

Waste Management Plan for K Basins Interim Remedial Action

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JUN 10 2010

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Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

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Total Pages: $\frac{11}{(JKB 3/28/05)}$

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EDC (ENGINEERING DOCUMENT CHANGE) FORM

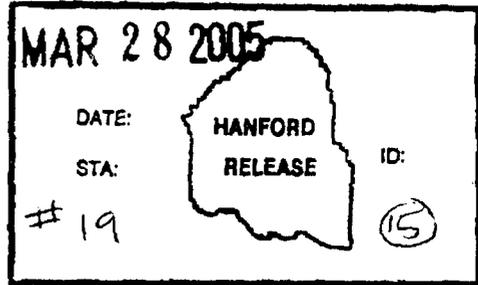
Document Identification

1. Change Title:
Waste Management Plan for K Basins Interim Remedial Action

Key Words:
Waste, CERCLA, K Basins

8. Release: Release CACN _____

2. Project No./Work Package No.:
KBC Project



3. Review Designators:
N/A D P E N R I F Q

Additional Reviewers:
W EPA _____ _____ _____

4. Area 100K	5. Building KE/KW	6. Facility K Basins	7. System No. N/A
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9. USQ Required? USQ CX NA No.: 0062-2005

10. Distribution - Name MSIN
See attached distribution

Distribution - Name MSIN

11. Change Description (description and reason for requested change):
Waste Management Plan for K Basins Interim Remedial Action, SNF-9430, Revision 2 adds extended CERCLA waste accumulation areas around 105K East/105 K West basins. Also an additional waste accumulation area is identified near 183KW Water Plant. Words have been added to address the name change of the project from Spent Nuclear Fuels Project to K Basins Closure Project. Subject identifiers have been added in the document.

Approvals

12. Change Originator G.S. Hunacek Print/Signature/Date Title Operations/Waste Mgmt G.C. Triner Print/Signature/Date Title Quality Assurance G.E. Mata Print/Signature/Date Title Print/Signature/Date	TA/DA Environmental D.J. Watson Print/Signature/Date Title Nuclear Safety N.G. Cauthy Print/Signature/Date Title DOE By letter DOE-RL to EPA 05-AMCP-0172, Feb 22, 2005 Print/Signature/Date Title Print/Signature/Date	Engineering Management/TA Manager J.K. Perry Print/Signature/Date Title Radiological Control D. Boone Print/Signature/Date Title EPA By letter LD backhoe to Radi Pat dated February 22, 2005. Print/Signature/Date Title Print/Signature/Date
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13. Document Index

Action	Number	Title	Rev (being issued)	Change Page(s)	Config Baseline
DR	SNF-9430	Waste Management Plan for the Interim Remedial Action	2		<input type="checkbox"/>

14. Potentially Affected Documents Not Modified By This EDC:

Document Type	Document Number/Revision	Document Owner (Organization)	Technical Authority Notified	Date Notified

1.0 Introduction

This Waste Management Plan is prepared pursuant to the requirement in Section 4.2.3 of the "Remedial Design Report and Remedial Action Work Plan for the K Basins Interim Remedial Action," DOE/RL-99-89.

The purpose of this Waste Management Plan is to describe the process and requirements for the management and disposal of waste generated during the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) interim remedial action and implements Federal, State, and local regulatory requirements as well as best management practices which are designed to ensure protection of human health and the environment.

The waste includes (1) debris and other waste generated during the K Basins Interim Remedial Action, and, (2) that waste generated from demolition activities external to the basins that are part of the interim remedial actions for Hanford's 100 Area Remaining Sites EPA 541-R-99-039, both cleanup actions under the CERCLA. The goal of the K Basins Interim Remedial Action is to mitigate the potential to release hazardous substances from the K Basins. This will be achieved by removing spent nuclear fuel (SNF), sludge, water, and debris and by conducting contaminant removal during deactivation of the basins. Since the SNF has been removed from 105 KE and 105 KW Basins, the Spent Nuclear Fuels Project has been renamed to K Basins Closure (KBC) Project.

