

# Spent Nuclear Fuel Multi-Year Work Plan

Prepared for the U.S. Department of Energy

**FLUOR DANIEL HANFORD, INC.**  
Richland, Washington



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

HNF-SP-1104

REV. 6

0050689

# Spent Nuclear Fuel Multi-Year Work Plan

P. S. Blair  
Fluor Daniel Hanford, Inc.

Date Published  
January 1999

Prepared for the U.S. Department of Energy

**FLUOR DANIEL HANFORD, INC.**



P.O. Box 1000  
Richland, Washington

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

Approved for Public Release; Further Dissemination Unlimited

**LEGAL DISCLAIMER**

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

This report has been reproduced from the best available copy.

Available in paper copy and microfiche.

Available to the U.S. Department of Energy  
and its contractors from  
U.S. Department of Energy  
Office of Scientific and Technical Information (OSTI)  
P.O. Box 62  
Oak Ridge, TN 37831  
(615) 576-8401

Printed in the United States of America

DISCLM-3.CHP (8-95)

# INFORMATION CLEARANCE FORM

<b>A. Information Category</b> <input type="checkbox"/> Abstract <input type="checkbox"/> Journal Article <input type="checkbox"/> Summary <input type="checkbox"/> Internet <input type="checkbox"/> Visual Aid <input type="checkbox"/> Software <input type="checkbox"/> Full Paper <input type="checkbox"/> Report <input checked="" type="checkbox"/> Other <u>Budget Plan</u>	<b>B. Document Number</b> HNF-SP-1104, <u>REV. 6</u> <b>C. Title</b> Spent Nuclear Fuel Multi-Year Work Plan  <b>D. Internet Address</b> <a href="http://apdev02.rl.gov/snfwork/snf/indx_test.html">http://apdev02.rl.gov/snfwork/snf/indx_test.html</a>
--	--

<b>E. Required Information</b> 1. Is document potentially Classified? <input checked="" type="radio"/> No <input type="radio"/> Yes (MANDATORY)  _____ Manager's Signature Required If Yes <u>[Signature]</u> <input checked="" type="radio"/> No <input type="radio"/> Yes Classified ADC Signature Required  2. Internal Review Required? <input checked="" type="radio"/> No <input type="radio"/> Yes If Yes, Document Signatures Below  Counsel _____ Program _____  3. References in the Information are Applied Technology <input checked="" type="radio"/> No <input type="radio"/> Yes Export Controlled Information <input checked="" type="radio"/> No <input type="radio"/> Yes	4. Does Information Contain the Following: (MANDATORY) a. New or Novel (Patentable) Subject Matter? <input checked="" type="radio"/> No <input type="radio"/> Yes If "Yes", Disclosure No.: _____ b. Information Received in Confidence, Such as Proprietary and/or Inventions? <input checked="" type="radio"/> No <input type="radio"/> Yes If "Yes", Affix Appropriate Legends/Notices. c. Copyrights? <input checked="" type="radio"/> No <input type="radio"/> Yes If "Yes", Attach Permission. d. Trademarks? <input checked="" type="radio"/> No <input type="radio"/> Yes If "Yes", Identify in Document. 5. Is Information requiring submission to OSTI? <input checked="" type="radio"/> No <input checked="" type="radio"/> Yes If Yes UC- <u>2000</u> and B&R- <u>EW 3130620</u> 6. Release Level? <input checked="" type="radio"/> Public <input type="radio"/> Limited 7. Charge Code <u>105360 / AQ 00</u>
--	---

**F. Complete for a Journal Article**

1. Title of Journal \_\_\_\_\_

**G. Complete for a Presentation**

1. Title for Conference or Meeting \_\_\_\_\_

2. Group Sponsoring \_\_\_\_\_

3. Date of Conference \_\_\_\_\_

4. City/State \_\_\_\_\_

5. Will Information be Published in Proceedings?  No  Yes

6. Will Material be Handed Out?  No  Yes

<b>H. Author/Requestor</b> <u>P. S. Blair</u> (Print and Sign)	<b>Responsible Manager</b> <u>N. H. Williams</u> (Print and Sign)
--	---

I. Reviewers	Yes	Print	Signature	Public Y/N (If N, complete J)
General Counsel	<input type="checkbox"/>	_____	_____	Y / N
Office of External Affairs	<input type="checkbox"/>	_____	_____	Y / N
DOE-RL	<input type="checkbox"/>	_____	_____	Y / N
Other	<input type="checkbox"/>	_____	_____	Y / N
Other	<input type="checkbox"/>	_____	_____	Y / N

**J. If Information Includes Sensitive Information and is not to be released to the Public indicate category below.**

<input type="checkbox"/> Applied Technology	<input type="checkbox"/> Protected CRADA
<input type="checkbox"/> Personal/Private	<input type="checkbox"/> Export Controlled
<input type="checkbox"/> Proprietary	<input type="checkbox"/> Procurement-Sensitive
<input type="checkbox"/> Business-Sensitive	<input type="checkbox"/> Patentable
<input type="checkbox"/> Predecisional	<input type="checkbox"/> Other (Specify) _____
<input type="checkbox"/> UCNI	

**Information Clearance Approval**

**K. If Additional Comments, Please Attach Separate Sheet**

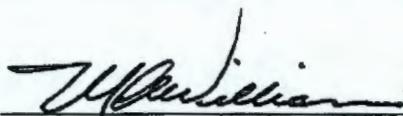
## RELEASE AUTHORIZATION

Document Number: HNF-SP-1104

Document Title: SPENT NUCLEAR FUEL MULTI-YEAR WORK PLAN

**This document, reviewed in accordance with DOE Order 241.1, "Scientific and Technical Information Management," and 241.1-1, "Guide to the Management of Scientific and Technical Information," does not contain classified or sensitive unclassified information and is:**

**APPROVED FOR PUBLIC RELEASE**



Mark A. Williams

1/15/99

Lockheed Martin Services, Inc.  
Document Control/Information Clearance

Reviewed for Applied Technology, Business Sensitive, Classified, Copyrighted, Export Controlled, Patent, Personal/Private, Proprietary, Protected CRADA, Trademark, Unclassified Controlled Nuclear Information.

**LEGAL DISCLAIMER.** This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof. This report has been reproduced from the best available copy. Printed in the United States of America.

# **Spent Nuclear Fuel**

## **Multi-Year Work Plan**

### **WBS #1.3**

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

Approved for public release; distribution is unlimited

# ACQUISITION ADVISORY BOARD/SITE MANAGEMENT BOARD DECISION SUMMARY

TITLE: Spent Nuclear Fuel Project - Tri-Party Agreement (TPA) Baseline

REQUESTED PRESENTATION DATE: October 26, 1998

PRIORITY	DECISION TYPE	
<input type="checkbox"/> EMERGENCY	<input type="checkbox"/> SITE DECISION	<input type="checkbox"/> PRODUCTIVITY PROPOSAL
<input type="checkbox"/> URGENT	<input checked="" type="checkbox"/> SITE BASELINE	<input type="checkbox"/> SPECIAL TOPIC
<input checked="" type="checkbox"/> ROUTINE	<input type="checkbox"/> FUNDS TRANSFER	<input type="checkbox"/> KEY DECISION

**SPONSOR:**

NAME	PHONE	ORG
C. A. Hansen	376-7434	AMW

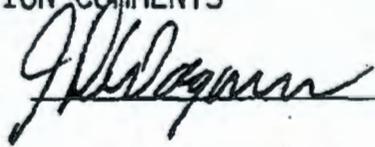
**ORIGINATORS:**

Elizabeth D. Sellers	376-7465	SFD
----------------------	----------	-----

### AAB DECISION/DISPOSITION COMMENTS

BOARD DECISION	
<input checked="" type="checkbox"/>	APPROVE
<input type="checkbox"/>	APPROVE W/CHANGES
<input type="checkbox"/>	DISAPPROVE
<input type="checkbox"/>	DEFER

SITE MANAGER: \_\_\_\_\_



DATE SIGNED: \_\_\_\_\_

12/14/98

DATE PRESENTED: \_\_\_\_\_

12/14/98

DISPOSITION COMMENTS: RECORD NOTE: DEACTIVATION WORKSCOPE (TP-09) WILL CONTINUE TO BE MANAGED BY SNF BUT WILL NOT BE MERGED INTO WM-01. THIS SUPERCEDES ORIGINAL PLAN IN SNF-18-015.



Department of Energy  
 Richland Operations Office  
 P.O. Box 550  
 Richland, Washington 99352

DEC 15 1998

99-PID-010

Mr. R. D. Hanson, President  
 Fluor Daniel Hanford, Inc.  
 Richland, Washington 99352

Dear Mr. Hanson:

CONTRACT NO. DE-AC06-96RL13200 - APPROVAL OF BASELINE CHANGE REQUEST (BCR) SNF-98-058 (REF: SNF-99-006) "SNF PROJECT TRI-PARTY AGREEMENT (TPA) BASELINE"

Enclosed is the above referenced BCR which has been approved. Funds allotted for the performance of this contract shall not be increased or considered to be increased due to this BCR. Should you have any questions regarding this matter, please contact Kerry Cameron on (509) 376-8035 or me on (509) 376-8948.

Sincerely,

*Sally A. Stracki*  
 Sally A. Stracki  
 Contracting Officer

PID:KDC

Enclosure

cc w/encl:  
 W. J. O'Neil, FDH  
 J. E. Filip, ICF KE

Post-It® Fax Note	7671	Date	# of pages ▶
To	Cindy Jakke	From	J. E. Filip
Co./Dept.		Co.	
Phone #		Phone #	
Fax #	376-7399	Fax #	

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

SPENT FUELS MYWP  
SPENT NUCLEAR FUEL PROJECT  
HNF-SP-1104  
REV 6

APPROVAL PAGE



---

**N. H. Williams, Project Director  
Spent Nuclear Fuel Project  
Fluor Daniel Hanford, Inc.**

11-17-98

**Date**

---

**C. A. Hansen, Assistant Manager  
for Waste Management  
U. S. Department of Energy  
Richland Operations Office**

---

**Date**

**Spent Nuclear Fuel  
Multi-Year Work Plan (MYWP)  
Table of Contents**



**MYWP Table of Contents**

***Project Summaries***

- 1.0 Technical Baseline**
- 2.0 Project Hanford Breakdown Structure (PHBS)**
- 3.0 Schedule Baseline**
- 4.0 Cost Baseline**
  - 4.1 Estimate Basis
  - 4.2 Summary of Life Cycle Cost Baseline (BCWS) by Project
  - 4.3 Summary of Life Cycle Budget Authority (B/A) by Project
  - 4.4 Cost Baseline (BCWS) for execution year by month by fund type
  - 4.5 Cost Baseline (BCWS)
- 5.0 Performance Measures/Metrics**

**Additional Project Baseline Summaries**

***RL-WM01***

- 1.0 Technical Baseline**
- 2.0 Work Breakdown Structure (WBS)**
  - 2.1 WBS Hierarchy
  - 2.2 WBS Dictionary
  - 2.3 Responsibility Assignment Matrix (RAM)
- 3.0 Schedule Baseline**
  - 3.1 Project Master Baseline Schedule (PMBS)
  - 3.2 Execution Year PMBS
  - 3.3 Milestones (DOE-HQ,RL,FO)
  - 3.4 Milestone Description Sheets (MDS)
- 4.0 Cost Baseline**
  - 4.1 Life Cycle Cost Baseline (BCWS) by PBS
  - 4.2 Life Cycle Budget Authority (B/A) by PBS
  - 4.3 Execution Year Cost Baseline

**RL WM02**

- 1.0 Technical Baseline – Draft**
- 2.0 Work Breakdown Structure (WBS)**
  - 2.1 WBS Hierarchy
  - 2.2 WBS Dictionary
  - 2.3 Responsibility Assignment Matrix (RAM)
- 3.0 Schedule Baseline**
  - 3.1 Project Master Baseline Schedule (PMBS)
  - 3.2 Execution Year PMBS
  - 3.3 Milestones (Doe-HW, RL, FO)
  - 3.4 Milestone Description Sheets (MDS)
- 4.0 Cost Baseline**
  - 4.1 Life Cycle Cost Baseline (BCWS) by PBS
  - 4.2 Life Cycle Budget Authority (B/A) by PBS
  - 4.3 Execution Year Cost Baseline by month by PBS by Fund Type

***Appendices***

- A- Special TPA Report**
- B- Project Priority List**
- C- Performance Enhancements**
- D- Performance Objectives and Measures (see Section 5.0)**
- E- MYWP Update Summary**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**DISCLAIMER**

This MYWP document reflects the Spent Nuclear Fuel Baseline as of November 12, 1998.

It is not intended to keep this document current, in hard copy format, to reflect future baseline change requests that will be approved throughout FY1999.

An up to date version of the SNF MYWP/Baseline, including all approved baseline changes will be maintained on the SNF Intranet Web Page.

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

### A.1.0 Technical Baseline

The MYWP technical baseline describes the work to be accomplished by the Project and the technical standards which govern that work.

#### A.1.1 Mission Statement

The Spent Nuclear Fuel (SNF) mission on the Hanford Site supports the Hanford Mission to clean up the Site by providing safe, economic, environmentally sound management of Site Spent Nuclear Fuel (SNF) in a manner which stages it to final disposition, and deactivating the associated facilities.

#### A.1.2 Boundary Diagram with Major Facilities

The following table identifies the major facilities that interface with this Project. The left column of the table identifies the major facilities that generate waste, materials, or infrastructure for this Project. The right column of the table identifies the major facilities that will receive waste and materials from this Project. The center column lists the major facilities managed by this Project.

**Table A-1 Spent Nuclear Fuel Boundary Diagram**

Major Input Interfaces	Project Facilities	Major Output Interfaces
External Interfaces Hanford Legacy Hanford Site Environmental System Interfaces 308 Facility 324 Facility 327 Facility 331 Facility CP General Purpose Office CP General Purpose Shop FFTF M-91 Facility Misc Radiological Laboratories RoR Electrical Distribution System RoR Road System RoR Telecommunications System RoR Water System Solid Waste Disposal T-Plant Facility	100 K Area Facilities Canister Storage Building 200 Interim Storage Area (ISA)	External Interfaces Hazardous Waste Disposal Contracts Idaho National Engineering Laboratory National Geologic Repository Hanford Site Environmental System Interfaces 200 Area Effluent Treatment Facility 222-S Laboratory Central Waste Complex Double Shell Tank (DST) System LERF Transfer System Low-Level Waste Burial Grounds PFP WSCF

#### A.1.3 Facility Responsibility Assignment Matrix

This section provides a table that identifies the sub-projects, major facilities, and the life cycle assignments.

**Table A-2 Facility Responsibility Assignment Matrix**

Facility	Life Cycle Phase *								
	Program Planning	Pre Conceptual	Conceptual	Execute			O&M	Close Out	
				Design	Construction	Turnover		Post Ops	D&D
100 K Area Facilities	RL-WM01						RL-WM01	RL-WM01	RL-ER06 RL-ER05
Canister Storage Building	RL-WM01 RL-TW09				RL-WM01 RL-TW09		RL-WM02 RL-TW09 RL-WM01	RL-WM02 RL-TW09	RL-WM02
200 Interim Storage Area (ISA)	RL-WM01				RL-WM01		RL-WM01 RL-WM02	RL-WM02	RL-WM02

\* RL PBS Identifier Index:

- RL-ER05 - Surveillance & Maintenance
- RL-ER06 - Decontamination & Decommissioning
- RL-TW09 - Immobilized Tank Waste Storage & Disposal
- RL-WM02 - Canister Storage Building Operations
- RL-WM01 - Spent Nuclear Fuel Project

### A.1.4 Project Planning Assumptions

This section contains the issues that affect the project. These include project specific issues, as well as site-level issues that have been assigned to the project for resolution. It also contains the assumptions that are used as a basis for the development of project plans until the issues are formally resolved with records of decision. The "Champion" column determines if the Project has lead responsibility or is an affected participant. If the champion belongs to the Project, the Project has the lead. If not, the Project is an affected participant. Project plans include appropriate activities and resources for resolving these issues.

**Table A-3 Project Issues And Assumptions**

	ISSUE	PLANNING ASSUMPTION	CHAMPION
1	<u>Land Use Plan 100</u> The end point for the 100 Areas has not been defined.	Soil sites remediated consistent with CERCLA-ROD cleanup standards. DOE will retain control of this land throughout the cleanup mission and will protect archaeological, cultural and environmental resources.  EPA will write RODs consistent with their default residential guidance until the HRA-EIS/CLUP has a NEPA-ROD or the local governments issue their land use plans for the Hanford site.	Bauer
2	<u>SNF Disposal Location</u> Disposal location and acceptance criteria for Hanford SNF disposal have not been firmly defined.	Final disposition at National Repository. No further processing of SNF necessary after interim storage and prior to disposal.	Hansen Williams
3	<u>Integration of CSB Operations and Construction Activities</u> The current schedule shows that construction activities on CSB vaults 2 & 3 (to support IHLW storage) occur during SNF fuel movement operations. This creates a risk of interference and possible delays in schedules.	1. The vaults 2 & 3 tube installation and stack construction can occur simultaneously with fuel movement. Accelerate funding into FY 99 to procure tubes and to install ventilation stacks before SNF operations.	Hansen/Kinzer Williams/Urnæk

### A.1.5 Risk Management

Mission Risk Management Plans are not available at this time, however, detailed risk analysis can be found in the following document:

WHC-SD-SNF-SEMP-001, Spent Nuclear Fuels Project Systems Engineering Management Plan, Revision 1, July 1996, Section 4.4, Risk Management, and Appendix C, Risk Management in the Spent Nuclear Fuel Project.

### A.1.6 Technical Issues Management List

This section identifies the site-level issues and planning assumptions from Section A.1.4 that have been assigned to the project for resolution. This section is used to delineate the site-level issues and planning assumptions from the project specific issues and planning assumptions.

**Table A-4 Site Technical Issues And Assumptions**

	ISSUE	PLANNING ASSUMPTION	CHAMPION
1	<u>Land Use Plan 100</u> The end point for the 100 Areas has not been defined.	Soil sites remediated consistent with CERCLA-ROD cleanup standards. DOE will retain control of this land throughout the cleanup mission and will protect archaeological, cultural and environmental resources.  EPA will write RODs consistent with their default residential guidance until the HRA-EIS/CLUP has a NEPA-ROD or the local governments issue their land use plans for the Hanford site.	Bauer
2	<u>SNF Disposal Location</u> Disposal location and acceptance criteria for Hanford SNF disposal have not been firmly defined.	Final disposition at National Repository. No further processing of SNF necessary after interim storage and prior to disposal.	Hansen Williams
3	<u>Integration of CSB Operations and Construction Activities</u> The current schedule shows that construction activities on CSB vaults 2 & 3 (to support IHLW storage) occur during SNF fuel movement operations. This creates a risk of interference and possible delays in schedules.	1. The vaults 2 & 3 tube installation and stack construction can occur simultaneously with fuel movement. Accelerate funding into FY 99 to procure tubes and to install ventilation stacks before SNF operations.	Hansen/Kinzer Williams/Umek

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

## A.2.0 Project Hanford Breakdown Structure (PHBS)

### A.2.1 PHBS Hierarchy

RL PBS	RL WBS	Title
	1.03	Spent Nuclear Fuel
RL-WM01	1.03.01	Spent Nuclear Fuel Project
	1.03.01.01	Project Management and Integration
	1.03.01.01.10	Spent Nuclear Fuel-Project Management and Integration
	1.03.01.01.20	Spent Nuclear Fuel-Project Fee
	1.03.01.02	100 K Area Facilities
	1.03.01.02.10	Maintain Safe & Compliant SNF Storage in K Basins
	1.03.01.02.15	Maintain Safe & Compliant Sludge, Debris and Water in K Basins
	1.03.01.02.20	Design/Modify/Construct Systems for Fuel Movement
	1.03.01.02.25	Operate SNF Removal Systems
	1.03.01.02.30	Design/Modify/Construct Sludge Removal System
	1.03.01.02.35	Operate and Maintain Sludge Removal System
	1.03.01.02.40	Maintain Safe & Compliant 100 K Area Facilities
	1.03.01.02.50	Transition 100 K Area Facilities
	1.03.01.03	Canister Storage Building
	1.03.01.03.10	Design/Construct Canister Storage Building
	1.03.01.03.20	Receive Defense Production Reactor Spent Nuclear Fuel
	1.03.01.04	200 Interim Storage Area (ISA)
	1.03.01.04.10	Design/Construct 200 Area Interim Storage Area
	1.03.01.04.20	Implement Site-Wide Interim Storage at 200 Area
	1.03.01.04.30	Operate & Maintain 200 Area Interim Storage Area
RL-WM02	1.03.02	Canister Storage Building Operations
	1.03.02.01	Canister Storage Building
	1.03.02.01.05	Store Defense Production Reactor SNF
	1.03.02.01.10	Disposition Defense Production Reactor SNF
	1.03.02.01.20	Maintain Safe & Compliant Canister Storage Building
	1.03.02.01.30	Transition Canister Storage Building
	1.03.02.01.40	Decontaminate and Decommission (D&D) Canister Storage Building
	1.03.02.02	200 Interim Storage Area (ISA)
	1.03.02.02.10	Store Site-Wide SNF
	1.03.02.02.20	Disposition Site-Wide SNF
	1.03.02.02.30	Maintain Safe & Compliant 200 Area Interim Storage Area
	1.03.02.02.40	Transition 200 Area Interim Storage Facility
	1.03.02.02.50	Decontaminate and Decommission (D&D) 200 Area Interim Storage Area



**THIS PAGE INTENTIONALLY  
LEFT BLANK**

#### 4.1 Basis of Estimate

The Spent Nuclear Fuel (SNF) project used Activity Based Cost (ABC) estimating methodology to develop the project's cost estimates and the corresponding Basis of Estimates (BOEs). The project used recognized cost estimating techniques including analogy, bottom-up/definitive, cost review and update, level of effort, parametric, trend analysis, and factoring. The level of effort technique was used sparingly and appropriately.

The SNF project's cost estimate was developed using an electronic database that enforces configuration control, consistent application of rates and adders, and consistent calculation and documentation methodologies. The database is located on a password controlled file server and features the ability to authorize user read/write or read only access at the table level.

A controlled copy of the BOEs and all supporting information is maintained by Project Controls in building 2751E.

The rates applied by the project are consistent with those published by the Chief Financial Office and approved by RL. The rates are selected and applied automatically by the database. The tables containing the rates are under configuration control and conform to the latest guidance from the Chief Financial Office and RL.

**THIS PAGE INTENTIONALLY  
LEFT BLANK**



EXHIBIT 1

**SPENT NUCLEAR FUEL  
SUMMARY OF LIFE CYCLE COST BASELINE (BCWS) BY YEAR  
BY PROJECT BASELINE SUMMARY (PBS)  
FY 1999  
(\$000s)**

MISSION WBS: 1.3

PBS TITLE	PBS NO	FY2007	FY2008	FY2009	FY2010	FY2011- FY2015	FY2016- FY2020	FY2021- FY2025	FY2026- FY2030	FY2031- FY2035	FY2036 FY2040	FY2041- FY2045	FY2046 FY2050	TOTAL FY1997- FY2050
SPENT NUCLEAR FUEL	RL-WM01	25,934	-	-	-	-	-	-	-	-	-	-	-	1,505,856
CANISTER STORAGE BUILDING OPNS	RL-WM02	3,154	5,655	3,357	3,594	85,368	162,428	158,205	176,391	196,666	219,273	28,551	6,093	1,061,155
<b>TOTAL BCWS/PMB<sup>1</sup></b>		<b>29,089</b>	<b>5,655</b>	<b>3,357</b>	<b>3,594</b>	<b>85,368</b>	<b>162,428</b>	<b>158,205</b>	<b>176,391</b>	<b>196,666</b>	<b>219,273</b>	<b>28,551</b>	<b>6,093</b>	<b>2,567,011</b>

<sup>1</sup>Budgeted <sup>1</sup>Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB).

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL  
SUMMARY OF BUDGET AUTHORITY (B/A) BY YEAR  
BY PROJECT BASELINE SUMMARY (PBS)  
FY 1999  
(\$000s)**

MISSION WBS :		1.3			
		TARGET B/A	CARRYOVER FROM	PRESIDENT'S BUDGET	PRESIDENT'S BUDGET PLUS CARRYOVER
PBS TITLE	PBS NO	FY1998	FY1998	FY1999	FY1999
SPENT NUCLEAR FUEL	RL-WM01	152,610	19,017	173,038	192,055
CANISTER STORAGE BUILDING OPNS	RL-WM02	-	-	-	-
<b>TOTAL B/A</b>		152,610	19,017	173,038	192,055

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

# Performance Objectives and Measures

## Spent Nuclear Fuel Mission

HSP Success Indicator/ Critical Success Factor	Strategic Outcome/Goal	Performance Objective	Output/Metric	EM Management Commitment	FY 1999	FY 2000	FY 2001	FY 97-06	End Point Target
<b>WM01</b> Reduced risk; reduced inventory; reduced mortgages	Spent Nuclear Fuel	All Hanford spent fuel consolidated in the 200 Areas in safe, cost effective, dry interim storage pending national decision on ultimate disposition	Complete construction and installation of K East Basin SNF Retrieval System	Yes			11/30/00		
			Complete construction and installation of K West Basin SNF Retrieval System	Yes	7/31/99				
			Complete construction of K East Basin integrated water treatment system to support SNF removal	Yes			2/28/01		
			Complete construction of K West Basin integrated water treatment system to support SNF removal	Yes	6/30/99				
			Complete first two bays of the Cold Vacuum Drying Facility construction and installation	Yes			10/31/99		
			Complete K East Cask Facility modifications	Yes				1/31/01	
			Complete K West Cask Facility modifications	Yes			9/30/99		

# Performance Objectives and Measures

## Spent Nuclear Fuel Mission

HSP Success Indicator/ Critical Success Factor	Strategic Outcome/Goal	Performance Objective	Output/Metric	EM Management Commitment	FY 1999	FY 2000	FY 2001	FY 97-06	End Point Target
<b>WM01</b> Reduced risk; reduced Inventory; reduced mortgages	Spent Nuclear Fuel	All Hanford spent fuel consolidated in the 200 Areas in safe, cost effective, dry interim storage pending national decision on ultimate disposition	Complete remaining bay(s) of the Cold Vacuum Drying Facility construction and installation	Yes	-	6/30/00			
			Initiate removal of K West Basin SNF	Yes			11/30/00		
			SNF fuel in disposition ready storage m3	No		7.29			
			SNF fuel in disposition ready storage MTHM	No		5.91			
			SNF fuel in stabilization process but not yet stabilized m3	No	276.44	276.44			
			SNF fuel in stabilization process but not yet stabilized MTHM	No	2105.7	2105.7			
			SNF stable fuel not disposition ready m3	No			60.59	276.44	

# Performance Objectives and Measures

## Spent Nuclear Fuel Mission

HSP Success Indicator/ Critical Success Factor	Strategic Outcome/Goal	Performance Objective	Output/Metric	EM Management Commitment	FY 1999	FY 2000	FY 2001	FY 97-06	End Point Target
<b>WM01</b> Reduced risk; reduced inventory; reduced mortgages	Spent Nuclear Fuel	All Hanford spent fuel consolidated in the 200 Areas in safe, cost effective, dry interim storage pending national decision on ultimate disposition	SNF stable fuel not disposition ready MTHM	No			530.49	2,105.7	
		Improve ES&H performance for all SNF project activities to benchmarked standards	Implement (by a declaration of readiness to proceed) an Integrated ES&H Mgmt System for the SNF Project	No	9/1/99				
		K Basin sludge/debris/water removed; K Basin contamination reduced to levels acceptable for transfer to the D&D Mission.	SNF fuel stabilized during the period m3	No			52.02	206.94	206.94
			SNF fuel stabilized during the period MTHM	No				530.49	2106.05
		Maintain financial and managerial control of the SNF project	Maintain cost/schedule variance within established thresholds	No	-5%CV/-7.5%SV	-5%CV/-7.5%SV	-5%CV/-7.5%SV		
Manage Hanford to achieve progress	Achieve mission progress in the most cost-effective manner	Obtain efficiencies in project performance	Demonstrate management improvements through periodic evaluations by an independent-outside group of mgmt experts	No 9/30/99					
<b>WM02</b> Reduced risk; reduced inventory; reduced mortgages	Spent Nuclear Fuel	All Hanford spent fuel consolidated in the 200 Areas in safe, cost effective, dry interim storage pending national decision on ultimate disposition	SNF fuel in disposition ready storage m3	No		7.29	65.25	235.07	

# Performance Objectives and Measures

## Spent Nuclear Fuel Mission

HSP Success Indicator/ Critical Success Factor	Strategic Outcome/Goal	Performance Objective	Output/Metric	EM Management Commitment	FY 1999	FY 2000	FY 2001	FY 97-06	End Point Target
<b>WM02</b> Reduced risk; reduced inventory; reduced mortgages	Spent Nuclear Fuel	All Hanford spent fuel consolidated in the 200 Areas in safe, cost effective, dry interim storage pending national decision on ultimate disposition	SNF fuel in disposition ready storage MTHM	No		5.91	539.97	2134.57	

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

## **B.1 Spent Nuclear Fuel Project (RL-WM01)**

### **B.1.1.0 Spent Nuclear Fuel Project Technical Baseline**

This section describes the technical baseline for this project. It identifies the mission, the end point targets, the site major facilities, technical logic, functions, requirements, and forecasts for this project.

#### **B.1.1.1 Spent Nuclear Fuel Project Mission**

This portion of the Spent Nuclear Fuel (SNF) Mission supports the Hanford Site Mission to clean up the Site by providing safe, economic, environmentally sound management of Site SNF in a manner which stages it to interim on-site storage, initiates interim storage, and deactivating the 100 K Area facilities. The SNF scope includes:

All the Hanford Site SNF, as defined in Hanford Spent Fuel Inventory Baseline, WHC-SD-SNF-TI-001. Sludge is considered SNF until removed from the K Basins.

K Basin facilities, associated operations, and equipment. This includes the basins, solid and particulate matter, water and associated basin and auxiliary support equipment and buildings, as well as N reactor and Single-Pass Reactor (SPR) fuel contained in the K Basins.

All the Hanford Site SNF stabilization, handling, and onsite transfer activities to achieve safe, interim storage. Retrieve all SNF at the K Basins for packaging, stabilization, and transportation to interim storage. Remove and transfer sludge and debris at the K Basins to disposition.

All new or modified Hanford Site SNF facilities (Cold Vacuum Drying (CVD), Canister Storage Building (CSB)) associated with receipt, stabilization and interim storage before staging for final disposition. Acquire SNF interim storage facilities. Operate interim storage facilities until the SNF from the K Basins is stored in a dry configuration.

Transfer and transport of SNF from custodian facilities to SNF facilities. Manage and integrate activities associated with SNF from locations on the Hanford Site other than the K Basins, including the other SNF at the Hanford Site. Operating the complex which includes the CSB and 200 Area Interim Storage Area.

Management and integration of activities at the 100 K Area until the SNF, debris, and sludge have been removed from the K Basins. Characterization of the SNF and sludge at the K Basins. Treatment of the water at the K Basins until the SNF, sludge, and debris are removed.

Accomplishment of all SNF activities safely, efficiently, in compliance with applicable regulations, and with the involvement of stakeholders.

Deactivation of the K Basins and interim stabilization and storage facilities to a condition that meets requirements for transfer to the organization(s) responsible for final disposition of these facilities. Performance of activities that foster facility deactivation at no additional cost to SNF. Perform deactivation planning associated with existing and future SNF facilities. Deactivation activities associated with existing and future SNF facilities.

#### **B.1.1.2 Spent Nuclear Fuel Project End Point Targets from Hanford Strategic Plan**

- Spent fuels consolidated in the 200 Area in safe, stable, cost-effective interim storage pending national decisions on their ultimate disposition.
- Provide safe, stable, interim storage for nuclear materials in the 200 Area pending decisions on their ultimate disposition.
- Spent fuel removed and K-Basins cleaned sufficient to transition to D&D.
- Drain, decontaminate, and stabilize K-Basins Facility.

### **B.1.1.3 Spent Nuclear Fuel Project Major Facilities**

#### **B.1.1.3.1 100 K Area Facilities**

##### **B.1.1.3.1.1 100 K Area Facilities Description**

The scope of the 100 K Area facilities includes the K Basins, Cold Vacuum Drying (CVD) Facility, the Multi-Canister Overpacks, Cask/Transportation System, Fuel Retrieval System, Debris Removal, Water Treatment, Sludge and ancillary support facilities.

SNF Sub-Project Boundaries:

Cold Vacuum Drying (CVD) Sub-Project Boundaries:

The Cold Vacuum Drying (CVD) operations confines the Multi Canister Overpack (MCO)/Cask, drains the bulk water, and delivers an MCO containing dried fuel to the Cask/Transportation System (CTS) for shipment to the Canister Storage Building (CSB). Water drained from the MCO is conditioned and transported back to the KW Basin water system. The CVD sub-project acquires the required process system, supporting equipment, and facilities required to perform these operations.

The CVD subproject completion occurs upon satisfactory completion of acceptance testing and the CVD is turned over to operations, FY 2000. CVD completion occurs when all K Basins fuel is dried and forwarded to the CSB, FY 2004.

Multi-Canister Overpacks (MCO) Sub-Project Boundaries:

The Multi Canister Overpack system (MCO) provides a container or containment boundary with known integrity for Spent Nuclear Fuel (SNF). The MCO system provides empty MCOs for use by the Canister Storage Building (CSB), empty fuel baskets and fuel scrap baskets for use by the Fuel Retrieval System (FRS), and empty fuel scrap baskets for use by the Sludge Removal System (SRS), as required. The MCO supplies shield plugs and dip tubes to the K Basins. The MCO provides leak test apparatus for the long process tube installation; seal face cleaning tools; MCO shield plug lift fixture; lifting & locking ring handling and closure tool; and a handling tool storage rack and calibration device to K Basins. The MCO provides leakage rate testing equipment to the Cold Vacuum Drying. To the Canister Storage Building, the MCO provides empty MCO unloading and staging equipment; MCO loading equipment for loading MCOs into the cask; leakage rate testing equipment for mechanical seals and welded cover cap; welding equipment technology for MCO closure weld; and weld testing equipment technology.

The MCO subproject completion occurs upon satisfactory acceptance testing, and the last MCO and Basket are delivered, FY 2002. The MCO system completion occurs when the last MCO is sealed and accepted in the Canister

Storage Building, FY 2004.

