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United States Environmental Protection Agency
Region 10
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Seattle, Washington 98101

U.S. Department of Energy
Environmental Restoration Disposal Facility
Hanford Site – 200 Area
Benton County, Washington

Amended Record of Decision, Decision Summary and Responsiveness Summary

May 2007

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RESPONSIVENESS SUMMARY

DECLARATION OF THE RECORD OF DECISION

SITE NAME AND LOCATION

U.S. Department of Energy
Environmental Restoration Disposal Facility
Hanford Site – 200 Area
Benton County, Washington

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) Amendment has been developed in accordance with the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA), as amended by the *Superfund Amendments and Reauthorization Act of 1986* (SARA), 42 U.S.C. Section 9601; and to the extent practicable, the "National Oil and Hazardous Substances Pollution Contingency Plan" (NCP), *40 Code of Federal Regulations* (CFR) 300. This ROD Amendment is based on the Administrative Record for the Environmental Restoration Disposal Facility (ERDF).

The State of Washington concurs with the ROD Amendment.

ASSESSMENT OF THE SITE

The response action selected in this ROD Amendment is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment. Such a release or threat of release may present an imminent and substantial endangerment to public health, welfare, or the environment.

BACKGROUND AND DESCRIPTION OF THE AMENDMENT TO THE REMEDY

On January 20, 1995, the U.S. Environmental Protection Agency, Washington State Department of Ecology, and U.S. Department of Energy (i.e., the Tri-Parties) signed the ERDF ROD to provide waste disposal capacity for wastes from CERCLA cleanup of contaminated areas at the Hanford Site. The ERDF ROD provides the overall plan for construction and operation of the facility and provides for disposal of CERCLA remediation waste originating only from the Hanford Site. A subsequent Explanation of Significant Difference (ESD) to the ERDF ROD was issued on July 26, 1996, to allow for the disposal of Hanford investigation-derived waste, Hanford decontamination and decommissioning (D&D) waste, waste from Resource Conservation and Recovery Act 1976 (RCRA) past-practice operable units and closure waste, and non-process waste from inactive treatment, storage, and disposal facilities on a case-by-case basis, in accordance with a ROD, removal action memorandum, or other decision documents issued under the

CERCLA and the NCP. The ESD also authorized the conditional use of ERDF leachate for dust suppression and waste compaction.

Three amendments to the ERDF ROD have previously been issued. The first amendment, signed on September 30, 1997, authorized the first ERDF expansion to disposal cells 3 and 4 and allowed limited treatment of waste at ERDF by stabilization and/or encapsulation prior to disposal at ERDF. The second amendment was signed on March 23, 1999, allowing leachate from ERDF to be managed as non-hazardous waste if testing shows it to be appropriate ("delisting" of ERDF leachate). The third amendment was signed on January 31, 2002, to authorize Phase III of ERDF construction and the staging of remediation waste at ERDF while awaiting treatment.

The amended remedy selected in this ROD Amendment provides that specific Hanford-generated waste in storage listed in Table 1, *Hanford Site Cleanup Wastes In Storage Acceptable for Disposal in ERDF*, is eligible for disposal at the ERDF. The selected remedy also identifies a plug-in approach for the disposal at the ERDF of additional similar Hanford cleanup waste in storage generated in support of RCRA and CERCLA cleanup actions.

This Amendment was initiated by the Hanford Cleanup, Constraints, and Challenges Team (C3T) and the Hanford Interagency Management Integration Team (IAMIT). The C3T was an innovative project aimed at the identification, characterization, and resolution of constraints and barriers to the environmental cleanup at the Hanford Site. C3T was initiated to improve the working relationships among the agencies (i.e., the Tri-Parties) by providing an informal process where innovative ideas and concepts could be jointly discussed and considered. The IAMIT Sitewide Waste Management Strategy workgroup was developed as a transition from C3T, with representatives from the Tri-Parties, Hanford Contractors, and the Hanford Advisory Board.

DECLARATION

The ROD, as amended herein, is protective of human health and the environment, complies with Federal and State requirements (identified in the 1995 ROD and subsequent ROD amendments) that are legally applicable or relevant and appropriate, is cost effective, and utilizes permanent solutions to the maximum extent practicable.

The statutory preference for treatment as a principal element will be satisfied when wastes that require treatment at ERDF to meet the ERDF WAC and/or LDRs are treated at ERDF pursuant to this ROD Amendment. Because hazardous substances, pollutants, or contaminants will remain onsite above levels that allow for unlimited use and unrestricted exposure, a review will be conducted at least every five years after the commencement of remedial actions to ensure that the remedy is protective of human health and the environment.

Signature sheet for the Amendment to the Record of Decision for the USDOE Hanford Environmental Restoration Disposal Facility between the U.S. Department of Energy and the U.S. Environmental Protection Agency, with concurrence by the Washington State Department of Ecology.

1/11/07

Keith A. Klein, Manager
Richland Operations Office
U.S. Department of Energy

Date

Signature sheet for the Amendment to the Record of Decision for the USDOE Hanford Environmental Restoration Disposal Facility between the U.S. Department of Energy and the U.S. Environmental Protection Agency, with concurrence by the Washington State Department of Ecology.

Jane Hedges
Program Manager, Nuclear Waste Program
Washington State Department of Ecology

5/23/07
Date

Signature sheet for the Amendment to the Record of Decision for the USDOE Hanford Environmental Restoration Disposal Facility between the U.S. Department of Energy and the U.S. Environmental Protection Agency, with concurrence by the Washington State Department of Ecology.

Daniel D. Opalski, Director
Office of Environmental Cleanup
U.S. Environmental Protection Agency

24 May 2007
Date

DECISION SUMMARY

USDOE Environmental Restoration Disposal Facility
Record of Decision Amendment

I. INTRODUCTION

This document presents an Amendment to the Record of Decision (ROD) for the Environmental Restoration Disposal Facility (ERDF) at the Hanford Site.

Site Name and Location

U.S. DOE Hanford Environmental Restoration Disposal Facility
Hanford Site – 200 Area
Benton County, Washington

Lead and Support Agencies

The lead agency for this action is the U.S. Department of Energy (DOE). The lead regulatory agency is the U.S. Environmental Protection Agency (EPA). The Washington Department of Ecology (Ecology) concurs with the ROD Amendment. The three agencies participated jointly in the decision and preparation of this document.

ERDF ROD Background

The ERDF ROD was signed by the EPA, Ecology, and DOE in January 1995. In 40 *Code of Federal Regulations* (CFR) 300.435(c) (2), the National Contingency Plan (NCP) provisions are specified for addressing and documenting changes to the selected remedy after issuance of a ROD. An Explanation of Significant Differences (ESD) was issued in August 1996. Three amendments to the ERDF ROD have also been issued. The first amendment was signed on September 30, 1997, the second was signed on March 23, 1999, and the third was signed on January 31, 2002. This fourth ROD Amendment documents fundamental changes to the remedy set forth in the 1995 ERDF ROD, as amended. Public participation and documentation procedures have been followed as specified in CERCLA Section 117 and 40 CFR 300.435(c) (2) (ii).

Need for the ROD Amendment

The ROD Amendment is necessary to support ongoing remediation at the Hanford Site and will promote Hanford Site cleanup activities by making the ERDF available to dispose of waste in storage that pose a substantial threat of a release of hazardous substances.