2.0 Scope

The scope of this cleanup action is described in the "Remedial Design Report and Remedial Action Work Plan for the K Basins Interim Remedial Action Work Plan" (DOE/RL-99-89, Rev. 1, including addendums) (Reference 6.1) and the CERCLA Record of Decision, issued on September 22, 1999. The scope is summarized as follows:

- Removing the SNF, sludge, debris, and water from the basins
- Transferring the SNF to the SNF conditioning facility
- Treating the sludge to meet waste acceptance criteria of the onsite receiving facility(ies)
- Transferring the sludge to the receiving facility(ies), which may include disposal to the Environmental Restoration Disposal Facility (ERDF)
- Pretreating the water and transferring it to the onsite Effluent Treatment Facility
- Transferring the debris to appropriate facilities (anticipate most will be disposed to ERDF)
- Deactivating the basins. Removed material will be treated as debris.

3.0 Waste Management Requirements

1. All waste generated will be characterized in accordance with Sampling and Analysis Plans (SAPs) prepared pursuant to the requirements in section 4.2 of Reference 6.1.
2. Waste from the K Basins will be disposed at the ERDF, whenever possible. The ERDF waste acceptance criteria (BHI-00139, *Environmental Restoration Disposal Facility Waste Acceptance Criteria* and 0000X-DC-W0001, *Supplemental Waste Acceptance Criteria for Bulk Shipments to ERDF*) must be met for any waste to be disposed at the ERDF. Additional requirements for management of waste is specified in the Memorandum of Understanding between Fluor Daniel Hanford, SNF Project and Bechtel Hanford Inc., dated December 1999. Waste that does not meet the ERDF requirements will be shipped to other onsite storage facilities, in accordance with (HNF-EP-0063, current revision, *Hanford Site Solid Waste Acceptance Criteria*).
3. The substantive requirements of the *Dangerous Waste Regulations* (WAC 173-303) pursuant of the state *Hazardous Waste Management Act* (70.105 RCW) are applicable for the identification, treatment, storage, and disposal of dangerous and mixed wastes generated during the K Basins interim remedial actions. Dangerous waste management activities beyond the scope of the CERCLA action are subject to both the substantive and administrative requirements of WAC 173-303.
4. The "Regulation of PCBs" (40CFR 761) pursuant to the *Toxic Substances Control Act* (15 USC 2601, *et seq.*) is applicable to the management of sludge and debris removed from the K Basins. The sludge has been determined to be a PCB remediation waste and must be marked, stored, treated, and disposed in accordance with the PCB remediation waste requirements. Debris has been determined to be a PCB remediation waste where it has contacted sludge. This regulation is not applicable to debris that is treated in the selected remedy which includes a risk-base disposal approval as per 40 CFR 761.61(c). This is not applicable to water leaving the basin systems after the water is treated as described in the selected remedy to below 0.5 ppb.
5. The KBC Project will inspect staging areas for CERCLA waste, specified in Figures 1 and 2 of this document, on a monthly basis. CERCLA waste staged in these areas is not subject to a 90-day storage limit, but will be removed within a reasonable time period, as determined by the lead regulatory agency. CERCLA waste subject to the land disposal restrictions (40 Code of Federal Regulations [CFR] Part 268) may be stored in a designated CERCLA Waste Management Area, prior to treatment.
6. The areas where CERCLA waste will be staged outdoors will be cordoned off and denoted by signs mounted on stanchions or hung on ropes. The signs will state, "CERCLA Waste Management Area – Entry By Authorized Personnel Only".

7. The KBC Project may elect to handle any dangerous waste or mixed waste through the normal processes for managing dangerous waste or mixed waste. This would be done in lieu of management as CERCLA waste to be disposed at the ERDF. The substantive and administrative requirements of WAC 173-303, as well as requirements of other applicable and relevant or appropriate requirements would be met in such cases. The waste could be stored in the 90-day accumulation area shown on Figure 1.
8. Transportation of waste shipments to the ERDF will consist mainly of bulk shipments using established transportation containers and practices. The Hanford Site Environmental Restoration Contractor and its transportation subcontractor will typically transport the waste to the ERDF.

4.0 Waste Stream Types

The following waste streams have been identified.

