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13a. Description of Change This is a complete revision. This revision to the Safety Analysis Report for Packaging (SARP) Upgrade Plan reflects a revised SARP Upgrade schedule based on the most current program needs. References have been updated. 13b. Design Baseline Document? ☐ Yes ☒ No			
14a. Justification (mark one) Criteria Change ☒ Design Improvement ☐ Environmental ☐ Facility Deactivation ☐ As-Found ☐ Facilitate Const ☐ Const. Error/Omission ☐ Design Error/Omission ☐			
14b. Justification Details Changes to the SARP Upgrade Plan reflect current SARP needs for the Hanford Site.			
15. Distribution (include name, MSIN, and no. of copies) See attached.			

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Safety Analysis Report for Packaging Upgrade Plan

D. L. Kelly

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Richland, WA 99352
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Abstract: This Safety Analysis Report for Packaging (SARP) Upgrade Plan reflects a revised SARP upgrade schedule based on the most current program needs. A Project Hanford Management Contract (PHMC) Performance Expectation exists to update, revise, and/or cancel seven onsite SARPs during FY 1999. It is the U.S. Department of Energy's desire that 100% of the SARPs (which existed at the beginning of the PHMC Contract) be upgraded, revised, and/or canceled by the end of the five year contract. This plan is a "living" document and is used as a management tool.

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SAFETY ANALYSIS REPORT FOR PACKAGING UPGRADE PLAN

1.0 INTRODUCTION

The purpose of this report is to provide an upgrade plan for all existing Safety Analysis Reports for Packaging (SARP) (onsite). This plan will also include the addition of new SARPs to the SARP completion schedule.

About half of the existing approved SARPs in use at Hanford are over ten years old, and were originally written and approved by several different contractors. Therefore, the packaging approval criteria, approval authorities, and method of documentation are not consistent among the SARPs. These issues were noted as a finding in a 1992 U.S. Department of Energy, Richland Operations Office (DOE/RL) Surveillance (Fisher 1992).

Various actions have been taken over the last several years to upgrade existing SARPs, cancel unused or inadequate SARPs, and to develop the technical safety criteria for onsite packagings. Also, existing approved SARPs have been entered into a copy control process to better control and track their use. These actions, in conjunction with this SARP Upgrade Plan, have resulted in higher quality SARPs that are consistent in their technical approach.

A Performance Agreement (WM5.1.1) was assigned, beginning in fiscal year 1997 (FY 1997), to update, revise, and/or cancel 20 percent of the existing onsite SARPs (as of FY 1997), so that 100 percent are reviewed and within current standards by the completion of the Project Hanford Management Contract (PHMC). This contract is for a five-year period, beginning in FY 1997 and ending in FY 2001. In FY 1998, Performance Agreement WM5.1.1 was identified as a Performance Expectation to allow the PHMC to measure performance based on the overall ability of Waste Management of Hanford, Inc. (WMH), to complete listed activities and milestones due to changing budgets, priorities, and DOE/RL direction.

As identified within HNF-PRO-154, *Responsibilities and Procedures for All Hazardous Material Shipments*, safety analysis documentation is reviewed, approved, and revised according to HNF-PRO-705, *Safety Basis Planning, Documentation, Review and Approval*. All onsite SARPs shall be reviewed and updated as necessary, at least every five years, and shall have a controlled distribution. Existing SARPs are grand fathered based on their original safety basis/authorization for up to five years, based on this SARP Upgrade Plan. The SARPs identified within this upgrade plan that are pre 1987 typically have a SARP identification number of "SAP" or "UNI," and require immediate attention.

2.0 SARP UPGRADE SELECTION PROCESS

The following describes the criteria and implementation of the SARP Upgrade Plan. The plan will be revised periodically (at least annually) to provide direction for SARP improvements, ensure compliance with HNF-PRO-154, *Responsibilities and Procedures for All Hazardous Material Shipments*, and to reflect the PHMC performance agreement requirements.

Early in FY 1997, thirty-four SARPs were identified for upgrade or cancellation. During FY 1997, a facility transfer from the Pacific Northwest National Laboratory (PNNL) to the PHMC occurred. As a result of this transfer, six SARPs were added into the SARP Upgrade Plan, and identified for upgrade in FY 1999. Subsequently, Revision 4 to the SARP Upgrade Plan (WHC 1997) identified a total of forty SARPs to be upgraded or canceled over the identified five-year period.