#### Cask/Transportation System (CTS) Sub-Project Boundaries:

The Cask/Transportation System (CTS) transports empty Multi Canister Overpack (MCO) /casks from the Canister Storage Building (CSB) to the K Basins. Upon arrival, the system provides for moving the empty cask/MCO from the transport and placing it in the K Basins loadout pit. The CTS loads baskets containing fuel into MCOs, removes the MCO/cask from the basins loadout pit, moves the cask to the Cold Vacuum Drying (CVD) facility. The CTS supports the cask/MCO/fuel during the CVD process and transports the loaded cask containing processed fuel from the K Basins to the CSB. The CTS receives MCO water, cask flush water, and rinse water from the Integrated Water Treatment System (IWTS) and returns flush water. The CTS subproject provides the systems and equipment needed to perform these operations. Decontamination solid waste generated during CTS operations is provided to K Basins solid waste for disposition. The CTS acquires new systems, equipment, and modifies existing facilities to enable these operations to be performed.

The CTS subproject completion occurs upon satisfactory completion of acceptance testing and the CTS is turned over to operations; KW, FY 2000 and KE, FY 2001. The CTS operations completion occurs when all filled MCOs are provided to the CSB, FY 2004.

#### Fuel Retrieval System (FRS) Sub-Project Boundaries:

The Fuel Retrieval System (FRS) retrieves K Basins SNF, cleans the SNF, and loads SNF into Multi Canister Overpack system (MCO) baskets. The loaded baskets are transported to the MCO loading queue. The FRS receives fuel baskets and scrap baskets from the MCO system. The FRS receives fuel pieces and separated fuel from the Sludge Removal System (SRS). The FRS receives process and basin water from the Integrated Water System (IWTS), and returns contamination control water. The FRS provides filled MCO baskets and scrap baskets to the Cask/Transportation System (CTS) at the MCO loading queue. The FRS provides empty fuel canisters and in-canister debris to the Debris Removal System (DRS). The FRS acquires new systems, equipment, and modifies existing facilities to enable these operations to be performed.

The FRS subproject completion occurs upon satisfactory completion of acceptance testing and the FRS is turned over to operations, KW Basin in FY 1999, and KE Basin in FY 2001. The FRS completion occurs when fuel, including separated fuel and screened fuel pieces, are loaded into baskets and placed in the MCO loading queue, FY 2004.

#### Debris Removal System (DRS) Sub-Project Boundaries:

The Debris Removal System (DRS) cleans, sizes, and packages debris for transfer to the solid waste program. The DRS clears those areas needed for access to remove sludge and fuel from the basins. The DRS processes debris generated by fuel retrieval operations. Remaining debris will be removed as part of facility transition. The DRS receives wash water and loadout water from the K Basins water system and returns contaminated water. The DRS receives fuel canisters and other debris from the Fuel Retrieval System. The DRS transfers debris waste materials to K Basin solid waste handling. The DRS subproject provides the systems and equipment needed to perform these operations.

The DRS subproject completion occurs upon satisfactory completion of acceptance testing and the DRS is turned over to operations, FY 2004. The DRS completion occurs when underwater debris is removed from the KE and KW Basins, FY 2005.

#### Integrated Water Treatment System (IWTS) Sub-Project Boundaries:

The Integrated Water Treatment System (IWTS) provides water filtration and treatment necessary to maintain water quality, collecting and treating contaminated water, and contaminated water control in the K Basins. The IWTS provides wash water and loadout water to the Debris Removal System (DRS); process water to the Fuel Retrieval System (FRS); Multi-Canister Overpack (MCO) water; cask flush and rinse water; and, Sludge Removal System (SRS) process water supply. The IWTS manages sludge during fuel retrieval, transferring sludge from the water system to the SRS. The IWTS receives filtered water supply and transfers level control water to liquid effluents. The IWTS receives contaminated control water from the FRS; contaminated water from the DRS; flush water from the Cask Transportation System; drained water from Cold Vacuum Drying (CVD), KW Basin only; excess sludge retrieval water; SRS flush water; and, retrieved K Basin sludge. Solid waste from IWTS operations are dispositioned via K Basin solid waste handling. The IWTS subproject provides facility modifications, systems and equipment needed to perform these operations.

The IWTS subproject completion occurs upon satisfactory completion of acceptance testing and the IWTS is turned over to operations, FY 1999 and FY 2001, for KW Basin and KE Basin respectively. The IWTS completion occurs when fuel and sludge are removed from the K Basins, FY 2005.

#### Sludge Removal System (SRS) Sub-Project Boundaries:

The Sludge Removal System is composed of two projects, the Sludge Removal Project, and the Sludge Treatment Project. The Sludge Removal Project acquires the KE and KW sludge retrieval systems and loadout systems, project management, facility modifications, system design, design, procurement, fabrication, installation, acceptance testing, and turnover to operations. The Sludge Treatment Project includes acquisition of the Sludge Treatment System, Tank Waste Remediation System (TWRS) Receiving Station, and intersite Transportation System. This includes system definition, design, fabrication, installation, acceptance testing, and turnover to operations, and Project Management.

The Sludge Removal System retrieves and stages sludge from the basin floor via the K Basins water system. The SRS receives sludge that is removed from the fuel and canisters from the fuel retrieval operations via the Integrated Water Treatment System. Fuel pieces identified during sludge removal operations are returned to the Fuel Retrieval System via scrap holders provided by the Multi Canister Overpack (MCO) system. The SRS removes sludge from the basins, preparing and loading a sludge transporter in which the sludge is transferred to and off loaded at the Tank Waste Remediation System. The empty sludge transporter is returned to the K Basins. The SRS subproject provides the facility modifications, systems, and equipment needed to perform these operations.

The SRS subproject completion upon satisfactory completion of acceptance testing and the SRS is turned over to operations, FY 2001 for KE floor retrieval, FY 2004 for loadout (KE & KW), and FY 2004 for removal (KE & KW). The SRS completion occurs when sludge is off loaded at the Tank Waste Remediation System, FY 2005.

#### B.1.1.3.1.2 100 K Area Facilities Technical Logic:

The Department of Energy (DOE), in partnership with its contractors, shall plan, acquire, operate, maintain, and dispose of physical assets as valuable national resources. Stewardship of these physical assets shall be accomplished in a cost-effective manner to meet the DOE mission. This shall incorporate industry standards, a graded approach, and performance objectives.

This diagram displays the primary work activities (functions) that are performed in each life cycle phase of the facility. The diagram also reflects the technical logic (functional flow) for the facility through its remaining life cycle phases.

Project responsibility for the life cycle phases of the 100 K Area Facilities components are assigned as follows:

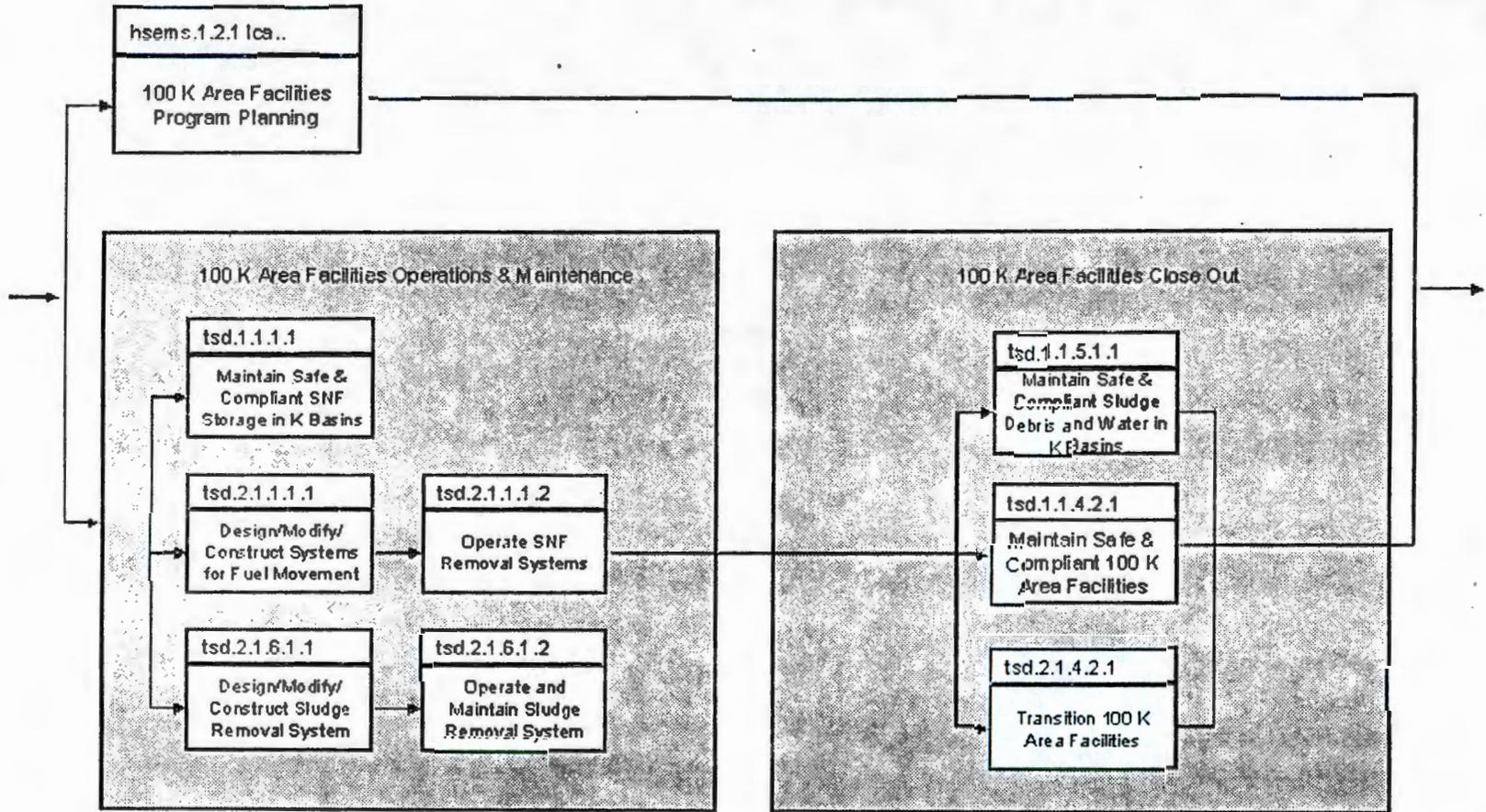
**Table B.1-1 Responsibility Assignment Matrix for 100 K Area Facilities**

Facility	Life Cycle Phase *								
	Program Planning	Pre Conceptual	Conceptual	Execute			O&M	Close Out	
				Design	Construction	Turnover		Post Ops	D&D
100 K Area Facilities	RL-WM01						RL-WM01	RL-WM01	RL-ER06 RL-ER05

\* RL PBS Identifier Index:

- RL-ER05 - Surveillance & Maintenance
- RL-ER06 - Decontamination & Decommissioning
- RL-WM01 - Spent Nuclear Fuel Project

Figure B.1\_1 100 K AREA FACILITIES



□ Facility life cycle phase

B.1.1-6

Fluor Daniel Hanford  
HNF-SP-1104  
Rev: 6  
Spent Fuels MYWP

11 November 1998

### B.1.1.3.1.3 100 K Area Facilities Life Cycle Functional Descriptions and Requirements

The Life Cycle Functional Descriptions table describes the life cycle phases and the functions performed during each phase. The Life Cycle Requirements table describes the requirements that trace to the functions listed in the Life Cycle Functional Descriptions table.

**Table B.1-2 100 K Area Facilities Life Cycle Functional Descriptions**

<p><b>hsems.1.2.1.Icam.1 100 K AREA FACILITIES PROGRAM PLANNING</b></p>
<p><b>hsems.1.2.1.Icam.5 100 K AREA FACILITIES OPERATIONS &amp; MAINTENANCE</b></p>
<p><b>tsd.1.1.1.1 Maintain Safe &amp; Compliant SNF Storage in K Basins</b>        Ongoing operations and maintenance assures safe storage of the K Basins SNF. This function includes all activities and facilities required to directly support the minimum safe operations of the basins during the Operations and Maintenance phase, including material and facility surveillance, radiological control, material and waste handling, safeguards and security, maintenance, operation of utility systems, planning/scheduling, engineering, training and assessments. This includes fuel from the Plutonium-Uranium Extraction Plant and from N Basin, if any is found there.</p>
<p><b>tsd.2.1.1.1.1 Design/Modify/Construct Systems for Fuel Movement</b>        This function includes the acquisition, installation, and startup of facilities and equipment necessary to support removal of the K Basins SNF and repackaging into Multi-Canister Overpacks (MCOs) for downstream fuel handling and storage. This function includes systems necessary for drying the fuel to remove free water from MCOs containing K Basins SNF to enable safe transport to and staging in the CSB. This function includes systems necessary to treat water contained in the basins to maintain water quality and safe conditions within the K Basins. Facility upgrades are performed to repair, replace, and modify essential K Basins infrastructure to maintain safe operations and to facilitate fuel removal from the K Basins, including dose reduction and modifications to support the cask/transportation system. Provides all facilities, equipment, software, and related items needed for all work activities, including systems, subsystems, components, and structures. Defines, designs, procures, constructs, and tests line item projects, major system acquisitions, general plant projects, modifications, and upgrades to facilities and systems. Includes Essential K Basin Upgrades, Dose Reduction, Fuel Retrieval, Cold Vacuum Drying, Integrated Water Treatment, Debris Removal, Multi-Canister Overpack (MCO), and Cask/Transportation System. Facility upgrades are performed to repair, replace and modify essential K Basin infrastructure to maintain safe operations and to facilitate fuel removal from K Basins, including dose reduction and modifications to support the cask transportation system.</p>
<p><b>tsd.2.1.1.1.2 Operate SNF Removal Systems</b>        Perform the Remove, Repackage, and Dry K Basins SNF functions. Includes operation of the Fuel Removal and supporting Systems including; MultiCanister Overpacks, Cold Vacuum Drying, Cask Transportation, Dose Reduction, Debris Removal and IWTS. This function includes all activities necessary to support removal of the K Basins SNF and repackaging into Multi-Canister Overpacks (MCOs) for downstream fuel handling and storage, including fuel retrieval, MCO, cask/transportation, facility upgrades, Integrated Water Treatment System (IWTS), and Cold Vacuum Drying. The SNF retrieval process, located within each Basin pool, removes fuel elements from existing canisters cleans them, and loads them into separate baskets prior to placement in the MCO. The MCO will provide primary confinement for fuel elements during transport, conditioning, and storage. The cask/transportation system will be utilized to load tier baskets into MCOs and transfer the loaded MCO/cask to the CVD facility and to the CSB. This function includes activities necessary for drying the fuel to remove free water from MCOs containing K Basins SNF to enable safe transport to and staging in the CSB. This function includes activities necessary to treat water contained in the basins to maintain water quality and safe conditions within the K Basins. This function includes transferring the full or empty package (MCO, cask) between the K Basins facility, CVD and the CSB. Also included are all steps required to declare facility and system readiness. Includes trained and qualified staff to perform required tasks for processing and storage of SNF.</p>
<p><b>tsd.2.1.6.1.1 Design/Modify/Construct Sludge Removal System</b>        Manage, define, design, fabricate, and modify existing facilities and systems; procure, test, deliver, obtain approvals and permits, and accept the sludge removal system and equipment to support transfer of sludge from the K Basins to the tank farms. Provide all new intellectual and physical resources, including personnel, consultants, services, supplies, equipment, operational documentation, construction, and subcontracts of all kinds.</p>

**Table B.1-2 100 K Area Facilities Life Cycle Functional Descriptions (Continued)**

	<p><b>tsd.2.1.6.1.2 Operate and Maintain Sludge Removal System</b>  Receives, retrieves, stages, and processes sludge. Prepare sludge for offloading to tank farms. Transfers the conditioned sludge to the receiving facilities. Operate and maintain the K Basins sludge removal systems and equipment.</p>
<p><b>hsems.1.2.1.1cam.6.1 100 K AREA FACILITIES POST OPERATIONS</b></p>	
	<p><b>tsd.1.1.4.2.1 Maintain Safe &amp; Compliant 100 K Area Facilities</b>  Following the Operations and Maintenance phase, maintain the 100 K Area facilities, structures, operating systems and equipment, and monitoring systems within the approved safety and compliance requirements until the facilities are made available for Decontamination and Decommissioning.</p>
	<p><b>tsd.1.1.5.1.1 Maintain Safe &amp; Compliant Sludge, Debris and Water in K Basins</b>  Following the Operations and Maintenance phase, K Basins sludge, debris and water will be maintained in safe condition until removed for disposal or treatment.</p>
	<p><b>tsd.2.1.4.2.1 Transition 100 K Area Facilities</b>  Perform the facility transition phase and initiate decontamination and deactivation for K Basins, including debris removal, basin water removal, and tritium reduction process. Also included are the remaining systems upon removal of sludge and SNF. Transfers the deactivated K Basins to D&amp;D.</p>

**Table B.1-3 100 K Area Facilities Life Cycle Requirements**

Requirement	Function
The SNF Project shall also remove sludge and debris from the basins and treat water in the basins as needed to maintain water quality and reduce tritium levels	tsd.2.1.6.1.1
The SNF Project shall retrieve sludge (50 to 70 m3) from the K Basins. Sludge shall be considered SNF until it has been removed from the K Basins. Sludge that is removed from the K Basins by a sludge retrieval process shall be handled as mixed waste after removal from the basins.	tsd.2.1.6.1.1
The SNF Project will transfer secondary waste streams generated by project activities (such as solid LLW, TRU solid waste, and liquid effluents) for storage or disposal on the Hanford Site.	tsd.1.1.1.1 tsd.1.1.4.2.1 tsd.1.1.5.1.1 tsd.2.1.1.1.2 tsd.2.1.4.2.1 tsd.2.1.6.1.1
Remove sludge and debris from the K Basins for disposition with other Hanford Site wastes and materials.	tsd.2.1.6.1.1
Treat water contained in the basins to maintain water quality and safe conditions within the basins and to reduce tritium levels.	tsd.1.1.5.1.1 tsd.2.1.4.2.1
Acquire and operate systems and facilities to achieve Tri-Party Agreement M-34-00 milestones for initiation and completion of fuel and sludge removal and tritium level reductions and in accordance with DNFSB Recommendation 94-1 implementation agreements (DNFSB 1994a) as documented in HNF-EP-0853, Hanford Site Integrated Stabilization Management Plan (McCormack 1997).	tsd.2.1.1.1.1 tsd.2.1.1.1.2 tsd.2.1.6.1.1 tsd.2.1.6.1.2
Reactors on the River facilities shall be transitioned to a low cost, stable, deactivated condition.	tsd.2.1.4.2.1
100 K Area Facilities shall be stabilized and cleaned sufficient to transition to decontamination and decommissioning.	tsd.2.1.4.2.1
Spent Nuclear Fuel shall be removed from the K Basins.	tsd.2.1.1.1.1 tsd.2.1.1.1.2
Sludge (50 to 70 m3) shall be removed from the K Basins. Sludge shall be considered SNF until it has been removed from the K Basins. Sludge that is removed from the K Basins by a sludge retrieval process shall be handled as mixed waste after removal from the basins.	tsd.2.1.6.1.2
Debris shall be removed from the 100 K Area Facilities.	tsd.2.1.4.2.1
Contaminated equipment shall be removed from the 100 K Area Facilities.	tsd.2.1.4.2.1
Reactors on the River gaseous effluent releases shall be monitored	tsd.1.1.4.2.1
100 K Area Facilities shall be surveilled and maintained within the approved safety envelope	tsd.1.1.1.1 tsd.1.1.4.2.1 tsd.1.1.5.1.1

**Table B.1-3 100 K Area Facilities Life Cycle Requirements (Continued)**

Requirement	Function
Spent Nuclear Fuel removed from the K Basins shall be stabilized for cost effective, interim, dry, onsite storage.	tsd.2.1.1.1.1 tsd.2.1.1.1.2
Spent Nuclear Fuel removed from the K Basins shall be packaged for cost effective, interim, dry, onsite storage.	tsd.2.1.1.1.1 tsd.2.1.1.1.2
Water contained in the 100 K Area Facilities shall be treated to maintain water quality and safe conditions within the basins and to reduce tritium levels.	tsd.1.1.5.1.1 tsd.2.1.4.2.1
Complete actions specified by agreed interim milestones related to remediation of the K-East basins. Due Date: TBD	tsd.2.1.4.2.1
Contaminated K-East basin water will be removed for treatment. Due Date TBD.	tsd.2.1.4.2.1
The Contractor shall provide management and integration of activities required to reduce the risk from and the cost of spent fuel on the site. Several types of spent fuel are present at Hanford. The largest volume of material is the spent N-Reactor fuel currently stored in K Basins. Almost 7,500 canisters of fuel containing 2100 MT are stored at the 100-K Basins, approximately 3,800 of them in the KW Basin, and approximately 3,600 in the KE Basin.	tsd.1.1.1.1
Remove fuel, sludge, associated equipment, and debris from the K-Basins.	tsd.2.1.6.1.1

**B.1.1.3.1.4 100 K Area Facilities Boundary Diagram**

This section identifies the other facilities (onsite and offsite) that have an interface (either input or output) with this facility.

**Table B.1-4 100 K Area Facilities Boundary Diagram**

Major Input Interfaces	Facility	Major Output Interfaces
External Interfaces Hanford Legacy Hanford Site Environmental System Interfaces 327 Facility 331 Facility CP General Purpose Office CP General Purpose Shop Misc Radiological Laboratories RoR Electrical Distribution System RoR Road System RoR Telecommunications System RoR Water System	100 K Area Facilities	External Interfaces Hazardous Waste Disposal Contracts Hanford Site Environmental System Interfaces 200 Area Effluent Treatment Facility 222-S Laboratory Canister Storage Building Central Waste Complex Double Shell Tank (DST) System LERF Transfer System Low-Level Waste Burial Grounds WSCF

**B.1.1.3.1.5 100 K Area Facilities Interface Descriptions and Summary Level Forecasts**

This section contains the material, waste, and infrastructure forecasts for this facility. It identifies the interface type, the period of time for the forecasts, the life cycle total forecast value, and the execution year forecast quantity.

**OFFSITE INPUTS**

**Table B.1-5 Offsite Inputs for 100 K Area Facilities**

Stream	Category	Period	Total	FY99	Units
X.0 Hanford Legacy					
Legacy Sludge/Debris/Basin Water in K Basins	Spent Nuclear Fuel (SNF)	1999 - 1999	70.0	70.0	Cubic Meters
Legacy K Basin SNF	Spent Nuclear Fuel (SNF)	1999 - 1999	2100	2100.0	MTHM

**ONSITE INPUTS**

**Table B.1-6 Onsite Inputs for 100 K Area Facilities**

Stream	Category	Period	Total	FY99	Units
<b>hsems.1.2.1 100 K Area Facilities</b>					
Legacy Sludge/Debris/Basin Water in K Basins	Spent Nuclear Fuel (SNF)	1999 - 1999	70.0	70.0	Cubic Meters
<b>hsems.4.5.4 327 Facility</b>					
327 Facility SNF Canisters	Spent Nuclear Fuel (SNF)	2000 - 2000	0.425		MTHM
<b>hsems.4.5.7 Misc Radiological Laboratories</b>					
Radioactive Standards (Calibrations) for SNF	Radioactive Standards Lab Services			1300.0	calibrations
Bioassay and Dosimetry Services for SNF	Bioassay and Dosimetry Services			1900.0	samples
<b>hsems.4.6.1 331 Facility</b>					
Biological Laboratory Services for SNF	Biological Laboratory Services			493.0	samples
<b>hsems.5.1.2.1 RoR Water System</b>					
Raw Water for SNF	Raw Water			0.0	Mgal
Potable Water for SNF	Potable Water			0.7	Mgal
<b>hsems.5.1.4.1 RoR Electrical Distribution System</b>					
Electricity for SNF	Electricity			34.0	MW-hr
<b>hsems.5.1.5.1 RoR Telecommunications System</b>					
Telephone Services for 100 K Facilities	(none forecasted)				
<b>hsems.5.2.2.1 CP General Purpose Office</b>					
Office Space (Leased) for SNF	Office Space (Infrastructure Owned)			0.0	sq. ft.
	Office Space (Program Owned)			0.0	sq. ft.
<b>hsems.5.2.3.1 CP General Purpose Shop</b>					
Lifting (Cranes) for SNF	Lifting Services			60.0	crane days
Building Maintenance for SNF	Maintenance Services (Other)			0.0	sq. ft.
Custodial Services for SNF	Custodial Services			26000.0	sq. ft.
Fab Shop Services for SNF	Fabrication Services (Other)			100.0	labor-hrs
<b>hsems.5.3.1.1 RoR Road System</b>					
Sedans/Light Trucks for SNF	Sedans/Light Trucks			32.0	no. of vehicles
Heavy Trucks for SNF	Heavy Trucks			3400.0	vehicle-hrs
Hanford Road Sys. Heavy Traffic for SNF	Hanford Road System (Heavy Traffic)			340.0	truck loads
Heavy Equipment for SNF	Heavy Equipment (Other)			0.0	equipment days

**OFFSITE OUTPUTS**

**Table B.1-7 Offsite Outputs for 100 K Area Facilities**

Stream	Category	Period	Total	FY99	Units
<b>X Hazardous Waste Disposal Contracts</b>					
K Basin HAZ waste	HAZ	1999 - 2001	3.85	1.28	cubic meters

**ONSITE OUTPUTS**

**Table B.1-8 Onsite Outputs for 100 K Area Facilities**

Stream	Category	Period	Total	FY99	Units
<b>hsems.1.2.1 100 K Area Facilities</b>					
K Basin Level Control Water	Waste Water	2001 - 2005	1230		cubic meters
Legacy Sludge/Debris/Basin Water in K Basins	Spent Nuclear Fuel (SNF)	1999 - 1999	70.0	70.0	Cubic Meters
K Basin Deactivation Wastewater	Waste Water	2005 - 2006	9080		cubic meters
<b>hsems.2.2.5.3 200 Area Effluent Treatment Facility</b>					
ETF Treated Liquid Effluent	LLW (Liquid)	2002 - 2003	28000		cubic meters
<b>hsems.2.2.16.2 LERF Transfer System</b>					
K Basin Level Control Water	Waste Water	2001 - 2005	1230		cubic meters
K Basin Deactivation Wastewater	Waste Water	2005 - 2006	9080		cubic meters
<b>hsems.2.3.1.2 Double Shell Tank (DST) System</b>					
SNFSLG, HLW	HLW	2002 - 2002	70.0		cubic meters

**Table B.1-8 Onsite Outputs for 100 K Area Facilities (Continued)**

Stream	Category	Period	Total	FY99	Units
<b>hsems.2.3.3 Canister Storage Building</b>					
K Basin Spent Nuclear Fuel (none forecasted)					
<b>hsems.2.3.5.1 Central Waste Complex</b>					
K Basin Deactivation, CH LLMW I	CH LLMW I	2004 - 2005	29.0		cubic meters
K Basin Deactivation, RH TRU	RH TRU	2004 - 2005	3.59		cubic meters
K Basin Deactivation, CH TRU	CH TRU	2004 - 2005	14.1		cubic meters
K Basin Deactivation, CH-LLW-I	CH LLW I	2002 - 2005	832.0		cubic meters
K OPER, RH-LLMW-III	(none forecasted)				
K PROJECT, CH-TRU	CH TRU	1999 - 2001	41.6	13.8	cubic meters
K OPER, RH-TRU	RH TRU	1999 - 1999	60.9	60.9	cubic meters
K Project, CH LLW I	CH LLW I	1999 - 2001	259.0	129.0	cubic meters
K OPER, CH-LLW-III	CH LLW III	1999 - 2001	833.0	310.0	cubic meters
K OPER, CH-LLMW-I	CH LLMW I	1999 - 2001	3.08	1.02	cubic meters
K Basins, CH-LLW-I	CH LLW I	1999 - 2001	457.0	152.0	cubic meters
K PROJECT, CH-LLW-III	(none forecasted)				
<b>hsems.2.4.1.1 Low-Level Waste Burial Grounds</b>					
K Project, CH LLW I	CH LLW I	1999 - 2001	259.0	129.0	cubic meters
K PROJECT, CH-LLW-III	(none forecasted)				
K OPER, CH-LLW-III	CH LLW III	1999 - 2001	833.0	310.0	cubic meters
K Basins, CH-LLW-I	CH LLW I	1999 - 2001	457.0	152.0	cubic meters
K Basin Deactivation, CH-LLW-I	CH LLW I	2002 - 2005	832.0		cubic meters
<b>hsems.2.5.1 222-S Laboratory</b>					
Analytical Laboratory Services for SNF	Analytical Laboratory Services			7680.0	samples
<b>hsems.2.5.2 WSCF</b>					
In-Field Laboratory Services for SNF	In-Field Laboratory Services			6.0	samples

### B.1.1.3.2 Canister Storage Building

#### B.1.1.3.2.1 Canister Storage Building Description

The CSB is a reinforced-concrete vault structure with storage tubes to be used for MCOs holding K Basins SNF. The CSB provides safe interim storage of irradiated fuel at Hanford. The CSB contains three vaults. Vault 1 will be for storage of K Basins fuel. Vaults 2 and 3 will be used by the TWRS Project for the storage of immobilized high-level waste from the Tank Waste Remediation System.

Functions performed in the CSB are identified in the following figure. Functions within Project Baseline Summary (PBS) element RL-WM01 includes CSB construction and initiation of SNF interim storage.

Functions performed within the scope of Program Baseline Summary (PBS) element RL-WM02 includes interim storage of K Basins SNF. Storage of Shippingport PWR Core 2 fuel assemblies is also included with the scope of CSB functions, in addition to disposition of SNF, CSB transition, Decontamination & Decommissioning, and transferring the CSB to Environmental Restoration.

Canister Storage Building (CSB) Sub-Project Boundaries:

The Canister Storage Building (CSB) operations provide interim storage of MCOs filled with SNF and load empty Multi Canister Overpacks (MCOs) into the cask for return to the K Basins via the Cask and Transportation System (CTS). The CSB also receives new MCOs (empty) provided by the MCO System for insertion into the casks. The CSB transfers ventilation condensate to liquid effluent disposal and solid waste to solid waste burial. The CSB stores PWR Core 2 (Shippingport) fuel assemblies received from T-Plant. The CSB receives and repackages other SNF, returning repackaged Site-Wide SNF to the 200 Area Interim Storage Area (ISA) for interim storage. SNF is dispositioned offsite at the national repository. The CSB subproject provides the facilities, systems, and equipment to perform these operations.

CSB completion occurs when stored SNF is transferred to the national repository, FY 2040, and the D&D CSB facilities are turned over to ER. The CSB subproject completion occurs upon satisfactory completion of acceptance testing and the CSB is turned over to operations, FY 1999.

**B.1.1.3.2.2 Canister Storage Building Technical Logic:**

The Department of Energy (DOE), in partnership with its contractors, shall plan, acquire, operate, maintain, and dispose of physical assets as valuable national resources. Stewardship of these physical assets shall be accomplished in a cost-effective manner to meet the DOE mission. This shall incorporate industry standards, a graded approach, and performance objectives.

This diagram displays the primary work activities (functions) that are performed in each life cycle phase of the facility. The diagram also reflects the technical logic (functional flow) for the facility through its remaining life cycle phases.

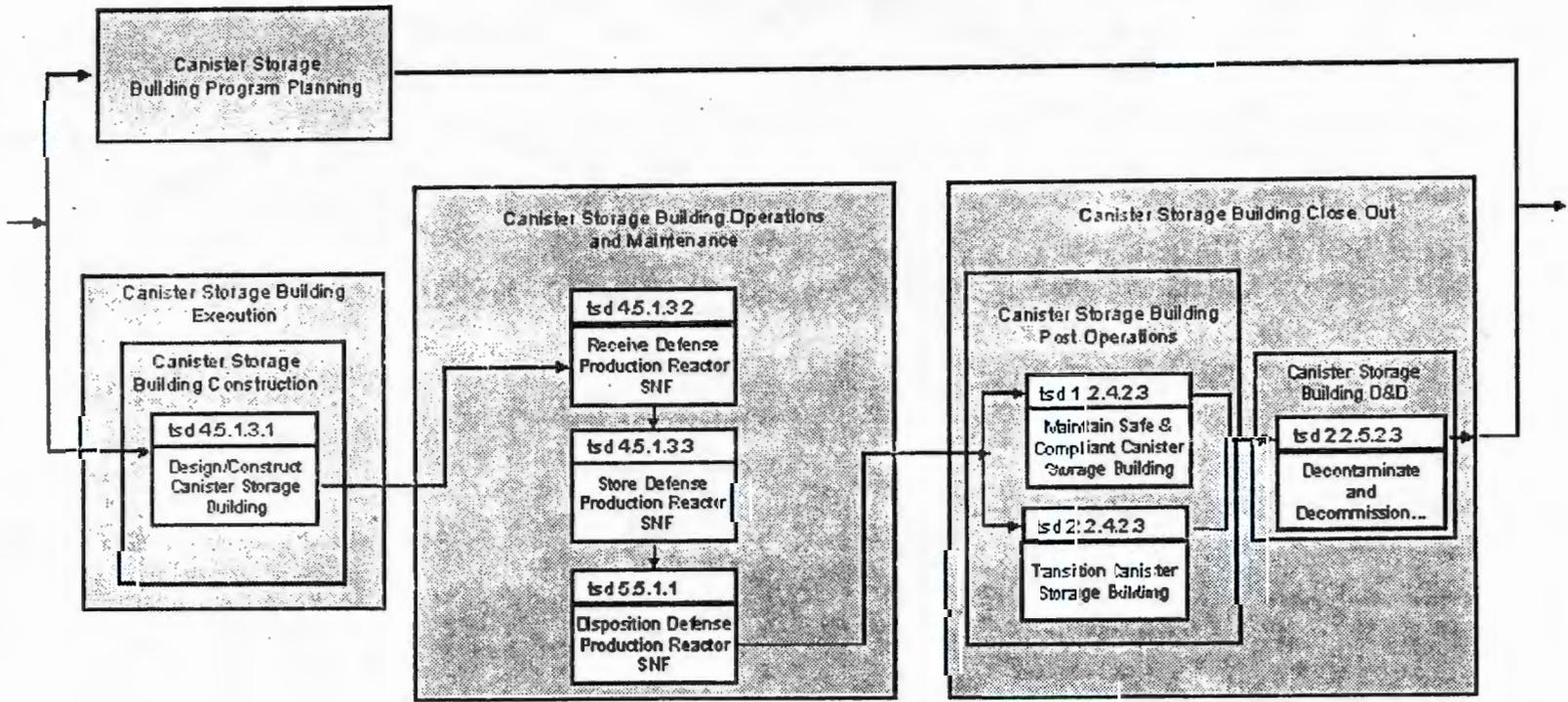
Project responsibility for the life cycle phases of the Canister Storage Building components are assigned as follows:

**Table B.1-9 Responsibility Assignment Matrix for Canister Storage Building**

Facility	Life Cycle Phase *								
	Program Planning	Pre Conceptual	Conceptual	Execute			O&M	Close Out	
				Design	Construction	Turnover		Post Ops	D&D
Canister Storage Building	RL-WM01 RL-TW09				RL-WM01 RL-TW09		RL-WM02 RL-TW09 RL-WM01	RL-WM02 RL-TW09	RL-WM02

\* RL PBS Identifier Index:

- RL-TW09 - Immobilized Tank Waste Storage & Disposal
- RL-WM02 - Canister Storage Building Operations
- RL-WM01 - Spent Nuclear Fuel Project



□ Facility life cycle phase

Figure B.1\_2 CANISTER STORAGE BUILDING

### B.1.1.3.2.3 Canister Storage Building Life Cycle Functional Descriptions and Requirements

The Life Cycle Functional Descriptions table describes the life cycle phases and the functions performed during each phase. The Life Cycle Requirements table describes the requirements that trace to the functions listed in the Life Cycle Functional Descriptions table.