Public Involvement

A public notice was placed in the Tri-City Herald August 25, 2006, announcing the availability of the proposed plan and the start of the public comment period. Approximately 3000 copies of a factsheet describing the amendment proposal were sent out by mail. A public comment period was held from August 28, 2006 through September 26, 2006. No requests were received for a public meeting, therefore, no public meeting was held. The proposed amendment was discussed with the Hanford Advisory Board and the Hanford Advisory Board – River and Plateau Committee at meetings in March 2005 and February 2005, respectively. The Hanford Advisory Board did not provide advice on the proposal. The decision to amend the ROD is based on the Administrative Record for the ERDF. The locations of the Administrative Record and Public Information Repositories are listed below.

Administrative Record

This ROD Amendment is based on, and will become part of, the Administrative Record for the ERDF, as required by 40 CFR 300.825(a) (2), and will be available to the public at the following locations:

ADMINISTRATIVE RECORD (contains all project documents)

U.S. Department of Energy, Richland Operations Office
Administrative Record Center
2440 Stevens Center
Richland, Washington 99352

INFORMATION REPOSITORIES (contains limited documentation)

University of Washington
Suzzallo Library
Government Publications Room
Seattle, Washington 98195

Gonzaga University, Foley Center
E. 502 Boone
Spokane, Washington 99258

Portland State University
Branford Price Millar Library
SW Harrison and Park
Portland, Oregon 97207-1151

DOE Richland Public Reading Room
Washington State University, Tri-Cities
100 Sprout Road, Room 101L
Richland, Washington 99352

II. SITE HISTORY

In 1988, the Hanford Site was scored using the EPA's hazard ranking system. Based on the scoring, the Hanford Site was added to the National Priorities List (NPL) in July 1989 as four sites: 1100 Area, 100 Area, 200 Area, and 300 Area. Each of these areas was further divided into operable units (i.e., a grouping of individual waste units based primarily on geographic area and common waste sources). These operable units contain contamination in the form of hazardous waste, radioactive/hazardous mixed waste, and other CERCLA hazardous substances.

In anticipation of the NPL listing, DOE, EPA, and Ecology entered into the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) in May 1989. This agreement established a procedural framework and schedule for developing, implementing, and monitoring remedial response actions at Hanford. The Tri-Party Agreement also addresses *Resource Conservation and Recovery Act of 1976* (RCRA) compliance and permitting.

Disposal of contaminated material at the ERDF has been chosen as the preferred remedy for much of the waste excavated from numerous Hanford waste sites. The current estimate is that approximately 10 million tons of waste from 100 and 300 Area remediation will be disposed at the ERDF. The ERDF has disposed of approximately 6.5 million tons of Hanford cleanup waste since the facility started operations in 1996 (an average of 625,000 tons per year).

III. REMEDY SELECTED IN THE ROD

The major components of the selected remedy (as described in the 1995 ERDF ROD) included the following:

- Construction and operation of the first two disposal cells. These cells are expected to provide an approximate waste disposal capacity of 1 million yd^3. The cells are designed and constructed in accordance with RCRA minimum technology requirements (40 CFR 264, Subpart N). The decisions to expand the landfill in the future will be documented by amending the ERDF ROD or as part of the RODs for the Hanford operable units.

- The ERDF site will cover a maximum of 4.1 km^2 (1024 acres) on the Central Plateau, which is located southeast of the 200 West Area and southwest of the 200

East Area. The initial construction of the facility required 0.65 km^2 (165 acres) of this area.

- The ERDF will provide sufficient leachate storage capacity to ensure uninterrupted operations and will comply with the requirements of 40 CFR 264, Subpart N. Leachate collected at the landfill will be managed at the 200 Area Effluent Treatment Facility (located in the 200 East Area) or other approved facility.

- Surface water run-on/run-off will be controlled at the landfill and other areas of the facility that are potentially contaminated.

- Air monitoring will be accomplished at ERDF by the placement of real-time air monitors for radioactive contaminants and the placement of air samplers for hazardous and radioactive constituents to detect any offsite migration of contaminants.

- Groundwater monitoring will be performed in accordance with 40 CFR 264, Subpart F.

- Appropriate measures to protect facility workers and the public will continue to be employed during ERDF operations, including contamination control, dust mitigation, and protection of personnel from industrial hazards presented by ERDF operations. Protective measures shall comply with applicable requirements found in the *Occupational Safety and Health Act, Washington Industrial Safety and Health Act*, and other safety regulations or ERDF-specific safety requirements. DOE shall also comply with the requirements of 40 CFR 300.150.

- Waste acceptance criteria will be developed by DOE and approved by EPA in accordance with ARARs, risk/performance assessments, ERDF-specific safety documentation, and worker protection requirements. Operable unit-specific waste disposal and treatment decisions will continue to be made as part of the remedy selection and cleanup decision process for each operable unit.

- The ERDF landfill will be closed by placing a modified RCRA-compliant closure cover over the waste. Prior to cover construction, closure cover designs will be evaluated and the most appropriate closure cover design will be selected for construction. Construction of the cover will occur on an incremental basis as the trench is expanded. The design will, at a minimum, comply with applicable RCRA requirements found in 40 CFR 264, Subpart N.

- Institutional controls shall be imposed to restrict public access to the landfill.

- Equipment will be available to transport wastes and to operate the ERDF safely.

- Hanford Site infrastructure will be expanded as necessary to support the ERDF. Infrastructure improvements or extensions may include water, sewer, electric power, roads, operations, facilities, and a chemical and fuel storage area.

- A decontamination facility will be constructed consisting of, at a minimum, an impervious pad with a sump, wash water storage, and secondary containment. Wash water used to decontaminate site equipment shall be managed in compliance with appropriate requirements.

- The detailed design will be submitted to EPA for approval (in consultation with Ecology) prior to construction at the ERDF. At a minimum, the design will be submitted as two packages to allow for construction in phases.

- An operations plan will be submitted to EPA for approval (in consultation with Ecology) prior to operation of the ERDF.

- Mitigation measures to reduce ecological impacts have been incorporated to satisfy the remedial action objectives identified in Sections 7(4)(i) through 7(4)(v) of the 1995 ERDF ROD. In addition, DOE commits to the development and implementation of a mitigation action plan in coordination with the Natural Resources Trustees for additional mitigation measures.

The ESD to the ERDF ROD, issued in July 1996, made the following changes:

- **Waste Origin Clarification**. Any Hanford environmental cleanup waste generated as a result of CERCLA or RCRA cleanup actions (e.g., investigation-derived waste [IDW], decontamination and decommissioning [D&D] wastes, and RCRA past-practice wastes) is eligible for disposal, provided that the waste meets ERDF waste acceptance criteria and provided that the appropriate CERCLA decision documents are in place. Additionally, non-process waste (e.g., contaminated soil and debris) generated from closure of inactive RCRA treatment, storage, and disposal units may be placed in ERDF, provided that the units (1) are within the boundaries of a CERCLA or RCRA past-practice operable unit, (2) the closure wastes are sufficiently similar to CERCLA or RCRA past-practice wastes placed in ERDF, (3) ERDF waste acceptance criteria are satisfied, and (4) appropriate CERCLA decision documents are in place. Revision of the RCRA Permit and closure plans may be required.

