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: **0515**

Project **SR-FA18 / M Area Monitoring Project**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Definition of Scope: M Area contains legacy reactor fuel and target manufacturing facilities contaminated during previous production campaigns. Pre-deactivation surveillance and maintenance activities include the base activities required to monitor and maintain the safety envelope of the Area for the protection of Site personnel, the public, and the environment. These activities include:
· Management of the facilities with a standard of care consistent with the hazard classification of the facility, and implementation of the guidelines of DOE Order 5480.19;
· Development of facility transition documentation and an interim surveillance and maintenance plan per DOE Order O430.1;
· Performance of nuclear material accountability actions required for residual inventories such as depleted uranium;
· Maintenance of systems as specified in Authorization Safety Basis documents;
· Surveillance and maintenance of facility infrastructure to guard against building deterioration;
· Operation and maintenance of systems required to monitor and control contamination or to alert personnel of hazards;
· Control of access to residual hazards (high energy, radiation, chemicals, etc.);
· Performance of environmental monitoring to ensure integrity of S&M plan;
· Personnel training and qualifications for all required processes, systems, and functions maintained in support of the facility S&M plan;
· Completion of waste certification process;
· Low Level and other waste processing, characterization, packaging, and shipment;
· Maintenance of a work control system as required by DOE Order 4330.B;
· Preventative and corrective maintenance of fire, safety, security, and life support systems necessary for the safe entry into facilities, or provide method for safe entry into facilities;
· Oversight and maintenance of remaining facility support services systems (steam, plant air, electricity, domestic and process water, etc.);
· Work package and maintenance procedures development;
· Field procurement and spare parts management;
· Execution of limited scope stabilization and deactivation activities to prevent the spread of contamination, the release of any residual materials, or address any emergent risk conditions resulting from age related deterioration of the facilities; and,
· Performance of drills, maintenance of emergency response plans for affected facilities, and maintenance of associated emergency response equipment.

During the deactivation period, some elements of pre-deactivation surveillance and maintenance may become unnecessary due to minimization or elimination of associated risks. As these are still undefined, pre-deactivation and deactivation period surveillance and maintenance scope and costs are assumed, for the purposes of this plan, to be the same. Post-deactivation scope and costs will be substantially reduced, although the specifics will not be defined until the end state of the deactivation projects are known.

Technical Approach: Surveillance and maintenance of M Area requires no new technologies or capabilities that are not already available at SRS.

Project Status in FY 2006:

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Project Description Narratives

Site funding limitations currently preclude funding for the full deactivation projects that would be needed to significantly reduce M Area surveillance and maintenance costs. Current funding guidance indicates that the large scale deactivation scope outlined in a separate PBS will begin after FY2006. Until such time, M Area will be maintained at a higher level of surveillance and maintenance costs commensurate with the residual risk posed by the facilities

This does not preclude, however, the planning and implementation of smaller scale disposition actions. These actions would be initiated under this ACP project to reduce a specific risk, thereby lowering surveillance and maintenance costs associated with that particular risk. In some cases, excess site assets may be used to fund disposition actions. These excess assets may be used in a barter arrangement with a subcontractor in exchange for the demolition and removal of excess facilities (known as an "assets for services" subcontract). Any proceeds from this type of activity may be used to fund additional disposition activities at SRS. Other funding for disposition projects would be incremental to the surveillance and maintenance budget. As funding for these small scale disposition actions is speculative, no consideration is given to them in this PBS.

Post-2006 Project Scope:

The post-FY2006 work scope is a continuation of pre-deactivation surveillance and maintenance until such time as deactivation is completed. Current funding guidance indicates that these deactivation activities will begin after FY2006. Deactivation is expected to be complete by FY2011. At such time, a routine of quarterly entries will be established. These entries will verify the structural integrity of the M Area facilities, and verify the operational integrity of any remote monitoring equipment, sump pumping equipment, and environmental monitoring equipment required by the surveillance and maintenance plan for M Area. This quarterly monitoring will continue until final disposition of the facilities.

Project End State

This project only provides for surveillance and maintenance during the pre- and post-deactivation phases of the M Area life cycle (i.e., this project end state). Additional projects will be required to meet the EM site end state. After deactivation, contamination in the area is expected to be eliminated or fixed with a surface sealant. At this time, a final end state for the area has not been defined. Reuse of some M Area facilities has been considered in the past, including use as support facilities for the Accelerator Production of Tritium (APT) project. However, no plans have been made at this time to reuse any of the facilities after area deactivation (post-FY2011).

No nuclear materials, spent fuel, or high level waste will be stored in M Area following deactivation, nor will any be generated by this project. Wastes generated by this project will be primarily job control wastes from incidental decontamination, surveillance, and maintenance activities. Such wastes would be disposed of as low level waste.

Cost Baseline Comments:

Costs identified in this PBS are rough order of magnitude engineering estimates only. Some pre-deactivation surveillance and maintenance costs are based on historical data. Post-deactivation surveillance and maintenance costs are dependent on the deactivation end points, which in turn depend on the characterization of facility hazards. Current S&M expenses are based on available facility characterization. Post-deactivation end points have not been established for all of the M Area facilities. Completion of these activities will likely alter the post-deactivation surveillance and maintenance cost and scope estimates contained in this ACP project.