**Table B.1-10 Canister Storage Building Life Cycle Functional Descriptions**

<b>hsems.2.3.3.1cam.1 CANISTER STORAGE BUILDING PROGRAM PLANNING</b>	
<b>hsems.2.3.3.1cam.4.2 CANISTER STORAGE BUILDING CONSTRUCTION</b>	
<b>tsd.4.5.1.3.1 Design/Construct Canister Storage Building</b>	Manage, define, select site, design, fabricate, procure, start up and test, deliver, obtain approvals and permits, and accept the Canister Storage Building facilities, systems, and equipment needed to stage and store SNF. This includes operational documentation. Provides formally documented design and safety analyses, independent technical review, and opportunity for public involvement. Provide all new intellectual and physical resources, including personnel, consultants, services, supplies, equipment, operational documentation, construction, and subcontracts of all kinds.
<b>hsems.2.3.3.1cam.5 CANISTER STORAGE BUILDING OPERATIONS &amp; MAINTENANCE</b>	
<b>tsd.4.5.1.3.2 Receive Defense Production Reactor Spent Nuclear Fuel</b>	This function includes systems and activities necessary to initiate interim storage. Operate and maintain the Canister Storage Building in accordance with governing safety codes and regulations. Provide required resources for safe and compliant operations. Maintain baseline documentation and qualified staff. Perform operational readiness reviews to ensure that safety and compliance are maintained. Administer storage operations and transfer agreements. Receive MCOs containing K Basins SNF and provide interim storage of the MCOs. Ensure the safety of operations by controlling and monitoring the MCO environment, and by maintaining the integrity of the MCOs. Handle MCOs to support the storage, stage, and maintain integrity functions. Collect and contain the incidental waste generated by the store, stage, maintain integrity, and handle functions. This function also includes receipt of Shippingport PWR core 2 assemblies stored at T Plant.

**Table B.1-11 Canister Storage Building Life Cycle Requirements**

Requirement	Function
Spent fuels consolidated in the 200 Area in safe, stable, cost-effective interim storage pending national decisions on their ultimate disposition.	tsd.4.5.1.3.1 tsd.4.5.1.3.2
Provide safe, stable, interim storage for nuclear materials in the 200 Area pending decisions on their ultimate disposition.	tsd.4.5.1.3.1 tsd.4.5.1.3.2
SNF to be shipped offsite for final disposition at the national repository	tsd.4.5.1.3.2
Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition	tsd.4.5.1.3.2
Onsite interim safe, stable storage of nuclear materials shall be provided.	tsd.4.5.1.3.1 tsd.4.5.1.3.2
CSB and MCOs shall be designed for a 40 year interim storage period.	tsd.4.5.1.3.1
SNF shall be emplaced in the CSB for safe, cost effective interim storage until a federal repository is available (~40 years).	tsd.4.5.1.3.1 tsd.4.5.1.3.2
Complete Canister Storage Facility Construction. Due Date: 12/31/2002	tsd.4.5.1.3.1
Complete, contingent on the completion of the National Environmental Policy Act (NEPA) documentation, the design and construction of the Canister Storage Building (CSB) to be used for dry storage of the K Basin spent fuel; take actions to make it operational, and operate the facility.	tsd.4.5.1.3.1 tsd.4.5.1.3.2

### B.1.1.3.2.4 Canister Storage Building Boundary Diagram

This section identifies the other facilities (onsite and offsite) that have an interface (either input or output) with this facility.

**Table B.1-12 Canister Storage Building Boundary Diagram**

Major Input Interfaces	Facility	Major Output Interfaces
External Interfaces -None- Hanford Site Environmental System Interfaces 100 K Area Facilities T-Plant Facility	Canister Storage Building	External Interfaces -None- Hanford Site Environmental System Interfaces -None-

**B.1.1.3.2.5 Canister Storage Building Interface Descriptions and Summary Level Forecasts**

This section contains the material, waste, and infrastructure forecasts for this facility. It identifies the interface type, the period of time for the forecasts, the life cycle total forecast value, and the execution year forecast quantity.

**OFFSITE INPUTS**

-None-

**ONSITE INPUTS**

**Table B.1-13 Onsite Inputs for Canister Storage Building**

Stream	Category	Period	Total	FY99	Units
hsems.1.2.1 100 K Area Facilities					
K Basin Spent Nuclear Fuel	(none forecasted)				
hsems.2.2.12 T-Plant Facility					
PWR Core 2 Shipment	Spent Nuclear Fuel (SNF)	2002 - 2002	31.6		MTHM
hsems.2.3.3 Canister Storage Building					
K Basin Spent Nuclear Fuel	(none forecasted)				

**OFFSITE OUTPUTS**

-None-

**ONSITE OUTPUTS**

-None-

**B.1.1.3.3 200 Interim Storage Area (ISA) Facility**

**B.1.1.3.3.1 200 Interim Storage Area (ISA) Facility Description**

The 200 Area Interim Storage Area (ISA), constructed adjacent to the Canister Storage Building (CSB) will be used for interim storage of site-wide SNF. Management of the ISA includes management of all site-wide SNF in accordance with an approved Memorandum of Understanding (MOU). Sodium bonded FFTF fuel will be loaded into shipping casks in the CSB and shipped to Argonne National Laboratory-West for treatment. Remaining FFTF fuel and other fuel in interim storage casks in the 400 Area ISA will be transferred to the 200 Area ISA when available.

Functions performed in the 200 Area ISA are identified in the following figure. The scope of the 200 Area ISA

functions do not include storage of the Shippingport PWR Core 2 assemblies (included in the CSB) or storage of FFTF fuel that requires additional security measures (included in the Plutonium Finishing Plant [PFP]).

Disposition of miscellaneous reactor fuel assemblies located at PFP and TRIGA fuel located in the 200 West Area burial ground is included in the scope of the 200 Area ISA under continuing operations (WM02).

During the time period managed under RL-WM01, TRIGA reactor fuel located in the 200 West Area Low Level Burial Ground will be transferred to the 200 Area ISA for storage.

**Site-Wide SNF Sub-Project Boundaries:**

The Site-Wide Spent Nuclear Fuel (SNF) operations transfers FFTF fuel and other fuel from the 400 Area Interim Storage Area (ISA) to the 200 Area ISA, TRIGA fuel located in the 200 West Area burial ground, and TRIGA fuel from the 308 Building. Sodium bonded FFTF fuel is transferred to the Canister Storage Building (CSB) for packaging prior to shipment to Idaho National Environmental Engineering Laboratory (INEEL). Light Water Reactor (LWR) fuel in the 324 Building is transferred to the 200 Area ISA. T-Plant fuel is transferred to the CSB. Other SNF is dispositioned off-site at the national repository. Sodium bonded FFTF fuel is dispositioned offsite to INEL. The Site-Wide SNF sub-project provides the systems and equipment to perform these operations.

The Site-Wide SNF subproject completion occurs upon turn over to CSB continuing operations at the end of FY 2004. Site-Wide SNF continuing operations completion occurs when stored SNF is transferred to the national repository, FY 2017, and the D&D facilities are turned over to ER.

**B.1.1.3.3.2 200 Interim Storage Area (ISA) Facility Technical Logic:**

The Department of Energy (DOE), in partnership with its contractors, shall plan, acquire, operate, maintain, and dispose of physical assets as valuable national resources. Stewardship of these physical assets shall be accomplished in a cost-effective manner to meet the DOE mission. This shall incorporate industry standards, a graded approach, and performance objectives.

This diagram displays the primary work activities (functions) that are performed in each life cycle phase of the facility. The diagram also reflects the technical logic (functional flow) for the facility through its remaining life cycle phases.

Project responsibility for the life cycle phases of the 200 Interim Storage Area (ISA) components are assigned as follows:

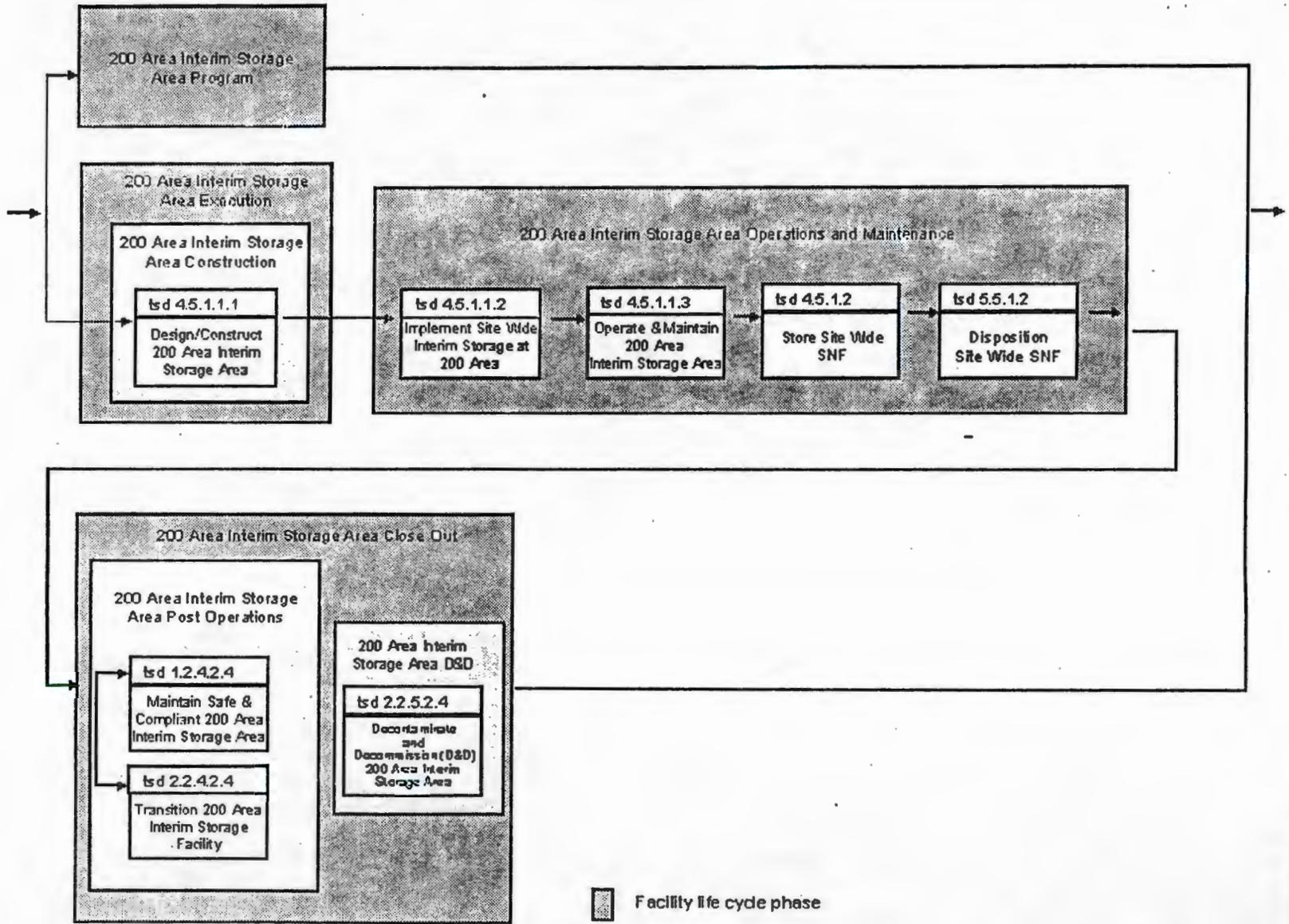
**Table B.1-14 Responsibility Assignment Matrix for 200 Interim Storage Area (ISA)**

Facility	Life Cycle Phase *								
	Program Planning	Pre Conceptual	Conceptual	Execute			O&M	Close Out	
				Design	Construction	Turnover		Post Ops	D&D
200 Interim Storage Area (ISA)	RL-WM01				RL-WM01		RL-WM01 RL-WM02	RL-WM02	RL-WM02

\* RL PBS Identifier Index:

RL-WM02 - Canister Storage Building Operations  
 RL-WM01 - Spent Nuclear Fuel Project

Figure B.1\_3 200 AREA INTERIM STORAGE AREA (ISA)



B.1.1-17

Fluor Daniel Hanford  
HNF-SP-1104  
Rev. 6  
Spent Fuels MYWP

11 November 1998

### B.1.1.3.3.3 200 Interim Storage Area (ISA) Life Cycle Functional Descriptions and Requirements

The Life Cycle Functional Descriptions table describes the life cycle phases and the functions performed during each phase. The Life Cycle Requirements table describes the requirements that trace to the functions listed in the Life Cycle Functional Descriptions table.

**Table B.1-15 200 Interim Storage Area (ISA) Life Cycle Functional Descriptions**

<b>hsems.2.3.4.Icam.1 200 AREA INTERIM STORAGE AREA PROGRAM PLANNING</b>
<b>hsems.2.3.4.Icam.4 200 AREA INTERIM STORAGE AREA EXECUTION</b>
<b>hsems.2.3.4.Icam.4.2 200 AREA INTERIM STORAGE AREA CONSTRUCTION</b>
<b>tsd.4.5.1.1.1 Design/Construct 200 Area Interim Storage Area</b> Manage, define, design, fabricate, construct, procure, test, obtain approvals and permits, and accept equipment and facilities for other fuel sources such as T Plant, Fast Flux Test Facility, etc. This includes operational documentation.
<b>hsems.2.3.4.Icam.5 200 AREA INTERIM STORAGE AREA OPERATIONS &amp; MAINTENANCE</b>
<b>tsd.4.5.1.1.2 Implement Site-Wide Interim Storage at 200 Area</b> This function includes systems and activities necessary to transfer to and receive SNF in the 200 Area ISA. Receive other SNF and initiate interim storage of other SNF, and transfer other SNF to interim storage at the 200 Area. Ensure the safety of operations by monitoring and maintaining the integrity of the storage systems. Plan, coordinate and schedule all necessary operations, transferring, monitoring, and other support activities required to achieve safe interim storage. Handle the other SNF storage systems to support storage, maintaining the integrity of the storage systems, and transferring the other SNF storage systems. Verify readiness to receive other SNF, obtain authorization to receive other SNF and accept custody of other SNF.
<b>tsd.4.5.1.1.3 Operate &amp; Maintain 200 Area Interim Storage Area</b> Initiate interim storage of Site-Wide SNF in the 200 Area ISA. Operate and maintain the 200 Area Interim Storage Area structures, operating systems, equipment, and monitoring systems with the approved safety and compliance requirements. Plan, coordinate, and schedule necessary activities required for safe operations. Ensure the safety of operations by monitoring and maintaining the integrity of storage systems.

**Table B.1-16 200 Interim Storage Area (ISA) Life Cycle Requirements**

Requirement	Function
The SNF Project shall also consolidate sitewide SNF in the 200 Area Interim Storage Area (ISA).	tsd.4.5.1.1.1 tsd.4.5.1.1.2 tsd.4.5.1.1.3
The 200 Area ISA shall be constructed next to the CSB and used for interim storage of sitewide SNF.	tsd.4.5.1.1.1
The ISA shall use CSB systems for handling and transloading of SNF containers as necessary.	tsd.4.5.1.1.1
Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition	tsd.4.5.1.1.1 tsd.4.5.1.1.2 tsd.4.5.1.1.3

### B.1.1.3.3.4 200 Interim Storage Area (ISA) Boundary Diagram

This section identifies the other facilities (onsite and offsite) that have an interface (either input or output) with this facility.

**Table B.1-17 200 Interim Storage Area (ISA) Boundary Diagram**

Major Input Interfaces	Facility	Major Output Interfaces
External Interfaces -None- Hanford Site Environmental System Interfaces 308 Facility 324 Facility FFTF M-91 Facility Solid Waste Disposal	200 Interim Storage Area (ISA)	External Interfaces National Geologic Repository Hanford Site Environmental System Interfaces -None-

**B.1.1.3.3.5 200 Interim Storage Area (ISA) Interface Descriptions and Summary Level Forecasts**

This section contains the material, waste, and infrastructure forecasts for this facility. It identifies the interface type, the period of time for the forecasts, the life cycle total forecast value, and the execution year forecast quantity.

**OFFSITE INPUTS**

-None-

**ONSITE INPUTS**

**Table B.1-18 Onsite Inputs for 200 Interim Storage Area (ISA)**

Stream	Category	Period	Total	FY99	Units
<b>hsems.2.2.14 M-91 Facility</b>					
Retrieved TRIGA Fuel	Spent Nuclear Fuel (SNF)	2000 - 2000	0.07		cubic meters
308 Building TRIGA Fuel	Spent Nuclear Fuel (SNF)	2000 - 2000	0.08		cubic meters
<b>hsems.2.3.4 200 Interim Storage Area (ISA)</b>					
324 Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2000 - 2000	4.6		MTHM
SNF Removed from FFTF	Spent Nuclear Fuel (SNF)	2000 - 2003	10.2		MTHM
<b>hsems.2.4.1 Solid Waste Disposal</b>					
Retrieved TRIGA Fuel	Spent Nuclear Fuel (SNF)	2000 - 2000	0.07		cubic meters
<b>hsems.4.3.1 FFTF</b>					
SNF Removed from FFTF	Spent Nuclear Fuel (SNF)	2000 - 2003	10.2		MTHM
<b>hsems.4.3.3 308 Facility</b>					
308 Building TRIGA Fuel	Spent Nuclear Fuel (SNF)	2000 - 2000	0.08		cubic meters
<b>hsems.4.5.1 324 Facility</b>					
324 Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2000 - 2000	4.6		MTHM

**OFFSITE OUTPUTS**

**Table B.1-19 Offsite Outputs for 200 Interim Storage Area (ISA)**

Stream	Category	Period	Total	FY99	Units
<b>X National Geologic Repository</b>					
FFTF Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2001 - 2001	0.6		MTHM

**ONSITE OUTPUTS**

**Table B.1-20 Onsite Outputs for 200 Interim Storage Area (ISA)**

Stream	Category	Period	Total	FY99	Units
<b>hsems.2.3.4 200 Interim Storage Area (ISA)</b>					
FFTF Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2001 - 2001	0.6		MTHM

#### B.1.1.4 Drivers for Spent Nuclear Fuel Project

*Table B.1-21 Source Documents for Spent Nuclear Fuel Project*

<u>Name</u>	<u>Title</u>
DE-AC06-96RL13200	Project Hanford Management Contract, Fluor Daniel Hanford, Inc.
DOE/EIS-0222D	Draft Hanford Remedial Action Environmental Impact Statement and Comprehensive Land Use Plan
DOE/RL-89-10	Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)
DOE/RL-96-92	Hanford Strategic Plan
DOE/RL-97-55	Hanford Site Environmental Management Specification
WHC-SD-WM-DRD-012	Design Requirements Document for the Interim Store Phase I Solidified High-Level Waste, Function 4.2.4.1.2

## B.1.2.0 Spent Nuclear Fuel Project Work Breakdown Structure (WBS)

### B.1.2.1 Spent Nuclear Fuel Project WBS Hierarchy

RL PBS	RL WBS	Title
RL-WM01	1.03.01	Spent Nuclear Fuel Project
	1.03.01.01	Project Management and Integration
	1.03.01.01.10	Spent Nuclear Fuel-Project Management and Integration
	1.03.01.01.20	Spent Nuclear Fuel-Project Fee
	1.03.01.02	100 K Area Facilities
	1.03.01.02.10	Maintain Safe & Compliant SNF Storage in K Basins
	1.03.01.02.15	Maintain Safe & Compliant Sludge, Debris and Water in K Basins
	1.03.01.02.20	Design/Modify/Construct Systems for Fuel Movement
	1.03.01.02.25	Operate SNF Removal Systems
	1.03.01.02.30	Design/Modify/Construct Sludge Removal System
	1.03.01.02.35	Operate and Maintain Sludge Removal System
	1.03.01.02.40	Maintain Safe & Compliant 100 K Area Facilities
	1.03.01.02.50	Transition 100 K Area Facilities
	1.03.01.03	Canister Storage Building
	1.03.01.03.10	Design/Construct Canister Storage Building
	1.03.01.03.20	Receive Defense Production Reactor Spent Nuclear Fuel
	1.03.01.04	200 Interim Storage Area (ISA)
	1.03.01.04.10	Design/Construct 200 Area Interim Storage Area
	1.03.01.04.20	Implement Site-Wide Interim Storage at 200 Area
	1.03.01.04.30	Operate & Maintain 200 Area Interim Storage Area

### B.1.2.2 Spent Nuclear Fuel Project WBS Dictionary

The following pages contain the WBS dictionary for RL-WM01

1. Dictionary Title Spent Nuclear Fuel-Project Management and Integration	2. Date 29 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.01.10	6. B & R No. EW04J111	7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project			
9. Scope of Work  Provide all planning, management direction, evaluation, and the management system for the SNF Project. Provide the management needed to conduct the mission. Specify management policies and procedures, provide configuration management, perform scheduling, allocate all resources, define performance criteria, and resolve regulatory problems. Provide all intellectual and physical supporting resources, including personnel, consultants, services, supplies, technology, essential information, and integrated independent services. Obtain public involvement and interaction needed to complete the mission of the SNF Project. Characterizes canister sludge, SNF, and basin sludge and manages incidental wastes associated with the characterization. Assesses the current state of the K Basins. Identifies and/or negotiates material and equipment disposition requirements, developing plans to deactivate facilities.			

1. Dictionary Title Spent Nuclear Fuel-Project Fee		2. Date 29 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.01.20		6. B & R No. EW04J111		7. Baseline CR No.
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work  Project Fee				

1. Dictionary Title Maintain Safe & Compliant SNF Storage in K Basins	2. Date 24 August 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.10	6. B & R No. EW04J111	7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project			
<p>9. Scope of Work</p> <p>Ongoing operations and maintenance assures safe storage of the K Basins SNF. This function includes all activities and facilities required to directly support the minimum safe operations of the basins during the Operations and Maintenance phase, including material and facility surveillance, radiological control, material and waste handling, safeguards and security, maintenance, operation of utility systems, planning/scheduling, engineering, training and assessments. This includes fuel from the Plutonium-Uranium Extraction Plant and from N Basin, if any is found there.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- The SNF Project will transfer secondary waste streams generated by project activities (such as solid LLW, TRU solid waste, and liquid effluents) for storage or disposal on the Hanford Site.</li> <li>- 100 K Area Facilities shall be surveilled and maintained within the approved safety envelope</li> <li>- The Contractor shall provide management and integration of activities required to reduce the risk from and the cost of spent fuel on the site. Several types of spent fuel are present at Hanford. The largest volume of material is the spent N-Reactor fuel currently stored in K Basins. Almost 7,500 canisters of fuel containing 2100 MT are stored at the 100-K Basins, approximately 3,800 of them in the KW Basin, and approximately 3,600 in the KE Basin.</li> </ul>			

1. Dictionary Title Maintain Safe & Compliant Sludge, Debris and Water in K Basins	2. Date 20 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.15	6. B & R No. EW04J111	7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project			
9. Scope of Work  Following the Operations and Maintenance phase, K Basins sludge, debris and water will be maintained in safe condition until removed for disposal or treatment.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: <ul style="list-style-type: none"><li>- The SNF Project will transfer secondary waste streams generated by project activities (such as solid LLW, TRU solid waste, and liquid effluents) for storage or disposal on the Hanford Site.</li><li>- Treat water contained in the basins to maintain water quality and safe conditions within the basins and to reduce tritium levels.</li><li>- 100 K Area Facilities shall be surveilled and maintained within the approved safety envelope</li><li>- Water contained in the 100 K Area Facilities shall be treated to maintain water quality and safe conditions within the basins and to reduce tritium levels.</li></ul>			

1. Dictionary Title Design/Modify/Construct Systems for Fuel Movement		2. Date 5 November 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.20	6. B & R No. EW04J111		7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>This function includes the acquisition, installation, and startup of facilities and equipment necessary to support removal of the K Basins SNF and repackaging into Multi-Canister Overpacks (MCOs) for downstream fuel handling and storage. This function includes systems necessary for drying the fuel to remove free water from MCOs containing K Basins SNF to enable safe transport to and staging in the CSB. This function includes systems necessary to treat water contained in the basins to maintain water quality and safe conditions within the K Basins. Facility upgrades are performed to repair, replace, and modify essential K Basins infrastructure to maintain safe operations and to facilitate fuel removal from the K Basins, including dose reduction and modifications to support the cask/transportation system. Provides all facilities, equipment, software, and related items needed for all work activities, including systems, subsystems, components, and structures. Defines, designs, procures, constructs, and tests line item projects, major system acquisitions, general plant projects, modifications, and upgrades to facilities and systems. Includes Essential K Basin Upgrades, Dose Reduction, Fuel Retrieval, Cold Vacuum Drying, Integrated Water Treatment, Debris Removal, Multi-Canister Overpack (MCO), and Cask/Transportation System. Facility upgrades are performed to repair, replace and modify essential K Basin infrastructure to maintain safe operations and to facilitate fuel removal from K Basins, including dose reduction and modifications to support the cask transportation system.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- Acquire and operate systems and facilities to achieve Tri-Party Agreement M-34-00 milestones for initiation and completion of fuel and sludge removal and tritium level reductions and in accordance with DNFSB Recommendation 94-1 implementation agreements (DNFSB 1994a) as documented in HNF-EP-0853, Hanford Site Integrated Stabilization Management Plan (McCormack 1997).</li> <li>- Spent Nuclear Fuel shall be removed from the K Basins.</li> <li>- Spent Nuclear Fuel removed from the K Basins shall be stabilized for cost effective, interim, dry, onsite storage.</li> <li>- Spent Nuclear Fuel removed from the K Basins shall be packaged for cost effective, interim, dry, onsite storage.</li> </ul>				

1. Dictionary Title Operate SNF Removal Systems		2. Date 5 November 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.25	6. B & R No. EW04J111		7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>Perform the Remove, Repackage, and Dry K Basins SNF functions. Includes operation of the Fuel Removal and supporting Systems including; MultiCanister Overpacks, Cold Vacuum Drying, Cask Transportation, Dose Reduction, Debris Removal and IWTS. This function includes all activities necessary to support removal of the K Basins SNF and repackaging into Multi-Canister Overpacks (MCOs) for downstream fuel handling and storage, including fuel retrieval, MCO, cask/transportation, facility upgrades, Integrated Water Treatment System (IWTS), and Cold Vacuum Drying. The SNF retrieval process, located within each Basin pool, removes fuel elements from existing canisters cleans them, and loads them into separate baskets prior to placement in the MCO. The MCO will provide primary confinement for fuel elements during transport, conditioning, and storage. The cask/transportation system will be utilized to load tier baskets into MCOs and transfer the loaded MCO/cask to the CVD facility and to the CSB. This function includes activities necessary for drying the fuel to remove free water from MCOs containing K Basins SNF to enable safe transport to and staging in the CSB. This function includes activities necessary to treat water contained in the basins to maintain water quality and safe conditions within the K Basins. This function includes transferring the full or empty package (MCO, cask) between the K Basins facility, CVD and the CSB. Also included are all steps required to declare facility and system readiness. Includes trained and qualified staff to perform required tasks for processing and storage of SNF.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- The SNF Project will transfer secondary waste streams generated by project activities (such as solid LLW, TRU solid waste, and liquid effluents) for storage or disposal on the Hanford Site.</li> <li>- Acquire and operate systems and facilities to achieve Tri-Party Agreement M-34-00 milestones for initiation and completion of fuel and sludge removal and tritium level reductions and in accordance with DNFSB Recommendation 94-1 implementation agreements (DNFSB 1994a) as documented in HNF-EP-0853, Hanford Site Integrated Stabilization Management Plan (McCormack 1997).</li> <li>- Spent Nuclear Fuel shall be removed from the K Basins.</li> <li>- Spent Nuclear Fuel removed from the K Basins shall be stabilized for cost effective, interim, dry, onsite storage.</li> <li>- Spent Nuclear Fuel removed from the K Basins shall be packaged for cost effective, interim, dry, onsite storage.</li> </ul>				

1. Dictionary Title Design/Modify/Construct Sludge Removal System		2. Date 20 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.30	6. B & R No. EW04J111		7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>Manage, define, design, fabricate, and modify existing facilities and systems; procure, test, deliver, obtain approvals and permits, and accept the sludge removal system and equipment to support transfer of sludge from the K Basins to the tank farms. Provide all new intellectual and physical resources, including personnel, consultants, services, supplies, equipment, operational documentation, construction, and subcontracts of all kinds.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- The SNF Project shall also remove sludge and debris from the basins and treat water in the basins as needed to maintain water quality and reduce tritium levels.</li> <li>- The SNF Project shall retrieve sludge (50 to 70 m<sup>3</sup>) from the K Basins. Sludge shall be considered SNF until it has been removed from the K Basins. Sludge that is removed from the K Basins by a sludge retrieval process shall be handled as mixed waste after removal from the basins.</li> <li>- The SNF Project will transfer secondary waste streams generated by project activities (such as solid LLW, TRU solid waste, and liquid effluents) for storage or disposal on the Hanford Site.</li> <li>- Remove sludge and debris from the K Basins for disposition with other Hanford Site wastes and materials.</li> <li>- Acquire and operate systems and facilities to achieve Tri-Party Agreement M-34-00 milestones for initiation and completion of fuel and sludge removal and tritium level reductions and in accordance with DNFSB Recommendation 94-1 implementation agreements (DNFSB 1994a) as documented in HNF-EP-0853, Hanford Site Integrated Stabilization Management Plan (McCormack 1997).</li> <li>- Remove fuel, sludge, associated equipment, and debris from the K-Basins.</li> </ul>				

1. Dictionary Title Operate and Maintain Sludge Removal System		2. Date 20 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.35	6. B & R No. EW04J111		7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>Receives, retrieves, stages, and processes sludge. Prepare sludge for offloading to tank farms. Transfers the conditioned sludge to the receiving facilities. Operate and maintain the K Basins sludge removal systems and equipment.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- Acquire and operate systems and facilities to achieve Tri-Party Agreement M-34-00 milestones for initiation and completion of fuel and sludge removal and tritium level reductions and in accordance with DNFSB Recommendation 94-1 implementation agreements (DNFSB 1994a) as documented in HNF-EP-0853, Hanford Site Integrated Stabilization Management Plan (McCormack 1997).</li> <li>- Sludge (50 to 70 m3) shall be removed from the K Basins. Sludge shall be considered SNF until it has been removed from the K Basins. Sludge that is removed from the K Basins by a sludge retrieval process shall be handled as mixed waste after removal from the basins.</li> </ul>				

1. Dictionary Title Maintain Safe & Compliant 100 K Area Facilities	2. Date 5 November 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.40	6. B & R No. EW04J111	7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project			
9. Scope of Work  Following the Operations and Maintenance phase, maintain the 100 K Area facilities, structures, operating systems and equipment, and monitoring systems within the approved safety and compliance requirements until the facilities are made available for Decontamination and Decommissioning.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: <ul style="list-style-type: none"><li>- The SNF Project will transfer secondary waste streams generated by project activities (such as solid LLW, TRU solid waste, and liquid effluents) for storage or disposal on the Hanford Site.</li><li>- Reactors on the River gaseous effluent releases shall be monitored</li><li>- 100 K Area Facilities shall be surveilled and maintained within the approved safety envelope</li></ul>			

1. Dictionary Title Transition 100 K Area Facilities		2. Date 20 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.02.50		6. B & R No. EW04J111		7. Baseline CR No.
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>Perform the facility transition phase and initiate decontamination and deactivation for K Basins, including debris removal, basin water removal, and tritium reduction process. Also included are the remaining systems upon removal of sludge and SNF. Transfers the deactivated K Basins to D&amp;D.</p> <p>This activity supports achieving the following technical baseline functions:</p> <ul style="list-style-type: none"> <li>- This function includes systems and activities necessary to remove debris collected in the K Basins for disposition as solid waste following the Operations and Maintenance phase.</li> <li>- This function includes systems and activities necessary to treat water contained in the basins to maintain water quality and safe conditions within the K Basins and to reduce tritium levels following the Operations and Maintenance phase. Also included is water removal in support of K Basins Transition.</li> </ul> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- The SNF Project will transfer secondary waste streams generated by project activities (such as solid LLW, TRU solid waste, and liquid effluents) for storage or disposal on the Hanford Site.</li> <li>- Treat water contained in the basins to maintain water quality and safe conditions within the basins and to reduce tritium levels.</li> <li>- Reactors on the River facilities shall be transitioned to a low cost, stable, deactivated condition.</li> <li>- 100 K Area Facilities shall be stabilized and cleaned sufficient to transition to decontamination and decommissioning.</li> <li>- Debris shall be removed from the 100 K Area Facilities.</li> <li>- Contaminated equipment shall be removed from the 100 K Area Facilities.</li> <li>- Water contained in the 100 K Area Facilities shall be treated to maintain water quality and safe conditions within the basins and to reduce tritium levels.</li> <li>- Complete actions specified by agreed interim milestones related to remediation of the K-East basins. Due Date: TBD</li> <li>- Contaminated K-East basin water will be removed for treatment. Due Date TBD.</li> </ul>				