- **Use of Leachate.** The ERDF leachate may be collected and stored at the ERDF for use within the trench, as appropriate. Appropriate uses of the leachate are limited to dust suppression and waste compaction. The leachate must be sampled prior to use to ensure compliance with land disposal restrictions, ERDF waste acceptance criteria, and other health-based limits (whichever is more restrictive). Leachate in excess of the ERDF's recycling capacity or acceptable contaminant levels will be sent to the Effluent Treatment Facility or another approved facility for management.

A ROD Amendment issued in September 1997 amended the ROD as follows:

- **ERDF Expansion.** The ERDF ROD specifies that expansion of the facility would be authorized on an as-needed basis through the ROD Amendment process. Based on the estimated remediation waste volumes presented in the ERDF ROD, additional disposal cells were anticipated. Two additional ERDF cells (Cells 3 and 4) were to be constructed for disposal of Hanford Site remediation waste. This first expansion of ERDF is also known as Phase II. Remediation volume estimates in final and planned cleanup decision documents, prepared since the issuance of the ERDF ROD, supported the need for additional disposal capacity. The Phase II construction would be located entirely within the 4.1-km^2 (1.6-mi^2) area selected for ERDF, as defined in the ERDF ROD. The same RCRA design selected for the original ERDF disposal cells would be used for the Phase II cells.

- **Treatment at ERDF.** The selected remedial alternative in existing 100 and 300 Area waste site remediation RODs is removal, treatment (if required), and disposal at ERDF. Treatment is required if the concentration of contaminants in the waste is above land disposal restriction standards found in the Federal and State hazardous waste regulations or above the ERDF waste acceptance criteria. This ROD Amendment provides the option of conducting remediation waste treatment at ERDF rather than at the operable unit prior to disposal. This option does not preclude treatment at the operable units. Treatment at ERDF is limited to stabilization and encapsulation in containers. In addition, all substantive Federal and State requirements governing hazardous waste treatment in containers, such as secondary containment, must be met as part of treatment at ERDF. The decision whether to perform remediation waste treatment and a determination of the specific treatment needed must be documented as part of the remedy selection and remedial design process for the operable unit of the waste site of origination.

A second ROD Amendment (issued in March 1999) authorized the delisting of ERDF leachate as follows:

- **Leachate Delisting at ERDF.** In order to de-list the ERDF leachate, it must be demonstrated that the concentrations of hazardous contaminants found in the leachate satisfy the requirement for an exclusion under 40 CFR 260.22 and do not exceed the criteria for characteristic wastes as defined under 40 CFR 261, Subpart C and Washington Administrative Code (WAC) 173-303-090. In order to confirm that the concentration of hazardous constituents in the leachate continue to be below delisting levels, a sampling and analysis plan supporting the delisting was written and attached to the ROD Amendment. The plan provided detailed information regarding sampling frequency and methodology and also specified analytical methods to be used. The sampling and analysis includes a comparison of leachate sample results with delisting levels. Delisting levels, in general, are based on the original docket values and health-based limits. Ongoing exclusion

from management as a hazardous waste is conditioned based on compliance with specified management requirements and based on the leachate meeting the limits established in the ROD Amendment, as demonstrated through a verification sampling program.

A third ROD Amendment (issued in January 2002) authorized the expansion of the ERDF Cells and construction of a waste staging area at ERDF as follows:

- **ERDF Phase III Construction.** The ERDF ROD specifies that expansion of the facility would be authorized as needed through the ROD amendment process. Based on estimated remediation waste volumes presented in the ERDF ROD, additional disposal cells were anticipated. This amendment authorized four additional ERDF cells to be constructed and operated for disposal of Hanford Site remediation waste. The second expansion of ERDF is also known as Phase III. The Phase III construction shall be located entirely within the 4.1 km^2 (1.6 mi^2) area selected for ERDF. The approved design of ERDF is a single, 70-ft-deep trench consisting of pairs of side-by-side cells with final dimensions of 1,420-ft long by 720-ft wide at the top of the trench. The facility is equipped with RCRA double-liner and leachate collection and recovery system. The same RCRA design selected for the existing ERDF disposal cells shall be used for the Phase III cells. The detailed design shall be submitted to the EPA for approval prior to construction of the ERDF expansion. The Phase III cells will be closed in the same manner as the existing ERDF cells.

- **Remediation Waste Staging at ERDF.** The selected remedial alternative in existing 100 and 300 Area RODs is typically removal, treatment (if required), and disposal at ERDF. Treatment is required if the waste does not meet the ERDF waste acceptance criteria, including land disposal restriction standards found in Federal and State hazardous waste regulations. This ROD amendment authorized the option of conducting remediation waste staging at the ERDF rather than at the operable unit prior to treatment and disposal. This ROD amendment allowed the staging of remediation waste at ERDF while awaiting treatment. Treatment would be performed to satisfy the ERDF waste acceptance criteria and comply with land disposal restrictions. The decision whether to perform remediation waste treatment and the specific treatment needed will be documented as part of the remedy selection and remedial design process for the operable unit or waste site of origination. The staging area at ERDF will be designed, constructed, operated, and closed in accordance with RCRA regulations for storage at corrective action management units, as amended by the final rule published in the Federal Register on January 22, 2002. The ERDF staging area will be used to hold waste with low-level radionuclide, dangerous waste, and PCB contaminants. Staging of these wastes will require compliance with the substantive requirements of: PCB storage requirements of 40 CFR 761.65 and corrective action management unit (CAMU) standards for hazardous waste storage. Low-level radioactive waste management standards, including DOE Order 435.1, will be addressed as to-be-considered provisions for staging of radioactive waste.

IV. DECRIPTION OF THE MODIFIED REMEDY

Other Hanford activities, such as surveillance and maintenance of Hanford facilities, environmental research and development activities, sample analyses, liquid effluent waste treatment, infrastructure support, and environmental monitoring programs all support Hanford's cleanup mission and also generate waste. These wastes have been and will continue to be generated in support of historical and existing Hanford cleanup operations. These wastes are often not addressed by a CERCLA decision document (e.g., ROD or action memorandum). Instead, these wastes may be placed into storage, left within the facility, or have been disposed to unlined trenches on the Hanford Site. Because of the similarity of contaminants and types of many of these wastes to wastes being disposed of at ERDF as part of Hanford waste site cleanup actions, disposal of these wastes to ERDF could provide a more economical and environmentally protective option to waste storage. Table 1 provides a list of Hanford-only-generated wastes in storage which are eligible for ERDF disposal under this ROD Amendment.

The wastes identified in Table 1 are contaminated with hazardous substances, including radionuclides, and pose a risk to human health and the environment while in storage. Radionuclides are known carcinogens, and the non-radioactive contaminants present the potential for both carcinogenic and acute toxicity risks. Until this stored waste is safely disposed, it poses a substantial risk of release into the environment and requires action to protect human health and the environment.

Additional wastes (not listed in Table 1) that originate at Hanford and are placed in storage which present a substantial threat of a release of hazardous substances to the environment, are similar to the wastes listed in Table 1, and contain hazardous substances at levels that pose a risk to human health or the environment, could become eligible for ERDF disposal under this amendment. This "plug-in" process will allow such other wastes in storage to be authorized for ERDF disposal without an ESD or ROD, upon written EPA approval. Under this amendment, DOE will ask EPA to consider approving ERDF disposal for such wastes in storage.

