Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0504**

Project **SR-FA07 / Old HB Line Deactivation Project**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Definition of Scope: Detailed deactivation plans for the old HB Line facility do not currently exist; deactivation planning is currently scheduled go begin in FY04 and is included in this PBS. Execution of a phased deactivation program is to begin in FY05 and is scheduled to end in FY09.

The old HB Line is a surplus highly contaminated [hazard class 2] nuclear facility located within the H Canyon. The facility has significant levels of residual radiological contamination and industrial hazards in rooms on the 3rd and 4th level of the facility. The primary objective of the multi-year deactivation program is to reduce the risks associated with these nuclear facilities and lower long-term surveillance and maintenance (S&M) costs per DOE Order 430.1A and the Implementation Guides.

The goal for deactivation of the surplus facilities is to achieve a passive state for long term S&M; facilities will be accessed controlled with periodic entry for inspection and monitoring. The periodic maintenance of the building structures and key safety systems (ventilation/monitoring) are expected to be the only routine activities required. It is anticipated that the facility will be maintained in this condition will for up to a 30-year period while awaiting final decisions on facility disposition.

The deactivation project would include project planning and facility characterization, removal or affixing of residual radiological and industrial hazards, and the dismantle and removal of residual equipment as necessary to ensure long term reduction of risks associated with this abandoned facility within H-Canyon.

Technical Approach: Efficiencies and Lessons Learned from previous and current deactivation projects across the DOE Complex will be incorporated into deactivation plans. The project will be managed per the DOE-EM 60 Deactivation Guidance; phase 1 Project Requirements Determination, Phase 2 Project Execution Plan Development and Phase 3 Project Execution. The characterization of existing surplus facilities and development of end state criteria is a critical to the success of the deactivation project. Application of latest technology developments in the characterization and analysis of residual radiological and industrial hazards and cost-benefit engineering evaluations are key components in developing a cost effective deactivation plan and will be developed as funding is available prior to completion of nuclear material stabilization phase for each facility.

Project Status in FY 2006:

The old HB Line facility will initiate a phased deactivation program in FY05; completion of the deactivation program for old HB Line is scheduled for FY09. Stabilization activities will be conducted utilizing the current operating staff, supplemented by a core group of deactivation experts. This will ensure institutional knowledge is retained and utilized through completion of the deactivation project.

Post-2006 Project Scope:

The phased deactivation of old HB Line will be completed in FY09; completion of the old HB Line deactivation project is dependent upon no impacts as a result of extended H Canyon operations. Upon completion of the old HB Line deactivation project, routine surveillances will be established to verify the structural integrity and operability of equipment required managing residual risks as defined in the surveillance and maintenance plan. This

Project Description Narratives

routine monitoring will continue until the final disposition of the facilities. The S&M monitoring scope and costs are captured in the H Area Long Term Monitoring PBS (SR-FA-17).

Project End State

This project provides for the deactivation of old HB Line and ancillary facilities only. Additional projects will be required to complete future decommissioning and /or meet the EM site end-state; the old HB Line facilities end states have not been defined. No plans have been made at this time to reuse old HB Line facilities after deactivation.

No nuclear materials, spent fuel, or high level waste are planned for storage in old HB Line facilities. TRU and low level solid and liquid waste will be generated during deactivation activities. These wastes will be disposed via other solid waste treatment facilities at SRS. Life cycle waste costs are reflected in the operating costs of those facilities.

Cost Baseline Comments:

Costs identified in this PBS are rough order of magnitude engineering estimates based upon the lessons learned from the Hanford PUREX Deactivation project. Work scope identified in this PBS is based on process and facility history only, not from detailed characterization of facility hazards. Such characterization efforts will be used to refine the scope and cost, as additional project definition becomes available.

This estimate should be used for pre-conceptual planning, and should be considered as preliminary funding guidance only. Detailed work scopes and cost estimates will be developed as part of the Deactivation Plan development and will be a product of that work when funded.

This project estimate includes only direct project deactivation activity costs. The facility baseline S&M costs must be added to the deactivation cost to obtain the overall life cycle costs.

Safety & Health Hazards:

The deactivation-planning project will be funded in FY04. To-date a deactivation specific safety and hazard analysis has not been performed. Such analyses will be performed in accordance with Site standards. The criteria for determining the radiological hazard categories are provided in DOE-STD-1027-92, and the criteria for determining the chemical hazard categorization are provided in WSRC-MS-92-206. Until modified by deactivation activities, the operational safety basis will be maintained as the controlling ASA.