1. Dictionary Title Design/Construct Canister Storage Building		2. Date 20 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.03.10	6. B & R No. EW04J111		7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>Manage, define, select site, design, fabricate, procure, start up and test, deliver, obtain approvals and permits, and accept the Canister Storage Building facilities, systems, and equipment needed to stage and store SNF. This includes operational documentation. Provides formally documented design and safety analyses, independent technical review, and opportunity for public involvement. Provide all new intellectual and physical resources, including personnel, consultants, services, supplies, equipment, operational documentation, construction, and subcontracts of all kinds.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- Spent fuels consolidated in the 200 Area in safe, stable, cost-effective interim storage pending national decisions on their ultimate disposition.</li> <li>- Provide safe, stable, interim storage for nuclear materials in the 200 Area pending decisions on their ultimate disposition.</li> <li>- Onsite interim safe, stable storage of nuclear materials shall be provided.</li> <li>- CSB and MCOs shall be designed for a 40 year interim storage period.</li> <li>- SNF shall be emplaced in the CSB for safe, cost effective interim storage until a federal repository is available (~40 years).</li> <li>- Complete Canister Storage Facility Construction. Due Date: 12/31/2002</li> <li>- Complete, contingent on the completion of the National Environmental Policy Act (NEPA) documentation, the design and construction of the Canister Storage Building (CSB) to be used for dry storage of the K Basin spent fuel; take actions to make it operational, and operate the facility.</li> </ul>				

1. Dictionary Title Receive Defense Production Reactor Spent Nuclear Fuel		2. Date 20 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.03.20		6. B & R No. EW04J111		7. Baseline CR No.
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>This function includes systems and activities necessary to initiate interim storage. Operate and maintain the Canister Storage Building in accordance with governing safety codes and regulations. Provide required resources for safe and compliant operations. Maintain baseline documentation and qualified staff. Perform operational readiness reviews to ensure that safety and compliance are maintained. Administer storage operations and transfer agreements. Receive MCOs containing K Basins SNF and provide interim storage of the MCOs. Ensure the safety of operations by controlling and monitoring the MCO environment, and by maintaining the integrity of the MCOs. Handle MCOs to support the storage, stage, and maintain integrity functions. Collect and contain the incidental waste generated by the store, stage, maintain integrity, and handle functions. This function also includes receipt of Shippingport PWR core 2 assemblies stored at T Plant.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- Spent fuels consolidated in the 200 Area in safe, stable, cost-effective interim storage pending national decisions on their ultimate disposition.</li> <li>- Provide safe, stable, interim storage for nuclear materials in the 200 Area pending decisions on their ultimate disposition.</li> <li>- SNF to be shipped offsite for final disposition at the national repository</li> <li>- Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition</li> <li>- Onsite interim safe, stable storage of nuclear materials shall be provided.</li> <li>- SNF shall be emplaced in the CSB for safe, cost effective interim storage until a federal repository is available (~40 years).</li> <li>- Complete, contingent on the completion of the National Environmental Policy Act (NEPA) documentation, the design and construction of the Canister Storage Building (CSB) to be used for dry storage of the K Basin spent fuel; take actions to make it operational, and operate the facility.</li> </ul>				

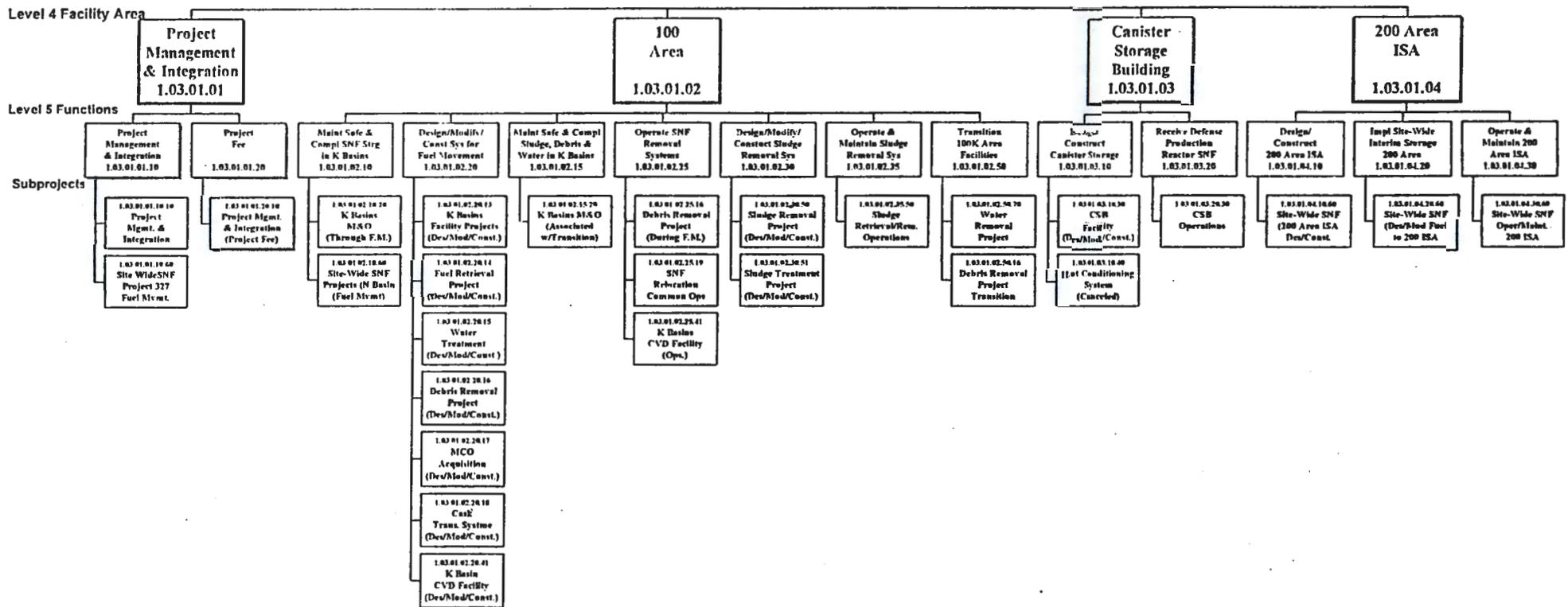
1. Dictionary Title Design/Construct 200 Area Interim Storage Area		2. Date 19 October 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.04.10		6. B & R No. EW04J111		7. Baseline CR No.
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>Manage, define, design, fabricate, construct, procure, test, obtain approvals and permits, and accept equipment and facilities for other fuel sources such as T Plant, Fast Flux Test Facility, etc. This includes operational documentation.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- The SNF Project shall also consolidate sitewide SNF in the 200 Area Interim Storage Area (ISA).</li> <li>- The 200 Area ISA shall be constructed next to the CSB and used for interim storage of sitewide SNF.</li> <li>- The ISA shall use CSB systems for handling and transloading of SNF containers as necessary.</li> <li>- Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition</li> </ul>				

1. Dictionary Title Implement Site-Wide Interim Storage at 200 Area		2. Date 21 August 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.04.20	6. B & R No. EW04J111		7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>This function includes systems and activities necessary to transfer to and receive SNF in the 200 Area ISA. Receive other SNF and initiate interim storage of other SNF, and transfer other SNF to interim storage at the 200 Area. Ensure the safety of operations by monitoring and maintaining the integrity of the storage systems. Plan, coordinate and schedule all necessary operations, transferring, monitoring, and other support activities required to achieve safe interim storage. Handle the other SNF storage systems to support storage, maintaining the integrity of the storage systems, and transferring the other SNF storage systems. Verify readiness to receive other SNF, obtain authorization to receive other SNF and accept custody of other SNF.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- The SNF Project shall also consolidate sitewide SNF in the 200 Area Interim Storage Area (ISA).</li> <li>- Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition</li> </ul>				

1. Dictionary Title Operate & Maintain 200 Area Interim Storage Area		2. Date 19 August 1998	3. PBS Number RL-WM01	4. Dict Rev
5. WBS No. 1.03.01.04.30	6. B & R No. EW04J111		7. Baseline CR No.	
8. Organization Name Spent Nuclear Fuel Project				
9. Scope of Work				
<p>Initiate interim storage of Site-Wide SNF in the 200 Area ISA. Operate and maintain the 200 Area Interim Storage Area structures, operating systems, equipment, and monitoring systems within the approved safety and compliance requirements. Plan, coordinate, and schedule necessary activities required for safe operations. Ensure the safety of operations by monitoring and maintaining the integrity of storage systems.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- The SNF Project shall also consolidate sitewide SNF in the 200 Area Interim Storage Area (ISA).</li> <li>- Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition</li> </ul>				

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

# Spent Nuclear Fuel Project WBS to Functions /Subprojects (WM01)



**THIS PAGE INTENTIONALLY  
LEFT BLANK**

## B.1.2.0 Spent Nuclear Fuel Project Work Breakdown Structure (WBS)

### B.1.2.1 Spent Nuclear Fuel Project WBS Hierarchy

RL PBS	RL WBS	Title
RL-WM01	1.03.01	Spent Nuclear Fuel Project
	1.03.01.01	Project Management and Integration
	1.03.01.01.10	Spent Nuclear Fuel-Project Management and Integration
	1.03.01.01.20	Spent Nuclear Fuel-Project Fee
	1.03.01.02	100 K Area Facilities
	1.03.01.02.10	Maintain Safe & Compliant SNF Storage in K Basins
	1.03.01.02.15	Maintain Safe & Compliant Sludge, Debris and Water in K Basins
	1.03.01.02.20	Design/Modify/Construct Systems for Fuel Movement
	1.03.01.02.25	Operate SNF Removal Systems
	1.03.01.02.30	Design/Modify/Construct Sludge Removal System
	1.03.01.02.35	Operate and Maintain Sludge Removal System
	1.03.01.02.40	Maintain Safe & Compliant 100 K Area Facilities
	1.03.01.02.50	Transition 100 K Area Facilities
	1.03.01.03	Canister Storage Building
	1.03.01.03.10	Design/Construct Canister Storage Building
	1.03.01.03.20	Receive Defense Production Reactor Spent Nuclear Fuel
	1.03.01.04	200 Interim Storage Area (ISA)
	1.03.01.04.10	Design/Construct 200 Area Interim Storage Area
	1.03.01.04.20	Implement Site-Wide Interim Storage at 200 Area
	1.03.01.04.30	Operate & Maintain 200 Area Interim Storage Area

### B.1.2.2 Spent Nuclear Fuel Project WBS Dictionary

The following pages contain the WBS dictionary for RL-WM01

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	Project Management and Integration	<i>Area Title:</i>	Project Management & Integration
<i>Subproject WBS Number:</i>	1.03.01.01.10.10	<i>Area WBS Number:</i>	1.03.01.01
<i>Subproject Manager:</i>	N. H. Williams	<i>Function Title:</i>	Project Management and Integration
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.01.10
<i>Revision:</i>	0		

*Subproject Work Scope Description*

Project Management and Integration Subproject provides all planning, management direction, evaluation, and the management system for the SNF Project. Provide the management needed to conduct the mission. Specify management policies and procedures, provide configuration management, perform scheduling, allocate all resources, define performance criteria, and resolve regulatory problems. Provide all intellectual and physical supporting resources, including personnel, consultants, services, supplies, technology, essential information, and integrated independent services. Obtain public involvement and interaction needed to complete the mission of the SNF Project. Conduct independent assessments and quality assurance oversight as needed to assure compliance with approved project authorization documents. Characterizes canister sludge, SNF, and basin sludge. Assesses the current state of the K Basins. Identifies and/or negotiates material and equipment disposition requirements, developing plans to deactivate facilities.

This subproject also manages SNF Project contingency and performs contingency analysis of the established baseline.

**Spent Nuclear Fuel Project Multi-Year Work Plan**

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Site Wide SNF Projects (327 Fuel Transfer)	<b>Area Title:</b>	Project Management & Integration
<b>Subproject WBS Number:</b>	1.03.01.01.10.60	<b>Area WBS Number:</b>	1.03.01.01
<b>Subproject Manager:</b>	R. L. McCormack	<b>Function Title:</b>	Project Management and Integration
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.01.10
<b>Revision:</b>	0		

**Subproject Work Scope Description**

The site-wide Spent Nuclear Fuel (SNF) Projects scope of work under the Project Management and Integration function includes activities necessary to attain safe storage of SNF characterization fuel at the K Basins. The scope includes removing SNF characterization fuel from the 327 Building, moving characterization SNF to the K Basins, placing the characterization SNF into safe storage at K Basins, and 327 Building characterization waste cleanout. (Reference: HNF-SD-SNF-PMP-018, Sitewide SNF Project Management Plan.)

The scope includes lease of cask, safety analysis, transportation of fuel onsite, patrol assessment at the 327 Building and transportation of the fuel and SNF Project scope for waste removal and F cell, C cell and storage basin clean-out at the 327 Building.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

Site-Wide SNF:

- The transfer of spent nuclear fuel, (characterization fuel), located at 327 Building to K Basins.
- Operations and surveillance for characterization fuel storage at the 327 Building and receipt at the K Basins.
- Acquiring systems and equipment for characterization fuel and waste removal from the 327 Building.
- Disposition of SNF Project waste at the 327 Building.

**Spent Nuclear Fuel Project Multi-Year Work Plan**

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	<b>Project Mgmt. and Integration (Project Fee)</b>	<b>Area Title:</b>	<b>Project Management &amp; Integration</b>
<b>Subproject WBS Number:</b>	<b>1.03.01.01.20.10</b>	<b>Area WBS Number:</b>	<b>1.03.01.01</b>
<b>Subproject Manager:</b>	<b>N. H. Williams</b>	<b>Function Title:</b>	<b>Project Fee</b>
<b>Date Prepared:</b>	<b>11/12/98</b>	<b>Function WBS Number:</b>	<b>1.03.01.01.20</b>
<b>Revision:</b>	<b>0</b>		

**Subproject Work Scope Description**

This is Spent Nuclear Fuel Project Fee

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	K Basins Maint. and Oper. (Through F.M.)	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.10.20	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	D. Kimball	<b>Function Title:</b>	Maintain Safe & Compliant SNF Storage in K Basins
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.10
<b>Revision:</b>	0		

**Subproject Work Scope Description**

The K Basin Maintenance and Operations (M&O) encompasses the work to maintain the facilities in a safe, environmentally sound condition through fuel movement out of the K Basins. This includes facility operations and maintenance; handling and storage of spent nuclear fuel; and operational support of the Spent Nuclear Fuel Project.

The scope of work under the Maintain Safe & Compliant SNF Storage in K Basin function includes the management, technical, clerical and bargaining unit personnel performing maintenance, surveillance, documentation, training, fuel storage operations, procedure preparation, readiness assessments/reviews, and security for the fuel storage basins and the supporting utility systems. Non-labor cost elements include maintenance materials and waste disposal charges.

**OPERATIONS:**

**K Basin M & O:**

Provide for the maintenance and operation of all K Basin facilities and systems including K East, cold test facility for K Basin fuel, K West, and the water treatment plant. Provide funds for electric utility power and maintenance assessments, fire systems maintenance assessments, performance of required surveillance, material / waste handling and disposal assessments, emergency preparedness activities, safeguards and security activities, radiological control, safety, and quality assurance.

M & O provides for planning, engineering design/modification support, scheduling, tracking, and performing of maintenance work packages and activities.

M & O provides for development and maintenance of policies and procedures, regulatory compliance and technical safety activities, including engineering design support.

M & O provides for development, implementation, and management of the training program for all M & O staff, including all required qualifications and certifications.

M & O provides for K Basins independent oversight and self assessment activities, K Basins Management Activities, tracking of commitments and action items as well as management direction and administrative services.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	K Basins Maint. and Oper. (Through F.M.)	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.10.20	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	D. Kimball	<b>Function Title:</b>	Maintain Safe & Compliant SNF Storage in K Basins
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.10
<b>Revision:</b>	0		

Complete required surveillance and maintenance to ensure compliance with Technical Safety Requirements (TSR) and Safety Analysis Report (SAR).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Site Wide SNF Projects (N Basin Fuel Mvmnt.)	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.10.60	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	R. L. McCormack	<b>Function Title:</b>	Maintain Safe & Compliant SNF Storage in K Basins
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.10
<b>Revision:</b>	0		

***Subproject Work Scope Description***

The Site-Wide Spent Nuclear Fuel (SNF) Projects scope of work under the Maintain Safe & compliant SNF Storage in K Basins function includes activities to attain safe storage of N Basin characterization SNF. (Reference: HNF-SD-SNF-PMP-018, Sitewide SNF Project Management Plan).

The scope includes moving N Basin SNF to the K Basins, and placing N Basin SNF into safe storage.

The scope includes acquisition of casks, safety analysis, transportation of fuel onsite, transportation of the fuel to the K Basins.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

Site-Wide SNF:

- The transfer of N Reactor spent nuclear fuel to K Basin.
- Operations and surveillance for N Reactor Basin SNF storage at the 327 Building.
- Receipt of N Basin SNF at the K Basins.
- Acquiring systems and equipment for N Reactor Basin SNF transfer to the K Basins.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	K Basins Maint. and Oper. (Assoc. w/ Transition)	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.15.20	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	D. Kimball	<i>Function Title:</i>	Maintain Safe & Compliant Sludge, Debris & Water in K Basin
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.15
<i>Revision:</i>	0		

***Subproject Work Scope Description***

The K Basin Maintenance and Operations (M&O) encompasses the work to maintain the sludge, debris, and water in a safe, environmentally sound condition after fuel movement out of the K Basins. This includes facility operations and maintenance; handling and storage; and operational support of the Spent Nuclear Fuel Project.

The scope of work under the Maintain Safe & Compliant Sludge, Debris & Water in the K Basin function includes the management, technical, clerical and bargaining unit personnel performing maintenance, surveillance, documentation, training, sludge, debris, and water storage operations, procedure preparation, readiness assessments/reviews associated with required modifications, and security for the basins and the supporting utility systems. Non-labor cost elements include maintenance materials and waste disposal charges.

K Basins M&O includes:

Maintenance and operation of all K Basin facilities and systems including K East, K West, and the water treatment plant. Provide funds for electric utility power and maintenance assessments, fire systems maintenance assessments, performance of required surveillance, material / waste handling and disposal assessments, emergency preparedness activities, safeguards and security activities, radiological control, safety, and quality assurance.

M & O provides for planning, engineering design/modification support, scheduling, tracking, and performing of maintenance work packages and activities.

M & O provides for development and maintenance of policies and procedures, regulatory compliance and technical safety activities, including engineering design support.

M & O provides for development, implementation, and management of the training program for all M&O staff, including all required qualifications and certifications.

M & O provides for K Basins independent oversight and self assessment activities, K Basins Management Activities, tracking of commitments and action items as well as management direction and administrative services.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

-Complete required surveillance and maintenance to ensure compliance with Technical Safety Requirements (TSR) and Safety Analysis Report (SAR).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	K Basins Facility Projects (Des/Mod/Const)	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.20.13	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	R. W. Rasmussen	<b>Function Title:</b>	Design/ Modify/ Construct Systems for Fuel Movement
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.20
<b>Revision:</b>	0		

**Subproject Work Scope Description**

The Facility Projects WBS element contains sub-projects to upgrade the K Basin Facility for safety and efficiency in supporting the additional personnel and increased activity that are expected during upcoming fuel removal projects, to remove fuel, sludge, and debris from the K Basins .

For each sub-project, the work includes the functions and requirements specification, design, procurement, installation, acceptance testing, safety documentation, environmental compliance and permitting. The scope also includes the operations related activities to prepare procedures, train personnel and conduct operational readiness assessments/ reviews, the operations cost for transportation of fuel or waste to the destination location, and the cost and interface with Hanford Site waste disposition facilities.

The sub-projects included are: KE Fire Protection Upgrades, KE Immersion Pail Support Structure Upgrades, K Potable Water, KW Immersion Pail Installation and Cask Fit-ups, and KE Transfer Bay Crane Upgrade, KE Facility Modifications Design, KE Multi-Canister Overpack (MCO) Loading System (MLS) design for installation, 190 KE Roof Repair, KE & KW Facility Modifications Construction, KE & KW MCO MLS Installation, KE & KW Tool Storage and Decon Area Design.

Facility Upgrades for Transportation - Construction activities associated with preparing the South Transfer Areas in both KE and KW basins for the Cask Transportation System, and installation of same. Initial work will involve removing systems and structures that are no longer in use and upgrading the 30 ton cranes to allow for safe, efficient cask transportation operations. Other construction activities will be to install the immersion pail support structure and the Multi Canister Overpack (MCO) loading system.

Provide technical documentation necessary to support operations start-up of new equipment installations; operations and maintenance manuals, certified vendor information, as build system/facility drawings, system design descriptions, design basis documents, and master equipment list.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	Fuel Retrieval Project (Des/ Mod/ Const)	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.20.14	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	R. W. Rasmussen	<i>Function Title:</i>	Design/ Modify/ Construct Systems for Fuel Movement
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.20
<i>Revision:</i>	0		

*Subproject Work Scope Description*

The Fuel Retrieval Project scope of work under the Design/Modify/Construct System for Fuel Movement function includes acquisition of systems and equipment needed for all works activities, definition, design, procurement, construction and testing. Facility upgrades are performed to facilitate fuel removal and equipment installation. The scope of work also includes, acquisition and testing of the equipment to retrieve fuel canisters from storage bays, open canisters (KW only), clean fuel elements to remove all unbonded sludge and corrosion particles and remove stuck fuel elements from canister, fuel and fuel scrap loading in MCO tier baskets, and transfer of loaded tier baskets to a queue station for lag storage.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

-Fuel Retrieval System design, installation, safety analysis, preparation for operations, and Operational Readiness Review.

-Design, installation and readiness review of Fuel Removal Support Facilities.

-Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	Water Treatment (Des/ Mod/ Const)	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.20.15	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	R. W. Rasmussen	<i>Function Title:</i>	Design/ Modify/ Construct Systems for Fuel Movement
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.20
<i>Revision:</i>	0		

*Subproject Work Scope Description*

The Integrated Water Treatment System (IWTS) provides water filtration and treatment necessary to maintain water quality in the basins. The IWTS will receive and treat contaminated water for the fuel, sludge, and debris removal systems. Discharge from the IWTS will provide clean, treated, and demineralized water to the Multi-Canister Overpack (MCO)/Cask, fuel retrieval, sludge and debris systems for equipment flushes and system process operations. The IWTS will provide treatment capability to maintain water clarity, and maintain soluble and insoluble radionuclide concentrations in the basins as low as reasonably achievable during continued spent nuclear fuel (SNF) storage and fuel and sludge removal activities. The IWTS Project will upgrade and provide new water treatment systems and facilities for both the KE and KW Basins. The IWTS Project will also install a system for canister sludge management during fuel removal. This system will put canister sludge and fuel retrieval sludge material into the Weasel Pit.

The IWTS project scope of work under the Design/Modify/Construct Systems for fuel movement function includes acquisition of systems and equipment needed for all work activities, definition, design, procurement, construction, testing, and turnover to operations. The modification of existing facilities and systems are also included.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

- Disposition of design, installation, safety analysis, preparation for operations and readiness review.
- Water Treatment System design, installation, safety analysis, preparation for operations, Testing and Startup, and turnover to operations.
- Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Debris Removal Project (Des/ Mod/ Const)	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.20.16	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	F. J. Muller	<b>Function Title:</b>	Design/ Modify/ Construct Systems for Fuel Movement
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.20
<b>Revision:</b>	0		

**Subproject Work Scope Description**

The Debris Removal Project scope of work under the Design/Modify/Construct Systems for K Basins canister & fuel rack removal which includes the acquisition of systems, equipment, and related items needed for all work activities, including sub-systems, components, and structures. Defines, designs, procures, constructs, and test acquisitions, modifications, and upgrades to facilities and systems to remove canisters and racks.. Facility upgrades are performed to repair, replace and modify to maintain safe operations and to facilitate Debris removal from the K Basins.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

K Basins canister and fuel rack removal System design, acquisition installation, safety analysis, preparation for operations, and turnover to operations.

Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	MCO Acquisition (Des/Mod/ Const)	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.20.17	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	J. Cloud	<b>Function Title:</b>	Design/ Modify/ Construct Systems for Fuel Movement
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.20
<b>Revision:</b>	0		

**Subproject Work Scope Description**

The Multi-Canister Overpack (MCO) will house the spent nuclear fuel during cold vacuum drying, transportation to the Canister Storage Building (CSB), and interim storage at the CSB. The Multi-Canister Overpacks subproject scope of work under the Design/Modify/Construct system for Fuel Movement includes acquisition of systems and equipment needed for all work activities; definition, design, procurement, construction, testing, and turnover to operation. The scope includes the establishment of the MCO performance specification, design, process testing, acceptance testing, fabrication, procurement, safety documentation, and management systems. The MCO includes the shell, closure mechanism, and internal structures (fuel and scrap baskets), and internal provisions to accommodate the drying process.

The facilities, equipment, training, readiness assessment/reviews and operations to load and transport the MCOs are contained in other WBS elements.

Reference: WHC-SD-SNF-FRD-016, Spent Nuclear Fuel Multi-Canister Overpack Technical Functions and Requirements.

Major end-item deliverables for the Multi-Canister Overpack (MCO) Project include:

- MCO Fabrication
- MCO Topical Safety Report
- Critical Decision 3 for MCO fabrication
- Receive First MCO
- Complete Fabrication and Delivery of MCOs

Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc.)

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	<b>Cask Transportation System (Des/ Mod/ Const)</b>	<b>Area Title:</b>	<b>100 Area</b>
<b>Subproject WBS Number:</b>	<b>1.03.01.02.20.18</b>	<b>Area WBS Number:</b>	<b>1.03.01.02</b>
<b>Subproject Manager:</b>	<b>J. Cloud</b>	<b>Function Title:</b>	<b>Design/ Modify/ Construct Systems for Fuel Movement</b>
<b>Date Prepared:</b>	<b>11/12/98</b>	<b>Function WBS Number:</b>	<b>1.03.01.02.20</b>
<b>Revision:</b>	<b>0</b>		

**Subproject Work Scope Description**

The Cask/Transportation System encompasses acquisition of the transportation system and transportation casks to transfer the Multi-Canister Overpack (MCO's) from the K Basins to the Cold Vacuum Drying (CVD) station, provides the processing vessel and operating platform for CVD, and then transports the MCO's to the Canister Storage Building (CSB). The cask transportation system includes the casks, conveyances, ancillary equipment, and an immersion pail system required to preclude contamination of the cask package. The cask transportation system also includes acquisition of the MCO loading systems which loads the baskets into the Cask/MCO.

The Cask Transportation System (CTS) sub-project scope of work under the Design/Modify/Construct Systems for Fuel Movement includes acquisition of systems and equipment needed for all work activities, system definition, design, procurement, testing, and turnover to operations, safety analyses, qualification testing, acceptance testing, installation verification, and management systems. Five Cask/Conveyance systems, and two immersion pail systems and two MCO loading systems are required.

The fuel load out and transportation training, readiness assessments/review and operations are contained in other Work Breakdown Structure (WBS) elements. Sludge, debris, and water transportation equipment are also contained in other WBS elements. Basin modifications due to the MCO Loading System (MLS) and Pail Systems are also contained in other WBS elements.

Reference: WHC-SD-SNF-FRD-011, Spent Nuclear Fuel Cask and Transportation System Functions and Requirements

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project) include:

- Complete Cask/Transportation Performance Testing
- Complete Cask/Transport System Design
- Complete/Issue Cask/Transportation Safety Analysis Report Packaging (SARP)
- Critical Decision 3 for Cask Fabrication
- Complete Cask/Transportation System Fabrication
- Receive Cask/Transport Systems for Training
- Complete Cask/Operations Equipment Acceptance Test
- Complete MCO Loading System Acceptance Test
- Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	<b>K Basin Cold Vacuum Facility (Des/ Mod/ Const)</b>	<b>Area Title:</b>	<b>100 Area</b>
<b>Subproject WBS Number:</b>	<b>1.03.01.02.20.41</b>	<b>Area WBS Number:</b>	<b>1.03.01.02</b>
<b>Subproject Manager:</b>	<b>A. H. McNeil</b>	<b>Function Title:</b>	<b>Design/ Modify/ Construct Systems for Fuel Movement</b>
<b>Date Prepared:</b>	<b>11/12/98</b>	<b>Function WBS Number:</b>	<b>1.03.01.02.20</b>
<b>Revision:</b>	<b>0</b>		

**Subproject Work Scope Description**

The K Basin Cold Vacuum Drying System (CVD) will dry spent nuclear fuel stored at K Basins.

CVD will be performed in the 100K area near the K Basins and is required prior to both transportation to and staging in the Canister Storage Building (CSB). The process removes bulk water from the Multi-Canister Overpack (MCO) by draining and then vacuum drying the contents. Removal of bulk water mitigates fuel corrosion and the associated production of hydrogen gas. This allows the MCO to be transferred to the CSB and stored while minimizing the threat of overheating or over pressurization. The CVD subproject scope of work under the design/modify/construct systems for fuel movement function includes; management, design, construction, regulatory, compliance, and turnover to Operations.

CVD Project Management - Project Management includes cost, schedule and technical baseline control and reporting, change control, administrative systems tasks, critical decision process, and quality assurance.

CVD Design - Design covers the development of the system and discipline drawings, vendor information, procurement specifications, design calculations, design verification documents, design reviews, and test procedures. It also includes prototype development and prototype testing.

CVD Construction - Construction includes construction management, procurement, construction, equipment installation, and Title III engineering.

CVD Regulatory Compliance - Regulatory Compliance includes the development of the Safety Analysis Report, the Hazards Analysis, air permits and S/RIDs.

Major end-item deliverables for the Cold Vacuum Drying System Sub-Project includes:

-Complete Definitive Design Report

-Prepare Safety Analysis Report

-Complete Construction Acceptance of Facility

-Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<i>Subproject Title:</i>	Debris Removal Project. (During F.M.)	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.25.16	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	C. A.Thompson	<i>Function Title:</i>	Operate SNF Removal Systems
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.25
<i>Revision:</i>	0		

**Subproject Work Scope Description**

The Debris Removal project scope of work under the Operate SNF Removal Systems function includes removal of underwater debris from 105 KE and 105 KW Basins. Efforts will focus on moving and/or removing empty fuel canisters and clearing areas to facilitate fuel and sludge removal from the basins. Debris Removal activities include removing debris from the South Load Out Pit, cleaning and removing empty canisters from the basins prior to fuel processing and removal, and general debris removal.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

-Operations input to; Debris Removal System design, installation, safety analysis, preparation for operations, and Operational Readiness Review.

-Remove debris

-Clean and dispose of canisters

-Maintain technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	SNF Relocation Common Operations	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.25.19	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	C. A. Thompson	<i>Function Title:</i>	Operate SNF Removal Systems
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.25
<i>Revision:</i>	0		

*Subproject Work Scope Description*

The Spent Nuclear Fuel (SNF) Fuel Relocation Common Operations scope of work under the Operate SNF Removal Systems function includes: operations planning, mobilization, start-up and Operational Readiness Review (ORR) of the fuel relocation facilities and systems. This includes operation and support staff ramp up and training, establishment of management systems, procedure and training development, (less sludge, debris, tritium reduction and water removal and start-up/operational testing. This activity scope of work also includes:

operational input to the Projects for; design,  
procurement,  
permitting,  
Safety Analysis Report development,  
operational support for fuel relocation.

Development, review, validation, and implementation of the operational test procedures for the fuel relocation facilities and systems and the equipment required to complete these activities.

Development and completion of the Management Self Assessment. This includes the verification of the implementation of the safety basis documentation, procedures, safety management, and training. Also included is Operational Readiness Review preparation and tools required for this activity. This task also provides for the Independent ORR activities.

Development and implementation of the training documentation and programs for Technical, Support, and Operation staff in support of fuel relocation activities.

Completion of the Task Analysis and the development, validation, and implementation of the administrative and technical procedures required to support the fuel relocation activities.

Developing mock ups, conducting mock up training for the operation and support staff.

Operational input to the Projects for design, procurement, permitting, and Safety Analysis Report development. This also provides the supplies and equipment needed to perform these activities.

Operation and support staff ramp up and training required to support the fuel relocation activities. This also provides additional supplies and equipment required to perform the activities related to training and fuel relocation.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<b>Subproject Title:</b>	SNF Relocation Common Operations	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.25.19	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	C. A. Thompson	<b>Function Title:</b>	Operate SNF Removal Systems
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.25
<b>Revision:</b>	0		

The integrated water system is needed to handle particulate and ion loading in basin water due to liberation of canister sludge and basin turbidity. Operational activities for the treatment of water in the basins include replacement of Ion Exchange Modules (IXMs) and Cartridge Filters (CFS). Disposition of Legacy Water System IXC's, design, installation, safety analysis, preparation for operations and readiness review.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

- Complete and verify training for special nuclear fuel handling personnel in compliance with Department of Energy (DOE) orders.
- Complete the management system portion - SNF ORR.
- Train Operators and Complete ORRs.
- Clean, repackage, load and transport fuel from K Basins to Canister Storage Building (CSB).
- Operate integrated water system to ensure water quality during fuel removal.
- Maintain technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	K Basin CVD Facility (Operations)	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.25.41	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	C. A. Thompson	<i>Function Title:</i>	Operate SNF Removal Systems
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.25
<i>Revision:</i>	0		

*Subproject Work Scope Description*

The K Basin Cold Vacuum Drying System (CVD) will dry spent nuclear fuel stored at K Basins. CVD will be performed in the 100 area near the K Basins and is required prior to both transportation to and storage in the Canister Storage Building (CSB). The process removes bulk water from the Multi-Canister Overpack (MCO) by draining and then vacuum drying the contents. Removal of bulk water mitigates fuel corrosion and the associated production of hydrogen gas. This allows the MCO to be transferred to the CSB and stored while minimizing the threat of overheating or over pressurization.

The K Basin Cold Vacuum Facility-(operations) scope of work under the Operate SNF Removal Systems include Management, regulatory compliance, and CVD operations.

CVD Regulatory Compliance - Regulatory Compliance includes the maintenance of the Safety Analysis Report, the Hazards Analysis, air permits and Standards/Requirements Identification Document (S/RIDs).

