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: **0052**
Project **SR-ER02 / Four Mile Branch Project**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Purpose/Scope
The Four Mile Branch Watershed Project is one of six geographical divisions of SRS established with the purpose of implementing the Federal Facility Agreement (FFA). The Four Mile Branch Watershed Project contains sites in five areas: E-Area, C-Area, N-Area, F-Area, and H-Area. E-Area consists of several adjacent facilities that were former or current disposal sites for hazardous and radioactive wastes and spent solvents generated from plant processes. C-Area consists of several facilities that were former disposal sites for hazardous and/or radioactive wastes and spent solvents generated from the operation of the C-Reactor facilities. N-Area consists of two burning/rubble pits used between 1951 and 1973 for the disposal of various waste materials including hazardous substances like organic solvents. The F and H Areas consist of several former or current disposal, storage, or treatment facilities for hazardous and radioactive wastes and spent solvents from the F&H Area plant processes.

Remediation of the Four Mile Branch Watershed Project in accordance with RCRA or RCRA/CERCLA will decrease human and environmental risks to acceptable levels. The Four Mile Branch Watershed Project will require remediation of
· primary source material,
· affected soils,
· affected surface water pathways, and
· affected groundwater.

Remediation of the Four Mile Branch Watershed Project will consist of the following:
· preliminary evaluation of suspect areas to determine if action is necessary,
· investigation and analysis of identified waste units and any suspect areas identified through preliminary evaluations to determine further investigation and possible required remediation,
· implementation of remediation technologies to mitigate the impact of contaminants of concern on human health and the environment, and
· post action monitoring to ensure that the implemented technology was effective.

Technical Approach
The technical approach to the preliminary evaluations and investigations will consist of sampling soil, surface water, and groundwater to determine the nature, extent, and mobility of the contaminants associated with the waste units. Once the sampling has been completed, analysis of the data will be performed to evaluate the current and future impacts to human health and the environment due to the waste unit. This information will be used to screen remediation technologies to identify the most effective remedy. The remedy will then be implemented, and post-action monitoring initiated to ensure that it is effective.

In addition to these standard technologies, the Environmental Restoration Division is aggressively pursuing innovative technologies that will either enhance the effectiveness of the remedy or minimize the cost. Innovative technologies to be deployed in this project include various sampling and analysis methods to reduce Investigative Derived Waste. Technologies include
· Alternatives to pump and treat for ground water contamination;

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· Long term low permeability cover systems;
· In situ solidification and stability technologies;
· New technologies to characterize and remediate DNAPL;
· Technologies to remotely identify the presence of buried waste;
· Phytoremediation and other passive treatment systems;
· Technologies to treat or hydraulically control tritium contaminated groundwater.

Project Status in FY 2006:

"Just in time" compliance is depicted in "Planning Case." ("Just in time" is defined as adherence to compliance direction in a manner that is "Just in time" to meet regulatory deliverables and avoid fines and penalties.)

Due to insufficient funding at the target level, the following projects are unfunded
- 1102 Road A Chemical Basin
- 1210 Central Shops IHMU (631-1 & 3G)
- 1218 C-Area IHMU 131-C

If the current funding shortfall from target to planning case in FY01 is not addressed, outyear projections will increase resulting in a minimum delay of two years in project completion.

The characterizations and assessments for the Road A Chemical Basin will be completed in FY06. C-Area Reactor Seepage Basins and Coal Pile Runoff Basins (C, D, F, K, & P) will complete remediation activities in FY06. Remediation activities will continue for both waste and groundwater as well as post closure activities such as maintenance and monitoring. In the planning case, Central Shop B/R/P (631-1&3G) will have ongoing routine program support to close out the remediation phase. This work is currently unfunded in the target case. Assuming the project remains unfunded for FY01, the status in FY06 will be ongoing monitoring of the remediation activities. Heavy Equipment Wash Basin & Central Shop 631-5G will have ongoing operation of remediation systems.

If the current funding shortfall in FY01 is not addressed, the F-Area Retention Basin Closure construction activities will not be performed. The Post Construction Report due, November 2000, will not be submitted. The post closure and initial monitoring will also not be performed.