If EPA approves the disposal of such waste in ERDF, the waste will be subject to the same ERDF disposal implementation and acceptance process as wastes identified in Table 1 of this Amendment. EPA must approve each Hanford-generated waste not already identified in Table 1 before it can be disposed of in ERDF. The generation, treatment, and other management prior to and during storage would be governed by otherwise applicable requirements (e.g., RCRA).

Table 1. Hanford Site Cleanup Wastes In Storage Acceptable for Disposal in ERDF

Process	Source of Hazardous Substances
General Processes (non-facility specific) Used lead acid and cadmium batteries and batteries used in emergency lights and other equipment containing hazardous substances that are not acceptable for recycling.	Batteries containing hazardous substances (e.g., lead, mercury, cadmium,etc). Primarily Pu isotopes and Am-241.
The waste consists of hazardous debris containing primarily organic and inorganic debris material (e.g., paper, plastic, rubber, wood, cloth, tumbleweeds, rubble, metals, asbestos, etc.) that is contaminated with hazardous substances.	Waste is debris contaminated with hazardous substances such as F, P, and U RCRA listed constituents, RCRA metals, and corrosives. The waste is from many onsite locations. Hazardous substances could have entered the waste as chemicals used during analytical processes and operating activities. Primarily Pu and U isotopes, Cs-137, Sr-90 and various RCRA and State Only hazardous/dangerous waste.
Radiologically contaminated waste (debris) from operations, surveillance and maintenance activities.	Incidental contamination from contact with facility and/or waste site contamination (e.g., ETF, 209-E, 224-B, 224-T, 340, B-Plant, Tank Farms, K-Basins, PUREX, REDOX). Primarily Pu, Am, U, C-14, Cs-137, I-129, and Sr-90.
Contaminated Electrical Power Lines and Telecommunication Lines	Some power transmission lines have accumulated contamination from past airborne releases, biological vectors, and/or incidental contact with contaminated waste sites/facilities. Primarily Pu and U isotopes, Cs-137 and Sr-90.
200 Effluent Treatment Facility (ETF) Secondary waste (dry powder) from the treatment of wastewater through the ETF. The contaminants are destroyed or removed from the wastewater and dried to powder.	Contaminated wastewaters from various generators on the Hanford Site, for example, 242-A Evaporator process condensate, LLBG mixed waste trench leachate, WSCF laboratory wastewater, etc. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Acid waste, caustic waste and process contact debris from spill clean-up and debris from maintenance activities.	Hanford Site RCRA contaminated wastewaters that are treated through the ETF and used oils/greases from LERF/ETF equipment. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Waste Encapsulation and Storage Facility (WESF) Contaminated wastes from routine operations and maintenance activities as well as deactivation of the facility's hot cells.	Incidental contamination from past Cs and Sr encapsulation activities. Primarily Am isotopes, C-14, Cs-137, I-129 and Sr-90.
222-S Contaminated waste from general maintenance, analytical procedure operations, hot cell operations and 219-S Waste Handling Facility (WHF) operations.	Hazardous substances in samples from Hanford generating locations (e.g. Tank Farms, K-Basins, N-Reactor Fuel, PFP). Unused samples, unused or expired standards and/or reagents containing hazardous substances. Primarily Pu and U isotopes.
Contaminated liquid and/or solid unused or expired standards and reagents.	Hazardous substances in the samples received from Hanford Site generating locations or added during sample analysis, or within unused/expired standards and reagents. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated radioactive lead solids subcategory waste from general laboratory operations (e.g. hot cell, analytical procedures, and 219-S WHF operations). Lead solids are bricks, shot, and manipulators that are elemental lead and not debris.	Waste is from laboratory operations (e.g. dangerous mixed waste storage area (DMWSA), hot cell, analytical hoods, and 219-S WHF operations). Normally the lead is used as shielding from radiation during laboratory activities in high radiological contaminated areas. The source of hazardous substances is contaminated waste and samples from Hanford generating facilities (e.g. Tank Farms, K-Basins, PFP, ETF, ERDF, etc.). Primarily Pu isotopes and Cs-137.

Table 1. Hanford Site Cleanup Wastes In Storage Acceptable for Disposal in ERDF

Process	Source of Hazardous Substances
Contaminated debris waste from laboratory operations (e.g., analytical procedures, hot cell, maintenance, etc.). This waste is from operations including analytical procedures, hot cell, 219-S WHF.	Laboratory standards, reagents and unused sample debris. The 222-S Laboratory receives mostly Tank Farms samples resulting in waste designating as F001-F005. Samples containing hazardous substances may come from any Hanford generating facility (e.g., ETF, ERDF, K-Basins, etc.). Primarily Pu isotopes, Cm-244, Cs-137 and various RCRA and State Only hazardous/dangerous waste.
Central Waste Complex (CWC) Contaminated waste consisting of many different inorganic solids including particulates, absorbed liquids, sludges, labpacks, paint waste, salt waste. This waste does not include hazardous debris other than incidental debris material commingled with the non-debris.	Waste from various operation activities at the 200 East and 200 West double shell tank (DST) and single shell tank (SST) Systems. Waste incidentally contaminated with tank waste. Contaminated equipment from operations and maintenance of DST/SST systems. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated elemental lead solids (bricks, shot, gloves, shielding, etc.). The lead may be commingled with heterogeneous debris or the lead may be a component of a debris article.	The lead itself is a hazardous substance; it may also be radioactively contaminated. Primarily Pu isotopes and Cs-137.
Contaminated heterogeneous debris from the SST/DST Systems operations. Waste is shielded to meet contact handled dose limits for CWC.	Waste from various operation activities at the 200 East and 200 West double shell tank (DST) and single shell tank (SST) Systems. Waste placed into CWC storage in boxes and drums. Waste incidentally contaminated with tank waste. Primarily Pu isotopes, Cm-244, Cs-137 and various RCRA and State Only hazardous/dangerous waste.
Low Level Burial Grounds (LLBG) Non-transuranic (TRU) designated waste containers from the Transuranic mixed (TRUM) Waste Retrieval Project. In addition, plywood, tarps, PPE, and soil contaminated with hazardous substances from breached containers being retrieved from the covered TRUM retrieval project.	Waste is debris contaminated with hazardous substances such as F, P, and U RCRA listed constituents, RCRA metals, and corrosives. The waste is from many onsite locations. Hazardous substances could have entered the waste as chemicals used during analytical processes and operating activities. Primarily Pu and U isotopes, Cs-137, Sr-90 and various RCRA and State Only hazardous/dangerous waste.
Contaminated debris waste from routine radiological zone entries, bulk waste (dunnage, trailers, soil/gravels) from LLBG operations.	The waste is radiologically contaminated during routine LLBG operations. Primarily Am isotopes, C-14, Cs-137, I-129 and Sr-90.
Plutonium Finishing Plant (PFP) Spent or expired lab chemicals/reagents containing hazardous substances.	Lab chemicals and reagents are hazardous; they can also be radioactively contaminated. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated waste from routine facility operations and D&D activities.	Materials/debris is contaminated with hazardous substances from operations, construction and D&D activities. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated elemental lead previously used for shielding.	The lead itself is a hazardous substance; it can also be radioactively contaminated. Primarily Pu isotopes and Cs-137.
T Plant Expired/excess chemicals from 221-T canyon cleanout containing hazardous substances, contaminated materials from routine maintenance and operations, and contaminated soil. Federal and state LDR compliant waste that does not require additional treatment.	This waste is a result of cleanout activities from the 221-T Canyon and from routine maintenance and operations involving materials contaminated with hazardous substances. Primarily Pu and U isotopes.