Management review in FY 1998 determined that three of the six new SARPs slated for upgrade in FY 1999 should be removed from the SARP Upgrade Plan as it was determined that SEP documents for these three were not needed. Thirty-seven SARPs are now identified for upgrade between FY 1997 and FY 2001. The seven SARPs that were identified for upgrade or cancellation during FY 1997 were completed. Eight SARPs have been targeted for upgrade during FY 1998, and it has been determined that seven to eight SARPs would need to be targeted in the out years so that the requirements identified within HNF-PRO-154, *Responsibilities and Procedures for All Hazardous Material Shipments*, and the identified performance agreement may be achieved.

The completed and anticipated SARP upgrades and cancellations over the identified five-year period are shown in Table 2-1 of this plan.

2.1 CRITERIA

Ranking of the current SARPs shown in Table 2-1 is based on either the age of the SARP, or on a combination of the age of the SARP and known funding to be in place for upgrade of the SARP. The older SARPs are targeted for upgrade prior to a newer SARP. If funding has been authorized by a client for upgrade of a SARP, that SARP is targeted for upgrade prior to another.

Safety analysis documentation is reviewed and updated as necessary, at least every five years, and has a controlled distribution. Existing SARPs are grandfathered based on their original safety basis/authorization for up to five years, based on this SARP Upgrade Plan. The SARPs identified within this upgrade plan that are pre 1987 typically have a SARP identification number of "SAP" or "UNI," and require immediate attention.

Currently, thirty-seven SARPs are identified for upgrade between FY 1997 and FY 2001. The identification of SARPs to be upgraded in FY 2002 is being noted because of the five-year requirement for review and upgrade that is identified within HNF-PRO-154, *Responsibilities and Procedures for All Hazardous Material Shipments*.

2.2 PLANNED SARP UPGRADES AND CANCELLATIONS

A schedule of SARP upgrades and SARP cancellations through FY 2002 is depicted in Table 2-1. The status of the upgrade or cancellation process, as it applies to the performance agreement (FY 1997 through FY 2001), is also shown in Table 2-1.

Table 2-1. SARP Upgrade Schedule (5 pages)

FY 1997 SARP Upgrades					
SARP Number and Current Revision	Last Complete Review	Expires	Title	Plan/Status	Users
SD-RE-SAP-013 Rev. 6-E	5/87 Rev. 2 ECN N/A	TBD	Railroad Liquid Waste Tank Cars	Canceled 9/2/97 ECN 642854	DYN
SD-RE-SAP-014 Rev. 1-B	09/23/82 Rev. 0-0	TBD	Irradiated Fuel Cask Cars	Canceled 9/2/97 ECN 642855	DESH, DYN
SD-RE-SAP-092 Rev. 2	12/13/88 Rev. 0	TBD	Low-Level Metal Box Container	Canceled 3/10/97 ECN 637775	WMH, BWHC, BHI
WHC-SD-MP-SARP-001 Rev. 2	12/11/92 Rev. 1	1997	Doorstop Sample Carrier System (replaced by HNF-SD-TP-SARP-023)	Upgraded 2/24/97 ECN 619550	LMHC, NHC
SD-RE-SAP-043 Rev. 1	03/05/85 Rev. 0	TBD	Internally Shielded 55-gal Drum	Canceled 4/28/97 ECN 637780	PNNL
SD-RE-SAP-083 Rev. 1	09/05/84 Rev. 0	TBD	AL-M6, CoC	Canceled 5/9/97 ECN 637784	BWHC
SD-RE-SAP-084 Rev. 1	09/05/84 Rev. 0	TBD	21-PF-1 Overpack/Zircalloy Hull Cask	Canceled 4/28/97 ECN 637781	BWHC

Table 2-1. SARP Upgrade Schedule (5 pages)