Post-2006 Project Scope:

"Just in time" compliance is depicted in "Planning Case." Certain portions of projects (C-Area Isolated Hazardous Material Unit 131-C, Road A Chemical Basin, and Central Shop Isolated Hazardous Material Unit 631-1&3G) are unfunded at target level of funding and could impact completion.

Stormwater Outfall H-013 and Ditch to Outfall H-012 remediation will be completed in FY08. F/H Groundwater and F/H Inactive Process Sewer Lines from Security Fence to Seepage Basin will complete remediation in FY10. Post-closure activities such as maintenance and monitoring will continue. RWBG Solvent Tanks, F-Retention, H-Retention, Burial Ground Complex, HLW Tank Closure, Mixed Waste Management Facility, and H-Area Tank Farm all require compliance monitoring and regulatory reporting post-2006. In both the planning and the target case, Heavy Equipment

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Wash Basin & Central Shop 631-5G will have ongoing operations and maintenance of remediation systems.

If the current funding shortfall target to planning case in FY01 is not addressed, outyear projections will increase resulting in a minimum delay of two years in project completion and total project cost will increase for the F-Area Retention Basin project, C-Area IHMU project, Road A Chemical Basin, and Central Shops IHMU 631-1&3G. In all cases, failure to meet regulatory milestones will result in potential enforcement actions, fines, and penalties.

Project End State

The Four Mile Branch Watershed Project will meet the EM site End State after the completion of the remediation and monitoring described in the technical approach. After remediation has been completed the sites will be subject to periodic five year reviews of the RODs. Portions of the project where institutional controls were implemented will continue to require oversight until the property is transferred with appropriate deed restrictions.

Cost Baseline Comments:

· "Just In Time" compliance is depicted in "Planning Case."
· Target Funding for FY01 is insufficient for current regulatory requirements.
· Certain projects are unfunded at target level of funding and could impact completion.
· The Cost Baseline reflects fully utilized target funding in outyears (FY02 - FY06) for existing and anticipated regulatory requirements.
· Budget for regulatory driven Low Level Waste disposal will be included in Solid Waste Division's Program Baseline Summaries (PBS).

The following projects have been identified as compliance work for FY01; however, they are unfunded at the current target level.
- 1102 Road A Chemical Basin (FY01= $1,417,165)
- 1210 Central Shops IHMU (631-1 & 3G) (FY01= $133,500)
- 1218 C-Area IHMU 131-C (FY01= $984,525)

¸ ¸ NOTE: All costs include ESS, Site Overhead, & Additional Surcharges.

Safety & Health Hazards:

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. Chemical inventory is controlled in accordance with RDP 14.1, Chemical Management Program and Chemicals and Nonradioactive Hazardous Materials Control (U), DPSOL 105-1845-K.

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 start 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, provide feedback on adequacy of controls, and continue to improve safety management. The WSRC Integrated Procedures Management System (IPMS) 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

Project Description Narratives

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, Costs D.3, FTEs D.2.5, and FTEs D.2.7 of the IPMS.

PBS Comments:

The remediation of the Four Mile Branch Watershed Project is monitored very closely by both EPA Region IV and SCDHEC through the implementation of the FFA. If progress in this watershed is not made in accordance with the FFA, RCRA permits, and settlement agreements then DOE could be subject to fines and penalties from both regulatory agencies. In addition, portions of the Four Mile Branch Watershed Project have been identified as areas that could be developed for industrial purposes in the future. This future industrial use of the site could be impeded if remediation of the watershed is not conducted as planned.

Baseline Validation Narrative:

ERD's Baseline Validation History

The Environmental Restoration (ER) Department was established in 1990 with the mission to clean up (remediate) the environmental damage incurred during past operations. Although the scope of cleanup was not clearly defined at that time, DOE, through its contractors, initially identified 420 waste units. In 1992, the ER Department defined and bounded this scope of work via the Federal Facilities Agreement (FFA), a legally binding agreement between the Department of Energy (DOE), the U.S. Environmental Protection Agency, and the State of South Carolina. However, ER and DOE management realized the need to continue refining the scope defined in the FFA. A tool to manage the work in terms of scope, schedule, and cost was also needed. This realization led to the development of Baseline 93 (BL93).

To accomplish the scope of work found in the approved FFA, the ER Department realized that the scope of work had to be more clearly defined. BL 93 was organized by scope, schedule, and cost in accordance with the EM-40 "Project Management Notebook".