Safety & Health Hazards:

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Project Description Narratives

M Area facilities include five major excess process buildings: 313-M Target Slug Manufacturing, 320-M Target Tube Manufacturing, 321-M Fuel Manufacturing, 322-M Metallurgical Laboratory, and 341-M Liquid Effluent Treatment Facility. Residual source terms include contamination in the HEPA filtration system ductwork in 321-M, and residual contamination in the 313-M and 322-M buildings. In addition, depleted uranium is stored in two warehouses in M Area.

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. Determination of the above hazards are described in DPSTSA-300-3A, Rev. 1a, "M Area Justification for Continued Operations", Section 3.9, "Analysis". Chemical inventories are controlled in accordance with procedure FDP 14.1, "Chemical Management Program".

Safety & Health Work Performance:

Activities and check points 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. The resource description, costs and skill mix are defined in the following Sections: Costs D.2.2 and D.3, FTEs D. 2.5 and 2.7 of this document.

PBS Comments:

As of the end of FY96, all highly enriched uranium (HEU) aluminum alloy fuel elements have been relocated to K Area.

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

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General PBS Information

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

Project Identification Information

DOE Project Manager: S. L. Johnson

DOE Project Manager Phone Number: 803-557-3828

DOE Project Manager Fax Number: 803-557-3669

DOE Project Manager e-mail address: sandra-l.johnson@srs.gov

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

Planning Section

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)	91,138	374,863	466,001	11,967	11,967	22,608	22,608	11,855	9,344	9,419	6,040	4,184	4,309	5,622	5,790
PBS Baseline (constant 1999 dollars)	86,538	120,833	207,371	11,967	11,967	22,608	22,608	11,855	9,019	8,776	5,480	3,696	3,706	4,709	4,722
PBS EM Baseline (current year dollars)	91,138	374,863	466,001	11,967	11,967	22,608	22,608	11,855	9,344	9,419	6,040	4,184	4,309	5,622	5,790
PBS EM Baseline (constant 1999 dollars)	86,538	120,833	207,371	11,967	11,967	22,608	22,608	11,855	9,019	8,776	5,480	3,696	3,706	4,709	4,722

	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)	4,927	5,060	5,196	5,336	15,762	14,492	16,577	18,916	21,611	24,691	28,209	32,228	36,821	42,067	48,061	54,909

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

Site Summary Level: **Savannah River Site**

HQ ID: **0515**

Project **SR-FA18 / M Area Monitoring Project**

	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 (constant 1999 dollars)	3,912	3,912	3,912	3,912	10,674	8,591	8,601	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591
PBS EM Baseline (current year dollars)	4,927	5,060	5,196	5,336	15,762	14,492	16,577	18,916	21,611	24,691	28,209	32,228	36,821	42,067	48,061	54,909
PBS EM Baseline (constant 1999 dollars)	3,912	3,912	3,912	3,912	10,674	8,591	8,601	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591	8,591

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	3.60%	3.60%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

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: 9/1/2070

Current Projected End Date of Project: 9/1/2070

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars): 191,861

Actual 1997 Cost: 11,967

Actual 1998 Cost: 22,608

Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars): 157,286

Inflation Adjustment (2.7% to convert 1998 to 1999 dollars): 4,247

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Project **SR-FA18 / M Area Monitoring Project**

Project Reconciliation

Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	161,533

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 (+):	11,255	
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	172,788	
Additional Amount to Reconcile (+):	8	Reflects a revised estimate of limited disposition activities intended to reduce S&M costs.
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**172,796**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Complete treatment of waste tank sludge	SR-FA18-003		6/1/1999	6/1/1999			Y				
Project Mission Complete	SR-FA18-002		9/1/2070								
Project Start	SR-FA18-001		10/1/1998			10/1/1998					

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
Complete treatment of waste tank sludge	SR-FA18-003										
Project Mission Complete	SR-FA18-002				Y						
Project Start	SR-FA18-001			Y							

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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 200
MLLW														
Treatment	M3	2,544.89	0.00	2,544.89	0.00		0.00	2,045.08	499.81					
MLLW														
Storage	M3							1,091.51	716.62	0.00	0.00			
MLLW														
On-Site Disp.	M3	0.00	0.00	0.00	0.00		0.00							
MLLW														
TBD Disp.	M3	0.00	0.00	0.00				0.00	0.00	0.00				
Tech.														
Deployed	Ntd	4.00	0.00	4.00					4.00					

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
MLLW													
Treatment	M3												
MLLW													
Storage	M3												
MLLW													
On-Site Disp.	M3												
MLLW													
TBD Disp.	M3												
Tech.													
Deployed	Ntd												

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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
MLLW										
Treatment	M3									2,487.00
MLLW										
Storage	M3									
MLLW										
On-Site Disp.	M3									0.00
MLLW										
TBD Disp.	M3									0.00
Tech.										
Deployed	Ntd								4.00	4.00

Technology Deployments

	Deployment Year		
Deployment Status	**Planned**	**Forecast**	**Actual Date**
Technology Name: Portable X-Ray, K-Edge Heavy Metal Detector			
Deployment Commitment	1999		
Technology Name: LRAD Based			
Deployment Commitment	1999		
Technology Name: Strippable Coatings			
Deployment Commitment	1999		
Technology Name: Electret Ionization Chambers (E-PERM)			
Deployment Commitment	1999		