Safety & Health Work Performance:

Activities and checkpoints are described by the Integrated Management System Description. The conditions and requirements are clearly established and agreed upon prior to the starting of any project and those requirements are contractually binding upon WSRC. The key elements of the WSRC Integrated Safety Program are to define the scope of work, identify and analyze hazards associated with the work, develop and implement hazard controls, perform work within controls, and provide feedback on adequacy of controls and continue to improve safety management. The WSRC Integrated Procedures Management System is the primary mechanism for implementing the objective, principles and functions of the Safety Management System. This system establishes Company-Level, Division-level, and Program-specific procedures consistent with organizational roles, and ensures a consistent, discipline site-wide approach to safety while performing work. A documented safety basis will be maintained through

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Project Description Narratives

completion of the deactivation project.

PBS Comments:

The fundamental concept of deactivation is to reduce risks associated with surplus facilities, thereby reducing the S&M cost while maintaining safety for site employees, the public and the environment. The methodology is to use all technology available to reduce residual hazardous materials to the lowest manageable hazard level possible, shutdown of unnecessary systems and reduction of discretionary S&M. Upon completion of deactivation, the facility would be locked with only periodic entry for inspection and monitoring, while awaiting a turnover to EM-40 for a final decision on disposition (D&D, entombment, ...).

Baseline Validation Narrative:

Not Applicable.

General PBS Information

Project Validated? **Date Validated:**

Has Headquarters reviewed and approved project? No

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/3/1999

FEDPLAN Project? Yes

Drivers:

CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
Y	Y	Y	N	N	Y	Y	Y

Project Identification Information

DOE Project Manager: G. M. Nichols, Jr.

DOE Project Manager Phone Number: 803-952-2021

DOE Project Manager Fax Number: 803-952-2019

DOE Project Manager e-mail address: gnichols@srs.gov

Is this a High Visibility Project (Y/N):

Planning Section

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Project **SR-FA07 / Old HB Line Deactivation Project**

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	14,800	17,000	31,800						0	0	0	0	600	3,400	10,800
PBS Baseline (constant 1999 dollars)	12,171	13,305	25,476						0	0	0	0	516	2,848	8,807
PBS EM Baseline (current year dollars)	14,800	17,000	31,800						0	0	0	0	600	3,400	10,800
PBS EM Baseline (constant 1999 dollars)	12,171	13,305	25,476						0	0	0	0	516	2,848	8,807

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	9,200	6,300	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	7,305	4,871	1,129	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	9,200	6,300	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	7,305	4,871	1,129	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
			3.60%	3.60%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

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2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/30/2010

Current Projected End Date of Project: 9/30/2009

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	16,658	**Actual 1997 Cost:**	**Actual 1998 Cost:**	
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	16,658	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**		450
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	17,108			

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):	8,367	Estimate revised.
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	25,475	
Additional Amount to Reconcile (+):	1	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**25,476**	

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Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Mission Complete	SR-FA07-003		9/30/2009								
Project Start	SR-FA07-001		10/1/2004								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Mission Complete	SR-FA07-003				Y						
Project Start	SR-FA07-001			Y							

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 20(
Tech.														
Deployed	Ntd	18.00	0.00	18.00										

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
Tech.													
Deployed	Ntd		18.00										

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
Tech.										
Deployed	Ntd									18.00

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Technology Deployments

Deployment Status	Deployment Year: Planned	Deployment Year: Forecast	Deployment Year: Actual Date
Technology Name: Laser Surface Cleaning			
Potential Deployment	2005		
Technology Name: Small Pipe Characterization System (SPCS)			
Potential Deployment	2005		
Technology Name: In Situ Chemical Treatment of Asbestos			
Potential Deployment	2005		
Technology Name: Airborne Laser Induced Fluorescence Imaging			
Potential Deployment	2005		
Technology Name: Three Dimensional, Integrated Characterization and Archiving System (3D-ICAS)			
Potential Deployment	2005		
Technology Name: Portable X-Ray, K-Edge Heavy Metal Detector			
Potential Deployment	2005		
Technology Name: Thermal Conversion of Asbestos			
Potential Deployment	2005		
Technology Name: Removal of Contaminants from Equipment and Debris, and Waste Minimization Using TECHXTRACT			
Potential Deployment	2005		
Technology Name: 2-D Linear Motion System			
Potential Deployment	2005		

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Technology Deployments

		Deployment Year		
Deployment Status		**Planned**	**Forecast**	**Actual Date**
Technology Name:	Portable X-Ray Fluorescence Spectrometer			
Potential Deployment		2005		
Technology Name:	Mobile Automated Characterization System			
Potential Deployment		2005		
Technology Name:	Pipe Crawler Internal Piping Characterization System			
Potential Deployment		2005		
Technology Name:	Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)			
Potential Deployment		2005		
Technology Name:	Pegasus Coating Removal			
Potential Deployment		2005		
Technology Name:	Indoor Radiation Mapping Using Laser Assisted Ranging and Data System			
Potential Deployment		2005		
Technology Name:	Ground Based Laser Induced Fluorescence Imaging			
Potential Deployment		2005		
Technology Name:	Diamond wire cutting			
Potential Deployment		2005		
Technology Name:	Reducing grout			
Potential Deployment		2005		