The first baseline was prepared using the "Balanced Program Strategy". This strategy considered the needs and requirements of worker and public health and safety, environmental concerns (risk), regulatory compliance and funding considerations. A mixture of high-, medium-, and low-risk waste units was scheduled at the same time. This balanced approach would later be changed to schedule the higher-risk units prior to lower-risks units.

The cost estimates in this baseline were in FY93 dollars. Escalation (to accommodate rising costs) was applied beginning in FY95. Neither contingency nor management reserve were built in to the cost estimate at this time. The baseline time frame extended only to FY99 per DOE direction and did not account for the full Life Cycle Cost. In early 1994, an Independent Cost Estimating (ICE) team reviewed BL93 and verified the building blocks used in development of BL93 were accurate.

Baseline 93 Highlights
· The parametric model template was developed for the SRS from a baselining model used at DOE Hanford. DOE approved this model.
· This first ER baseline used parametric modeling to estimate the cost of a project.
· The baseline reflected target values through FY99.
· The scope of work encompassed 420 waste units identified in the FFA, including the RCRA scope of work.
· Schedules were developed using legal drivers (i.e., settlement agreements, FFA and court orders).

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· BL93 was endorsed by Savannah River Operations Office and EM-42 as a quality document.
· BL93 included data for FY93 to FY99 only per DOE direction.
· BL93 with the ICE comments included was utilized to request future funding.

In FY94, Congress required that DOE provide a Baseline Environmental Management Report (BEMR) with annual updates.

The ER Department used this request as an opportunity to update the FY93 baseline. This report used the Life Cycle Cost Estimate (LCCE) for the first time. The LCCEs were not fully complete at the first request of the BEMR so parametric modeling in conjunction with LCCEs were used to develop the cost estimates for BEMR 94. Using legal drivers, BEMR 94 schedules indicated the life cycle of the ER program (including surveillance and monitoring) would extend to FY2045.

This was the first SRS ER baseline that included a full life cycle cost schedule for FFA Appendix C waste units. An estimated cost, for assessment only, was applied to FFA Appendix G waste units that had not been characterized or estimated in BL93. The estimates to cleanup Appendix G waste units were not included to capture the total cost of the ER program because there was not enough information to make an educated guess.

In the absence of a formal future land use designation, BEMR 94 assumed a base case that closely followed industrial criteria for remediation of waste units. All budgets were in constant FY95 dollars. No contingency or escalation was applied.

BEMR 94Highlights
· Estimates were taken from a combination of modeled LCCEs and parametric estimates.
· Schedules were developed from legal drivers (FFA). The end date for all ER activity was estimated to be FY2045.
· The number of waste units could increase due to new discoveries.
· An estimate was included to cover the assessment of Appendix G waste units; no remediation costs were included.

BEMR 96 was the next update required by congress. In this update, technology approaches that would lead to productivity improvements were assumed. Remediation of FFA Appendix G waste units were now included and was the major contributor to the increase in cost from BEMR 94 to BEMR 96. These costs were developed using a model that assumed past experience that would continue for future site evaluation activities and cost. It was also assumed that 25% of the waste units in the Site Evaluation (SE) Program would be classified as high-risk sites and move into the base program. This assumption later proved to be incorrect.

BEMR 96 Highlights
· Estimates were taken from modeled LCCEs.
· Schedules were developed from legal drivers (FFA).
· With new waste unit discoveries, in addition to the split of existing waste units for tracking purposes, the scope of work was increased to 478 waste units.

Changing technologies and assumptions in land use demonstrated a need to further define the ERD scope of work, schedule, and cost. In April of 1996, ER issued the most inclusive baseline to date. The assumptions were clearly documented, with contingency derived from risk analysis and

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escalation applied in a logical manner (not straight-lined).
· BL96 used the information taken from LCCEs. These estimates were activity-based estimates with specific resources identified and applied to work scope.
· Schedules were then developed by applying regulatory drivers (i.e., FFA, primary agreements, other agreements and drivers).
· After further evaluation, some waste units were combined, dropping the population of waste units to 467.
· Although BEMR 96 included order of magnitude costs for remediation of waste units in Appendix G, they were not included in BL96. BL96 did not include any planning estimates.
· Schedules used the same regulatory drivers as BEMR 96.