FY 1998 SARP Upgrades					
SARP Number and Current Revision	Last Complete Review	Expires	Title	Plan/Status	Users
SD-RE-SAP-025 Rev. 2-A	03/01/84 Rev. 0 EDT N/A	TBD	Decontaminated Equipment Self-Container	Upgraded 9/29/98 EDT 622968	WMH, BWHC, DYN
SD-RE-SAP-044 Rev. 1-B	07/06/84 Rev. 0	TBD	225-B Waste Cask	Canceled 9/10/98 ECN 642865	BWHC
SD-RE-SAP-002 Rev. 1-F	02/12/82 Rev. 0	TBD	TRU Contaminated Liquid Organics	*Upgraded 9/30/98 EDT 622967	WMH, BWHC, LMHC
SD-RE-SAP-024 Rev. 1-B	09/22/83 Rev. 0-0	TBD	Non-TRU, Non-fissile Waste, 55-gal Drum	*Upgraded 9/30/98 EDT 622967	WMH, BWHC, LMHC
SD-RE-SAP-033 Rev. 2-N	06/26/84 Rev. 1 ECN N/A	TBD	TRU 55-gal Drum	*Upgraded 9/30/98 EDT 622967	WMH, BWHC, LMHC
SD-RE-SAP-091 Rev. 1	02/18/88 Rev. 0	TBD	TRU Metal Box Container	Canceled 9/10/98 ECN 642864	BWHC
WHC-SD-NR-SARP-004 Rev. 1-G (UNI-2849)	09/17/84 Rev. N/A	TBD	Ion Exchange Modules	Upgraded 9/21/98 EDT 622955	DESH
WHC-SD-FF-SARP-001 Rev. 1	05/02/90 Rev. 0	04/05/96	Radial Reflector Shipping Container	Canceled 9/10/98 ECN 642866	BWHC
*Three SARPs to be upgraded and combined into one SARP.					
FY 1999 SARP Upgrades					
SARP Number and Current Revision	Last Complete Review	Expires	Title	Plan/Status	Users
HNF-SD-TP-SEP-058 Rev. (New)	x-fer from PNNL to BWHC in FY97		SERF Cask SEP	To be Upgraded	BWHC
HNF-SD-TP-SEP-059 Rev. (New)	x-fer from PNNL to BWHC in FY97		Radioactive Waste Disposal Cask SEP	To be Canceled	BWHC

Table 2-1. SARP Upgrade Schedule (5 pages)

HNF-SD-TP-SEP-063 Rev. (New)	x-fer from PNNL to BWHC in FY97		PRTR Cask SEP	To be Canceled	BWHC
WHC-SD-WM-SARP-001 Rev. 1-C	08/20/90 Rev. 0	TBD	Lead-Lined Drum/21-PF-1 Packaging System	To be Upgraded	WMH, BWHC
WHC-SD-NR-SARP-002 Rev. 1-D	01/11/88 Rev. 0 EDT #111016	06/01/96	OH-142 Mark I (Big Bertha)	To be Canceled	DESH
SD-RE-SAP-054 Rev. 3-B	03/05/84 Rev. 2	TBD	21-PF-1 Overpack/EBR-II Spent Fuel Cask	To be Upgraded (½ in FY 98 ½ in FY 99)	WMH, BWHC
WHC-SD-NR-SARP-001 Rev. 1-A	12/05/88 Rev. 0 EDT #465716	TBD	Finished Fuel Assembly Shipping Package	To be Canceled	BWHC
FY 2000 SARP Upgrades					
SARP Number and Current Revision	Last Complete Review	Expires	Title	Plan/Status	Users
WHC-SD-TP-SARP-005 Rev. 0-C	09/20/94 Rev. 0	TBD	Modified Fuel Spacer Burial Box		BWHC, WMH, BHI
WHC-SD-TP-SARP-006 Rev. 0-A	04/19/94 Rev. 0	TBD	85-Gal Retrieval Drum		WMH, DESH, COGEMA
WHC-SD-TP-SARP-007 Rev. 0-F	05/23/94 Rev. 0	TBD	Flexible Material Packaging		WMH, BWHC, BHI, DESH
WHC-SD-TP-SARP-003 Rev. 0-B	08/21/92 Rev. 0	TBD	Disposable Solid Waste Cask		WMH, BWHC
WHC-SD-TP-SARP-004 Rev. 0-B	09/30/92 Rev. 0	TBD	Standard Waste Box		BWHC, WMH
WHC-SD-TP-SARP-010 Rev. 0	01/30/96 Rev. 0	2000	Interim Storage Cask		DESH, BWHC
WHC-SD-TP-SARP-011 Rev. 0-A	07/28/95 Rev. 0	2000	N-Reactor Fuel Spacers		BHI
WHC-SD-TP-SARP-012 Rev. 1-D	02/29/96 Rev. 1	2000	L3-181 N Basin Cask		BHI

Table 2-1. SARP Upgrade Schedule (5 pages)

