit 9 (WAG-7) OU 7-10 Idaho Falls, ID 9/1/1998



IDAHO DEPARTMENT OF HEALTH AND WELFARE

DIVISION OF ENVIRONMENTAL QUALITY

INEEL

Explanation of Significant Differences

Explanation of Significant Differences for the Pit 9 Interim Action Record of Decision at the Radioactive Waste Management Complex

at the Idaho National Engineering and Environmental Laboratory
Idaho Falls, Idaho

Explanation of Significant Differences for the Pit 9 interim Action Record of Decision at the Radioactive Waste Management Complex

Idaho National Engineering and Environmental Laboratory

I. Introduction

This document is an Explanation of Significant Differences (ESD) from the Record of Decision (ROD) for the Pit 9 Interim Action, signed by the United States Department of Energy, United States Environmental Protection Agency, and State of Idaho Department of Health and Welfare (the Agencies), effective October 1, 1993, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act, and to the extent practicable, the National Oil and Hazardous Substance Pollution Contingency Plan. This ESD is also prepared in accordance with the terms of the INEEL Federal Facility Agreement and Consent Order.

Site Name and Location

Pit 9, Subsurface Disposal Area, Radioactive Waste Management Complex
Waste Area Group 7, Operable Unit 7-10
Idaho National Engineering and Environmental Laboratory (INEEL)

The lead agency for this action is the United States Department of Energy Idaho Operations Office (DOE-ID). The United States Environmental Protection Agency and the State of Idaho Department of Health and Welfare (IDHW) both concur with, and approve the need for, this significant change to the selected remedy. The Agencies participated jointly in preparing this document.

Need and Purpose for an Explanation of Significant Differences

This ESD was prepared in accordance with Section 117(c) of the CERCLA, and 40 CFR 300.435(c)(2)(i) which requires that an ESD be published "when the differences in the remedial or enforcement action, settlement, or consent decree significantly change but do not fundamentally alter the remedy selected in the ROD with respect to scope, performance, or cost."

Accordingly, this explanation addresses the fact that the INEEL management and operating contractor (LMITCO) has terminated the subcontract to the Pit 9 remediation contractor (LMAES) for default, and DOE has adopted a contingency plan that will allow the DOE to meet its obligations for the remediation of Pit 9, without the participation of the subcontractor. This and other relevant documents will become part of the Administrative Record file pursuant to 40 CFR 300.825(a)(2).

Copies of this ESD and the Pit 9 Administrative Record are available to the public in the INEEL Information Repository sections of the libraries and offices listed on the last page of this Explanation of Significant Differences.

II. Site History and Contamination Problems

The INEEL is located 32 miles west of Idaho Falls in southeastern Idaho and encompasses approximately 890 square miles of semi-arid desert overlying the Snake River Plain Aquifer. The Subsurface Disposal Area is located at the Radioactive Waste Management Complex, which is located in the southwest portion of INEEL. The area

of focus is Pit 9, which is located in the northeast corner of the Subsurface Disposal Area. Pit 9 is designated as Operable Unit 7-10 and is scheduled as an interim action in the Action Plan of the Federal Facility Agreement and Consent Order.

Pit 9 was operated as a waste disposal pit from November 1967 to June 1969. It was used to dispose of approximately 110,000 cubic feet (3,115 cubic meters) of transuranic waste (as defined in 1969, > 10 nCi/g) from the Rocky Flats Plant and additional low-level wastes (as defined in 1969, < 10 nCi/g) from waste generators located at the INEEL, for a total estimated waste volume of 150,000 cubic feet (4,248 cubic meters). The estimated volume of overburden is approximately 250,000 cubic feet (7,079 cubic meters). The estimated volume of soil between and below the buried waste is approximately 350,000 cubic feet (9,911 cubic meters). Most of the transuranic waste consists of drums of sludges (contaminated with a mixture of transuranic waste and organic solvents), drums of assorted solid waste, and cardboard boxes containing empty contaminated drums.

III. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND BASIS

The significant change that necessitated this ESD relates to the change in subcontractor and implementation of a contingency path to remediate Pit 9. Although this contingency path does not involve a change in the selected remedy type (i.e., physical separation/chemical extraction/stabilization), it does involve a change in design and operating assumptions.