Table 1. Hanford Site Cleanup Wastes In Storage Acceptable for Disposal in ERDF

Process	Source of Hazardous Substances
Mixed waste solids, contaminated sorbed liquids and soils, and other solids (non-thermal treatment). This waste does not include hazardous debris other than incidental debris material commingled with the non-debris.	The waste is from many onsite locations. The waste is either contaminated with a chemical hazardous substance or is radioactively contaminated. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated organic and inorganic debris from 221-T Canyon cleanout (e.g., plastic, rubber, wood, paper, cloth, metals, asbestos, etc.), maintenance, and operational activities.	Operations activities at the T Plant Complex involving hazardous substances (e.g., repackaging waste). In addition, contaminated waste from various onsite generators in which their waste is sent to the T Plant Complex for waste verification/storage/treatment. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Radioactive lead solids from light bulbs.	The lead in the removed light-bulb tips is a hazardous substance. It is also radioactively contaminated. Primarily Pu isotopes and Cs-137.
Savannah River tank farm sample returns.	Waste originally came from Tank Farms and is contaminated with radioactive and chemical hazardous substances. Primarily Pu isotopes, Cm-244, Cs-137 and various RCRA and State Only hazardous/dangerous waste.
Waste Receiving And Processing (WRAP) Soils, debris, particulates, etc. contaminated with hazardous substances or waste that does not include hazardous debris other than incidental debris material commingled with the non-debris.	This waste is radioactively contaminated from routine Hanford Operations and is from many onsite locations. Primarily Pu and U isotopes.
Contaminated secondary waste from characterization, processing, verification, and certification of Hanford's newly generated and retrieved waste.	This waste is radioactively contaminated from routine Hanford Operations and is from many onsite locations. Primarily Am isotopes, C-14, Cs-137, I-129 and Sr-90.
324 Discarded/unused chemical products containing hazardous substances. Chemical products were used for maintenance or clean-up activities.	The chemical products are themselves, hazardous substances and have been radioactively contaminated during operations. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated waste from decontamination activities using organic solvent.	Some organic solvents are hazardous substances. These solvents are also radioactively contaminated. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated waste from routine operations and maintenance activities as well as waste from deactivation of the facility's hot cells, pipe trench, vaults, and laboratories.	Incidental contamination from contact with residual contamination remaining after shutdown of the facility which supported research operations on radioisotopes. Primarily Am isotopes, C-14, Cs-137, I-129 and Sr-90.
Contaminated lead blocks, lead bricks, lead blankets, lead sheets, and lead shot.	The lead itself is a hazardous substance; it can also be radioactively contaminated. Lead items were used for shielding or counter balances in equipment found in the 324 facility. Primarily Pu isotopes and Cs-137.
325 Contaminated waste from routine operations at Pacific Northwest National Laboratories (PNNL), including from laboratory analysis (physical and chemical) and other testing conducted on SST/DST waste and other high dose-rate substances and wastes.	This waste consists of waste and debris contaminated with radionuclides and inorganic and organic regulated dangerous waste constituents. Primarily Pu isotopes, Cm-244, Cs-137 and various RCRA and State Only hazardous/dangerous waste.

Table 1. Hanford Site Cleanup Wastes In Storage Acceptable for Disposal in ERDF

Process	Source of Hazardous Substances
Contaminated solidified liquids and debris waste.	This waste consists of liquid waste and debris contaminated with radionuclides. These wastes are from research laboratories (325, RTR, etc.) located in the 300 Area. Primarily Am isotopes, C-14, Cs-137, I-129 and Sr-90.
Tank Farms Unused sample portions returned from the analytical laboratories derived from secondary waste associated with tank farm activities, including rain water, soil sample, etc.	The samples are contaminated with hazardous and radioactive substances due to association with tank farm activities. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Organic and inorganic debris containing hazardous substances (paints and paint related products) and/or organic debris which has contacted tank waste and contains hazardous substances. This waste consists of plastic (sheeting, containment tents, and glove bags), rubber, cloth (rags and PPE), filters, paper, wood, concrete, metals, asbestos, etc. The waste is stored in containers which may also include shielding material such as rubber or lead when necessary.	The debris is from tank farms. Debris may be hazardous due to regulated chemical products, and is radioactively contaminated. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated lead waste including raw lead, lead shots, lead bricks, lead sheets and lead wool which are used in a variety of applications to shield and reduce radiation exposure dose rates.	The lead itself is hazardous; it can also be contaminated with radioactive tank waste. Primarily Pu isotopes, Cs-137.
Contaminated equipment removed from the DST System and SST System, which can include jumpers, pumps, instrument trees, sluicers, and water or air lances.	Equipment removed from the tank system that has contacted tank waste. Contact with the tank waste has lead to the hazardous and radioactive contamination of this waste. The source of hazardous substances is tank waste. Primarily Pu isotopes, Cm-244, Cs-137 and various RCRA and State Only hazardous/dangerous waste.
Waste Sampling and Characterization Facility (WSCF) The contaminated inorganic non-debris waste, sodium sulfate, and silver zeolite from analytical processes in the laboratory.	The hazardous substances are from sample contribution and/or the addition of reagents and lab standards during the analytical process. The reagents and standards may contribute hazardous substances. Primarily Pu and U isotopes, Cs-137, C-14, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Contaminated solidified radioactive liquid, packaged dirt/soil samples, and miscellaneous LLW from routine operations and maintenance activities.	Radioactively contaminated environmental media (groundwater and soil samples from onsite locations) and industrial hygiene samples. Primarily Am isotopes, C-14, Cs-137, I-129 and Sr-90.
Contaminated TEVA resins and hazardous waste debris (listed as F001-F005) from discarded lab materials and analytical processes in the lab. This waste consists of debris (e.g., PPE, paper towels, and plastic pipettes).	The hazardous substances are from sample contribution and or the addition of reagents and standards containing hazardous substances during the analytical process. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
Fast Flux Test Facility (FFTF) Contaminated waste (e.g., PPE, bulk waste, ion exchange filters, debris) from FFTF deactivation, sodium removal, and routine radiological zone entries associated with ongoing surveillance and maintenance activities.	Incidental radioactive contamination from past reactor operations Primarily Am isotopes, C-14, Cs-137, I-129 and Sr-90.
202-S Contaminated grease and oils used in maintenance activities on the canyon crane way.	Hazardous substances resulting from equipment maintenance. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.

Table 1. Hanford Site Cleanup Wastes In Storage Acceptable for Disposal in ERDF

Process	Source of Hazardous Substances
242-A Evaporator Contaminated process contacted debris from operation, maintenance and clean-up activities. Waste from the operation and maintenance activities at the 242-A Evaporator.	Waste chemically and radioactively contaminated from processing DST Waste. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99 and various RCRA and State Only hazardous/dangerous waste.
2724WB Waste Storage Facility Contaminated cleanup waste stored in this facility, including miscellaneous equipment containing lead solder and lead debris.	The lead in the equipment is a hazardous substance. The equipment is also radioactively contaminated. Primarily Pu isotopes, Cm-244, Cs-137, Tc-99.