Low Level radioactive waste: Low Level radioactive waste that meets the waste acceptance criteria for the ERDF will be disposed at the ERDF. If the ERDF waste acceptance criteria cannot be met, the waste will be disposed at 200 Area Low Level Burial Grounds or stored at the Central Waste Complex (CWC).

Solid Waste: Any non-contaminated solid waste will be managed in accordance with Washington *Administration Code* (WAC 173-304). If the waste is proven to be volumetrically free of residual contamination, it will be sent offsite for recycling, whenever possible. If recycling is not an option, it will be disposed either onsite or at an offsite municipal/industrial landfill.

Concrete and Soil: Resulting from cleanup, demolition and/or reconstruction will be assumed radioactively contaminated and will be disposed at the ERDF facility if acceptance criteria is met. If ERDF acceptance criteria cannot be met, disposal will be at the 200 Area Burial Grounds or stored at the Central Waste Complex (CWC).

Mixed Waste: Mixed waste will be managed in compliance with the substantive requirements for both hazardous/dangerous wastes (WAC 173-303) and radioactive waste (10 CFR Part 61). Mixed wastes will be treated to meet applicable land disposal restrictions and disposed at the ERDF. If the ERDF waste acceptance criteria cannot be met, the waste will be disposed at the Mixed Waste Trenches or stored at the CWC.

Used Oil: Small quantities of radioactive contaminated oils will be stabilized and disposed at the ERDF. The preferred management strategy is to handle any non-contaminated oil as recyclable material, in accordance with the site-wide used oil program.

Hazardous, Dangerous, and Polychlorinated Biphenyl Wastes: If any of these non-radioactive wastes are found, they will be treated as necessary, and disposed at the ERDF or another site approved by the U.S. Environmental Protection Agency and will meet the waste acceptance criteria of that particular disposal site.

Transuranic Waste (TRU): TRU waste may be generated from underwater debris or treatment system components, (filters, ion exchange modules, etc.). These wastes will be packaged and transferred to the CWC, in accordance with the current revision of HNF-EP-0063.

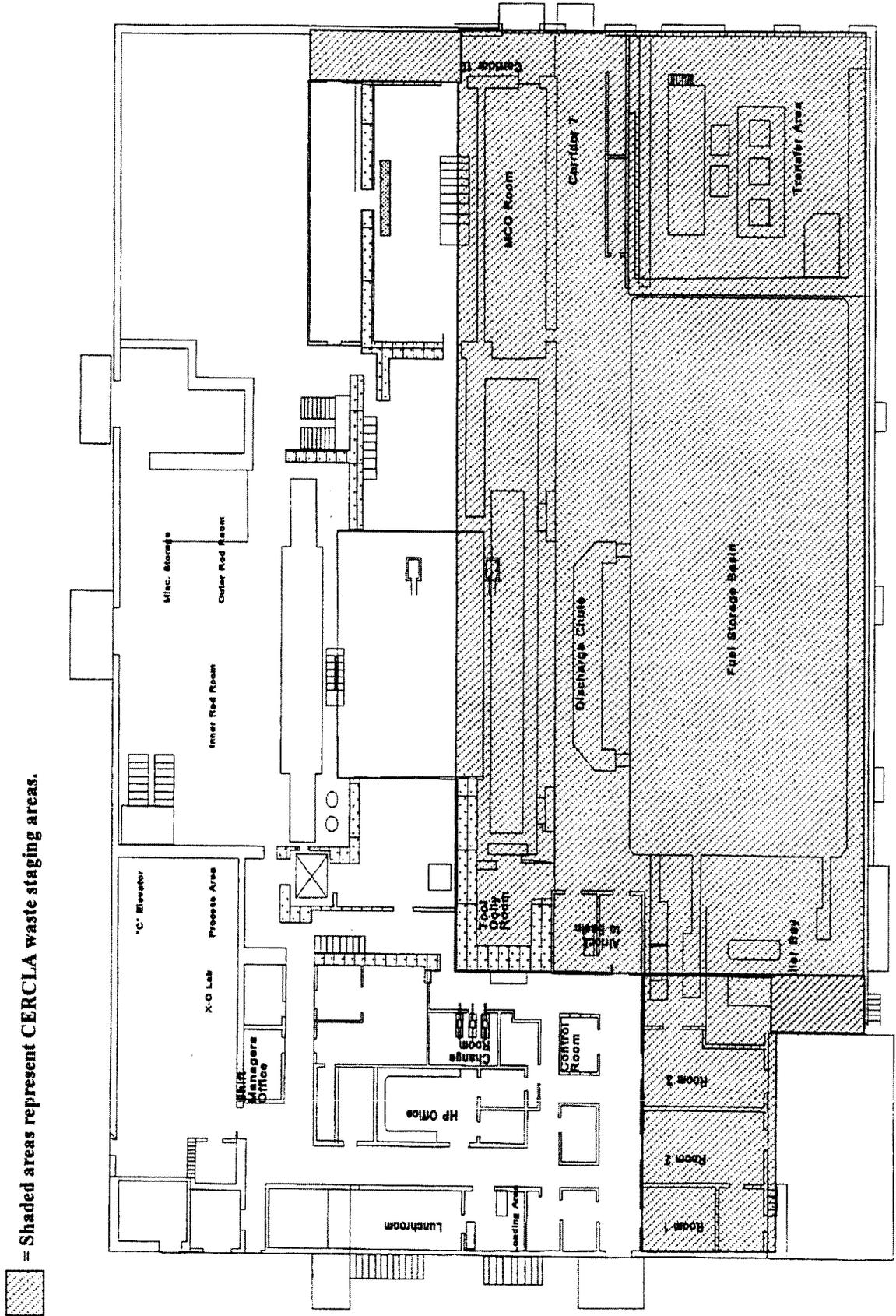
K Basins Sludge: The sludge will be removed from K Basins and will be packaged and transferred to a waste management facility in the 200 Area, as a TRU PCB remediation waste, for treatment and storage. If treatment is performed elsewhere than the 100K Area or 200 Area, EPA approval will be obtained.