This contingency path became necessary when the original subcontractor failed to perform its obligations under the subcontract in a timely manner. DOE did not meet two enforceable regulatory milestones, and in March 1997, the Agencies developed an Agreement to Resolve Disputes.[1]

The DOE remains committed to executing the terms of the Pit 9 Record of Decision. As a result of the Agreement to resolve Disputes, DOE developed a revised *Remedial Design/Remedial Action Scope of Work and Remedial Design Work Plan.*[2] The revised *Work Plan* included a new schedule for implementation of the Pit 9 ROD by the subcontractor, and a schedule for a contingency path, which would be implemented in the event the subcontractor failed to perform their subcontract. The DOE-ID, the EPA and the IDHW jointly developed this contingency plan. The Agencies agreed to proceed with the contingency planning in order to ensure future schedules would be met. In addition, there was a need to obtain information to support the Waste Area Group 7 decision process, including characterization and treatability information.

On June 1, 1998 the INEEL management and operating contractor (LMITCO) terminated the Pit 9 LMAES subcontract for default. Therefore, on June 18, 1998, DOE decided to pursue the contingency path, hereafter referred to as the OU 7-10 Staged Interim Action, described below. The OU 7-10 Staged Interim Action will remediate Pit 9 in accordance with the ROD.

OU 7-10 Staged Interim Action

The OU 7-10 Staged Interim Action, a three-stage approach agreed to by the Agencies, will satisfy the requirements of the ROD. The OU 7-10 Staged Interim Action, as the original subcontractor's approach, will result in the remediation of Pit 9. The OU 7-10 Staged Interim Action, like the original Pit 9 approach, is also designed to generate information to support the Remedial Investigation and Feasibility Study for the RWMC SDA.

Stage I activities will explore the subsurface via probe holes and coring, providing early information in the Stage II area of Pit 9. Stage II activities include design, construction, and retrieval of waste and soils from a 20'X20'X25' area of Pit 9. Characterization and treatability information obtained from Stage II is expected to support the WAG 7 decision. Stage III will complete the remediation of Pit 9.

[1] "Agreement to Resolve Disputes," Docket No. 1088-06-29-120, March 18, 1997.

[2] "Remedial Design/Remedial Action Scope of Work and Remedial Design Work Plan: Operable Unit 7-10 (Pit 9 Project Interim Action)," October 1997, Revision 2, Document # INEL-94/0110.

The Agencies are aware of the amended rules under the Toxic Substance Control Act (Federal Register Volume 63, Number 124, Monday, June 28 1998, 35384, Disposal of Polychlorinated Biphenyls) effective August 28, 1998 and have agreed to comply with the provisions under this rule in implementing the OU 7-10 Staged Interim Action.

Stage I

Stage I will focus on subsurface exploration to (1) more precisely determine the location of the Stage II excavation, (2) retrieve TRU radionuclide contaminated soil via drill cores for the Stage 1 Treatability Studies, and (3) obtain materials for characterization in support of the overall WAG 7 decision process. Specific details of the Stage I scope are available in the *Work Plan for Stage I of the Pit 9 Contingency Project.*[3]

Several different types of subsurface exploration methods will be implemented to meet the objectives of this work. A sonic vibratory drill will be used to core the waste site without introducing any drilling fluids. Monitoring activities will also be performed in conjunction with the subsurface exploration. This will be accomplished through radiological profiling, volatile organic profiling, and other techniques.

An objective for obtaining subsurface materials from Pit 9 is to provide information to support the WAG 7 decision process. The Stage I efforts under the contingency path will obtain data concerning waste form, contaminant migration, actinide speciation, volatile organic content of specific sludges, etc. Stage I will also perform bench-scale treatability study tests on TRU contaminated soil samples to test various soil treatment technologies that could be employed in Stage III.

Stage II

Under the OU 7-10 Staged Interim Action, approximately 200 cubic yards (equivalent to about nine hundred 55-gallon drums) of contaminated waste and soil is expected to be removed during the Stage II excavation. Stage II will consist of design and construction, startup activities, excavation and retrieval, characterization, and treatability study testing. Retrieved materials that are not returned to the pit as part of Stage II will be containerized and staged for further sampling within the area of contamination (AOC) pending final disposition.

The goal of the Stage II excavation is to develop information to support the design and operation of a Stage III system that will meet the requirements established in the Pit 9 ROD.

Stage III

Stage III consists of full-scale retrieval and treatment of Pit 9 to meet remediation goals set in the ROD. Treatment technologies utilized will include chemical extraction and physical separation and stabilization of selected waste streams.