CVD Operations- Perform Cold Vacuum System start-up, Operational Readiness Review (ORR), and operations. This includes operations staff ramp up and training, establishment of CVD management systems, and procedure maintenance. This activity also provides operational input to the CVD Project for design, procurement, permitting, and Safety Analysis Report development, as well as operational support for the CVD.

Major end-item deliverables, (related to milestones and interfaces appropriate to this level of the Sub-Project):

Maintain and operate the CVD in a safe and environmentally sound manner.

Maintain technical documentation necessary to support operations: operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	Sludge Removal Project (Des/Mod/ Const)	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.30.50	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	F. J. Muller	<i>Function Title:</i>	Design/ Modify/Construct Sludge Removal System
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.30
<i>Revision:</i>	0		

*Subproject Work Scope Description*

The Sludge Removal System retrieves sludge and removes, the K Basin sludge/sediment located on the floor, in the pits, and in the fuel canisters. The system is baselined to accumulate K Basin sludge within the basins until fuel removal is complete and then collected. Provides for transfer of the sludge to the Sludge Treatment System where it will be conditioned for final disposition. The Sludge Removal Project scope of work under the Design/Modify/Construct Sludge Removal System function includes acquisition of KE and KW sludge retrieval systems and loadout systems, project management, facility modifications, system definition, design, procurement, fabrication, installation, acceptance testing, and turnover to operations.

The Sludge Removal Project assumes: 1) the K Basin canister wash sludge will be collected by the Integrated Water Treatment System into a retrievable form; 2) the K West canister, floor, and pit sludge constituents are consistent with those characterized in the K East Basin canister and floor sludge and will be similarly dispositioned; 3) sludge will be retrieved from the basins, loaded out and transferred to a conditioning system where it will be processed to meet TWRS acceptance criteria for safety, compatibility, and regulatory compliance.

References: WHC-SD-SNF-FDC-004, Sludge Removal System; WHC-SD-SNF-FDC-005, Sludge Retrieval System; WHC-SD-SNF-FDC-006, Sludge Process and Loadout System; WCH-SD-SNF-FRD-003, Sludge Retrieval and Packaging.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of sub-project):

- Retrieval System Design, Fabrication and Installation
- Loadout System Design, Fabrication, and Installation
- Safety Analyses for K Basin Activities.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Sludge Treatment Project (Des/ Mod/ Const)	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.30.51	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	W. Rutherford	<b>Function Title:</b>	Design/ Modify/Construct Sludge Removal System
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.30
<b>Revision:</b>	0		

***Subproject Work Scope Description***

The Sludge Treatment Project scope of work under the Design/Modify/Construct Sludge Removal System function includes acquisition of the Sludge Treatment system, Tank Waste Remediation System (TWRS) Receiving Station, and Intersite Transportation System. This includes system definition, design fabrication, installation, acceptance testing, turnover to operations, and Project Management.

Provide initial technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information as-built system/facility drawings, system design, descriptions, design basis documentation, master equipment list (safety equipment list, instrument index, etc.)

The Sludge Treatment Project assumes: 1) the K Basin canister sludge will be collected by the Integrated Water Treatment System into a retrievable form; 2) the K West canister, floor, and pit sludge constituents are consistent with those characterized in the K East Basin canister and floor sludge and will be similarly dispositioned; 3) sludge will be retrieved from the basins, loaded out and transferred to a conditioning system where it will be processed to meet TWRS and ERDF acceptance criteria for safety, compatibility, and regulatory compliance; 4) upon transfer into the receiver tank, TWRS will be responsible for containing and final disposal of the sludge.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Sludge Retrieval/ Removal Operations	<b>Area Title:</b>	100 Area
<b>Subproject WBS Number:</b>	1.03.01.02.35.50	<b>Area WBS Number:</b>	1.03.01.02
<b>Subproject Manager:</b>	C. A. Thompson	<b>Function Title:</b>	Operate & Maintain Sludge Removal System
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.02.35
<b>Revision:</b>	0		

**Subproject Work Scope Description**

The Sludge Retrieval Removal Project retrieves, manages, treats, and disposes the K Basin sludge/sediment located on the floor, in the pits, and in the fuel canisters. The system is baselined to accumulate K Basin sludge within the basins until fuel removal is complete and then collect, process and transfer the sludge to the Tank Waste Remediation System (TWRS) where it will be managed with other Hanford wastes. The Sludge Removal Project scope of work under the Sludge Removal System function includes. KE floor sludge removal system Operations, KE floor sludge retrieval operations, K Basins sludge retrieval and removal operations, K Basins sludge conditioning and transportation to TWRS.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of sub-project):

- Sludge Retrieval for K Basins
- Sludge Removal from K Basins
- Sludge Conditioning
- Sludge Transportation to TWRS

Operations input to; sludge system design, installation, safety analysis, procedure development, training development, startup/construction development.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<i>Subproject Title:</i>	Debris Removal Project- Transition	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.50.16	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	M. J. Wiemers	<i>Function Title:</i>	Deactivation 100K Area Facilities
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.50
<i>Revision:</i>	0		

***Subproject Work Scope Description***

The Debris Removal Project scope of work under the Transition 100 K Area Facilities function includes the acquisition, as necessary, of systems, equipment, and related items needed for all work activities. Acquisition includes definition, design, procurement, construction, and testing of system, equipment, modification and upgrades. Includes removal of underwater debris from 105 KE and 105 KW Basins to meet criteria for K Basin turnover to Environment Restoration. Operational activities for the removal of the old tools, cables, gloves, and miscellaneous materials of debris in 105 KE and 105 KW Basins are included. Debris Removal activities include removing debris from the basins subsequent to fuel and sludge removal.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

Debris Removal System design, acquisition installation, safety analysis, preparation for operations, and turnovers to operations.

Remove miscellaneous underwater debris (old tools, work stations, and misc. material).

Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc).

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	Water Removal Project	<i>Area Title:</i>	100 Area
<i>Subproject WBS Number:</i>	1.03.01.02.50.70	<i>Area WBS Number:</i>	1.03.01.02
<i>Subproject Manager:</i>	M. J. Wiemers	<i>Function Title:</i>	Deactivation 100K Area Facilities
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.02.50
<i>Revision:</i>	0		

*Subproject Work Scope Description*

Water Removal Project - This project's scope of work under the Transition 100K Area Facilities function includes the acquisition, as necessary, of systems, equipment, and related items needed for all work activities. Acquisition includes definition, design, procurement, construction, and testing of systems, equipment, modifications, upgrades, and turnover to operations. Work includes tritium reduction, and water removal from the basins subsequent to fuel and sludge removal. This project includes removal of K Basin water from 105 KE and 105 KW Basins to meet criteria for K Basins turnover to Environmental Restoration.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the subproject):

- Water Removal System and tritium reduction system design, installation, safety analysis, preparation for operations, and turnover to operations.
- Tritium reduction
- Remove water
- Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, etc.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Canister Storage Bldg. Facility (Des/ Mod/ Const)	<b>Area Title:</b>	Canister Storage Building
<b>Subproject WBS Number:</b>	1.03.01.03.10.30	<b>Area WBS Number:</b>	1.03.01.03
<b>Subproject Manager:</b>	S. Daughtridge	<b>Function Title:</b>	Design/Construct Canister Storage Building
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.03.10
<b>Revision:</b>	0		

**Subproject Work Scope Description**

The Canister Storage Building (CSB) encompasses the acquisition to stage and store the spent nuclear fuel after removal from the basins. The facility is sized to store approximately 2,100 metric tons of fuel in a secure environment. The fuel is to be accommodated within one of three vaults to be constructed. The second and third vaults are to be partially prepared for optional storage of Tank Waste Remediation System (TWRS) glass canisters. SNF will be loaded into Multi-Canister Overpacks (MCOs) at the 105K basins and transported to the CSB after cold vacuum drying, where it will be placed, via a MCO Handling Machine (MHM), in storage. (Reference: WHC-SD-SNF-FRD-010, Spent Nuclear Fuel Project Stage and Store K Basin SNF in Canister Storage Building Functions and Requirements).

The scope of work for the Canister Storage Building Facility Sub-Project under the Design/Construct Canister Storage Building function includes acquisition, management, design, construction, regulatory compliance of facilities, systems and equipment, and turnover to operations.

Acquisition includes the definition of functions and requirements, design, procurement, construction, safety documentation, environmental compliance and permitting.

Project management includes, cost and schedule reporting, change control, administrative systems tasks, key decision process, ICE reviews, project validation, request for proposal, statement of work for design, construction, startup, and Quality Assurance program. Review and approve contractor submittals.

Prepare engineering trade studies in support of conceptual design and advanced conceptual design. Provide the Definitive Design for the CSB, including system and discipline drawings, vendor information, procurement specification, design calculations, design verification documents, and test procedures. Provide Title III Engineering and Inspection activities to assure that the project is constructed in accordance with the plans and specifications and that the quality of materials and workmanship is consistent with the requirements of the project.

Perform construction management, construction procurement, and construction of the CSB. The Fixed Price contractor shall build, inspect, and test the CSB based on the approved drawings and specifications supplied by the Architect Engineer.

Perform activities related to Environmental Documentation, Regulatory Compliance, and permitting. Activities include obtaining air and water permits, prepare Notice of Construction (NOC) for Department of Health (DOH), and Environmental Protection Agency (EPA) approval. Development of the S/RIDs and the preparation of the Safety Analysis Report. Provide systematic identification of hazards with the CSB. Describe and analyze the adequacy of measures taken to eliminate, control, or mitigate identified hazards, analyze potential accidents and the associated risks.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Canister Storage Bldg. Facility (Des/ Mod/ Const)	<b>Area Title:</b>	Canister Storage Building
<b>Subproject WBS Number:</b>	1.03.01.03.10.30	<b>Area WBS Number:</b>	1.03.01.03
<b>Subproject Manager:</b>	S. Daughtridge	<b>Function Title:</b>	Design/Construct Canister Storage Building
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.03.10
<b>Revision:</b>	0		

Acquisition includes the MCO handling machine to handle the MCOs from the transportation cask unload station to the storage tubes and Sampling/Weld Station. This includes a gantry type crane with a cask, hoisting equipment and controls, and shield gate. This Work Breakdown Structure (WBS) item includes a Value Engineering review, proposal evaluation, design and fabrication support, and the design, fabrication and installation of the equipment.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the Sub-Project):

- Award Design Contract
- Definitive Design Report
- Safety Analysis Report
- Key Decisions 0, 1, 2, 3A (award construction), 3B (initiate construction)
- Critical Decisions 3 (Deck), 3A (Superstructure), and 3B (Systems), CD4
- Construction Acceptance of Facility
- Provide technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, master equipment list (safety equipment list, instrument index etc.)

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	Hot Conditioning System	<i>Area Title:</i>	Canister Storage Building
<i>Subproject WBS Number:</i>	1.03.01.03.10.40	<i>Area WBS Number:</i>	1.03.01.03
<i>Subproject Manager:</i>	A. H. McNeil	<i>Function Title:</i>	Design/Construct Canister Storage Building
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.03.10
<i>Revision:</i>	0		

*Subproject Work Scope Description*

The original scope of this subproject was as follows:

The Conditioning Acquisition will provide equipment to dry and condition spent nuclear fuel stored at K Basins. Conditioning the fuel will occur in two process steps, Cold Vacuum Drying (CVD) and Hot Conditioning (HC).

This scope has been deleted per Baseline Change Request SNF-98-006.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<i>Subproject Title:</i>	Canister Storage Building Operations	<i>Area Title:</i>	Canister Storage Building
<i>Subproject WBS Number:</i>	1.03.01.03.20.30	<i>Area WBS Number:</i>	1.03.01.03
<i>Subproject Manager:</i>	C. A. Thompson	<i>Function Title:</i>	Receive Defense Production Reactor SNF
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.03.20
<i>Revision:</i>	0		

***Subproject Work Scope Description***

Canister Storage Building (CSB) store the spent nuclear fuel after removal from the basins. The facility is sized to store approximately 2,100 metric tons of fuel in a secure environment. The fuel is to be accommodated within one of three vaults to be constructed. The second and third vaults are to be partially prepared for optional storage of Tank Waste Remediation System (TWRS) glass canisters. SNF will be loaded into Multi-Canister Overpack (MCOs) at the 105K Basins and transported to the CSB after cold vacuum drying where it will be placed, via a MCO Handling Machine (MHM), in storage.

The CSB scope of work under the Receive Defense Projection Reactor SNF function includes systems and activities necessary to receive SNF and provide initial until all SNF has been received. Operate and maintain the Canister Storage Building in accordance with governing safety codes and regulations. Provide required resources for safe and compliant operations. Maintain baseline documentation and qualified staff. Perform operational readiness reviews to ensure that safety and compliance are maintained. Administer storage operations. Provide interim storage of the MCOs, to final disposition. Handle MCOs to support the storage and maintain integrity functions. Collect and contain the incidental waste generated by the store, stage, maintain integrity, and handle functions.

Perform CSB start-up, Operational Readiness Review (ORR), and operations. This includes operations staff ramp up and training, establishment of CSB management systems, and procedure development. This activity also provides operational input to the CSB Project for design, procurement, permitting, and Safety Analysis Report development, as well as operational support for the CSB.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

Maintain technical documentation necessary to support operations; operations and maintenance manuals, certified vendor information, as-built system/facility drawings, system design descriptions, design basis documentation, mater equipment list (safety equipment list, instrument index etc.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<i>Subproject Title:</i>	Site Wide SNF (200 ISA Des/ Const)	<i>Area Title:</i>	200 Area ISA
<i>Subproject WBS Number:</i>	1.03.01.04.10.60	<i>Area WBS Number:</i>	1.03.01.04
<i>Subproject Manager:</i>	R. L. McCormack	<i>Function Title:</i>	Design/ Construct 200 Area Interim Storage Area (ISA)
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.04.10
<i>Revision:</i>	0		

***Subproject Work Scope Description***

The Site-Wide SNF Projects scope of work under the Design/Construct 200 Area Interim Storage Area function includes acquisition of facilities systems, and equipment needed for all site-wide SNF work activities, subproject definition, design, procurement, installation, construction, and testing. Includes, 200 Area Interim Storage Area fencing and lighting, and 200 Area ISA Warehouse. (Reference: HNF-SD-SNF-PMP-018, Sitewide SNF Project Management Plan)

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the subproject):

- 200 Area ISA fencing and lighting
- 200 Area ISA warehouse

*Spent Nuclear Fuel Project Multi-Year Work Plan*

**(2.2) Subproject Dictionary**

<b>Subproject Title:</b>	Site Wide SNF (Des/ Move Fuel to 200 ISA)	<b>Area Title:</b>	200 Area ISA
<b>Subproject WBS Number:</b>	1.03.01.04.20.60	<b>Area WBS Number:</b>	1.03.01.04
<b>Subproject Manager:</b>	R. L. McCormack	<b>Function Title:</b>	Implement Site Wide Interim Storage 200 Area
<b>Date Prepared:</b>	11/12/98	<b>Function WBS Number:</b>	1.03.01.04.20
<b>Revision:</b>	0		

**Subproject Work Scope Description**

Site-Wide SNF Projects scope of work under the Implement Site Wide Interim Storage 200 Area function includes activities necessary to maintain initial safe interim storage of the SNF throughout the Hanford Site that is not currently stored at the K Basins and manage these materials in accordance with the SNF and INEEL EIS Record of Decision and DOE/Navy/State of Idaho Consent Order. The SNF inventory in the 400 areas will be consolidated at the 400 Area Interim Storage Area (ISA), primarily with non-SNF Project funds. The SNF Project will fund certain activities to maintain the materials at the 400 Area ISA in accordance with approved project interface agreements. The 400 Area ISA SNF and 300 Area SNF will be transferred to a 200 Area ISA. SNF at T-Plant will be transferred to the CSB concurrent with K Basins SNF transfers to the CSB. Plans will be developed to repackage and interim store PFP and LLBG SNF. Design of a repacking will be initiated. Sodium bonded FFTF SNF will be transloaded at the CSB into T-3 casks and transferred to INEEL. Sitewide SNF Project activities will end at the end of FY 2004. Any scope remaining, such as completion of repackaging, will acquisition, will be completed by WM-02.

References: HNF-SD-SNF-PMP-018, Site Wide SNF Project Management Plan

Site-Wide SNF Project includes: Oregon State University reactor TRIGA fuel currently located at the Low Level Waste Burial Grounds; Shipping port PWR Core 2 fuel currently located at T Plant; Light Water Reactor (LWR) fuel from the 324, 325, and 327 facilities; TRIGA fuel currently located at the 400 Area/ISA (previously at the 308 Facility Annex); FFTF fuel currently located at the FFTF; LAMPRE fuel currently located at the PFP facility; and N Reactor fuel fragments in the N Basins sludge currently located at the N Basins.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project) includes SNF Project work scope (consistent with MOUs and programmatic agreements, as defined in the current Site Wide SNF Project PMP)

- Transfer spent nuclear fuel located at 324 Building, FFTF, and the 400 Area ISA to dry cask storage at the 200 Area ISA located adjacent to the CSB.
- Manage, prepare, and transport NRF TRIGA SNF, FFTF SNF, LWR Fuel to 200 Area ISA; PWR Core 2.SNF to CSB.
- Initiate preparations to repackage PFP SNF.
- Provide FFTF SNF transloading capability at CSB.

*Spent Nuclear Fuel Project Multi-Year Work Plan*

*(2.2) Subproject Dictionary*

<i>Subproject Title:</i>	Site Wide SNF (Oper/ Maint 200 ISA)	<i>Area Title:</i>	200 Area ISA
<i>Subproject WBS Number:</i>	1.03.01.04.30.60	<i>Area WBS Number:</i>	1.03.01.04
<i>Subproject Manager:</i>	R. L. McCormack	<i>Function Title:</i>	Operate & Maintain 200 Area ISA
<i>Date Prepared:</i>	11/12/98	<i>Function WBS Number:</i>	1.03.01.04.30
<i>Revision:</i>	0		

*Subproject Work Scope Description*

Site-Wide SNF Projects encompasses SNF Project activities necessary to maintain safe interim storage of the SNF at the 200 Area ISA upon receipt of all other SNF and management of these materials in accordance with the SNF and INEEL EIS Record of Decision and DOE/Navy/State of Idaho Consent Order. The SNF inventory in the 400 areas will be consolidated at the 400 Area Interim Storage Area (ISA), primarily with non-SNF Project funds. The SNF Project will fund certain activities to maintain the materials at the 400 Area ISA in accordance with approved project interface agreements. The 400 Area ISA SNF and 300 Area SNF will be transferred to a 200 Area ISA, for dry cask storage. This subproject includes activities for storage of fuels after receipt at the 200 Area ISA.

Site-Wide SNF Project fuels that will be stored at the 200 Area ISA during Site-Wide SNF Project includes: Light Water Reactor fuel from the 324, 325, and 327 facilities; TRIGA fuel currently located at the 400 Area/ISA (previously at the 308 Facility Annex); FFTF fuel currently located at the FFTF.

Major end-item deliverables (related to milestones and interfaces appropriate to this level of the sub-project):

-The interim storage of spent nuclear fuel located at 200 Area ISA after receipt, including operational and surveillance

Reference: HNF-SD-SNF-PMP-018, Sitewide SNF Project Management Plan

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

## *Spent Nuclear Fuel Subproject Responsibility Assignment Matrix*

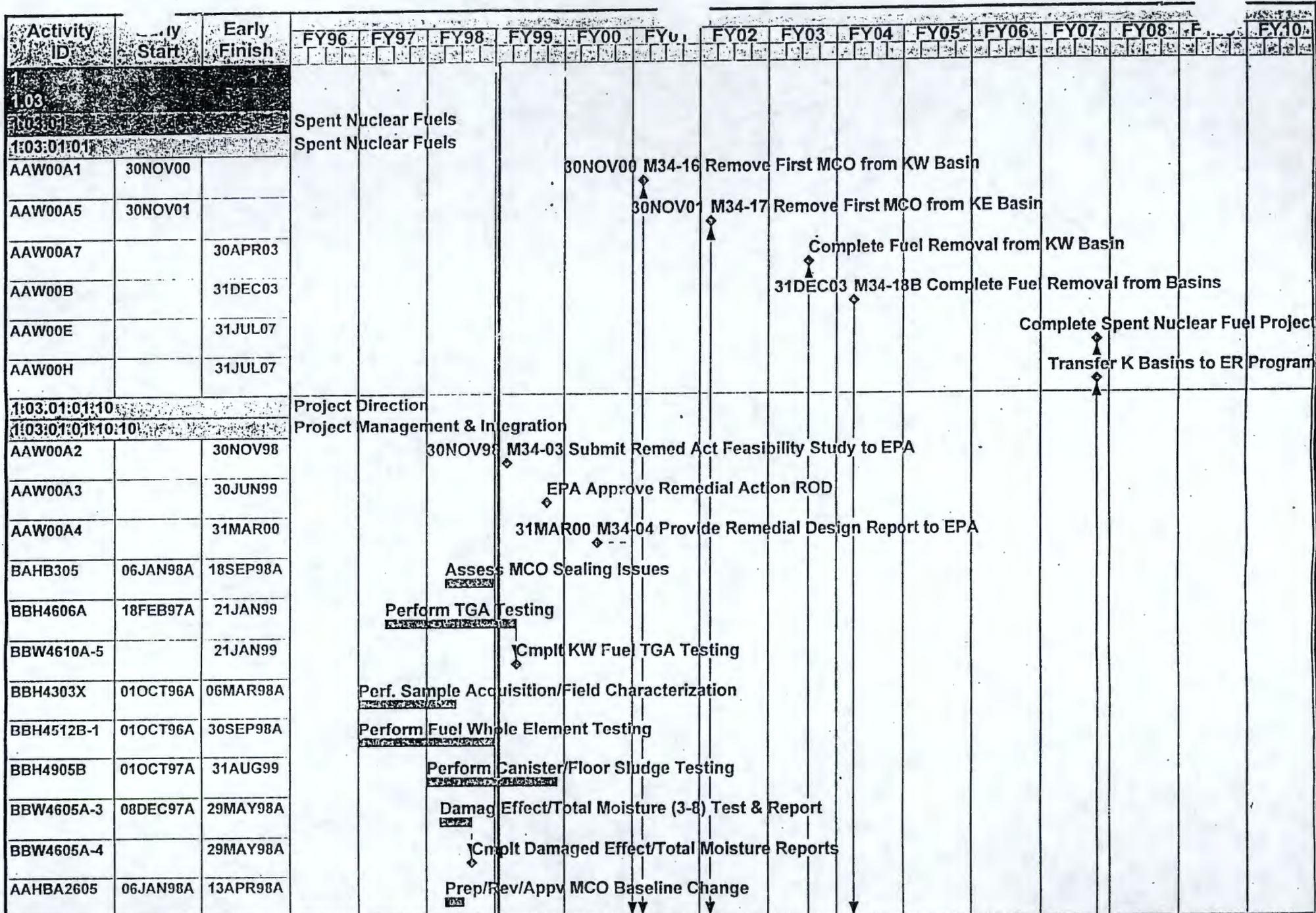
<i>Subproject</i>	<i>Title</i>	<i>Subproject Manager</i>
1.03.01.01.10.10	Project Management and Integration	N. H. Williams
1.03.01.01.10.60	Site Wide SNF Projects (327 Fuel Transfer)	R. L. McCormack
1.03.01.01.20.10	Project Mgmt. and Integration (Project Fee)	N. H. Williams
1.03.01.02.10.20	K Basins Maint. and Oper. (Through F.M.)	D. Kimball
1.03.01.02.10.60	Site Wide SNF Projects (N Basin Fuel Mvmnt.)	R. L. McCormack
1.03.01.02.15.20	K Basins Maint. and Oper. (Assoc. w/ Transition)	D. Kimball
1.03.01.02.20.13	K Basins Facility Projects (Des/Mod/Const)	R. W. Rasmussen
1.03.01.02.20.14	Fuel Retrieval Project (Des/ Mod/ Const)	R. W. Rasmussen
1.03.01.02.20.15	Water Treatment (Des/ Mod/ Const)	R. W. Rasmussen
1.03.01.02.20.16	Debris Removal Project (Des/ Mod/ Const)	F. J. Muller
1.03.01.02.20.17	MCO Acquisition (Des/Mod/ Const)	J. Cloud
1.03.01.02.20.18	Cask Transportation System (Des/ Mod/ Const)	J. Cloud
1.03.01.02.20.41	K Basin Cold Vacuum Facility (Des/ Mod/ Const)	A. H. McNeil
1.03.01.02.25.16	Debris Removal Project. (During F.M.)	C. A.Thompson
1.03.01.02.25.19	SNF Relocation Common Operations	C. A.Thompson
1.03.01.02.25.41	K Basin CVD Facility (Operations)	C. A.Thompson
1.03.01.02.30.50	Sludge Removal Project (Des/Mod/ Const)	F. J. Muller
1.03.01.02.30.51	Sludge Treatment Project (Des/ Mod/ Const)	W. Rutherford
1.03.01.02.35.50	Sludge Retrieval/ Removal Operations	C. A.Thompson
1.03.01.02.50	Deactivation 100K Area Facilities	
1.03.01.02.50.16	Debris Removal Project- Transition	M. J. Wiemers
1.03.01.02.50.70	Water Removal Project	M. J. Wiemers
1.03.01.03.10.30	Canister Storage Bldg. Facility (Des/ Mod/ Const)	S. Daughtridge
1.03.01.03.10.40	Hot Conditioning System	A. H. McNeil

---

<i>Subproject</i>	<i>Title</i>	<i>Subproject Manager</i>
1.03.01.03.20.30	Canister Storage Building Operations	C. A. Thompson
1.03.01.04.10.60	Site Wide SNF (200 ISA Des/ Const)	R. L. McCormack
1.03.01.04.20.60	Site Wide SNF (Des/ Move Fuel to 200 ISA)	R. L. McCormack
1.03.01.04.30.60	Site Wide SNF (Oper/ Maint 200 ISA)	R. L. McCormack

---

**THIS PAGE INTENTIONALLY  
LEFT BLANK**



Project Start 01OCT92  
 Project Finish 08NOV17  
 Data Date 19OCT98  
 Run Date 02NOV98

BT1-0

10/20/98  
 PMBS TPA REV "B"  
 Baseline Schedule

Sheet 1 of 15

11/02/98 3:30pm

Date	Revision	Checked	Approved

Activity ID	Start	Early Finish	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
1103:01:01:10:60			Site Wide SNF Projects														
UAH000470	20JUL98A	03FEB99							▲	▲	▲						
UAW000610		03FEB99															
1103:01:02			100 Area														
1103:01:02:10			Maintain Safe & Compliant SNF Storage in KBasins														
1103:01:02:10:20			K-Basins Maintenance & Operations- Pre Fuel Move														
DAW810501M		26MAY98A															
DAW910501M	30JUN99																
DAW920501M	30JUN00																
DAW930501M	29JUN01																
DAW940501M	28JUN02																
DAW950501M	30JUN03																
DAW02A44B		26NOV97A															
DAW02A44D	01DEC97A	01SEP99															
DAW02A44F		01SEP99															
DAW01A21	01FEB00*	02MAR00															
DAH02A00	28AUG98A	12APR99															
DAW710302C		12APR99															
DAW02A14	13APR99	19JUL99															
DAW02A16		19JUL99															
DAH02A29	20JUL99	03APR00															
DAW02A36		03APR00															

Project Start	01OCT92	Activity ID	Early Bar	BTPB	Sheet 2 of 15	11/02/98 3:30pm		
Project Finish	08NOV17	Activity ID	Progress Bar	10/20/98	Date	Revision	Checked	Approved
Date Date	19OCT98	PMBS TPA REV "B"						
Run Date	02NOV98	Baseline Schedule						
© Primavera Systems, Inc.								

Activity ID	Start	Early Finish	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	F	FY10
1:03:01:02:15			Maintain Safe & Compliance Sldg/Debr/H2O in K-Basin														
1:03:01:02:15:20			K-Basins Maintenance & Operations-Post Fuel Move														
DAW960501M	30JUN04																
DAW970501M	30JUN05																
1:03:01:02:20			Design/Modify/Const Systems for Fuel Movement														
1:03:01:02:20:13			K Basin Facility Projects														
DEW1302290		27APR98A															
DEW1302223		21AUG98A															
DEH02	01OCT96A	31DEC98															
DEW1302992		31DEC98															
FCH091912	16APR98A	20AUG98A															
FCW091930	25AUG98A	20NOV98															
FCW091932		20NOV98															
FCW000NEW		04DEC98															
FCH0949	30OCT96A	22SEP99															
FCH091247	12FEB99	25JAN01															
FCW091199		22SEP99															
FCW091299		25JAN01															
1:03:01:02:20:14			Fuel Retrieval Project														
ECHA7999	01OCT96A	11JUN98A															
ECWA7021I		11JUN98A															
ECWA7021J	12JUN98A	02SEP98A															
ECWA7021K		02SEP98A															

Project Start 01OCT92  
Project Finish 08NOV17  
Data Date 19OCT98  
Run Date 02NOV98

BTPB

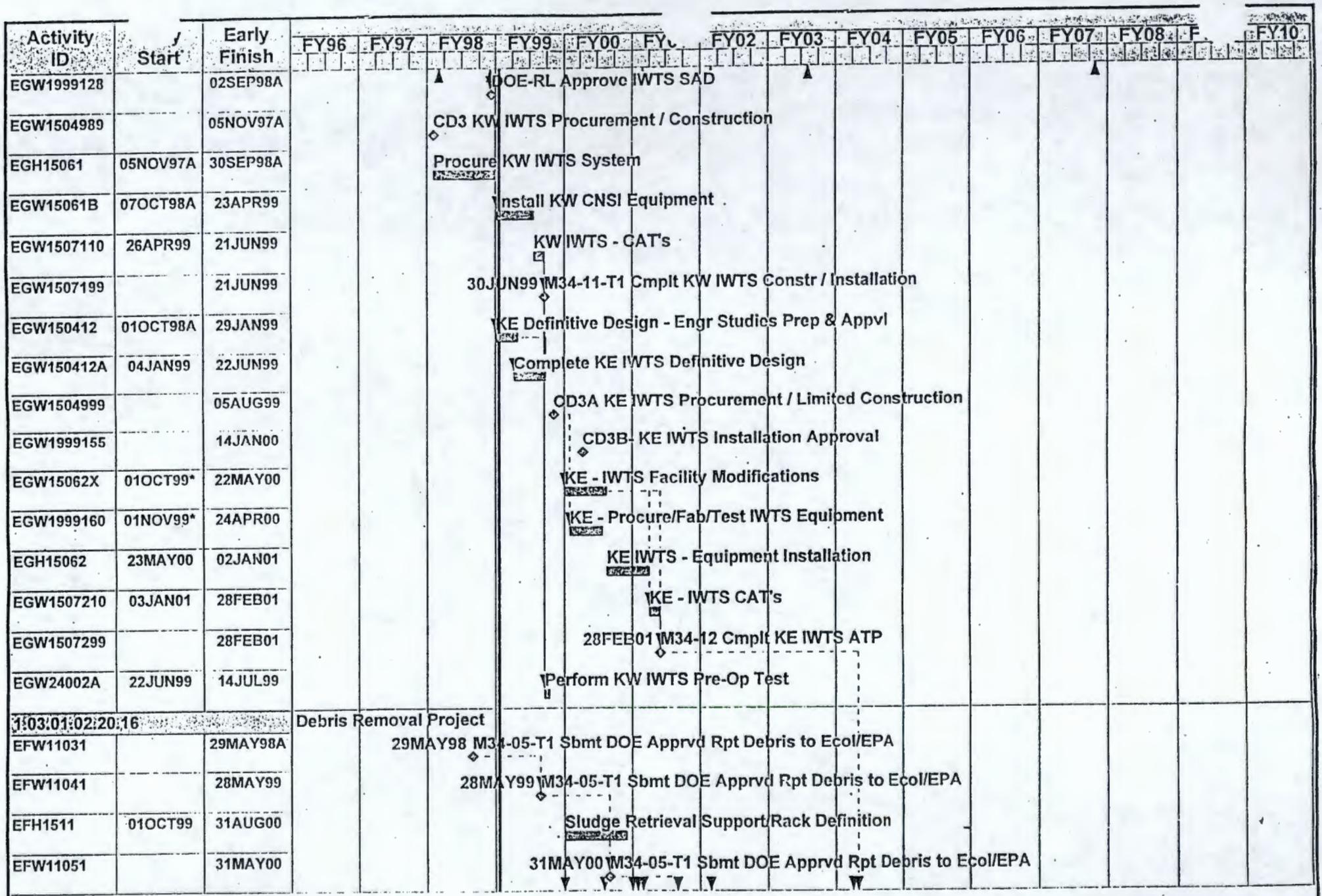
10/20/98  
PMBS TPA REV "B"  
Baseline Schedule

Sheet 3 of 15

11/02/98 3:30pm

Date	Revision	Checked	Approved





Project Start 01OCT92  
 Project Finish 08NOV17  
 Data Date 19OCT98  
 Run Date 02NOV98

Early Bar  
 Progress Bar

RTPB

10/20/98  
 PMBS TPA REV "B"  
 Baseline Schedule

Sheet 5 of 15

11/02/98 3:30pm

Date	Revision	Checked	Approved











Activity ID	Start	Early Finish	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
EJW03399A		29SEP00						▲	Select Sludge Treatment Process (TIP)								
EJH01	16OCT00	28JUL03							Acquire Sludge Treatment Sys Transport Package								
1:03:01:02:35			Operate & Maintain Sludge Removal System														
1:03:01:02:35:50			Sludge Retrieval Removal Project														
EDH200	15OCT01	30SEP04							Perform KE Basin Sludge Retrieval Operations								
EDH210	30JUL04	30JUN05							KW Sludge Removal/Treatment/Transfer to TWRS								
EDW2104999		31AUG05							31AUG05M34-10 Cmpl Sludge Removal From K Basins								
EDH1D0	01APR04	29JUL04							Perform Sludge Transfer System ORR								
EDW1D01999		29JUL04							CD4/Compl ORR Sludge Xfer from K-Basins								
EDW2104000	30JUL04								30JUL04M34-08 Initiate Full Scale KE Sludge Removal								
EDH2104	30JUL04	31AUG05							KE Sludge Removal/Treatment/Transfer to TWRS								
1:03:01:02:50			Transition 100 K Area Facilities														
HTW0100	01OCT01*	29APR03							Transition Deactivation Planning								
HTH0100	30APR03	30MAR06							KW/KE Remove Equipment/Clean Walls								
HTH0102	30SEP05	31JUL07							Complete Remaining Systems Deactivation/Cover KE								
HTW0111	03OCT05	31OCT06							Deactivate CVD Facility								
HTW0112A		31JUL07							31JUL07M34-00A Cmpl Fuel/Sludge/Debris/Water Removal								
1:03:01:02:50:15			Water Removal Project														
HTW0100A		30SEP02							Select K Basin Pool Decontamination Method (TIP)								
DAW05A03	01OCT03*	31MAR04							KE Design-Procure Equip for Tritium Reduct Proj								
DAW05A04	01APR04	29APR04							KE Tritium Reduct Project Readiness Assesment								
DAW05A05	30APR04								30APR04M34-19 Start Tritium Level Reduction								
DAH05A10	30APR04	31OCT05							Perform Tritium Level Reductions in K-East Basin								

