

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Savannah River**

Site Summary Level: **Savannah River Site**

Project **SR-FA19 / D Area Monitoring Project**

Report Number: **GEN-01b**

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

HQ ID: **0516**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Definition of Scope: 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 excess 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 a transition plan and an interim surveillance and maintenance plan prior to cessation of facility operations for the deactivated heavy water facilities in accordance with DOE Order O430.1;
- Surveillance and maintenance of facility infrastructure to guard against risks associated with building deterioration;
- Operation and maintenance of systems required to monitor and control residual contamination, or to alert personnel of hazards;
- Control of access to hazards (high energy, radiation, hazardous chemicals, etc.);
- Performance of environmental monitoring to ensure integrity of S&M plan;
- Personnel training and qualifications for all required 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;
- Preventive 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 any remaining facility support services systems (steam, plant air, electricity, domestic and process water, etc.);
- Work package and maintenance procedures development;
- Execution of limited scope stabilization and deactivation activities to prevent the spread of contamination or the release of any residual materials;

and,

During the deactivation period, some elements of pre-deactivation surveillance and maintenance may become unnecessary due to remediation actions which eliminate associated risks. Post-deactivation scope and costs will be substantially reduced, although the specifics will not be defined until deactivation end points are known.

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

Project Status in FY 2006:

Site funding limitations currently preclude funding for the full disposition projects that would be needed to further reduce D Area surveillance and maintenance costs. A significant portion of D Area (power and steam generation facilities) will remain operational indefinitely, and is not funded under this PBS. Current funding guidance indicates that the large scale disposition scope outlined in a separate PBS will begin after FY2006. Until such time, D Area will be maintained at a higher level of surveillance and maintenance costs commensurate with the 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

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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 surveillance and maintenance on the excess heavy water processing facilities until such time as deactivation of the remainder of the area is completed. Current funding guidance indicates that these deactivation activities will begin after FY06. Deactivation is expected to be complete by FY53. At such time, a routine of surveillances will be established. These surveillances will verify the structural integrity of the D 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 D 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 deactivation and post-deactivation phases of the D Area life cycle (i.e., this project end state). Additional projects will be required to meet the EM site end state. Contamination in the area is expected to be eliminated or fixed. At this time, a final end state for the area has not been defined. No D Area facilities have been considered for reuse in the past. In addition, no plans have been made at this time to reuse any of the facilities after area deactivation.

No nuclear materials, spent fuel, or high level waste will be stored in D 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 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. As left facility characterization and end points determination has been completed for any the D Area heavy water processing facilities only. Completion of these activities for the remainder of D Area will likely alter the post-deactivation surveillance and maintenance cost and scope estimates contained in this ACP project.

Safety & Health Hazards:

D Area heavy water facilities were originally built to supply the five Site reactors with heavy water for use as moderator. The facilities consisted of heavy water processing towers and ancillary facilities for extracting heavy water from raw river water supplied from the Savannah River, and a number of facilities, such as the DuPont Water and Rework units, and the Technical Purification facility. Along with their ancillary facilities, these latter facilities were intended to process existing stocks of degraded and contaminated heavy water. The heavy water extraction towers and associated facilities have been demolished. The remaining heavy water facilities have been deactivated. Other D Area facilities, including power and steam

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generation, fire department training, and SRTC soils laboratory are still in operation.

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 WSRC-TR-94-158, Rev. 2, "Basis for Interim Operations (BIO) for the D Area Heavy Water Processing and Drum Storage Facility". D Area heavy water facility chemical inventories are controlled in accordance with procedure FDP 14.1, "Chemical Management Program".

Safety & Health Work Performance:

Feedback and continuous improvement is a major part of the of the Integrated Safety Program as discussed in D.1.3 Control. The WSRC Assessment Manual describes the primary mechanism for feedback. The Assessment Manual describes the mechanisms for collecting feedback information; identifying improvement opportunities; making changes to improve; and conducting oversight. The WSRC feedback mechanism is two tiered, consisting of Self-Assessment and Management Assessment elements. Additional feedback is collected through the Site Item Reportability and Issue Management Manual, the Lessons Learned Program and other project programs and resources of information.

PBS Comments:

Demolition of the D Area heavy water extraction towers and associated facilities, such as control buildings and the flare tower, was completed in FY96.

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	N	N	N	Y	Y	Y

Project Identification Information

DOE Project Manager: S. L. Johnson

DOE Project Manager Phone Number: 803-557-3828

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General PBS Information

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)	9,289	251,545	260,834						1,261	1,101	1,305	1,344	1,384	1,425	1,469	
PBS Baseline (constant 1999 dollars)	8,195	76,768	84,963						1,217	1,026	1,184	1,187	1,190	1,193	1,198	
PBS EM Baseline (current year dollars)	9,289	251,545	260,834						1,261	1,101	1,305	1,344	1,384	1,425	1,469	
PBS EM Baseline (constant 1999 dollars)	8,195	76,768	84,963						1,217	1,026	1,184	1,187	1,190	1,193	1,198	
	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)	1,509	1,549	1,591	1,634	8,857	10,119	11,561	13,208	15,090	17,241	19,697	22,504	25,711	29,374	33,559	38,341
PBS Baseline (constant 1999 dollars)	1,198	1,198	1,198	1,198	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998
PBS EM Baseline (current year dollars)	1,509	1,549	1,591	1,634	8,857	10,119	11,561	13,208	15,090	17,241	19,697	22,504	25,711	29,374	33,559	38,341

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	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 EM Baseline (constant 1999 dollars)	1,198	1,198	1,198	1,198	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998	5,998

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%
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):	23,188	Actual 1997 Cost:	Actual 1998 Cost:
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	23,188	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):	626
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	23,814		

Project Cost Changes

Cost Adjustments Reconciliation Narratives

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Project Reconciliation

Cost Change Due to Scope Deletions (-):

Cost Reductions Due to Efficiencies (-):

Cost Associated with New Scope (+):

Cost Growth Associated with Scope Previously Reported (+): 61,152

Cost Reductions Due to Science & Technology Efficiencies (-):

Subtotal: 84,966

Additional Amount to Reconcile (+): -3 D Area heavy water deactivated facility S&M commences in FY2000 rather than FY2007.

Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): **84,963**

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-FA19-002		9/1/2070								
Project Start	SR-FA19-001		10/1/2000								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Mission Complete	SR-FA19-002					Y					
Project Start	SR-FA19-001			Y							

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