For a Hanford-generated waste in storage to be eligible for the plug-in approach, it must, at a minimum, be similar to waste in Table 1 and must meet the following criteria:

- Meet the existing ERDF WAC (or be capable of meeting the WAC with treatment)
- Comply with land disposal restrictions (LDR) requirements, as applicable
- Be generated at Hanford or be directly derived from a Hanford-generated waste in support of RCRA and/or CERCLA cleanup actions
- Be compatible for disposal at the ERDF
- Not already addressed by a CERCLA decision document
- EPA approval has been granted for each individual waste

DOE shall notify the lead regulatory agency for the ERDF (EPA) when DOE identifies a Hanford waste in storage, generated in support of RCRA and/or CERCLA cleanup actions, and which qualifies for ERDF disposal under the plug-in approach. DOE will notify the public of any such waste approved for disposal at ERDF through the issuance of an annual fact sheet on Hanford-generated stored waste authorized for disposal at the ERDF under the plug-in approach.

Waste treatment, if needed to meet the ERDF WAC or LDR standards, would be performed at the onsite generator location (or at an approved offsite facility) in accordance with the applicable regulatory framework and requirements (e.g., RCRA, *Atomic Energy Act of 1954*, etc.). When appropriate, such treatment could be performed at ERDF (stabilization/encapsulation) in accordance with the ERDF ROD, as amended, under a treatment plan approved by the EPA.

V. EVALUATION OF ALTERNATIVES

The NCP establishes nine criteria for evaluating remedial action alternatives. These criteria are divided into three categories of weighted importance, which include threshold, balancing, and modifying criteria. All remedies must meet the threshold criteria to be considered. The seven balancing and modifying criteria help describe relative differences between the alternatives.

Summary of Alternatives

The key elements of each alternative are described and briefly discussed below.

Numerous previous CERCLA disposal decisions have concluded that ERDF disposal is cost effective compared to alternative disposal options for wastes that meet the ERDF waste acceptance criteria, and that ERDF represents a more protective option than onsite storage or disposal elsewhere. Based on this information, the following alternatives were evaluated:

- **Alternative 1** – No Action – This alternative does not provide for ERDF disposal of the stored waste. The waste would remain in storage until eventual treatment and/or disposal at an approved disposal facility other than the ERDF (e.g., Integrated Disposal Facility, off-site disposal facility).

- **Alternative 2** – Approval of Hanford-Generated Wastes in Storage to be Disposed of in the ERDF. The Hanford-generated wastes in storage identified in Table 1 would be authorized for disposal at the ERDF. Additionally, a plug-in approach would be approved to authorize ERDF disposal of other similar Hanford-generated wastes in storage if the waste can meet the criteria identified above.

  Disposal of contaminated material at the ERDF has been chosen as the preferred remedy for much of the waste excavated from numerous Hanford waste sites. The current estimate is that approximately 10 million tons of waste from 100 and 300 Area remediation will be disposed at the ERDF. The ERDF has disposed of approximately 6.5 million tons of Hanford cleanup waste since the facility started operations in 1996 (an average of 625,000 tons per year). The approximate amount of additional waste to be disposed at the ERDF, under Alternative 2, is estimated to range from 1,800 to 4,500 tons per year for the next 20 years. The estimated volume for this waste is not a significant volume, as compared to the annual disposal of existing remedial action wastes, and thus would not require an expansion of the ERDF.

Discussion of Alternatives

1) Overall protection of human health and the environment:

   Alternative 1 (no action) can satisfy the criterion of overall protection of human health and the environment provided waste is properly stored and disposed of. However, continued onsite storage poses additional risk to workers due to the potential of release while waste is being stored.

   Alternative 2, the preferred alternative, would be protective in the short term and long term, given ERDF's design and operational requirements, the location away from the Columbia River, and the ERDF's distance to the groundwater.

2) Compliance with ARARs:

   The most significant ARARs for disposal of hazardous/dangerous waste include federal and state landfill requirements and LDRs for hazardous waste. The ERDF complies with the landfill ARARs specified in the original ERDF ROD. In addition to the ARARs listed in the original ERDF ROD, this amendment also incorporates the Toxic Substance Control Act (TSCA) regulations, as revised in June 1998. Waste management, including storage, at the generator or storage facility would not be addressed by the ROD amendment and would be required to comply with applicable regulatory requirements (substantive and procedural) for that location (e.g., RCRA). Waste managed at the ERDF would comply with substantive federal and state requirements, in the ERDF ROD as amended. The ERDF also meets the design criteria of a TSCA landfill.

3) Long-term effectiveness and permanence:

Alternative 1 (no action) does not address disposal of waste in storage and therefore does not provide a long-term and permanent remedy. Under Alternative 2, the near-term disposal of Hanford wastes in storage at the ERDF would provide long-term isolation of waste in a landfill that provides a safe, environmentally sound disposal area for radioactive, hazardous/dangerous, and mixed wastes. Final disposition at ERDF would provide long-term effectiveness and permanence due to the ERDF's design and operational requirements, the location away from the Columbia River, and the ERDF's distance to groundwater. Final disposition also reduces the opportunity for release to the environment that may occur during storage of waste.

4) Reduction of toxicity, mobility, or volume through treatment:

Alternative 1 (no action) does not require or otherwise address treatment. Alternative 2 would provide for treatment of some wastes at ERDF, as required to meet LDRs or the ERDF WAC, prior to disposal, which would reduce the toxicity, mobility, or volume. Treatment at ERDF to satisfy the ERDF WAC, including LDRs, will be performed in accordance with an EPA-approved treatment plan.

5) Short-term effectiveness:

Under Alternative 1 (no action), there is a substantial risk of release posed to the public, the workers, or the environment as a result of storage of these wastes prior to disposal. Alternative 2 would minimize these risks associated with the continued storage by providing final disposal of these wastes in the short term. Final disposition at the ERDF would be effective and protective in the short term due to the ERDF's design and operational requirements, the location away from the Columbia River, and the ERDF's distance to groundwater. Final disposition also reduces the opportunity for release to the environment that may occur during storage of waste and ERDF is in place at Hanford and readily available for disposal.

6) Implementability:

Alternative 1 (no action), requires no new actions to be taken. Management and eventual disposal of the waste in storage would be otherwise addressed. Under Alternative 2, the disposal of stored waste as well as any necessary treatment at ERDF to meet ERDF WAC and applicable LDRs, would be similar to existing waste treatment/disposal processes on the Hanford Site and readily implementable because ERDF is in place at Hanford and readily available for disposal.

7) Cost:

Under Alternative 1 (no action), the stored wastes would be treated and/or disposed other than at ERDF (unless otherwise authorized by a CERCLA decision document). Costs for disposal of wastes off the Hanford Site have been evaluated but were identified to be too

significant for final consideration. For example, estimated costs for storage and/or disposal/treatment of mixed low-level waste debris are approximately: $166/ton for ERDF disposal; $965/ton for disposal off the Hanford Site; and $3,890/ton for onsite long-term storage. Previous evaluations in other Hanford RODs and action memoranda have indicate that the ERDF is a cost-effective disposal alternative compared to long term storage and other on-site and off-site disposal facilities.