Project Start 01OCT92  
Project Finish 08NOV17  
Data Date 19OCT98  
Run Date 02NOV98

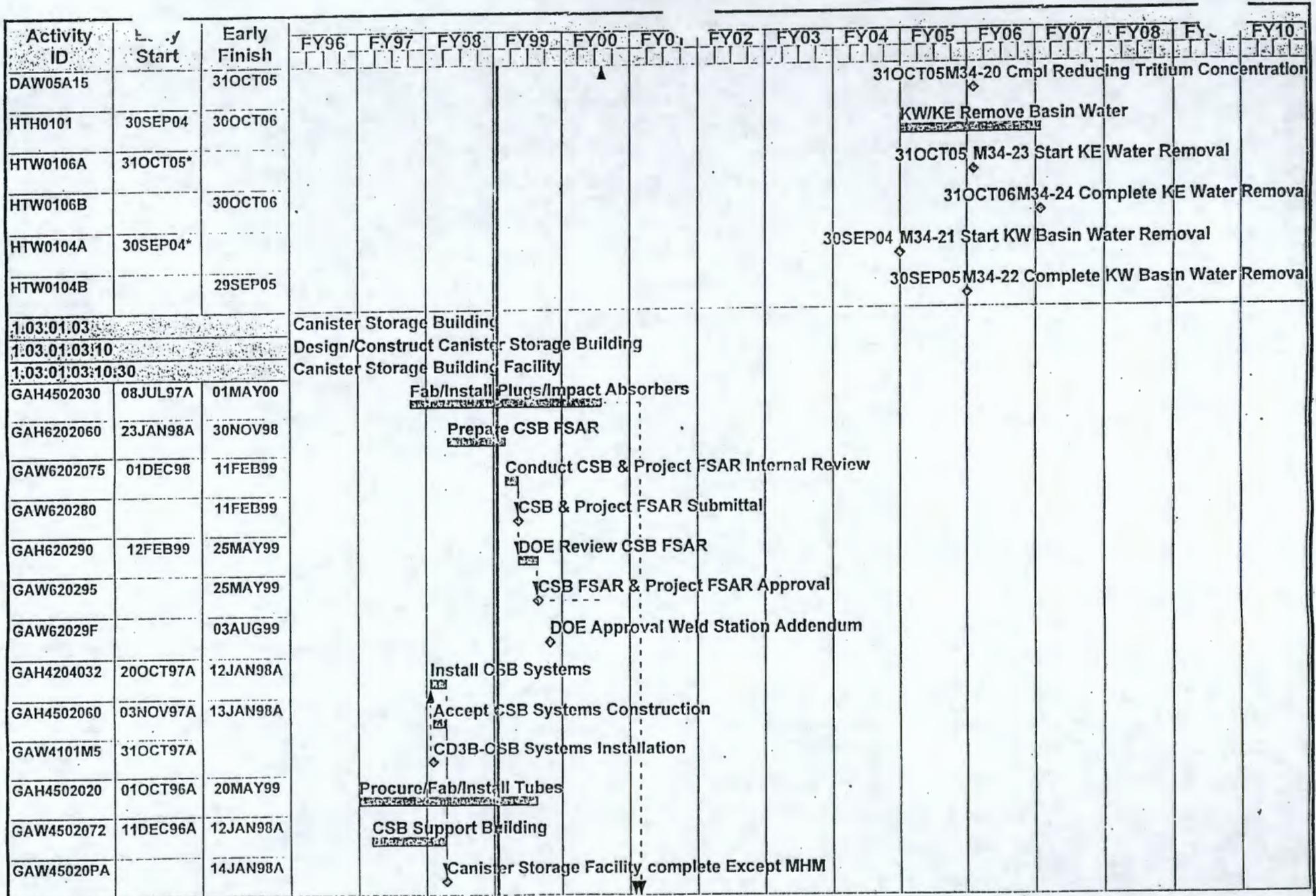
BTPB

10/20/98  
PMBS TPA REV "B"  
Baseline Schedule

Sheet 11 of 15

11/02/98 3:30pm

Date	Revision	Checked	Approved



Project Start 01OCT92  
 Project Finish 08NOV17  
 Data Date 19OCT98  
 Run Date 02NOV98

BT/PB

10/20/98  
 PMBS TPA REV "B"  
 Baseline Schedule

Sheet 12 of 15

11/02/98 3:30pm

Date	Revision	Checked	Approved

Activity ID	Start	Early Finish	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
GAW4301022	19OCT98	28MAY99				CSB Install Insulating Concrete											
GAHSS130	05OCT98A	01SEP99				Procure/Install CSB MCO Sample Station											
GAWLD130	05FEB99	31MAR99				Welding Station Procurement/Award Contract											
GAWSS120	10FEB98A	29MAY98A				Sampling Station Detail Design											
GAWSS120A	01JUN98A	03JUL98A				Review Sampling Station Detail Design											
GAWLD118	10AUG98A	22SEP98A				Procurement Placement - Weld Statn Detail Design											
GAWLD120	23SEP98A	05JAN99				Welding Station Detail Design											
GAWLD125	06JAN99*	04FEB99				Review Welding Station Detail Design											
GAHLD140	15APR99	28SEP99				Welding Station Fab/Install/Test											
GAH8410	07NOV96A	21AUG98A				Design CSB MCO Handling Machine											
GAHA8415	07NOV96A	17SEP98A				Fabricate/Deliver CSB MCO Handling Machine											
GAHA8421	02OCT97A	01APR99				Install/Adjust CSB MCO Handling Machine											
GAH03B05	01OCT96A	29SEP00				Perform CSB Staffing/Trng/Pre-Start Operations											
GAH03B16M	23JUN99	29MAR00				Perform CSB Op Test/Certification											
GAW03B13A	20APR98A	20MAY99				Perform CSB Pre Op Test (All except MHM)											
GAWA8427A	16APR99	22JUN99				Perform PAT on MHM											
GAW04B14	29SEP99	01NOV99				Perform Weld Station Startup/Testing											
GAW03B12	30NOV00	03APR01				Perform CSB Post SU Validation Testing											
GAW03B12A	04APR01	01JUN01				Evaluate CSB Process Validation Data											
1:03:01:03:20						Store Defense Production Reactor SNF											
1:03:01:03:20:30						Canister Storage Building Facility											
GAH049	30OCT00	31DEC03				Conduct CSB Opns During Staging & MCO Welding											

Project Start 01OCT92  
 Project Finish 08NOV17  
 Data Date 19OCT98  
 Run Date 02NOV98

Early Bar  
 Progress Bar

BTPB

10/20/98  
 PMBS TPA REV "B"  
 Baseline Schedule

Sheet 13 of 15

11/02/98 3:30pm

Date	Revision	Checked	Approved

Activity ID	Start	Early Finish	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
GAW060	02JAN04	30SEP04															
GAW100	01OCT04	31JUL07															
GAW04B24	02NOV99	17OCT00															
GAW04B47	04JUN01																
GAW04C20	04JUN01	31DEC03															
GAW04C20A		31DEC03															
1:03:01:04			200 Area ISA														
1:03:01:04:10			Design/ Construct 200 Area Interim Storage Area														
1:03:01:04:10:60			Site Wide SNF Projects														
TKW300160	23JAN98A	24APR98A															
TKW300180	30APR98A	03SEP98A															
TKW300PA		03SEP98A															
1:03:01:04:20			Implement Site Wide Interim Storage 200 Area														
1:03:01:04:20:60			Site Wide SNF Projects														
TKH20026	01OCT97A	28SEP01															
TKW200360	03APR01	28SEP01															
TKW200380		28SEP01															
TKH21104	01JUN98A	30SEP02															
TKW100160		30SEP99															
TKH100	01OCT98A	29SEP00															
TKW300200		30SEP99															
TKW300320	02APR01*																
TKH21118	02APR01	30SEP02															

Project Start 01OCT92  
 Project Finish 08NOV17  
 Data Date 10OCT98  
 Run Date 02NOV98

BTPU

10/20/98  
 PMBS TPA REV "B"  
 Baseline Schedule

Sheet 14 of 15

11/02/98 3:30pm

Date	Revision	Checked	Approved



**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

M-020  
 11/06/98  
 9:27 am

MYWP/SSPP PLANNING MILESTONE LIST  
 REPORTING PERIOD 9/30/98 TO 11/30/2007

MILESTONE CONTROL #	TPA-MS NUMBER	TPA TYPE	MS LEVEL	MS TITLE	-----DATES-----					
					TYPE	PLANNED BASELINE	TPA/DNFSB COMMIT	DNFSB	TIP	PBS #
S00-01-900	M-34-16	I	HQ	REMOVE FIRST MCO FROM KW BASIN	EA	11/30/00		N	N	RL-WM01
S01-99-122	M-34-03	I	HQ	SUBMIT REMEDIAL ACT FEASIBILITY STUDY TO EPA	EA	11/30/98		N	N	RL-WM01
S01-99-124	M-34-04	I	HQ	PROVIDE REMEDIAL DESIGN REPORT TO EPA	EA	3/31/00		N	N	RL-WM01
S00-02-901	M-34-17	I	HQ	REMOVE FIRST MCO FROM KE BASIN	EA	11/30/01		N	N	RL-WM01
S03-01-501	M-34-20	I	HQ	COMPLETE REDUCING TRITIUM CONCENTRATION	EA	10/31/05		N	N	RL-WM01
S03-03-068	M-34-18A	I	HQ	COMPLETE KW FUEL REMOVAL	EA	4/30/03		N	N	RL-WM01
S03-98-611			RL	SUBMIT 100K FSAR TO DOE-RL FOR REVIEW AND APPROVAL	OTH	4/12/99		N	N	RL-WM01
S04-97-355			RL	COMPLETE KW FRS CONSTRUCTION	OTH	7/07/99		N	N	RL-WM01
S04-04-515			RL	SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA	OTH	5/28/04		N	N	RL-WM01
S04-05-515			RL	SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA	OTH	5/31/05		N	N	RL-WM01
S04-00-400			RL	SELECT FUEL CUTTING SYSTEME (TIP)	TIP	8/31/00		N	Y	RL-WM01
S04-05-516			RL	COMPLETE REMOVAL K BASINS RACKS/CANISTERS	OTH	11/02/04		N	N	RL-WM01
S04-97-620			RL	COMPLETE KW IWTS CONSTRUCTION / INSTALLATION	OTH	6/21/99		N	N	RL-WM01
S04-02-600			RL	COMPLETE FINAL SAFETY BASIS SLUDGE TRANSFER	OTH	6/30/03		N	N	RL-WM01
S04-00-300			RL	SELECT SLUDGE TREATMENT PROCESS (TIP)	TIP	9/29/00		N	Y	RL-WM01
S05-98-004			RL	MCO'S AVAILABLE FOR TESTING	OTH	2/11/99		N	N	RL-WM01
S05-98-100			FO	SUBMIT MCO TOPICAL TO DOE-RL	OTH	11/05/98		N	N	RL-WM01
S06-97-012	M-34-14B	I	HQ	COMPLETE KE CASK FACILITY MODS	EA	1/25/01		N	N	RL-WM01
S04-99-816			RL	DOE-RL APPROVE CTFM SAD	OTH	11/20/98		N	N	RL-WM01
S07-97-054			RL	CSB AND PROJECT FSAR SUBMITTAL	OTH	2/11/99		N	N	RL-WM01
S07-97-053			RL	CSB FSAR AND PROJECT FSAR APPROVAL	OTH	5/25/99		N	N	RL-WM01
S07-99-060			RL	DOE APPROVAL WELD STATION ADDENDUM	OTH	8/03/99		N	N	RL-WM01
S08-99-070			RL	COMPLETE CVD CONSTRUCTION / ACCEPT 2ND 2 DAYS	OTH	6/19/00		N	N	RL-WM01
S08-99-069			RL	COMPLETE CVD CONSTRUCTION / ACCEPT 1ST 2 DAYS	OTH	8/27/99		N	N	RL-WM01
S10-99-950			RL	SELECT K BASIN POOL DECONTAMINATION METHOD (TIP)	TIP	9/30/02		N	Y	RL-WM01
S10-99-951	M-34-21	I	HQ	START KW BASINS WATER REMOVAL	EA	9/30/04		N	N	RL-WM01
S10-99-952	M-34-22	I	HQ	COMPLETE KW BASIN WATER REMOVAL	EA	9/29/05		N	N	RL-WM01
S10-99-953	M-34-23	I	HQ	START KE WATER REMOVAL	EA	10/31/05		N	N	RL-WM01
S10-99-954	M-34-24	I	HQ	COMPLETE KW WATER REMOVAL	EA	10/30/06		N	N	RL-WM01
S10-99-955	M-34-00A	M	HQ	COMPLETE FUEL/SLUDGE/DEBRIS/WATER REMOVAL	EA	7/31/07		N	N	RL-WM01
S09-99-120			RL	COMPLETE 327 BUILDING FUEL UNLOADING AT K BASINS	OTH	2/03/99		N	N	RL-WM01
S04-98-356			RL	COMPLETE KE FRS CONSTRUCTION	OTH	11/16/00		N	N	RL-WM01
S04-01-507			RL	COMPLETE K BASIN DEBRIS REMOVAL	OTH	3/09/05		N	N	RL-WM01
S04-97-621	M-34-12	I	HQ	COMPLETE KE IWTS ATP	EA	2/28/01		N	N	RL-WM01
S00-01-909			HQ	COMPLETE SPENT NUCLEAR FUEL PROJECT	OTH	7/31/07		N	N	RL-WM01

MYWP/SSPP PLANNING MILESTONE LIST  
REPORTING PERIOD 9/30/98 TO 11/30/2007

MILESTONE CONTROL #	TPA-MS NUMBER	TPA TYPE	MS LEVEL	MS TITLE	TYPE	-----DATES-----		DNFSB	TIP	PBS #
						PLANNED BASELINE	TPA/DNFSB COMMIT			
S03-00-500	M-34-19	I	HQ	START TRITIUM LEVEL REDUCTION	EA	4/30/04		N	N	RL-WM01
S04-00-515			RL	SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA	OTH	5/31/00		N	N	RL-WM01
S04-01-215	M-34-10	I	HQ	COMPLETE SLUDGE REMOVAL FROM K BASINS	EA	8/31/05	12/31/00	N	N	RL-WM01
S04-00-205			RL	COMPLETE ORR SLUDGE TRANSFER FROM K BASINS	OTH	7/29/04		N	N	RL-WM01
S06-97-009	M-34-14A	I	HQ	COMPLETE KW CASK FACILITY MODS	EA	9/22/99		N	N	RL-WM01
S00-00-902	M-34-18B	I	HQ	COMPLETE FUEL REMOVAL FROM BASINS	EA	12/31/03	12/31/99	N	N	RL-WM01
S04-01-515			RL	SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA	OTH	5/31/01		N	N	RL-WM01
S04-02-205	M-34-08	I	HQ	START KE SLUDGE TRANSFER TO TREATMENT SYSTEM	EA	7/30/04		N	N	RL-WM01
S04-99-510			RL	CD4A FUEL MOVE OPERATIONS (KE)	OTH	10/26/01		N	N	RL-WM01
S04-99-815			RL	SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA	OTH	5/28/99		N	N	RL-WM01
S04-99-521			RL	START K WEST CANISTER CLEANING OPERATIONS	OTH	12/29/00		N	N	RL-WM01
S03-98-620			RL	CD4 - FMO KW (CSB/CVD/FRS KW/MCO/CRANE MODS)	OTH	10/30/00		N	N	RL-WM01
S03-98-625			RL	DOE ORR REPORT ISSUED	OTH	10/13/00		N	N	RL-WM01
S02-98-135			RL	COMPLETE KW FUEL TGA TESTING	OTH	1/21/99		N	N	RL-WM01
S03-98-602			RL	CONTRACTOR OPERATIONAL READINESS REV	OTH	9/07/00		N	N	RL-WM01
S04-02-515			RL	SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA	OTH	5/31/02		N	N	RL-WM01
S04-03-515			RL	SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA	OTH	5/30/03		N	N	RL-WM01

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: REMOVE FIRST MCO FROM KW BASIN			Date: 10/09/98	
Assigned To: M. Funderburke			CIN:	
Program WBS Designator: 1.3.1			Due Date: 11/30/00	
PBS No: RL-WM01				
MC #: S00-01-900		TPA No: M-34-16		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Remove first MCO from KW Basin.				
<b>Description of what constitutes completion of this milestone:</b> This Milestone is complete when the first MCO is removed from the KW Basin facility.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: SUBMIT REMEDIAL ACT FEASIBILITY STUDY TO EPA				Date: 10/09/98
Assigned To: E. Gerber				CIN:
Program WBS Designator: 1.3.1				Due Date: 11/30/98
PBS No: RL-WM01				
MC #: S01-99-122		TPA No: M-34-03		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	X Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<p><b>Milestone Description:</b>            RL submits CERLA Remedial Action Feasibility Study (FS) and proposed Plan (PP) to EPA. SNFP submits review draft and final draft of the FS/PP, in support of this milestone.</p>				
<p><b>Description of what constitutes completion of this milestone:</b>            SNFP submits FS/PP (review draft) to RL by 10-15-98.            SNFP submits FS/PP (final draft) to RL by 11-18-98.            RL submits FS/PP to EPA by 11-30-98.</p>				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: PROVIDE REMEDIAL DESIGN REPORT TO EPA			Date: 10/09/98	
Assigned To: E. Gerber			CIN:	
Program WBS Designator: 1.3.1			Due Date: 3/31/00	
PBS No: RL-WM01				
MC #: S01-99-124		TPA No: M-34-04		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	X Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<p><b>Milestone Description:</b>            RL to provide Remedial Design Report (RDR) to EPA within 3 months after CERCLA Record of Decision (ROD) approval. ROD approval is anticipated on 6-30-98, which would result in RDR submittal to EPA by 9-30-99. SNFP will submit RDR (review draft) to RL.</p>				
<p><b>Description of what constitutes completion of this milestone:</b>            Assuming 6-30-99 ROD approval:            SNFP submits RDR (review draft) to RL by 8-15-99.            SNFP submits RDR (final draft) to RL by 9-15-99.            RL submits RDR to EPA by 9-30-99.</p>				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> REMOVE FIRST MCO FROM KE BASIN			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1			<b>Due Date:</b> 11/30/01	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S00-02-901		<b>TPA No:</b> M-34-17		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Remove first MCO from KE Basin.				
<b>Description of what constitutes completion of this milestone:</b> This milestone is complete when the first MCO is removed from the KE Basin facility.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE REDUCING TRITIUM CONCENTRATION				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 10/31/05	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S03-01-501		<b>TPA No:</b> M-34-20		<b>Rev:</b> 0	
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Complete replacement of contaminate KE Basin water.					
<b>Description of what constitutes completion of this milestone:</b> Replacement operations are complete when the tritium concentration in the basin is decreased and is maintained at or below 300,000 pCi/L.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE KW FUEL REMOVAL			Date: 10/09/98	
Assigned To: M Funderburke			CIN:	
Program WBS Designator: 1.3.1			Due Date: 4/30/03	
PBS No: RL-WM01				
MC #: S03-03-068		TPA No: M-34-18A		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	X Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<p><b>Milestone Description:</b> Clean and transport spent fuel stored in canisters at KW to the Cold Vacuum Drying (CVD) facility.</p>				
<p><b>Description of what constitutes completion of this milestone:</b> All spent nuclear fuel stored in canisters at the KW have been cleaned and transported to the CVD facility. This does not include material located during sludge and debris removal.</p>				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: SUBMIT 100K FSAR TO DOE-RL FOR REVIEW AND APPROVAL			Date: 10/09/98	
Assigned To: M Funderburke			CIN:	
Program WBS Designator: 1.3.1			Due Date: 4/12/99	
PBS No: RL-WM01				
MC #: S03-98-611		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> See completion description.				
<b>Description of what constitutes completion of this milestone:</b> The completion of this milestone is defined in Performance Agreement SNF 4.1.1, Rev. 0, Section 5 Performance Completion Criteria/Specifications.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE KW FRS CONSTRUCTION			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> R Rasmussen			<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1			<b>Due Date:</b> 7/07/99	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S04-97-355		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) <input checked="" type="checkbox"/> Other (Specify) Section I of OAC	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> See completion description.				
<b>Description of what constitutes completion of this milestone:</b> The completion of this milestone is defined in Performance Agreement SNF 1.1.1, Rev 0, Section 5 Performance Completion Criteria/Specifications.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 5/28/04	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S04-04-515			<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Submit annual debris report for DOE approval.					
<b>Description of what constitutes completion of this milestone:</b> Annual report that describes the quantities of waste that have been removed from the basins in the prior calendar year. This report is submitted annually to DOE for transmittal to Washington Department of Ecology and USEPA.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA			Date: 10/09/98	
Assigned To: M Funderburke			CIN:	
Program WBS Designator: 1.3.1			Due Date: 5/31/05	
PBS No: RL-WM01				
MC #: S04-05-515		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Submit annual report for DOE approval.				
<b>Description of what constitutes completion of this milestone:</b> Annual report that describes the quantities of waste that have been removed from the basins in the prior calendar year. This report is submitted annually to DOE for the transmittal to Washington Department of Ecology and USEPA.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> SELECT FUEL CUTTING SYSTM (TIP)			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> R Rasmussen			<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1			<b>Due Date:</b> 8/31/00	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S04-00-400		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG OTHER X TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Completion of final selection for cutting fuel racks.				
<b>Description of what constitutes completion of this milestone:</b> The completion of this milestone allows the debris removal system (DRS) to proceed with definitive design. Milestone completion acceptance constitutes approval.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE REMOVAL K BASINS RACKS/CANISTERS				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 11/02/04	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S04-05-516			<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Remove fuel storage racks and empty fuel canister.					
<b>Description of what constitutes completion of this milestone:</b> This milestone is complete when all fuel storage and empty fuel canisters have been received from the 105 KE / KW fuel storage basins.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE KW IWTS CONSTRUCTION / INSTALLATION				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> R Rasmussen				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 6/21/99	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S04-97-620			<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) <input checked="" type="checkbox"/> Other (Specify) Section I of OA	DOE-HQ DOE-RL Other (Specify)	
<p><b>Milestone Description:</b> See completion of description.</p>					
<p><b>Description of what constitutes completion of this milestone:</b> The completion of this milestone is defined in Performance Agreement SNF SNF 1.1.2, Rev 0, Section 5 Performance Completion Criteria/Specification.</p>					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE FINAL SAFETY BASIS SLUDGE TRANSFER			Date: 10/09/98	
Assigned To: A Segrest			CIN:	
Program WBS Designator: 1.3.1			Due Date: 6/30/03	
PBS No: RL-WM01				
MC #: S04-02-600		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) <input checked="" type="checkbox"/> Other (Specify) SAR	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Compleat Final Safety Basis for Transfer of K Basins Sludge.				
Description of what constitutes completion of this milestone: Transmit to Ecology and EPA the DOE-RL approved: K Basin Safety Analysis Report (SAR) update. Storage facility SAR of SAR modification. Safety Analysis Report for Packaging (SARP) authorizing the transfer of K Basin sludge.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> SELECT SLUDGE TREATMENT PROCESS (TIP)		<b>Date:</b> 10/09/98
<b>Assigned To:</b> A Segrest		<b>CIN:</b>
<b>Program WBS Designator:</b> 1.3.1		<b>Due Date:</b> 9/29/00
<b>PBS No:</b> RL-WM01		
<b>MC #:</b> S04-00-300	<b>TPA No:</b>	<b>Rev:</b> 0

MILESTONE LEVEL:	MILESTONE TYPE:	DNFSB STATUS:	DELIVERABLE:	ADDRESS TO:
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG OTHER <input checked="" type="checkbox"/> TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report <input checked="" type="checkbox"/> Letter Drawing(s) Other (Specify)	DOE-HQ <input checked="" type="checkbox"/> DOE-RL Other (Specify)

**Milestone Description:**  
Select Sludge Treatment Process (TIP)

**Description of what constitutes completion of this milestone:**  
Issue a letter to FDH denoting that the Conceptual Design Report has been completed and that the Sludge Treatment Process Baselines (Technical, Cost, Schedule) have been established.

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: MCO'S AVAILABLE FOR TESTING			Date: 10/09/98	
Assigned To: J Cloud			CIN:	
Program WBS Designator: 1.3.1			Due Date: 2/11/99	
PBS No: RL-WM01				
MC #: S05-98-004		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> MCO ready for Operational Training and Testing.				
<b>Description of what constitutes completion of this milestone:</b> Receipt/Inspection of three training and testing MCOs and corresponding fuel storage baskets.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: SUBMIT MCO TOPICAL TO DOE-RL				Date: 10/09/98	
Assigned To: J Cloud				CIN:	
Program WBS Designator: 1.3.1				Due Date: 11/05/98	
PBS No: RL-WM01					
MC #: S05-98-100			TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ DOE-RL <input checked="" type="checkbox"/> DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	<input checked="" type="checkbox"/> Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Submit the MCO topical report to DOE for review and approval.					
<b>Description of what constitutes completion of this milestone:</b> Complete internal review of MCO topical, including DESH/FDH approvals. FDH submit MCO topical report to DOE-RL.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE KE CASK FACILITY MODS			Date: 10/09/98	
Assigned To: R Rasmussen			CIN:	
Program WBS Designator: 1.3.1			Due Date: 1/25/01	
PBS No: RL-WM01				
MC #: S06-97-012		TPA No: M-34-14B		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify) Section I of OAC	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete 105KE Basin Cask/Transportation modification/construction.				
<b>Description of what constitutes completion of this milestone:</b> K Basin modification for the 105KE CTFM will be complete when the 105KE CTFM CAT is completed and section I of the OAC is approved and signed by the SNFP K Basin project manager, FDH acceptance inspector and DOE-RL subproject manager.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: DOE-RL APPROVE CTFM SAD			Date: 10/09/98	
Assigned To: R Rasmussen			CIN:	
Program WBS Designator: 1.3.1			Due Date: 11/20/98	
PBS No: RL-WM01				
MC #: S04-99-816		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<p><b>Milestone Description:</b> CTFM Safety Analysis Document (SAD) Approved by DOE-RL.</p>				
<p><b>Description of what constitutes completion of this milestone:</b> This milestone is complete when the CTFM SAD is approved by DOE-RL and a SER is issued.</p>				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: CSB AND PROJECT FSAR SUBMITTAL			Date: 10/09/98	
Assigned To: P LeRoy			CIN:	
Program WBS Designator: 1.3.1			Due Date: 2/11/99	
PBS No: RL-WM01				
MC #: S07-97-054		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	<input checked="" type="checkbox"/> Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Submit the CSB FSAR for DOE review and approval.				
<b>Description of what constitutes completion of this milestone:</b> DESH/FDH complete the preparation and internal review of the CSB FSAR. Transmit the CSB FSAR with cover letter to DOE for review and approval.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: CSB FSAR AND PROJECT FSAR APPROVAL			Date: 10/09/98	
Assigned To: P LeRoy			CIN:	
Program WBS Designator: 1.3.1			Due Date: 5/25/99	
PBS No: RL-WM01				
MC #: S07-97-053		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> DOE approval of Canister Storage Building (CSB) Safety Analysis Report (SAR).				
<b>Description of what constitutes completion of this milestone:</b> This milestone is complete when the final CSB SAR (or equivalent addendum/revision to the CSB SAR) has been approved by DOE-RL via Safety Evaluation Report (SER)/Letter.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> DOE APPROVAL WELD STATION ADDENDUM			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> P LeLoy			<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1			<b>Due Date:</b> 8/03/99	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S07-99-060		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> DOE reviews CSB Weld Station Addendum, submits RCRs, prepare and approves CSB Weld Station Addendum FSER.				
<b>Description of what constitutes completion of this milestone:</b> DOE submits CSB Weld Station Addendum RCRs, agrees on RCR disposition, approves Weld Station Addendum RCRs, agrees it incorporation of comments into the Addendum, prepares Addendum Final Safety Evaluation Report (FSER) and approves Weld Station Addendum FSER.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE CVD CONSTRUCTION / ACCEPT 2ND 2 BAYS			Date: 10/09/98	
Assigned To: A McNeil			CIN:	
Program WBS Designator: 1.3.1			Due Date: 6/19/00	
PBS No: RL-WM01				
MC #: S08-99-070		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete Cold Vacuum Drying (CVD) Process Equipment Construction Acceptance Testing for the second two bays by June 19, 2000.				
<b>Description of what constitutes completion of this milestone:</b> Completion of the process equipment construction acceptance test for the second two bays.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE CVD CONSTRUCTION / ACCEPT 1ST 2 BAYS				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> A McNeil				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 8/27/99	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S08-99-069			<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<p><b>Milestone Description:</b> Completion is RL SFD acceptance of the SNFP signed CAT procedures with punchlist items for the first two bays by August 27, 1999. Test procedures shall be provided to RL SFD for review 30 calendar days prior to initiating testing..</p>					
<p><b>Description of what constitutes completion of this milestone:</b> Completion of the process equipment construction acceptance tests for the first two bays.</p>					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> SELECT K BASIN POOL DECONTAMINATION METHOD (TIP)				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 9/30/02	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S10-99-950			<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG OTHER X TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<p><b>Milestone Description:</b> Select decontamination method for K Basin Pool.</p>					
<p><b>Description of what constitutes completion of this milestone:</b> SNF Project Management will issue a letter to DOE-RL that selects the appropriate method for decontaminating the K Basin Pools.</p>					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: START KW BASINS WATER REMOVAL			Date: 10/09/98	
Assigned To: M Funderburke			CIN:	
Program WBS Designator: 1.3.1			Due Date: 9/30/04	
PBS No: RL-WM01				
MC #: S10-99-951		TPA No: M-34-21		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<p><b>Milestone Description:</b> Initiate full scale K West Basin water removal.</p>				
<p><b>Description of what constitutes completion of this milestone:</b> Start water removal operations at K West Basin.</p>				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE KW BASIN WATER REMOVAL				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 9/29/05	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S10-99-952			<b>TPA No:</b> M-34-22		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Complete KW Basin Water removal.					
Description of what constitutes completion of this milestone: This activity will be completed when all water has been removed in accordance with transition criteria developed by the responsible sub-project.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> START KE WATER REMOVAL				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b>	
<b>Program WBS Designator:</b> 1.3.1				<b>Due Date:</b> 10/31/05	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S10-99-953		<b>TPA No:</b> M-34-23		<b>Rev:</b> 0	
<b>MILESTONE LEVEL:</b> <input checked="" type="checkbox"/> DOE-HQ <input type="checkbox"/> DOE-RL <input type="checkbox"/> DOE-FO <input type="checkbox"/> CONTRACTOR	<b>MILESTONE TYPE:</b> <input checked="" type="checkbox"/> EA <input type="checkbox"/> PEG <input type="checkbox"/> OTHER <input type="checkbox"/> TIP	<b>DNFSB STATUS:</b> DNFSB (Y/N): N COMMIT #: RECOMM #:	<b>DELIVERABLE:</b> Report Letter Drawing(s) Other (Specify)	<b>ADDRESS TO:</b> DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Initiate full scale K East Basin water removal.					
<b>Description of what constitutes completion of this milestone:</b> Start water removal operations at K East Basin.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE KW WATER REMOVAL			Date: 10/09/98	
Assigned To: M Funderburke			CIN:	
Program WBS Designator: 1.3.1			Due Date: 10/30/06	
PBS No: RL-WM01				
MC #: S10-99-954		TPA No: M-34-24		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete K East Basin Water Removal.				
<b>Description of what constitutes completion of this milestone:</b> Water will be removed from the K East Basin.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE FUEL/SLUDGE/DEBRIS/WATER REMOVAL			Date: 10/09/98	
Assigned To: M Funderburke			CIN:	
Program WBS Designator: 1.3.1			Due Date: 7/31/07	
PBS No: RL-WM01				
MC #: S10-99-955		TPA No: M-34-00A		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify)	DOE-HQ DOE-RL X Other (Specify)  TPA
<b>Milestone Description:</b> Complete removal of spent nuclear fuel, sludge, debris, and water at DOE's K Basins.				
<b>Description of what constitutes completion of this milestone:</b> Removal of spent nuclear fuel, sludge, debris, and water at DOE's K Basins.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE 327 BUILDING FUEL UNLOADING AT K BASINS			Date: 10/09/98	
Assigned To: E Gerber			CIN:	
Program WBS Designator: 1.3.1			Due Date: 2/03/99	
PBS No: RL-WM01				
MC #: S09-99-120		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>  DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	<b>MILESTONE TYPE:</b>  EA PEG <input checked="" type="checkbox"/> OTHER TIP	<b>DNFSB STATUS:</b>  DNFSB (Y/N): N COMMIT #: RECOMM #:	<b>DELIVERABLE:</b>  Report <input checked="" type="checkbox"/> Letter Drawing(s) Other (Specify)	<b>ADDRESS TO:</b>  DOE-HQ DOE-RL <input checked="" type="checkbox"/> Other (Specify)
<b>Milestone Description:</b> Ship all characterization and N-Basins fuel from the 327 facility to the KE Basins.				
<b>Description of what constitutes completion of this milestone:</b> This milestone is complete when all characterization and N-Basins fuel has been shipped, received, and unloaded at KE.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE KE FRS CONSTRUCTION			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> R Rasmussen			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 11/16/00	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S04-98-356		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) <input checked="" type="checkbox"/> Other (Specify) Section I of OAC	DOE-HQ DOE-RL Other (Specify)
<p><b>Milestone Description:</b> Complete construction and installation of KE Basin Spent Fuel Retrieval System (FRS).</p>				
<p><b>Description of what constitutes completion of this milestone:</b> Construction will be completed when the KE Basin FRS CAT is completed and section I of the OAC is approved and signed by the SNFP K Basin project manager, FDH acceptance inspector and DOE-RL subproject manager.</p>				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE K BASIN DEBRIS REMOVAL			Date: 10/09/98	
Assigned To: M Funderburke			CIN: SNF-97-117	
Program WBS Designator: 1.3.1.1			Due Date: 3/09/05	
PBS No: RL-WM01				
MC #: S04-01-507		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete K Basins debris removal.				
<b>Description of what constitutes completion of this milestone:</b> This target will be met when DOE completes K East and K West debris removal in a manner meeting DOE approved transition criteria.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE KE IWTS ATP			Date: 10/09/98	
Assigned To: R Rasmussen			CIN: SNF-97-117	
Program WBS Designator: 1.3.1.1			Due Date: 2/28/01	
PBS No: RL-WM01				
MC #: S04-97-621		TPA No: M-34-12		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify) Section I of OA	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete construction of the KE Basin Integrated Water Treatment System (IWTS).				
<b>Description of what constitutes completion of this milestone:</b> Construction is complete when the KE IWTS Construction Acceptance Test (CAT) is completed and section I of the Official Acceptance of Construction (OAC) is approved and signed by the SNFP K Basin project manager, FDH acceptance inspector and DOE-RL.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE SPENT NUCLEAR FUEL PROJECT			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 7/31/07	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S00-01-909		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> This event is the completion of the SNF Project scope as defined in the SNF Project Management Plan.				
<b>Description of what constitutes completion of this milestone:</b> The milestone will be complete upon transmittal of a letter documenting the completion of Project scope. It is recognized that assumptions were made with planning of this milestone and if these assumptions are proven wrong, this milestone may be impacted.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> START TRITIUM LEVEL REDUCTION			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 4/30/04	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S03-00-500		<b>TPA No:</b> M-34-19		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Initiate replacement of contaminated K East Basin water.				
<b>Description of what constitutes completion of this milestone:</b> Authorization to begin K East Basin water replacement.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA				Date: 10/09/98	
Assigned To: M Funderburke				CIN: SNF-97-117	
Program WBS Designator: 1.3.1.1				Due Date: 5/31/00	
PBS No: RL-WM01					
MC #: S04-00-515			TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ <input checked="" type="checkbox"/> DOE-RI DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Submit annual debris reprot for DOE approval.					
<b>Description of what constitutes completion of this milestone:</b> Annual report that describes the quantities of waste that have been removed from the basins in prior calendar year. This report is submitted annually to DOE for transmittal to Washington Department of Ecology and USEPA.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE SLUDGE REMOVAL FROM K BASINS				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1				<b>Due Date:</b> 8/31/05	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S04-01-215			<b>TPA No:</b> M-34-10		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<b>Milestone Description:</b> Complete sludge removal from K Basins.					
<b>Description of what constitutes completion of this milestone:</b> Transition end point criteria for sludge removal has been met.					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE ORR SLUDGE TRANSFER FROM K BASINS			Date: 10/09/98	
Assigned To: R Rasmussen			CIN: SNF-98-006	
Program WBS Designator: 1.3.1.1			Due Date: 7/29/04	
PBS No: RL-WM01				
MC #: S04-00-205		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete all Readiness Assessment with sludge subprojects culminating in sludge transfer ORR.				
<b>Description of what constitutes completion of this milestone:</b> CD-4 approval by DOE-RL to begin sludge transfer from K Basins.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE KW CASK FACILITY MODS			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> R Rasmussen			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 9/22/99	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S06-97-009		<b>TPA No:</b> M-34-14A		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete 105KW Basin Cask/Transportation modifications/construction.				
<b>Description of what constitutes completion of this milestone:</b> K Basin modification for the 105KW CTFM will be complete when the 105KW CTFM CAT is completed and section I of the OAC is approved and signed by the SNFP K Basin project manager, FDH acceptance inspector and DOE-RL subproject manager.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> COMPLETE FUEL REMOVAL FROM BASINS			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 12/31/03	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S00-00-902		<b>TPA No:</b> M-34-18B		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) X Other (Specify) COMPLETE FUEL REMOVAL	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete the removal of fuel from the K Basins.				
<b>Description of what constitutes completion of this milestone:</b> Removal from the K Basins of all fuel currently in canister racks.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 5/31/01	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S04-01-515		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ <input checked="" type="checkbox"/> DOE-RL DOE-FO CONTRACTOR	EA PEG <input checked="" type="checkbox"/> OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Submit annual debris report for DOE approval.				
<b>Description of what constitutes completion of this milestone:</b> Annual report that describes the quantities of waste that have been removed from the basins in the prior calendar year. This report is submitted annually to DOE for transmittal to Washington Department of Ecology and USEPA.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> START KE SLUDGE TRANSFER TO TREATMENT SYSTEM			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 7/30/04	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S04-02-205		<b>TPA No:</b> M-34-08		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
X DOE-HQ DOE-RL DOE-FO CONTRACTOR	X EA PEG OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Initiate transfer of K Basin sludge upon completion and approval of ORR by DOE-RL.				
<b>Description of what constitutes completion of this milestone:</b> Begin campaign to move K Basin sludge to final disposition path.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> CD4A FUEL MOVE OPERATIONS (KE)			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> D Kimball			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 10/26/01	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S04-99-510		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)