5.0 CERCLA Waste Staging Areas: Shown in Figures 1 & 2 of this document.

Figure 1: Consists of "Exterior" CERCLA Waste Staging Areas at K Basins.

Figure 2: Consists of "Interior" CERCLA Waste Staging Areas at 105KE and 105KW.

Figure 2, CERCLA Waste Staging Areas at 105 KE & KW Basins



6.0 References

- 6.1 DOE/RL 99-89, Remedial Design Report and Remedial Action Work Plan for the K Basins Interim Remedial Action
- 6.2 10 CFR 61, "Licensing Requirements for Land Disposal of Radioactive Waste," *Code of Federal Regulations*, as amended.
- 6.3 40 CFR 761, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions", *Code of Federal Regulations*, as amended.
- 6.4 FDH, 1998, *Hanford Solid Waste Acceptance Criteria*, HNF-EP-0063, Rev 10, Fluor Daniel Hanford, Inc., Richland, Washington.
- 6.5 WAC 173-303, "Dangerous Waste Regulations", *Washington Administrative Code*, as amended.
- 6.6 WAC 173-304 "Minimum Functional Standards for Solid Waste Handling", *Washington Administration Code*, as amended.
- 6.7 "Memorandum of Understanding between Fluor Daniel Hanford, Inc, Spent Nuclear Fuels Project and Bechtel Hanford Inc. for the Packaging, Treatment, Transport and Disposal of K Basin Waste to the Environmental Restoration Disposal Facility". December 1999
- 6.8 BHI-00139, Environmental Restoration Disposal Facility Waste Acceptance Criteria.
- 6.9 0000X-DC-W0001, Supplemental Waste Acceptance Criteria for Bulk Shipments to ERDF.
- 6.10 EPA 541-R99-059, Hanford Site – 100 Area (USDOE) 100-KR-2 OU, Record of Decision for the K Basins Interim Remedial Action, September 22, 1999.
- 6.11 EPA 541-R-99-039, Hanford Site-100 Area and 200 Area (USDOE), Record of Decision for Remaining Sites, July 15, 1999.