8) State acceptance:

The State of Washington supports the preferred alternative.

9) Community acceptance:

Public acceptability was evaluated after the close of the public comment period for the Proposed Plan. No modifications to the proposed actions were made based on public comments. The EPA received written comments from three citizens and one government contractor during the public comment period. The citizens generally supported the proposed actions [one comment was to subject waste to permit requirements].

VI. SELECTED AMENDED REMEDY FOR THE ERDF

The amended remedy for the ERDF is described in Section IV, above, and is summarized below. This amendment does not modify the existing ERDF ROD requirements, WAC, nor does it authorize acceptance of non-Hanford waste generated off the Hanford Site. This selected amended remedy makes ERDF available to dispose of certain wastes in storage that pose a substantial threat of a release of hazardous substances.

This amendment authorizes the two following activities:

1) The disposal of specific Hanford-only waste in storage for disposal at the ERDF.
2) An ERDF plug-in approach for the disposal of Hanford-only-generated waste in storage that is not identified in Table 1 or in other existing Hanford CERCLA decision documents, but is similar to the wastes identified in Table 1. Eligible wastes must meet the following criteria:

    - Meet the existing the ERDF WAC (or be capable of meeting the WAC with treatment)
    - Comply with LDR requirements, as applicable
    - Be generated at Hanford or be directly derived from a Hanford-generated waste in support of RCRA and CERCLA cleanup actions
    - Be compatible for disposal at the ERDF
    - Not already addressed by a CERCLA decision document
    - EPA approval has been granted for each individual waste

DOE shall notify the lead regulatory agency for the ERDF (EPA) when DOE identifies a Hanford waste in storage, generated in support of RCRA and/or CERCLA cleanup actions, and

which qualifies for ERDF disposal under the plug-in approach. DOE will notify the public of any such waste approved for disposal at ERDF through the issuance of an annual fact sheet on Hanford-generated stored waste authorized for disposal at the ERDF under the plug-in approach.

Waste treatment, if needed to meet the ERDF WAC or LDR standards, would be performed at the onsite generator location, or at an approved offsite facility, in accordance with the applicable regulatory framework and requirements (e.g., RCRA, *Atomic Energy Act of 1954*, etc.). When appropriate, such treatment could be performed at ERDF (stabilization/encapsulation) in accordance with the ERDF ROD, as amended, under a treatment plan approved by the EPA.

The preamble to the NCP states that when noncontiguous facilities are reasonably close to one another and the wastes at these sites are compatible for a selected treatment or disposal approach, CERCLA Section 104(d) (4) allows the lead agency to treat these related facilities as one site for response purposes and, therefore, allows the lead agency to manage waste transferred between such noncontiguous facilities without obtaining a permit. The Hanford-only-generated wastes in storage on the Hanford NPL sites listed in Table 1 or approved through the plug-in approach, are reasonably close to the ERDF and are compatible for treatment and/or disposal at the ERDF; therefore waste transferred from these waste storage locations may be managed at ERDF in accordance with the ROD without obtaining a permit.

VII. STATUTORY DETERMINATIONS

The ROD, as amended herein, is protective of human health and the environment, complies with Federal and State requirements (identified in the 1995 ROD and subsequent ROD amendments) that are legally applicable or relevant and appropriate, is cost effective, and utilizes permanent solutions to the maximum extent practicable.

The statutory preference for treatment as a principal element will be satisfied when wastes that require treatment at ERDF to meet the ERDF WAC and/or LDRs are treated at ERDF pursuant to this ROD Amendment. Because hazardous substances, pollutants, or contaminants will remain onsite above levels that allow for unlimited use and unrestricted exposure, a review will be conducted at least every five years after the commencement of remedial actions to ensure that the remedy is protective of human health and the environment.

VIII. DOCUMENTATION OF SIGNIFICANT CHANGES

DOE and EPA reviewed all written and verbal comments submitted during the public comment period. Upon review of these comments, it was determined that no significant changes to the amended remedy, as originally identified in the Proposed Plan, were necessary.

RESPONSIVENESS SUMMARY

U.S. Department of Energy
Environmental Restoration Disposal Facility
Hanford Site
Benton County, Washington
Amended Record of Decision

Introduction

This responsiveness summary was prepared in accordance with the requirements of Section 117 of CERCLA, as amended, and 40 CFR 300.435(c)(ii)(F). The purpose of this responsiveness summary is to summarize and respond to public comments on the proposed amendment for the January 1995 ERDF ROD. The Proposed Plan for the Amendment, issued on August 28th, 2006, identified proposed changes to components of the remedy set forth in the January 1995 ERDF ROD, as previously amended.

The Tri-Parties announced the issuance of the Proposed Plan in the community newspaper, the *Tri-City Herald*. A 30-day comment period was provided for the public to read the Proposed Plan, review documents in the Administrative Record, and submit written comments.

Community Involvement

A newspaper notice placed in the *Tri-City Herald* on August 25th, 2006 announced the availability of the proposed plan for an amendment and the start of the public comment period. Approximately 3,000 copies of a factsheet describing the proposed ROD Amendment were sent by mail. A public comment period was held from August 28, 2006 through September 26, 2006. The proposed plan for an amendment was presented to the Hanford Advisory Board and the Board's River and Plateau Committee in March 2005 and February 2005, respectively. The Hanford Advisory Board did not provide advice on the proposal.

Comments and Responses

The EPA received written comments from three citizens and one government contractor during the public comment period. The citizens generally supported the proposed actions [one comment was to subject waste to permit requirements]. The comments, along with responses, are summarized below.

A.1. From the fact sheet sent to me, the question is whether to do a thorough job of cleaning up the Hanford waste, or to leave the part that apparently is not included in the Tri-Party overall plan. Clean all of it up! Nuclear waste does not go away, and leaving uncontained radioactive waste is detrimental to all living things, and just creates a bigger more expansive problem to deal with at a later time after more damage is done.

Response: Thank you for the comment.

B.1. I fully support the proposed amendment to the ERDF ROD as spelled out in the Fact Sheet.

Response: Thank you for supporting the proposed amendment.

C.1. Thank you for the opportunity to comment on the Fact Sheet specific to the Proposed Amendment to the Environmental Restoration Disposal Facility Record of Decision. I commend the U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology (WDOE), and the U.S. Department of Energy (DOE) for making efforts to dispose of non-CERCLA wastes in the ERDF facility rather than continuing onsite storage of those wastes on the Hanford Site. The ERDF is an excellent facility in both design and operation, and in being regulated by the EPA.

My comment is specific to non-CERCLA wastes (derived from actions not having a CERCLA decision document issued by either the EPA or WDOE) that would potentially not have State permits for those actions of disposal at ERDF. These non-CERCLA wastes, should not be subject to the "permit exemption" under the CERCLA regulations of 40 CFR 300, specific to activities of disposal at the ERDF. The Federal government should not be exempt to not obtaining air permits governed under the Clean Air Act and any RCRA disposal permitting under state regulations as would any other State entity. The process for non-CERCLA wastes should follow the correct substantive and administrative process under State laws delegated from the EPA.

In addition, the thought that either EPA or WDOE would allow DOE to unilaterally in the future decide if cleanup actions are CERCLA without the decision document issued from the EPA or WDOE should not be allowed. EPA and WDOE in their role within the Tri-Parties should work to retain that lead authority for CERCLA actions to retain the trust of the public in the cleanup of Hanford.