**Milestone Description:**  
Approval of Fuel Movement Operations (KE).

**Description of what constitutes completion of this milestone:**  
This milestone is complete when the DOE-RL acquisition executive approves this critical decision. This CD4A approval allows the Fuel Movement to proceed with operations. Milestone completion acceptance constitutes approval.

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1				<b>Due Date:</b> 5/28/99	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S04-99-815			<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	
<p><b>Milestone Description:</b> Submit annual debris report for DOE approval</p>					
<p><b>Description of what constitutes completion of this milestone:</b> Annual report that describes the quantities of waste that have been removed from the basins in the prior calendar year. This report is submitted annually to DOE for transmittal to Washington Department of Ecology and USEPA.</p>					

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> START K WEST CANISTER CLEANING OPERATIONS			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 12/29/00	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S04-99-521		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Initiate K West canister cleaning operations.				
<b>Description of what constitutes completion of this milestone:</b> This activity will consist of initiation the removal of contents from each canister and processing of the canisters through the radioactive decontamination apparatus.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> CD4 - FMO KW (CSB/CVD/FRS KW/MCO/CRANE MODS)			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 10/30/00	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S03-98-620		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)

**Milestone Description:**  
Approval of Fuel Movement Operations.

**Description of what constitutes completion of this milestone:**  
Removal of Spent Fuel (SF) will begin in the K West Basin. In order for this milestone to be met, the Cold Vacuum Drying (CVD) Facility and Canister Storage Building (CSB) will be ready to receive SF, the SF transport system will be operable and the K West Basin SF retrieval system.

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: DOE ORR REPORT ISSUED			Date: 10/09/98	
Assigned To: M Funderburke			CIN: SNF-97-117	
Program WBS Designator: 1.3.1.1			Due Date: 10/13/00	
PBS No: RL-WM01				
MC #: S03-98-625		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> DOE Operationsal Readiness Review Report issued.				
<b>Description of what constitutes completion of this milestone:</b> The DOE appointed independent ORR team has completed their assessment. Their final report is completed that documents the results of their evaluation, and has been sent to the Manager, RL. The letter states the teams recommendations.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: COMPLETE KW FUEL TGA TESTING			Date: 10/09/98	
Assigned To: A Segrest			CIN: SNF-97-117	
Program WBS Designator: 1.3.1.1			Due Date: 1/21/99	
PBS No: RL-WM01				
MC #: S02-98-135		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>  DOE-HQ X DOE-RL DOE-FO CONTRACTOR	<b>MILESTONE TYPE:</b>  EA PEG X OTHER TIP	<b>DNFSB STATUS:</b>  DNFSB (Y/N): N COMMIT #: RECOMM #:	<b>DELIVERABLE:</b>  Report Letter Drawing(s) Other (Specify)	<b>ADDRESS TO:</b>  DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Oxidation kinetics testing of K Basin fuel is being performed in air, moist-inert, and stream environments on a TGA in 325.				
<b>Description of what constitutes completion of this milestone:</b> Completion of TGA testing runs on KW fuel in moist-inert environment.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> CONTRACTOR OPERATIONAL READINESS REV			<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke			<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1			<b>Due Date:</b> 9/07/00	
<b>PBS No:</b> RL-WM01				
<b>MC #:</b> S03-98-602		<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)
<b>Milestone Description:</b> Complete SNFP Contractor Operational Readiness Review.				
<b>Description of what constitutes completion of this milestone:</b> The Independent ORR team has completed their assessment and has issued their final report. This report from the Chairman of the ORR Team to the Director, and SNF Project Operation, which states the teams recommendations and findings.				

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

Title: SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA			Date: 10/09/98	
Assigned To: M Funderburke			CIN: SNF-97-117	
Program WBS Designator: 1.3.1.1			Due Date: 5/31/02	
PBS No: RL-WM01				
MC #: S04-02-515		TPA No:		Rev: 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)

**Milestone Description:**  
Submit annual debris report for DOE approval.

**Description of what constitutes completion of this milestone:**  
Annual report of describes the quantities of waste that have been removed from the basins in the prior calendar year. This report is submitted annually to DOE for transmittal to Washington Department of Ecology and USEPA.

**PHMC**  
**MILESTONE DESCRIPTION SHEET**

<b>Title:</b> SUBMIT DOE APPROVED REPORT DEBRIS TO ECOLOGY/EPA				<b>Date:</b> 10/09/98	
<b>Assigned To:</b> M Funderburke				<b>CIN:</b> SNF-97-117	
<b>Program WBS Designator:</b> 1.3.1.1				<b>Due Date:</b> 5/30/03	
<b>PBS No:</b> RL-WM01					
<b>MC #:</b> S04-03-515			<b>TPA No:</b>		<b>Rev:</b> 0
<b>MILESTONE LEVEL:</b>	<b>MILESTONE TYPE:</b>	<b>DNFSB STATUS:</b>	<b>DELIVERABLE:</b>	<b>ADDRESS TO:</b>	
DOE-HQ X DOE-RL DOE-FO CONTRACTOR	EA PEG X OTHER TIP	DNFSB (Y/N): N COMMIT #: RECOMM #:	Report Letter Drawing(s) Other (Specify)	DOE-HQ DOE-RL Other (Specify)	

**Milestone Description:**  
Submit annual debris report for DOE approval.

**Description of what constitutes completion of this milestone:**  
Annual report that describes the quantities of waste that have been removed from the basins in prior calendar year. This report is submitted to DOE for transmittal to Washington Department of Ecology and USEPA.

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL  
LIFE CYCLE COST BASELINE (BCWS) BY YEAR BY FUND TYPE  
BY PROJECT BASELINE SUMMARY (PBS)  
FY 1999  
(\$000s)**

PROJECT WBS: 1.3.1											
PBS NO: RL-WM01											
PBS TITLE: SPENT NUCLEAR FUEL											
FUND TYPE	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	SUBTOT FY1997- FY2006
OPERATING EXPENSE	87,347	100,879	133,930	148,271	180,923	183,380	139,878	94,656	75,806	40,451	1,185,521
CENRTC	19,371	21,069	16,522	14,987	2,869	231	722	476	-	-	76,247
GENERAL PLANT PROJECT	-	-	-	-	-	-	-	-	-	-	-
LINE ITEM (List Each One)											
W441 - Cold Vacuum Drying Facility	7,278	17,911	22,736	8,685	-	-	-	-	-	-	56,610
W379 - Canister Storage Building	38,706	20,819	18,867	15,160	-	-	-	-	-	-	93,552
W434 - Hot Conditioning System	5,604	188	-	-	-	-	-	-	-	-	5,792
	0	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-
	0	-	-	-	-	-	-	-	-	-	-
<i>Subtotal Line Items</i>	51,588	38,918	41,603	23,845	-	-	-	-	-	-	155,954
Escalation	-	-	-	3,852	7,544	11,563	12,080	10,447	10,207	6,505	62,200
<b>TOTAL BCWS/PMB<sup>1</sup></b>	<b>158,306</b>	<b>160,866</b>	<b>192,055</b>	<b>190,955</b>	<b>191,336</b>	<b>195,174</b>	<b>152,680</b>	<b>105,579</b>	<b>86,013</b>	<b>46,956</b>	<b>1,479,922</b>
MGMT-RESERVE <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-
LINE ITEM CONTINGENCY <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-
TRANSFERS <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal</i>	-	-	-	-	-	-	-	-	-	-	-
Escalation	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>158,306</b>	<b>160,866</b>	<b>192,055</b>	<b>190,955</b>	<b>191,336</b>	<b>195,174</b>	<b>152,680</b>	<b>105,579</b>	<b>86,013</b>	<b>46,956</b>	<b>1,479,922</b>

<sup>1</sup>Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB).

<sup>2</sup>Management Reserve and Line Item Contingency Held By RL.

<sup>3</sup>Funds/Workscope Transferred to Other Sites, Transferred to Hanford from Other Sites, and/or Funds/Workscope Controlled by RL.

**SPENT NUCLEAR FUEL**  
**LIFE CYCLE COST BASELINE (BCWS) BY YEAR BY FUND TYPE**  
**BY PROJECT BASELINE SUMMARY (PBS)**  
**FY 1999**  
**(\$000s)**

PROJECT WBS:		1.3.1											
PBS NO:		RL-WM01											
PBS TITLE:		SPENT NUCLEAR FUEL											
FUND TYPE	FY2007	FY2008	FY2009	FY2010	FY2011- FY2015	FY2016- FY2020	FY2021- FY2025	FY2026- FY2030	FY2031- FY2035	FY2036 FY2040	FY2041- FY2045	FY2046 FY2050	TOTAL FY1997- FY2050
OPERATING EXPENSE	21,312	-	-	-	-	-	-	-	-	-	-	-	1,207,333
GENRTC	-	-	-	-	-	-	-	-	-	-	-	-	76,247
GENERAL PLANT PROJECT	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>LINE ITEM (List Each One)</i>													
W441 - Cold Vacuum Drying Facility	-	-	-	-	-	-	-	-	-	-	-	-	56,610
W379 - Canister Storage Building	-	-	-	-	-	-	-	-	-	-	-	-	93,552
W484 - Hot Conditioning System	-	-	-	-	-	-	-	-	-	-	-	-	5,792
0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal Line Items</i>	-	-	-	-	-	-	-	-	-	-	-	-	155,954
Escalation	4,122	-	-	-	-	-	-	-	-	-	-	-	66,322
<b>TOTAL BCWS/PMB<sup>1</sup></b>	<b>25,934</b>	-	-	-	-	-	-	-	-	-	-	-	<b>1,505,856</b>
MGMT RESERVE <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
LINE ITEM CONTINGENCY <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSFERS <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
Escalation	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>25,934</b>	-	-	-	-	-	-	-	-	-	-	-	<b>1,505,856</b>

<sup>1</sup>Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB).

<sup>2</sup>Management Reserve and Line Item Contingency Held By RL

<sup>3</sup>Funds/Workscope Transferred to Other Sites, Transferred to Hanford from Other Sites, and/or Funds/Workscope Controlled by RL.

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL  
BUDGET AUTHORITY (B/A) BY YEAR BY FUND TYPE  
BY PROJECT BASELINE SUMMARY (PBS)  
FY 1999  
(\$000s)**

<b>PROJECT WBS:</b>	1.3.1	
<b>PBS NO:</b>	RL-WM01	
<b>PBS TITLE:</b>	SPENT NUCLEAR FUEL	
	<b>TARGET B/A</b>	<b>PRESIDENT'S BUDGET PLUS CARRYOVER</b>
<b>FUND TYPE</b>	<b>FY1998</b>	<b>FY1999</b>
<b>OPERATING EXPENSE</b>	108,089	134,358
<b>CENRTC</b>	22,777	-
<b>GENERAL PLANT PROJECT</b>	-	-
<b>LINE ITEM (List Each One)</b>		
W441 - Cold Vacuum Facility	15,094	21,549
W379 - Canister Storage Building	6,118	17,131
W484 - Hot Conditioning System	532	-
0	-	-
0	-	-
0	-	-
<b>Subtotal Line Items</b>	21,744	38,680
<b>TOTAL NEW B/A</b>	152,610	173,038
<b>ESTIMATED FY 1998 CARRYOVER</b>		19,017
<b>TOTAL NEW B/A+CARRYOVER</b>	152,610	192,055

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

## B.2 Canister Storage Building Operations (RL-WM02)

### B.2.1.0 Canister Storage Building Operations Technical Baseline

This section describes the technical baseline for this project. It identifies the mission, the end point targets, the site major facilities, technical logic, functions, requirements, and forecasts for this project.

#### B.2.1.1 Canister Storage Building Operations Mission

The Canister Storage Building Operations (CSB Operations) portion of the Spent Nuclear Fuel (SNF) mission supports the Hanford Site Mission to clean up the Site by providing safe, economic, environmentally sound management of Site SNF in a manner which continues interim storage on-site to final disposition, and deactivating the associated facilities. The CSB Operations scope includes:

All the Hanford Site SNF is defined in Hanford Spent Fuel Inventory Baseline, WHC-SD-SNF-TI-001.

All new or modified Hanford Site SNF facilities associated with interim storage to final disposition.

Management and integration of activities associated with SNF from locations on the Hanford Site other than the K Basins, including the other SNF at the Hanford Site. Operate the complex which includes the CSB and 200 Area Interim Storage Area.

Staging of the Hanford Site SNF for final disposition. This may include additional configuring and packaging of the SNF to meet final disposition requirements, readying it for off-site transfer, and implementing transfer to organization(s) responsible for final disposition.

Accomplishment of all SNF activities safely, efficiently, in compliance with applicable regulations, and with the involvement of stakeholders.

Deactivation of the CSB and 200 Area ISA facilities to a condition that meets requirements for transfer to the organization(s) responsible for final disposition of these facilities. Perform activities that foster facility deactivation at no additional cost to SNF. Perform deactivation planning associated with existing and future SNF facilities. Deactivation activities associated with existing and future SNF facilities.

#### B.2.1.2 Canister Storage Building Operations End Point Targets from Hanford Strategic Plan

- Groundwater use remains restricted for a yet to be determined period.
- Spent fuels consolidated in the 200 Area in safe, stable, cost-effective interim storage pending national decisions on their ultimate disposition.
- Spent fuels removed offsite for final disposition.
- Transition high cost surplus facilities to a low cost, stable, deactivated condition.

- Provide safe, stable, interim storage for nuclear materials in the 200 Area pending decisions on their ultimate disposition.
- Remove Central Plateau (200 Area) non-essential, surplus buildings and facilities that don't have identified post-cleanup uses.
- Transition to deactivation, deactivate all facilities, except the PFP vaults, by 9/30/2014. The PFP vaults, upon removal of the SNM, during the period of 2025-2027, and completion of terminal cleanout and deactivation, will be transmitted to the ER program by 2029.
- Spent fuels (TRIGA and light water reactor) and applicable FFTF fuels removed from 400 Area interim storage area to 200 Area.
- Spent fuels (sodium bonded EBR-II test assemblies) removed offsite for final disposition.

### **B.2.1.3 Canister Storage Building Operations Major Facilities**

#### **B.2.1.3.1 Canister Storage Building**

##### **B.2.1.3.1.1 Canister Storage Building Description**

The CSB is a reinforced-concrete vault structure with storage tubes to be used for MCOs holding K Basins SNF. The CSB provides safe interim storage of irradiated fuel at Hanford. The CSB contains three vaults. Vault 1 will be for storage of K Basins fuel. Vaults 2 and 3 will be used by the TWRS Project for the storage of immobilized high-level waste from the Tank Waste Remediation System.

Functions performed in the CSB are identified in the following figure. Functions within Project Baseline Summary (PBS) element RL-WM01 includes CSB construction and initiation of SNF interim storage.

Functions performed within the scope of Program Baseline Summary (PBS) element RL-WM02 includes interim storage of K Basins SNF. Storage of Shippingport PWR Core 2 fuel assemblies is also included with the scope of CSB functions, in addition to disposition of SNF, CSB transition, Decontamination & Decommissioning, and transferring the CSB to Environmental Restoration.

#### **Canister Storage Building (CSB) Sub-Project Boundaries:**

The Canister Storage Building (CSB) operations provide interim storage of MCOs filled with SNF and load empty Multi Canister Overpacks (MCOs) into the cask for return to the K Basins via the Cask and Transportation System (CTS). The CSB also receives new MCOs (empty) provided by the MCO System for insertion into the casks. The CSB transfers ventilation condensate to liquid effluent disposal and solid waste to solid waste burial. The CSB stores PWR Core 2 (Shippingport) fuel assemblies received from T-Plant. The CSB receives and repackages other SNF, returning repackaged Site-Wide SNF to the 200 Area Interim Storage Area (ISA) for interim storage. SNF is dispositioned offsite at the national repository. The CSB subproject provides the facilities, systems, and equipment to perform these operations.

CSB completion occurs when stored SNF is transferred to the national repository, FY 2040, and the D&D CSB facilities are turned over to ER. The CSB subproject completion occurs upon satisfactory completion of acceptance testing and the CSB is turned over to operations, FY 1999.

**B.2.1.3.1.2 Canister Storage Building Technical Logic:**

The Department of Energy (DOE), in partnership with its contractors, shall plan, acquire, operate, maintain, and dispose of physical assets as valuable national resources. Stewardship of these physical assets shall be accomplished in a cost-effective manner to meet the DOE mission. This shall incorporate industry standards, a graded approach, and performance objectives.

This diagram displays the primary work activities (functions) that are performed in each life cycle phase of the facility. The diagram also reflects the technical logic (functional flow) for the facility through its remaining life cycle phases.

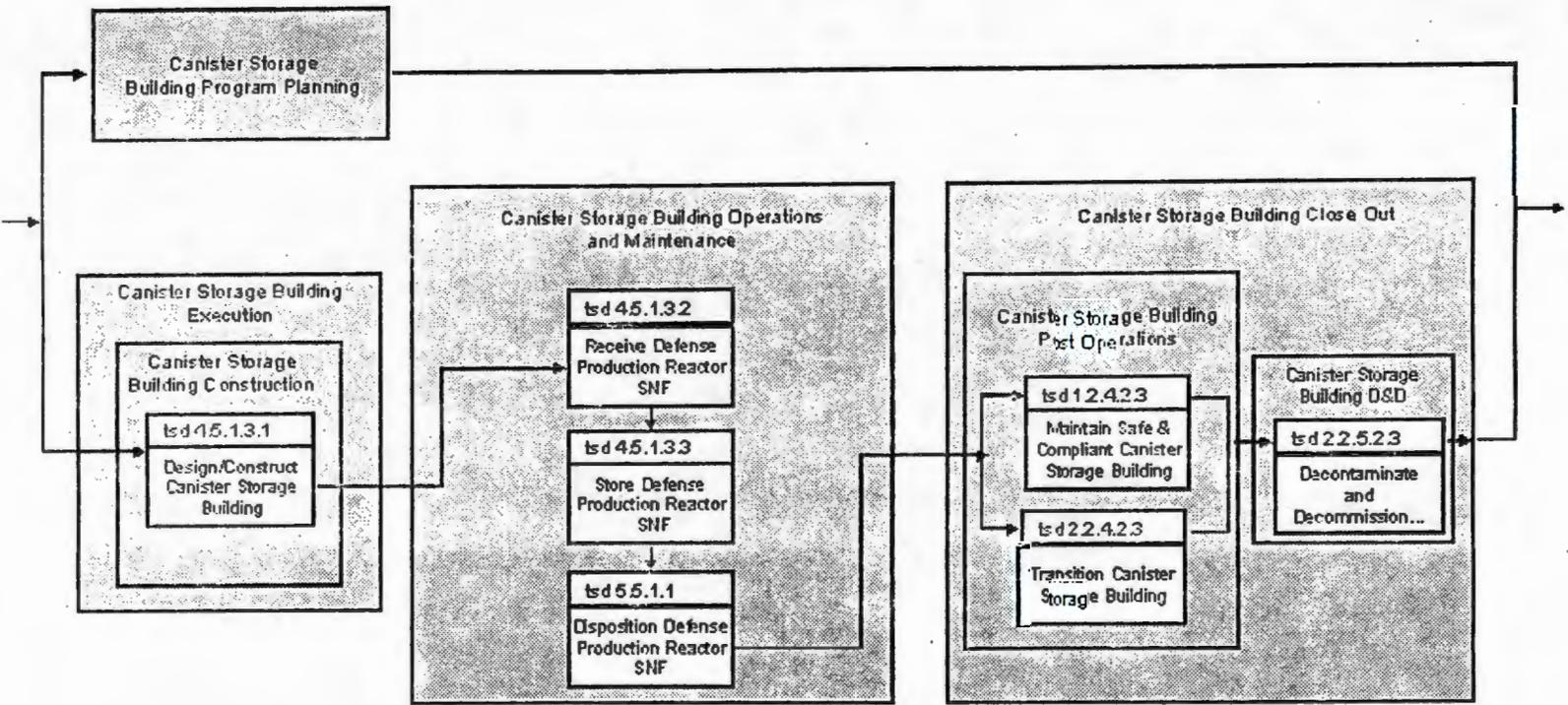
Project responsibility for the life cycle phases of the Canister Storage Building components are assigned as follows:

**Table B.2-1 Responsibility Assignment Matrix for Canister Storage Building**

Facility	Life Cycle Phase *								
	Program Planning	Pre Conceptual	Conceptual	Execute			O&M	Close Out	
				Design	Construction	Turnover		Post Ops	D&D
Canister Storage Building	RL-WM01 RL-TW09				RL-WM01 RL-TW09		RL-WM02 RL-TW09 RL-WM01	RL-WM02 RL-TW09	RL-WM02

\* RL PBS Identifier Index:

- RL-TW09 - Immobilized Tank Waste Storage & Disposal
- RL-WM02 - Canister Storage Building Operations
- RL-WM01 - Spent Nuclear Fuel Project



□ Facility life cycle phase

Figure B.2\_1 CANISTER STORAGE BUILDING

### B.2.1.3.1.3 Canister Storage Building Life Cycle Functional Descriptions and Requirements

The Life Cycle Functional Descriptions table describes the life cycle phases and the functions performed during each phase. The Life Cycle Requirements table describes the requirements that trace to the functions listed in the Life Cycle Functional Descriptions table.

**Table B.2-2 Canister Storage Building Life Cycle Functional Descriptions**

<b>hsems.2.3.3.Icam.5 CANISTER STORAGE BUILDING OPERATIONS &amp; MAINTENANCE</b>	
<b>tsd.4.5.1.3.3 Store Defense Production Reactor SNF</b>	This function includes systems and activities necessary to provide interim storage until permanent disposition plans are finalized at the national level. Operate and maintain the Canister Storage Building in accordance with governing safety codes and regulations. Provide required resources for safe and compliant operations. Maintain baseline documentation and qualified staff. Perform operational readiness reviews to ensure that safety and compliance are maintained. Administer storage operations. Provide interim storage of the MCOs, to final disposition. Ensure the safety of operations by controlling and monitoring the MCO environment, and by maintaining the integrity of the MCOs. Handle MCOs to support the storage and maintain integrity functions. Collect and contain the incidental waste generated by the store, stage, maintain integrity, and handle functions.
<b>tsd.5.5.1.1 Disposition Defense Production Reactor SNF</b>	This function includes systems and activities necessary to prepare, stage, loadout, and transport SNF stored within the CSB to final disposition. Sodium bonded Fast Flux Test Facility (FFTF) fuel will be transferred to the CSB for loading into shipping casks prior to being shipped to Argonne National Laboratory-West for treatment.
<b>hsems.2.3.3.Icam.6.1 CANISTER STORAGE BUILDING POST OPERATIONS</b>	
<b>tsd.1.2.4.2.3 Maintain Safe &amp; Compliant Canister Storage Building</b>	Following the Operations and Maintenance phase of the Canister Storage Building, maintain the facility structures, systems and equipment, and monitoring systems until the facility is turned over to Environmental Restoration.
<b>tsd.2.2.4.2.3 Transition Canister Storage Building</b>	Complete the transition phase of decontamination and decommissioning for the Canister Storage Building. Includes transition deactivation planning and transferring the deactivated facility to Environmental Restoration.
<b>hsems.2.3.3.Icam.6.2 CANISTER STORAGE BUILDING D&amp;D</b>	
<b>tsd.2.2.5.2.3 Decontaminate and Decommission (D&amp;D) Canister Storage Building</b>	Complete the decontamination and decommissioning for the Canister Storage Building. Includes D&D planning and transferring the deactivated facility to Environmental Restoration.

**Table B.2-3 Canister Storage Building Life Cycle Requirements**

Requirement	Function
Central Plateau high cost surplus facilities shall be transitioned to a low cost, stable, deactivated condition	tsd.2.2.4.2.3
Central Plateau facilities other than processing facilities shall be dismantled	tsd.2.2.5.2.3
Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition	tsd.4.5.1.3.3
Transitioned facilities shall be decontaminated and decommissioned sufficiently to enable removal or closure through entombment	tsd.2.2.5.2.3
Spent Nuclear Fuel removed from 100 K Area Facilities shall be shipped offsite for disposal in a national repository.	tsd.5.5.1.1
Central Plateau gaseous effluent releases shall be monitored	tsd.1.2.4.2.3
Onsite interim safe, stable storage of nuclear materials shall be provided.	tsd.4.5.1.3.3
CSB and MCOs shall be designed for a 40 year interim storage period.	tsd.4.5.1.3.3
Spent Nuclear Fuel removed from the 100 K Area Facilities shall be placed into cost effective, interim, dry, storage pending shipment to a federal repository (approximately 40 years).	tsd.4.5.1.3.3

**Table B.2-3 Canister Storage Building Life Cycle Requirements (Continued)**

Requirement	Function
SNF shall be emplaced in the CSB for safe, cost effective interim storage until a federal repository is available (~40 years).	tsd.4.5.1.3.3
Complete, contingent on the completion of the National Environmental Policy Act (NEPA) documentation, the design and construction of the Canister Storage Building (CSB) to be used for dry storage of the K Basin spent fuel; take actions to make it operational, and operate the facility.	tsd.4.5.1.3.3

**B.2.1.3.1.4 Canister Storage Building Boundary Diagram**

This section identifies the other facilities (onsite and offsite) that have an interface (either input or output) with this facility.

**Table B.2-4 Canister Storage Building Boundary Diagram**

Major Input Interfaces	Facility	Major Output Interfaces
External Interfaces -None- Hanford Site Environmental System Interfaces 100 K Area Facilities	Canister Storage Building	External Interfaces National Geologic Repository Hanford Site Environmental System Interfaces -None-

**B.2.1.3.1.5 Canister Storage Building Interface Descriptions and Summary Level Forecasts**

This section contains the material, waste, and infrastructure forecasts for this facility. It identifies the interface type, the period of time for the forecasts, the life cycle total forecast value, and the execution year forecast quantity.

**OFFSITE INPUTS**

-None-

**ONSITE INPUTS**

**Table B.2-5 Onsite Inputs for Canister Storage Building**

Stream	Category	Period	Total	FY99	Units
hsems.1.2.1 100 K Area Facilities					
K Basin Spent Nuclear Fuel	(none forecasted)				
hsems.2.3.3 Canister Storage Building					
K Basin Spent Nuclear Fuel	(none forecasted)				

**OFFSITE OUTPUTS**

**Table B.2-6 Offsite Outputs for Canister Storage Building**

Stream	Category	Period	Total	FY99	Units
X National Geologic Repository					
Dispositioned Defense Production Reactor SNF	Spent Nuclear Fuel (SNF)	2015 - 2040	2130		MTHM

**ONSITE OUTPUTS**

-None-

## **B.2.1.3.2 200 Interim Storage Area (ISA) Facility**

### **B.2.1.3.2.1 200 Interim Storage Area (ISA) Facility Description**

The 200 Area Interim Storage Area (ISA), constructed adjacent to the Canister Storage Building (CSB) will be used for interim storage of site-wide SNF. Management of the ISA includes management of all site-wide SNF in accordance with an approved Memorandum of Understanding (MOU). Sodium bonded FFTF fuel will be loaded into shipping casks in the CSB and shipped to Argonne National Laboratory-West for treatment. Remaining FFTF fuel and other fuel in interim storage casks in the 400 Area ISA will be transferred to the 200 Area ISA when available.

Functions performed in the 200 Area ISA are identified in the following figure. The scope of the 200 Area ISA functions do not include storage of the Shippingport PWR Core 2 assemblies (included in the CSB) or storage of FFTF fuel that requires additional security measures (included in the Plutonium Finishing Plant [PFP]).

Disposition of miscellaneous reactor fuel assemblies located at PFP and TRIGA fuel located in the 200 West Area burial ground is included in the scope of the 200 Area ISA under continuing operations (WM02).

During the time period managed under RL-WM01, TRIGA reactor fuel located in the 200 West Area Low Level Burial Ground will be transferred to the 200 Area ISA for storage.

#### **Site-Wide SNF Sub-Project Boundaries:**

The Site-Wide Spent Nuclear Fuel (SNF) operations transfers FFTF fuel and other fuel from the 400 Area Interim Storage Area (ISA) to the 200 Area ISA, TRIGA fuel located in the 200 West Area burial ground, and TRIGA fuel from the 308 Building. Sodium bonded FFTF fuel is transferred to the Canister Storage Building (CSB) for packaging prior to shipment to Idaho National Environmental Engineering Laboratory (INEEL). Light Water Reactor (LWR) fuel in the 324 Building is transferred to the 200 Area ISA. T-Plant fuel is transferred to the CSB. Other SNF is dispositioned off-site at the national repository. Sodium bonded FFTF fuel is dispositioned offsite to INEL. The Site-Wide SNF sub-project provides the systems and equipment to perform these operations.

The Site-Wide SNF subproject completion occurs upon turn over to CSB continuing operations at the end of FY 2004. Site-Wide SNF continuing operations completion occurs when stored SNF is transferred to the national repository, FY 2017, and the D&D facilities are turned over to ER.

#### **B.2.1.3.2.2 200 Interim Storage Area (ISA) Facility Technical Logic:**

The Department of Energy (DOE), in partnership with its contractors, shall plan, acquire, operate, maintain, and dispose of physical assets as valuable national resources. Stewardship of these physical assets shall be accomplished in a cost-effective manner to meet the DOE mission. This shall incorporate industry standards, a graded approach, and performance objectives.