Schedule

The INEEL Federal Facility Agreement and Consent Order and Action Plan governs the remediation work performed at the INEEL, and was signed by all three agencies in December 1991. Under the terms of this agreement, certain milestones were established, and others can be established, which the DOE must meet. Failure to meet these milestones subjects the DOE to enforcement actions including fines and penalties. The milestones shown in table 2 were established in the *Remedial Design/Remedial Action Scope of Work* and the *Work Plan for Stage 1 of the Pit 9 Contingency Project*, and are enforceable.

[3] "Work Plan for Stage 1 of the Pit 9 Contingency Project," June 1998, INEEL/EXT-98-10623.

Table 2. OU 7-10 Staged Interim Action Schedule

Milestone	Date
Stage I Work Plan	March 1998
Stage II RD/RA Work Plan	June 2000
Stage II RA Report	April 2003
Stage III RD Work Plan (90% Design)	April 2003
Stage III RA Work Plan and O&M Plan	September 2003
Stage III Draft Remedial Action Report	Within 60 Days of Final Stage III Inspection
Stage III O&M Report	90 Days of Stage III O&M Activities

Cost

A Rough Order of Magnitude (ROM) cost for the first two stages of the contingency path is presented in Table 3. This cost is based on an analysis of the pre-conceptual design performed to estimate cost and schedule. As the work plans for each stage are developed, a cost estimate will be developed. In accordance with RI/FS guidance, the dollars presented are order-of-magnitude cost estimates. The costs presented are in FY-97 dollars.

Table 3. Cost estimate for Stages I and II.

	Estimated Cost
Operations and Maintenance	25M
Capital	61M
Present Worth	86M

Because the details of Stage III will be based on the results of work in Stages I and II, a cost estimate for Stage III is not presented at this time. As the details of Stage III are developed, one of the goals will be to complete the overall project within the estimate presented in the 1995 ESD to the Pit 9 ROD.[4]

IV. AFFIRMATION OF THE STATUTORY DETERMINATION

Although there are uncertainties in the detailed implementation of the OU 7-10 Staged Interim Action that may require future re-evaluation of the Affirmation of the Statutory Determination, currently available information does not alter the remedy selected in the ROD. As presented in the ROD, the selected alternative provides adequate overall protection of human health and the environment by minimizing potential contaminant migration from Pit 9. The selected alternative also complies with the Applicable or Relevant and Appropriate Requirements of Federal and State laws and regulations as identified in the ROD. Even with the project cost increases, which were identified in the 1995 ESD, the selected remedy was affirmed to provide the best balance of trade-offs in terms of long-term effectiveness, reducing toxicity, mobility and volume of the contaminants, implementability, short-term effectiveness, and cost. The issues presented in this ESD do not alter the beneficial attributes of the selected remedy and its ability to achieve the remedial action objectives established in the ROD.

[4] "Explanation of Significant Differences for the Pit 9 Interim Action Record of Decision at the Radioactive Waste Management Complex, Idaho National Engineering laboratory," January 1995, Administrative Record # AR5.3-5862.

Considering the change to the project schedule and the development of a contingency plan (referred to as the OU 7-10 Staged Interim Action), the DOE, EPA and IDHW believe that the modified remedy remains protective of human health and the environment and complies with Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the selected remedy meets the statutory requirements to use permanent solutions and treatment technologies to the maximum extent possible. The Agencies prefer a potential permanent solution whenever possible and, in the case of Pit 9, the goal is to meet the objectives of an interim action and provide a potentially permanent treatment solution.

V. PUBLIC PARTICIPATION ACTIVITIES

A notice publishing the availability of this ESD has been placed in the Post Register - Idaho Falls, Idaho State Journal - Pocatello, Times-News - Twin Falls, Idaho Statesman - Boise, Sho-Ban News - Fort Hall, and Daily News - Moscow. Consistent with Section 300.435(c)(2)(i) of the National Contingency Plan, this ESD has been placed in the Administrative Record Section of the INEEL Information Repositories listed below upon publication of the Notice of Availability. A postcard announcing the availability of this ESD was sent to the INEEL mailing list participants. This ESD and the contents of the Pit 9 Administrative Record are available for public review. In addition to the Administrative Record on file for the ROD, the Administrative Record for this action includes a copy of this ESD and relevant newspaper notices associated with the explanation (refer to the binder for OU 7-10).

The revised schedule and the implementation of the contingency path do not represent a fundamental change from that contained in the ROD, and therefore, a formal comment period is not required. Additional information or briefings may be requested by contacting the office listed below or calling the toll-free number for the INEEL at (800) 708-2680:

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Idaho Falls, Idaho 83403-2047
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