There are clearly differences and issues with the DOE and the main two Agencies of the WDOE and the Washington State Department of Health. The DOE needs to constructively work together with the State.

In summary if non-CERCLA wastes are to be disposed in ERDF then for those actions at ERDF, State permits and regulations should be followed including the administrative requirements of those regulations, not just the substantive requirements.

Thank you for the opportunity to comment.

Response: DOE and EPA thank you for your comments. This ROD Amendment addresses waste in storage that poses a substantial threat of a release of hazardous substances under CERCLA authority. Accordingly, disposing of these wastes in ERDF will be conducted as CERCLA actions and will be exempt from permit requirements as provided by section 121(e) of CERCLA. 42 U.S.C. 9621(e). However, these actions must still comply with substantive

ARAR requirements. ERDF fully satisfies all substantial ARAR requirements, including requirements for liners. DOE cannot unilaterally dispose of waste in ERDF; EPA approval is required for disposal of any waste under this ROD amendment not already listed in Table 1.

D.1. FH requests that EPA consider allowance of treatment at the generating site, provided that such treatment is performed in a unit that meets the WAC 173-303 container or tank standards [WAC 173-303-630, -640]. This would be consistent with EPA's RCRA interpretation that there is no substantive difference between units used for storage and units used for treatment of hazardous waste (i.e., no new ARARs would be needed to allow it). It seems logical that besides allowing for storage and disposal, the ERDF ROD amendment should allow for treatment of hazardous wastes in a manner that is consistent with RCRA interpretations. EPA allow treatment under the same management standards as storage for both generators and TSD owners/operators. For example, under RCRA accumulation standards, EPA allows generators to treat hazardous wastes in tanks or containers without obtaining a permit, if such wastes are treated within established limits [40 CFR 262.34]

Response: After receiving this comment, further clarification was requested and the commenter withdrew the comment.

D.2 Will the issuance of the ROD amendment based on this Proposed Plan constitute the additional CERCLA decision document needed to dispose of RCRA TSD closure and RCRA corrective action waste into ERDF as described in the 1996 ERDF ESD? In other words, does the ROD amendment represent sufficient authorization for disposal of these wastes in ERDF, or will one or more work plans be expected to facilitate implementation?

Response: For the waste streams identified in Table 1 of this document or addressed via the plug-in process established in this document, this ROD amendment constitutes the CERCLA decision document necessary to authorize disposal in ERDF. However, additional documentation may be necessary as part of the waste acceptance process. Furthermore, in accordance with the amended remedy, the treatment at ERDF of waste streams to meet the ERDF WAC and LDR standards prior to disposal will be performed under an EPA-approved treatment plan.

D.3. Please add tumbleweeds to the General processes waste stream, in Table 1.

Response: Tumbleweeds are already in Table 1.

D.4. Please move the waste retrieval project waste stream from General Processes to the LLBG waste stream.

Response: The table was modified as suggested.

D.5. Please re-evaluate the statement "Debris that is contaminated with PCBs at concentrations greater than 50 ppm is not included in this waste." ERDF meets the design criteria of a TSCA landfill, and should be able to accept PCBs that meet ERDF acceptance criteria and qualify for TSCA chemical waste landfill disposal. PCBs at concentrations greater than 50 ppm have been

disposed to ERDF, and future PCB waste streams are expected to be similar and consistent with such wastes.

Response: This statement does not appear in the proposed plan or in this ROD Amendment.

D.6. Delete "LEF powder drums" from the LLBG, as well at TF Heel Jet Pump and T Plant Box. They are already disposed in the MW Trenches. WRP waste and debris generated from routine radiation zone entries would be more accurate as two waste streams for LLBG.

Response: The table was modified as suggested.

D.7. 327 facility and FFTF are lacking operations and maintenance. Please add. Why not just say 300 Area and 400 Area operations and maintenance – that way no facilities with similar waste streams are left out.

Response: References to the 327 Facility were removed prior to public comment. The entries in Table 1 have had sufficient review to determine that they meet the criteria to qualify for this action. A more general entry would not ensure that the criteria for inclusion in this ROD amendment would be met.

D.8. Please clarify the intended scope of this action with respect to generating processes at FFTF. FFTF is undergoing deactivation and these same wastes (PPE, bulk waste and ion exchange filters) are typically generated during these activities besides during surveillance and maintenance activities. Deactivation activities also generate liquid radioactive waste to be sent to the effluent treatment facility. Sodium removal is a subset of the deactivation activities, which results in recovery of product sodium and generation of wastes (e.g., debris) contaminated with sodium residuals. Is Table 1 intended to apply to all wastes generated during such activities?

Response: The table was modified to clarify that the scope applies to appropriate waste from FFTF deactivation.

D.9. Only 202-S facility lists contaminated grease and oils used in maintenance on the canyon crane way on the table. This type of waste exists from other facilities. Either list this waste under the other facilities or place this under the general processes to cover all facilities.

Response: Only the waste from the 202-S was evaluated. Similar wastes from other facilities may be evaluated through the plug in process.

D.10 Table 1, General Process, second row, change to read; The waste consists of organic and/or inorganic debris material (e.g., paper, plastic, rubber, wood, cloth, tumbleweeds, rubble, metals, asbestos, PPE, etc.) that is contaminated with radioactive and/or chemical hazardous substances. Debris that is contaminated with PCBs that qualify for disposal in a TSCA chemical waste landfill included in this waste. Non-TRU designated waste containers from the TRUM Waste Retrieval Project. In addition, plywood, tarps, PPE, and soil contaminated by breached containers being retrieved from the covered TRUM retrieval project. It is assumed that breached containers hold material that would be regulated as hazardous waste under today's regulations.

Waste is debris contaminated with radioactive and/or chemical hazardous substances such as F, P, and U listed constituents, RCRA metals, corrosives, etc. The waste was generated at many onsite locations. The source of hazardous substances could be radionuclides and/or chemicals associated with analytical processes and operating activities. Within the infrastructure program, there are waste streams that may not be RCRA hazardous, but are CERCLA hazardous (e.g., radiologically contaminated tumbleweeds, wire rope from crane/rigging maintenance, vehicle maintenance wastes such as parts from radiologically contaminated vehicles, contaminated PPE, contaminated equipment, contaminated debris found during surveillance activities, mice nests, and contaminated materials from pest control operations, etc.).

Recommend inserting verbiage that more flexibly accommodates non-RCRA hazardous media. If the intent is to only address RCRA hazardous media, then perhaps a separate waste category (row) should be added.

Response: This comment was addressed prior to the public comment period. This row already reads as suggested.

D.11. Table 1, General Process, second row, change to read; Incidental contamination from contact with facility and/or waste site contamination (e.g., ETF, 209-E, 224-B, 224-T, 327, 340, B-Plant, Tank Farms, K-Basins, PUREX, REDOX).

The waste characteristics are based on knowledge of past operations and waste generated at the facilities. Primarily Pu, Am, U, C-14, Cs-137, I-129, and Sr-90 isotopes.

Response: The table was modified as suggested.

D.12. Table 1, General Process, second row, change to read; Some power transmission lines have accumulated contamination from past airborne releases, biological vectors, and/or incidental contact with contaminated waste sites/facilities.

Response: The table was modified as suggested.