In order to validate BL96, an ICE review was conducted.

The ICE team comments centered on the LCCEs. The cost delta between BL96 and BL96 ICE is primarily attributed to changes in scheduling and costs for program support. The agreed-to ICE comments significantly reduced the cost of this scope in the outyears. This review concluded with preparation of a baseline change package addendum to BL96 in April 1997. The ICE comments were incorporated into revised LCCE beginning in FY97.

A primary objective of the Ten Year Plan was to cleanup as many waste units as possible within ten years. The ER Program planned to complete remediation of the majority of high- and medium- risk waste units within ten years assuming regulatory flexibility with rescheduling of work and that funding would be available to support the work.

The concept of organizing work scope into areas (PBS) was first introduced in the Ten Year Plan. The SRS ER Program chose to utilize the natural occurrence of watersheds (areas) to summarize the projects. This PBS is a product of this WBS change.

Ten Year Plan Highlights
· Basis for the existing WBS configuration.
· Most high-risk units in cleanup by FY2006.
· 25% of Appendix G units were assumed to require further assessment and remediation.
· Scope of work was 467 sites.

The "Accelerating Cleanup: Paths to Closure" report was built on the concepts of the Ten Year Plan. Expanding on the area format, data requirements were further refined to produce an integrated management strategy for Environmental Restoration efforts across the DOE Complex. The ER program at SRS was also streamlining the regulatory process to accelerate remediation. One streamlining concept, the Plug-in Record of Decision (ROD) was also introduced. The Plug-in ROD is designed to reduce the time from characterization to actual remediation for sites with similar contamination where the same remediation technology is applied. Work scope was also re-evaluated to achieve maximum remediation results and cost reductions. Included in this update was the addition of the Integrator Operable Units (IOUs) that extended the schedule for cleanup after all the waste units in that area had been remediated.

Accelerated Cleanup: Paths to Closure Highlights

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· Approved LCCEs were used to develop ACP Cost.
· Schedules were based on a new FFA, which reflected the cleanup of high-risk waste units first, followed by sites of lower risk.
· Scope of work was 477 waste units.

During FY97 and FY98, LCCEs were updated yearly to include the latest technologies used to clean up the waste units, which greatly increased the productivity of the ERD Program.

Incorporation of technological advances resulted in increased savings from BL96 though the scope increased since BL96, due to site evaluation units moving into the base program.

During FY98, ER's Technical baseline was reviewed by TetraTech EM, Inc. and in November 1998 validated with minimal recommendations. These recommendations are under review and are being incorporated in future revisions to the LCCEs.

Current Baseline Estimate Highlights
· Most comprehensive baseline
· Integration of Strategic Planning
· Environmental Risk Analyses and Assignment of waste units.
· Business Risk Analyses
· Baseline developed by consensus building by ERD, DOE, Regulators and the Publc
· LCCEs reviewed and approved by DOE
· FFA is primary driver of program
· Changes from BL96 to current estimates reconciled
· Recognition of new technologies
· Again, some waste units were split apart and newly discovered, increasing the ER program scope to 477 waste units.
· The ER program completion date moved from FY2045 to FY2038.

During the last six years, ERD has undergone significant improvement in defining work scope and estimating the cost to complete this scope. LCCEs and schedules have evolved to definitive documents that will more accurately measure future changes in scope, schedule, and cost. A configuration control process is used to manage this baseline.

General PBS Information

Project Validated?	Yes	**Date Validated:**	10/3/1996
Has Headquarters reviewed and approved project?	No		
Date Project was Added:	12/1/1997		
Baseline Submission Date:	7/3/1999		

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General PBS Information

FEDPLAN Project? Yes

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

Project Identification Information

DOE Project Manager: Cynthia V. Anderson

DOE Project Manager Phone Number: 803-725-3966

DOE Project Manager Fax Number: 803-725-7548

DOE Project Manager e-mail address: cynthia-v.anderson@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)	392,163	240,486	632,649	26,961	26,961	28,896	28,896	28,049	35,482	48,788	60,249	55,720	36,218	36,821	34,979
PBS Baseline (constant 1999 dollars)	358,009	161,005	519,014	26,961	26,961	28,896	28,896	28,049	34,249	45,456	54,659	49,221	31,153	30,839	28,526
PBS EM Baseline (current year dollars)	392,163	240,486	632,649	26,961	26,961	28,896	28,896	28,049	35,482	48,788	60,249	55,720	36,218	36,821	34,979
PBS EM Baseline (constant 1999 dollars)	358,009	161,005	519,014	26,961	26,961	28,896	28,896	28,049	34,249	45,456	54,659	49,221	31,153	30,839	28,526