This diagram displays the primary work activities (functions) that are performed in each life cycle phase of the facility. The diagram also reflects the technical logic (functional flow) for the facility through its remaining life cycle phases.

Project responsibility for the life cycle phases of the 200 Interim Storage Area (ISA) components are assigned as follows:

**Table B.2-7 Responsibility Assignment Matrix for 200 Interim Storage Area (ISA)**

Facility	Life Cycle Phase *								
	Program Planning	Pre Conceptual	Conceptual	Execute			O&M	Close Out	
				Design	Construction	Turnover		Post Ops	D&D
200 Interim Storage Area (ISA)	RL-WM01				RL-WM01		RL-WM01 RL-WM02	RL-WM02	RL-WM02

\* RL PBS Identifier Index:

RL-WM02 - Canister Storage Building Operations  
 RL-WM01 - Spent Nuclear Fuel Project

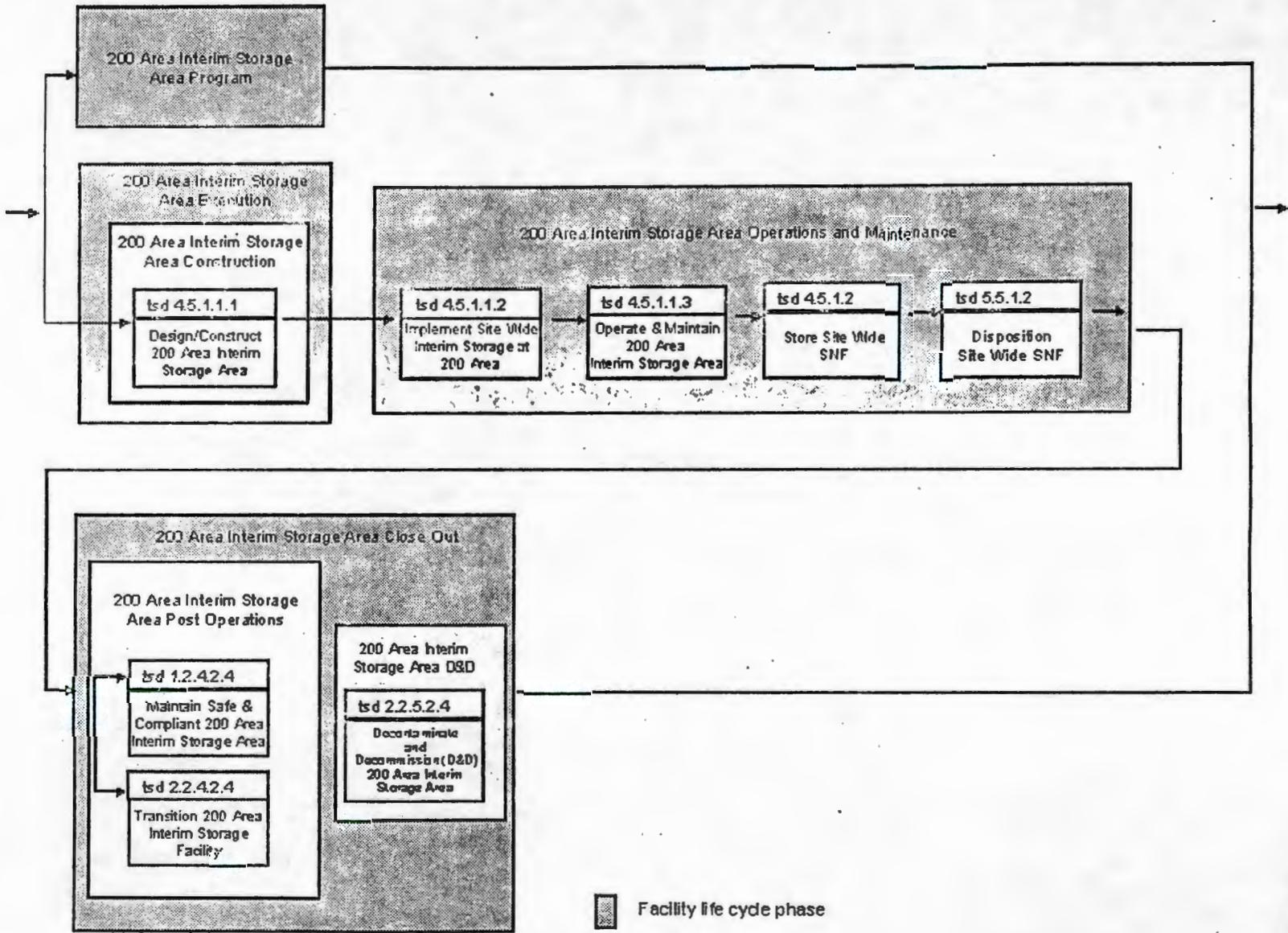


Figure B.2\_2 200 AREA INTERIM STORAGE AREA (ISA)

Facility life cycle phase

### B.2.1.3.2.3 200 Interim Storage Area (ISA) Life Cycle Functional Descriptions and Requirements

The Life Cycle Functional Descriptions table describes the life cycle phases and the functions performed during each phase. The Life Cycle Requirements table describes the requirements that trace to the functions listed in the Life Cycle Functional Descriptions table.

**Table B.2-8 200 Interim Storage Area (ISA) Life Cycle Functional Descriptions**

<b>hsems.2.3.4.Icam.5 200 AREA INTERIM STORAGE AREA OPERATIONS &amp; MAINTENANCE</b>	
<b>tsd.4.5.1.2, Store Site-Wide SNF</b>	Interim store Site-Wide SNF in the 200 Area ISA. Operate and maintain the 200 Area Interim Storage Area structures, operating systems, equipment, and monitoring systems within the approved safety and compliance requirements. Plan, coordinate, and schedule all necessary activities required for safe operations. Ensure the safety of operations by monitoring and maintaining the integrity of storage systems.
<b>tsd.5.5.1.2 Disposition Site-Wide SNF</b>	This function includes systems and activities necessary to prepare, stage, loadout, and transport site-wide SNF stored at the 200 Area ISA to final disposition.
<b>hsems.2.3.4.Icam.6.1 200 AREA INTERIM STORAGE AREA POST OPERATIONS</b>	
<b>tsd.1.2.4.2.4 Maintain Safe &amp; Compliant 200 Area Interim Storage Area</b>	Following the Operations and Maintenance phase, maintain the 200 Area Interim Storage Area structures, operating systems and equipment, and monitoring systems within the approved safety and compliance requirements until the facilities are turned over to Environmental Restoration.
<b>tsd.2.2.4.2.4 Transition 200 Area Interim Storage Facility</b>	Complete the transition phase of decontamination and decommissioning for the 200 Area Interim Storage Area. Includes transition deactivation planning.
<b>hsems.2.3.4.Icam.6.2 200 AREA INTERIM STORAGE AREA D&amp;D</b>	
<b>tsd.2.2.5.2.4 Decontaminate and Decommission (D&amp;D) 200 Area Interim Storage Area</b>	Complete decontamination and decommissioning of the 200 Area Interim Storage Area. Includes D&D planning and transferring the deactivated facility to Environmental Restoration.

**Table B.2-9 200 Interim Storage Area (ISA) Life Cycle Requirements**

Requirement	Function
Spent fuels removed offsite for final disposition.	tsd.4.5.1.2
Spent fuels (TRIGA and light water reactor) and applicable FFTF fuels removed from 400 Area interim storage area to 200 Area.	tsd.4.5.1.2
Spent fuels (sodium bonded EBR-II test assemblies) removed offsite for final disposition.	tsd.4.5.1.2
Maintain the 200 Area ISA within the authorized safety basis and in accordance with approved S/RIDs.	tsd.1.2.4.2.4 tsd.2.2.4.2.4
Central Plateau high cost surplus facilities shall be transitioned to a low cost, stable, deactivated condition	tsd.2.2.4.2.4
Central Plateau facilities other than processing facilities shall be dismantled	tsd.2.2.5.2.4
Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition	tsd.4.5.1.2
Transitioned facilities shall be decontaminated and decommissioned sufficiently to enable removal or closure through entombment	tsd.2.2.5.2.4
Na-bonded FFTF Spent Nuclear Fuel shall be shipped to Idaho National Environmental and Engineering Laboratory for treatment and final disposition in accordance with schedules established by the national SNF Program.	tsd.5.5.1.2
Site Wide Spent Nuclear Fuel shall be shipped offsite for disposal in a national repository.	tsd.5.5.1.2
Central Plateau gaseous effluent releases shall be monitored	tsd.1.2.4.2.4
Manage site-wide SNF in accordance with existing, DOE approved, Memoranda of Understanding (MOU).	tsd.1.2.4.2.4

**Table B.2-9 200 Interim Storage Area (ISA) Life Cycle Requirements (Continued)**

Requirement	Function
Onsite interim safe, stable storage of nuclear materials shall be provided.	isd.4.5.1.2

**B.2.1.3.2.4 200 Interim Storage Area (ISA) Boundary Diagram**

This section identifies the other facilities (onsite and offsite) that have an interface (either input or output) with this facility.

**Table B.2-10 200 Interim Storage Area (ISA) Boundary Diagram**

Major Input Interfaces	Facility	Major Output Interfaces
External Interfaces -None- Hanford Site Environmental System Interfaces FFTF	200 Interim Storage Area (ISA)	External Interfaces Idaho National Engineering Laboratory National Geologic Repository Hanford Site Environmental System Interfaces PFP

**B.2.1.3.2.5 200 Interim Storage Area (ISA) Interface Descriptions and Summary Level Forecasts**

This section contains the material, waste, and infrastructure forecasts for this facility. It identifies the interface type, the period of time for the forecasts, the life cycle total forecast value, and the execution year forecast quantity.

**OFFSITE INPUTS**

-None-

**ONSITE INPUTS**

**Table B.2-11 Onsite Inputs for 200 Interim Storage Area (ISA)**

Stream	Category	Period	Total	FY99	Units
hsems.2.3.4 200 Interim Storage Area (ISA)					
FFTF Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2001 - 2001	0.6		MTHM
hsems.4.3.1 FFTF					
FFTF Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2001 - 2001	0.6		MTHM

**OFFSITE OUTPUTS**

**Table B.2-12 Offsite Outputs for 200 Interim Storage Area (ISA)**

Stream	Category	Period	Total	FY99	Units
X Idaho National Engineering Laboratory					
Sodium (Na) Bonded FFTF SNF	Spent Nuclear Fuel (SNF)	2003 - 2003	0.29		MTHM
X National Geologic Repository					
Dispositioned Non-Defense Production Reactor SNF	Spent Nuclear Fuel (SNF)	2015 - 2017	29.0		MTHM
FFTF Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2001 - 2001	0.6		MTHM

**ONSITE OUTPUTS**

**Table B.2-13 Onsite Outputs for 200 Interim Storage Area (ISA)**

Stream	Category	Period	Total	FY99	Units
hsems.2.2.9 PFP					
FFTF Plutonium	(none forecasted)				

**Table B.2-13 Onsite Outputs for 200 Interim Storage Area (ISA) (Continued)**

Stream	Category	Period	Total	FY99	Units
FFTF Highly Enriched Uranium	Highly Enriched Uranium (HEU)	2000 - 2000	42.7		kilograms
FFTF Natural Uranium	(none forecasted)				
<b>hsems.2.3.4 200 Interim Storage Area (ISA)</b>					
FFTF Spent Nuclear Fuel	Spent Nuclear Fuel (SNF)	2001 - 2001	0.6		MTHM

**B.2.1.4 Drivers for Canister Storage Building Operations**

**Table B.2-14 Source Documents for Canister Storage Building Operations**

<u>Name</u>	<u>Title</u>
DE-AC06-96RL13200	Project Hanford Management Contract, Fluor Daniel Hanford, Inc.
DOE/EIS-0222D	Draft Hanford Remedial Action Environmental Impact Statement and Comprehensive Land Use Plan
DOE/RL-96-92	Hanford Strategic Plan
DOE/RL-97-55	Hanford Site Environmental Management Specification
HNF-EP-0853, Rev 5	Hanford Site Integrated Stabilization Management Plan
WHC-SD-WM-DRD-012	Design Requirements Document for the Interim Store Phase I Solidified High-Level Waste, Function 4.2.4.1.2

## B.2.2.0 Canister Storage Building Operations Work Breakdown Structure (WBS)

### B.2.2.1 Canister Storage Building Operations WBS Hierarchy

RL PBS	RL WBS	Title
RL-WM02	1.03.02	Canister Storage Building Operations
	1.03.02.01	Canister Storage Building
	1.03.02.01.05	Store Defense Production Reactor SNF
	1.03.02.01.10	Disposition Defense Production Reactor SNF
	1.03.02.01.20	Maintain Safe & Compliant Canister Storage Building
	1.03.02.01.30	Transition Canister Storage Building
	1.03.02.01.40	Decontaminate and Decommission (D&D) Canister Storage Building
	1.03.02.02	200 Interim Storage Area (ISA)
	1.03.02.02.10	Store Site-Wide SNF
	1.03.02.02.20	Disposition Site-Wide SNF
	1.03.02.02.30	Maintain Safe & Compliant 200 Area Interim Storage Area
	1.03.02.02.40	Transition 200 Area Interim Storage Facility
	1.03.02.02.50	Decontaminate and Decommission (D&D) 200 Area Interim Storage Area

### B.2.2.2 Canister Storage Building Operations WBS Dictionary

The following pages contain the WBS dictionary for RL-WM02

1. Dictionary Title Store Defense Production Reactor SNF		2. Date 29 October 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.01.05	6. B & R No. EW02J124		7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations				
9. Scope of Work				
<p>This function includes systems and activities necessary to provide interim storage until permanent disposition plans are finalized at the national level. Operate and maintain the Canister Storage Building in accordance with governing safety codes and regulations. Provide required resources for safe and compliant operations. Maintain baseline documentation and qualified staff. Perform operational readiness reviews to ensure that safety and compliance are maintained. Administer storage operations. Provide interim storage of the MCOs, to final disposition. Ensure the safety of operations by controlling and monitoring the MCO environment, and by maintaining the integrity of the MCOs. Handle MCOs to support the storage and maintain integrity functions. Collect and contain the incidental waste generated by the store, stage, maintain integrity, and handle functions.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition</li> <li>- Onsite interim safe, stable storage of nuclear materials shall be provided.</li> <li>- CSB and MCOs shall be designed for a 40 year interim storage period.</li> <li>- Spent Nuclear Fuel removed from the 100 K Area Facilities shall be placed into cost effective, interim, dry, storage pending shipment to a federal repository (approximately 40 years).</li> <li>- SNF shall be emplaced in the CSB for safe, cost effective interim storage until a federal repository is available (~40 years).</li> <li>- Complete, contingent on the completion of the National Environmental Policy Act (NEPA) documentation, the design and construction of the Canister Storage Building (CSB) to be used for dry storage of the K Basin spent fuel; take actions to make it operational, and operate the facility.</li> </ul>				

1. Dictionary Title Disposition Defense Production Reactor SNF	2. Date 20 August 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.01.10	6. B & R No. EW02J124	7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations			
9. Scope of Work  This function includes systems and activities necessary to prepare, stage, loadout, and transport SNF stored within the CSB to final disposition. Sodium bonded Fast Flux Test Facility (FFTF) fuel will be transferred to the CSB for loading into shipping casks prior to being shipped to Argonne National Laboratory-West for treatment.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: <ul style="list-style-type: none"><li>- Spent Nuclear Fuel removed from 100 K Area Facilities shall be shipped offsite for disposal in a national repository.</li></ul>			

1. Dictionary Title Maintain Safe & Compliant Canister Storage Building	2. Date 17 August 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.01.20	6. B & R No. EW02J124	7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations			
9. Scope of Work  Following the Operations and Maintenance phase of the Canister Storage Building, maintain the facility structures, systems and equipment, and monitoring systems until the facility is turned over to Environmental Restoration.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: - Central Plateau gaseous effluent releases shall be monitored			

1. Dictionary Title Transition Canister Storage Building		2. Date 17 August 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.01.30	6. B & R No. EW02J124		7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations				
9. Scope of Work  Complete the transition phase of decontamination and decommissioning for the Canister Storage Building. Includes transition deactivation planning and transferring the deactivated facility to Environmental Restoration.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: - Central Plateau high cost surplus facilities shall be transitioned to a low cost, stable, deactivated condition				

1. Dictionary Title Decontaminate and Decommission (D&D) Canister Storage Building		2. Date 17 August 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.01.40	6. B & R No. EW02J124		7. Baseline CR No.	
3. Organization Name Canister Storage Building Operations				
9. Scope of Work  Complete the decontamination and decommissioning for the Canister Storage Building. Includes D&D planning and transferring the deactivated facility to Environmental Restoration.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: <ul style="list-style-type: none"><li>- Central Plateau facilities other than processing facilities shall be dismantled</li><li>- Transitioned facilities shall be decontaminated and decommissioned sufficiently to enable removal or closure through entombment</li></ul>				

1. Dictionary Title Store Site-Wide SNF		2. Date 26 August 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.02.10		6. B & R No. EW02J124		7. Baseline CR No.
8. Organization Name Canister Storage Building Operations				
9. Scope of Work				
<p>Interim store Site-Wide SNF in the 200 Area ISA. Operate and maintain the 200 Area Interim Storage Area structures, operating systems, equipment, and monitoring systems within the approved safety and compliance requirements. Plan, coordinate, and schedule all necessary activities required for safe operations. Ensure the safety of operations by monitoring and maintaining the integrity of storage systems.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- Spent fuels removed offsite for final disposition.</li> <li>- Spent fuels (TRIGA and light water reactor) and applicable FFTF fuels removed from 400 Area interim storage area to 200 Area.</li> <li>- Spent fuels (sodium bonded EBR-II test assemblies) removed offsite for final disposition.</li> <li>- Nuclear materials shall be consolidated in the Central Plateau for interim storage pending ultimate disposition</li> <li>- Onsite interim safe, stable storage of nuclear materials shall be provided.</li> </ul>				

1. Dictionary Title Disposition Site-Wide SNF		2. Date 26 August 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.02.20	6. B & R No. EW02J124		7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations				
9. Scope of Work				
<p>This function includes systems and activities necessary to prepare, stage, loadout, and transport site-wide SNF stored at the 200 Area ISA to final disposition.</p> <p>This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission:</p> <ul style="list-style-type: none"> <li>- Na-bonded FFTF Spent Nuclear Fuel shall be shipped to Idaho National Environmental and Engineering Laboratory for treatment and final disposition in accordance with schedules established by the national SNF Program.</li> <li>- Site Wide Spent Nuclear Fuel shall be shipped offsite for disposal in a national repository.</li> </ul>				

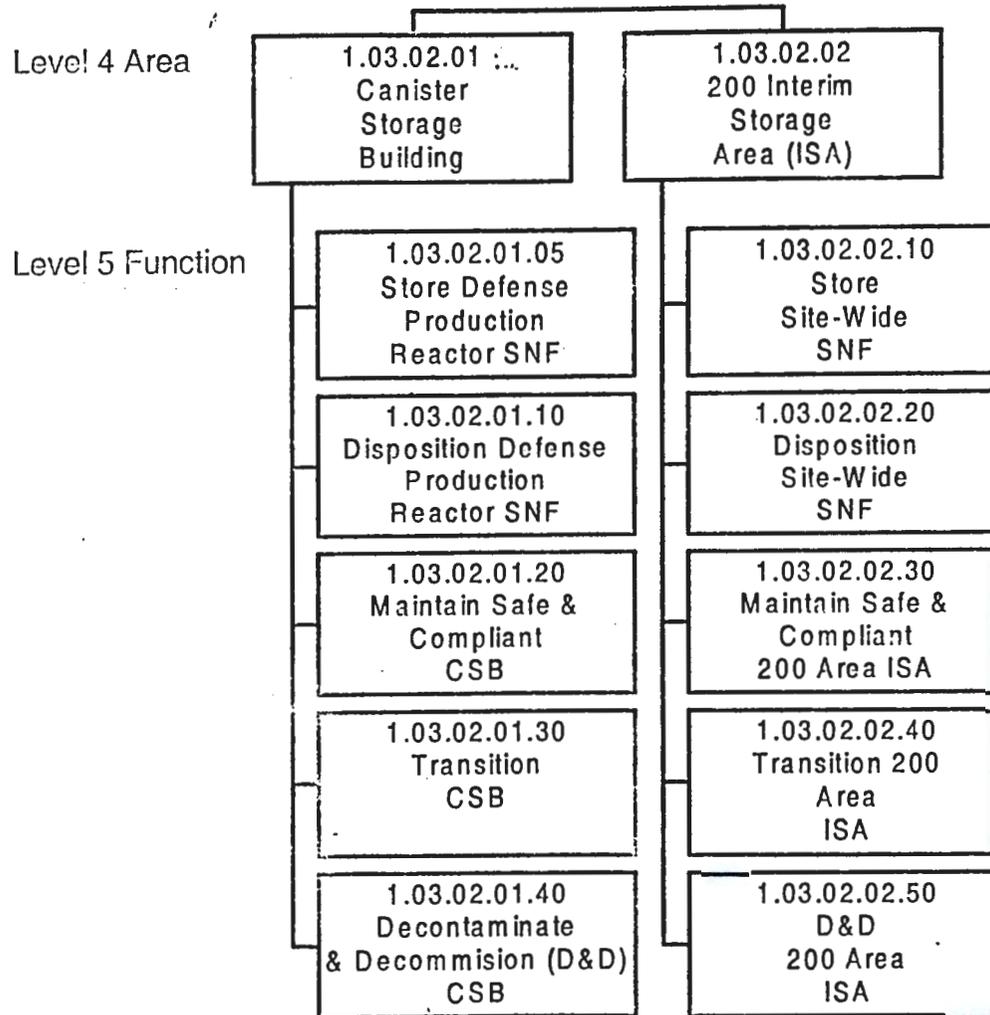
1. Dictionary Title Maintain Safe & Compliant 200 Area Interim Storage Area	2. Date 26 August 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.02.30	6. B & R No. EW02J124	7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations			
9. Scope of Work  Following the Operations and Maintenance phase, maintain the 200 Area Interim Storage Area structures, operating systems and equipment, and monitoring systems within the approved safety and compliance requirements until the facilities are turned over to Environmental Restoration.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: <ul style="list-style-type: none"><li>- Maintain the 200 Area ISA within the authorized safety basis and in accordance with approved S/RIDs.</li><li>- Central Plateau gaseous effluent releases shall be monitored</li><li>- Manage site-wide SNF in accordance with existing, DOE approved, Memoranda of Understanding (MOU).</li></ul>			

1. Dictionary Title Transition 200 Area Interim Storage Facility	2. Date 30 July 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.02.40	6. B & R No. EW02J124	7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations			
9. Scope of Work  Complete the transition phase of decontamination and decommissioning for the 200 Area Interim Storage Area. Includes transition deactivation planning.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: <ul style="list-style-type: none"><li>- Maintain the 200 Area ISA within the authorized safety basis and in accordance with approved S/RIDs.</li><li>- Central Plateau high cost surplus facilities shall be transitioned to a low cost, stable, deactivated condition</li></ul>			

1. Dictionary Title Decontaminate and Decommission (D&D) 200 Area Interim Storage Area		2. Date 10 September 1998	3. PBS Number RL-WM02	4. Dict Rev
5. WBS No. 1.03.02.02.50	6. B & R No. EW02J124		7. Baseline CR No.	
8. Organization Name Canister Storage Building Operations				
9. Scope of Work  Complete decontamination and decommissioning of the 200 Area Interim Storage Area. Includes D&D planning and transferring the deactivated facility to Environmental Restoration.  This WBS covers work necessary to support satisfying the following technical baseline requirements for the Hanford clean up mission: <ul style="list-style-type: none"><li>- Central Plateau facilities other than processing facilities shall be dismantled</li><li>- Transitioned facilities shall be decontaminated and decommissioned sufficiently to enable removal or closure through entombment</li></ul>				

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

# Canister Storage Building Operations WBS to Functions (WM02)



**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

Activity ID	Start	Early Finish	
SNF Project Closure			
A120	01AUG07*	30SEP08	Close SNF Project
Canister Storage Building Operations			
A150	01OCT04	30SEP44	Operate & Maintain Canister Storage Building
A160	03OCT44	28SEP46	Perform CSB Post Ops & DD
Spent Fuel Disposition			
A200	01OCT04	28SEP40	Store K Basin SNF in CSB
A210	01OCT14*	27SEP19	Acquire Systems for K Basin SNF Offsite Transfer
A220	01OCT19	28SEP40	Transfer K Basin SNF Offsite
A230	01OCT04	29SEP17	Store Sitewide SNF at 200 ISA
A240	01OCT04	29SEP06	Repackage Misc Sitewide SNF for Interim Storage
A250	01OCT14	29SEP17	Transfer Sitewide SNF Offsite
A260	01OCT10*	30SEP14	Acquire Sys for Sitewide SNF Offsite Transfer

Project Start	01OCT03	 Early Bar
Project Finish	28SEP46	 Progress Bar
Data Date	01OCT04	 Critical Activity
Run Date	05NOV98	

WM02

Sheet 1 of 1

10/20/98

PMBS TPA REV "B"

WM02 Baseline Schedule

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL  
LIFE CYCLE COST BASELINE (BCWS) BY YEAR BY FUND TYPE  
BY PROJECT BASELINE SUMMARY (PBS)  
FY 1999  
(\$000s)**

PROJECT WBS: 1.3.2											
PBS NO: RL-WM02											
PBS TITLE: CANISTER STORAGE BUILDING OPNS											
FUND TYPE	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	SUBTOT FY1997- FY2006
OPERATING EXPENSE	-	-	-	-	-	-	-	-	4,672	3,524	8,196
CENRTC	-	-	-	-	-	-	-	-	-	-	-
GENERAL PLANT PROJECT	-	-	-	-	-	-	-	-	-	-	-
<i>LINE ITEM (List Each One)</i>											
Miscellaneous SNF Repackaging Cell	-	-	-	-	-	-	-	-	2,564	-	2,564
0	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal Line Items</i>	-	-	-	-	-	-	-	-	2,564	-	2,564
Escalation	-	-	-	-	-	-	-	-	1,082	576	1,658
<b>TOTAL BCWS/PMB<sup>1</sup></b>	-	-	-	-	-	-	-	-	8,318	4,100	12,418
MGMT RESERVE <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-
LINE ITEM CONTINGENCY <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-
TRANSFERS <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal</i>	-	-	-	-	-	-	-	-	-	-	-
Escalation	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	-	-	-	-	-	-	-	-	8,318	4,100	12,418

<sup>1</sup>Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB); Expense Carryover Is Not Included

<sup>2</sup>Management Reserve and Line Item Contingency Held By RL

<sup>3</sup>Funds/Workscope Transferred to Other Sites, Transferred to Hanford from Other Sites, and/or Funds/Workscope Controlled by RL.

**SPENT NUCLEAR FUEL  
LIFE CYCLE COST BASELINE (BCWS) BY YEAR BY FUND TYPE  
BY PROJECT BASELINE SUMMARY (PBS)  
FY 1999  
(\$000s)**

PROJECT WBS: 1.3.2													TOTAL
PBS NO: RL-WM02													FY1997-
PBS TITLE: CANISTER STORAGE BUILDING OPNS													FY2050
FUND TYPE	FY2007	FY2008	FY2009	FY2010	FY2011- FY2015	FY2016- FY2020	FY2021- FY2025	FY2026- FY2030	FY2031- FY2035	FY2036- FY2040	FY2041- FY2045	FY2046- FY2050	
OPERATING EXPENSE	2,653	4,654	2,703	2,832	61,748	107,576	93,890	93,890	93,890	93,890	10,965	2,193	579,080
CENRTC	-	-	-	-	-	-	-	-	-	-	-	-	-
GENERAL PLANT PROJECT	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>LINE ITEM (List Each One)</i>													
Miscellaneous SNF Repackaging Cell	-	-	-	-	-	-	-	-	-	-	-	-	2,564
0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal Line Items</i>	-	-	-	-	-	-	-	-	-	-	-	-	2,564
Escalation	501	1,001	654	762	23,620	54,852	64,315	82,501	102,776	125,383	17,586	3,900	479,511
<b>TOTAL BCWS/PMB<sup>1</sup></b>	<b>3,154</b>	<b>5,655</b>	<b>3,357</b>	<b>3,594</b>	<b>85,368</b>	<b>162,428</b>	<b>158,205</b>	<b>176,391</b>	<b>196,666</b>	<b>219,273</b>	<b>28,551</b>	<b>6,093</b>	<b>1,061,155</b>
MGMT RESERVE <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
LINE ITEM CONTINGENCY <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSFERS <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
Escalation	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>3,154</b>	<b>5,655</b>	<b>3,357</b>	<b>3,594</b>	<b>85,368</b>	<b>162,428</b>	<b>158,205</b>	<b>176,391</b>	<b>196,666</b>	<b>219,273</b>	<b>28,551</b>	<b>6,093</b>	<b>1,061,155</b>

<sup>1</sup>Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB); Expense Carryover Is Not Included

<sup>2</sup>Management Reserve and Line Item Contingency Held By RL

<sup>3</sup>Funds/Workscope Transferred to Other Sites, Transferred to Hanford from Other Sites, and/or Funds/Workscope Controlled by RL.

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Execution Year - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Appendix A - NOT APPLICABLE**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

# FY 1999-2000 Project Priority Lists

UAS ID	EM Office	PBS #	UAS Name	1999	1999LI	2000	2000LI	PS	WS	EP
<b>Spent Nuclear Fuels</b>										
497	EM60	WM01	Maintain Safe & Compliant SNF Storage in K Basins	\$32,749		\$34,608		U	U	U
<b>Subtotal Min-Safe</b>				<b>\$32,749</b>	<b>\$0</b>	<b>\$34,608</b>	<b>\$0</b>			
498	EM60	WM01	Project Management and Integration	\$42,396	\$3,669	\$4,672	\$6,271	NA	NA	NA
499	EM60	WM01	Project Fee	\$8,330		\$8,210		NA	NA	NA
<b>Subtotal Essential Services</b>				<b>\$83,475</b>	<b>\$3,669</b>	<b>\$77,490</b>	<b>\$6,271</b>			
500	EM60	WM01	Design/Modify/Construct Systems for Fuel Movement	\$58,766	\$21,191	\$45,444	\$5,265	M	H	H
502	EM60	WM01	Operate SNF Removal Systems	\$19,969		\$39,889		M	H	H
504	EM60	WM01	Design/Modify/Construct Sludge Removal System	\$3,524		\$3,287		M	H	H
501	EM60	WM01	Design/Construct Canister Storage Building (CSB)	\$23,924	\$16,743	\$13,418	\$12,905	M	H	H
503	EM60	WM01	Receive Defense Production Reactor SNF	\$381		\$8,329		M	H	H
505	EM60	WM01	Design/Construct 200 Area Interim Storage Area (ISA)	\$349		\$211		M	H	M
506	EM60	WM01	Implement Site-Wide Interim Storage 200 Area	\$1,667		\$2,887		M	H	M
<b>Subtotal Urgent Risks</b>				<b>\$192,055</b>	<b>\$41,603</b>	<b>\$190,955</b>	<b>\$24,441</b>			

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**PERFORMANCE ENHANCEMENT WORKSHEET**

**ITEM 1**

**Part I**

PROJ: Spent Nuclear Fuel Project WBS 1.03.01 PBS: RL-WM01	Ranges				FUNDING REQUIRED TO INVESTIGATE OPPORTUNITY (\$Thous)	WBS#(s) WHERE FUNDING IS REQUIRED
	ROM- PROBABILITY OF SUCCESS(%)		ROM ESTIMATED LIFE CYCLE SAVINGS (\$Millions)			
DESCRIPTION OF ENHANCEMENT OPPORTUNITY	0.5	0.9	\$5	\$15	None	N/A
Provide what ever assistance is required to ensure MCO fabricator and Basket fabricator have the resources and understanding to achieve QA requirements resulting in efficiency savings to the project.						
<b>Total</b>			<b>\$5</b>	<b>\$15</b>	<b>\$0</b>	

**Part II**

**STEPS/SCHEDULE TO ACCOMPLISH PART I ENHANCEMENTS**

Activity Description	Dates		BCR Required?	
	Start	Complete	Yes	No
1 Value Engineering Session (Fabrication of Baskets)	8/10/98	8/15/98		XXX
2 Value Engineering Session (QA Issues on Baskets)	8/18/98	8/22/98		XXX
3 Path Forward Plan and Recommendations	9/1/98	9/30/98		XXX
4 SNF Consensus on Plan (Management, Projects, QA, Contracts)	10/1/98	11/1/98		XXX
5 Implementation into Procurement Documents	12/1/98	1/1/99		XXX
6 Value Engineering Session (Fabrication of MCOs)	2/1/99	2/5/99		XXX
7 Value Engineering Session (QA Issues on MCOs)	2/8/99	2/12/99		XXX
8 Path Forward Plan and Recommendations	3/1/99	4/1/99		XXX
9 SNF Consensus on Plan (Management, Projects, QA, Contracts)	4/1/99	4/15/99		XXX
10 Implementation into Procurement Documents	4/15/99	5/15/99		XXX

**ITEM 2**

**Part I**

PROJ: Spent Nuclear Fuel Project WBS 1.03.01 PBS: RL-WM01	Ranges				FUNDING REQUIRED TO INVESTIGATE OPPORTUNITY (\$Thous)	WBS#(s) WHERE FUNDING IS REQUIRED
	ROM- PROBABILITY OF SUCCESS(%)		ROM ESTIMATED LIFE CYCLE SAVINGS (Millions)			
DESCRIPTION OF ENHANCEMENT OPPORTUNITY						
Re-evaluate the SNF sludge path forward for possible elimination or minimization of pre-treatment.			\$0	\$30	Unknown	
<b>Total</b>			<b>\$0</b>	<b>\$30</b>	<b>\$0</b>	

**Part II**

**STEPS/SCHEDULE TO ACCOMPLISH PART I ENHANCEMENTS**

Activity Description	Dates		BCR Required?	
	Start	Complete	Yes	No
1 Requires other Program and Regulator involvement to establish different acceptance criteria for SNF sludge.	FY1999	FY2000		
2				
3				
4				
5				
6				
7				
8				
9				
10				

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Appendix D - See Section 5.0**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**

**SPENT NUCLEAR FUEL MYWP**  
**HNF-SP-1104**  
**REV 6**

**Appendix E - To be available at a later date**

**THIS PAGE INTENTIONALLY  
LEFT BLANK**