FY 2001 SARP Upgrades					
SARP Number and Current Revision	Last Complete Review	Expires	Title	Plan/Status	Users
WHC-SD-TP-SARP-001 Rev. 1-B	11/15/96 Rev. 1	2001	Sample Pig Transport System		WMH, DESH, BHI, NHC, BWHC, LMHC
WHC-SD-TP-SARP-002 Rev. 1-D	11/15/96 Rev. 1	2001	Onsite Transfer Cask System		LMHC, NHC
WHC-SD-TP-SARP-008 Rev. 0-B	09/26/94 Rev. 0	TBD	NRF TRIGA Packaging		BWHC, COGEMA
WHC-SD-TP-SARP-009 Rev. 0-A	08/15/96 Rev. 0	2001	LR 56/H Cask System		LMHC, NHC, COGEMA
WHC-SD-TP-SARP-015 Rev. 0-E	10/01/96 Rev. 0	2001	Double-Shell Tank Car		WMH, DYN
WHC-SD-TP-SARP-016 Rev. 0-B	02/23/96 Rev. 0	2001	Hanford Ecorok Packaging		DESH
WHC-SD-TP-SARP-018 Rev. 0-B	09/21/96 Rev. 0	2001	Type B Quantities of Radioactive Material in Type A Boxes		WMH
FY 2002 SARP Upgrades					
SARP Number and Current Revision	Last Complete Review	Expires	Title	Plan/Status	Users
HNF-SD-TP-SARP-021 Rev. 0-B	04/02/97 Rev. 0	2002	Castor GSF Cask		BWHC
HNF-SD-TP-SARP-022 Rev. 0-B	03/17/97 Rev. 0	2002	GNS-12 Packaging		BWHC
HNF-SD-TP-SARP-023 Rev. 0-B	02/24/97 Rev. 0	2002	Doorstop Sample Carrier System		LMHC, NHC, DESH, WMH, BWHC, BHI
HNF-SD-TP-SARP-013 Rev. 0	05/09/97 Rev. 0	2002	Long Length Contaminated Equipment Transport System		
HNF-SD-TP-SARP-020 Rev. 0	03/26/97 Rev. 0	2002	T-3 Cask		
HNF-SD-TP-SARP-017 Rev. 0	07/14/97 Rev. 0	2002	Multicanister Overpack Cask		
HNF-SD-TP-SARP-025 Rev. 0	06/06/97 Rev. 0	2002	Limited Type B Material in CNS 14-215H Cask		

Table 2-1. SARP Upgrade Schedule (5 pages)

HNF-SD-TP-SARP-026 Rev. 0	09/25/97 Rev. 0	2002	Transuranic Performance Demonstration Program Sample Packaging		
HNF-SD-TP-SARP-027 Rev. 0	09/30/97 Rev. 0	2002	WESF Ion Exchange Module		
FY 2003 SARP Upgrades					
SARP Number and Current Revision	Last Complete Review	Expires	Title	Plan/Status	Users
HNF-3341 Rev. 0	09/98 Rev. 0	2003	Decontaminated Equipment Self-Container		
HNF-2209 Rev. 0	09/98 Rev. 0	2003	Steel Drum		
HNF-2760 Rev. 0	09/98 Rev. 0	2003	Ion Exchange Modules		
HNF-2568 Rev. 0	5/98 Rev. 0	2003	Contaminated Well Cars		

3.0 SUMMARY AND RECOMMENDATIONS

This plan is a living document that is used as a management tool for implementing requirements in HNF-PRO-154, *Responsibilities and Procedures for All Hazardous Material Shipments*, and the PHMC SARP performance agreement for the FY 1997 through FY 2001 period. This plan provides the schedule for SARP upgrades and cancellations. It should be noted that the following uncertainties will affect the implementation of this plan. The plan will be changed as necessary.

- Operational requirements may lead to a SARP upgrade ahead of schedule. In those cases, other SARPs may be moved within the plan based on available funding and staffing.

- Funding and workload may result in changes to this plan by management prerogative. This plan will be revisited and revised periodically until all SARPs are upgraded. This revision to the plan reflects a SARP upgrade schedule based on the most current program needs. Future revisions to the plan will include results of the plan, beginning in FY 1997.
- All SARPs shall be reviewed and updated as necessary at least every five years, and shall have controlled distribution as outlined in HNF-PRO-154 *Responsibilities and Procedures for All Hazardous Material Shipments*.
- A standardized SARP numbering system will be applied to all SARPs.

4.0 REFERENCES

- Fisher, A. J., 1992, *Westinghouse Hanford Company's Response to the RL Surveillance Numbers CMP-WFD-92-066 and CMP-WFD-92-106*, (letter 9259544 to J. M. Hennig, December 23), Westinghouse Hanford Company, Richland, Washington.
- HNF-PRO-154, *Responsibilities and Procedures for All Hazardous Material Shipments*, Fluor Daniel Hanford, Inc., Richland, Washington.
- HNF-PRO-705, *Safety Basis Planning, Documentation, Review and Approval*, Fluor Daniel Hanford, Inc., Richland, Washington.
- WHC, 1997, *Safety Analysis Report for Packaging Upgrade Plan*, WHC-SD-TP-PLN-006, Revision 5, Waste Management Federal Services, Inc., Northwest Operations.

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