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**

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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 Baseline (current year dollars)	38,032	30,593	13,274	13,609	70,571	41,080	8,583	13,198	11,546	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	30,200	23,654	9,994	9,976	47,794	24,351	4,454	5,993	4,589	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	38,032	30,593	13,274	13,609	70,571	41,080	8,583	13,198	11,546	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	30,200	23,654	9,994	9,976	47,794	24,351	4,454	5,993	4,589	0	0	0	0	0	0	0

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: 6/12/2015

Current Projected End Date of Project: 9/30/2038

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

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Project Reconciliation

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	341,031	**Actual 1997 Cost:**	26,961	**Actual 1998 Cost:**	28,896
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	285,174	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			7,700
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	292,874				

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 (+):	152,243	Regulatory changes, updated estimates, & scope changes resulted in a net cost growth.
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	445,117	
Additional Amount to Reconcile (+):	18,040	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**463,157**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
C-, F-, K-, and P-Area Coal Pile Runoff Basins (189-C, 289-F, 189	SR-ER02-031		12/30/1999	12/30/1999			Y				
C-Area Burning/Rubble Pit (131-C) ROD*	SR-ER02-010		3/30/2002	3/30/2002			Y			Y	
C-Area Burning/Rubble Pit (131-C) Remedial Action Start	SR-ER02-019		6/30/2003	6/30/2003			Y				
C-Area Reactor Seepage Basins GW (904-066G, -067G, - 068G) RA Sta	SR-ER02-030		12/30/2002	12/30/2002			Y				
C-Area Reactor Seepage Basins GW (904-066G, -067G, - 068G) ROD	SR-ER02-029		9/26/2001	9/26/2001			Y			Y	

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Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Central Shops Burning/Rubble Pits (631-1G, -3G) RA Start	SR-ER02-026		8/31/2001	8/31/2001			Y				
Central Shops Burning/Rubble Pits (631-1G, -3G) ROD Submittal	SR-ER02-025		5/13/2000	5/13/2000			Y			Y	
F-Area Inactive Process Sewer Line (081-1F) RA Start	SR-ER02-109		12/30/2012	12/30/2012			Y			Y	
F-Area Inactive Process Sewer Line (081-1F) RI Field Start	SR-ER02-108		9/30/2008	9/30/2008			Y				
F-Area Inactive Process Sewer Line (081-1F) ROD Submittal	SR-ER02-035		9/30/2011	9/30/2011			Y			Y	
F-Area Retention Basin (281-3F) Remedial Action Start	SR-ER02-017		6/30/1999	6/30/1999			Y				
Fire Dept. Hose Training Facility (904-113G) RA Start	SR-ER02-042		9/30/1999	9/30/1999			Y				
Four Mile Branch IOU Field Start	SR-ER02-043		12/30/2010	12/30/2010			Y				
Four Mile Branch IOU Monitoring Field Start	SR-ER02-048		6/30/2001	6/30/2001			Y				
Four Mile Branch IOU RA Start	SR-ER02-045		3/30/2015	3/30/2015			Y				
Four Mile Branch IOU RA Start	SR-ER02-047		5/30/2008	5/30/2008			Y				
Four Mile Branch IOU ROD Submittal	SR-ER02-044		12/30/2013	12/30/2013			Y			Y	
Four Mile Branch IOU Remediated	SR-ER02-80		3/30/2009	3/30/2009			Y				
H-Area Inactive Process Sewer Line (081-H) RA Start	SR-ER02-036		12/30/2012	12/30/2012			Y				
H-Area Inactive Process Sewer Line (081-H) RI Field Start	SR-ER02-034		9/30/2008	9/30/2008			Y				
H-Area Inactive Process Sewer Line (081-H) ROD Submittal	SR-ER02-037		9/30/2011	9/30/2011			Y			Y	
H-Area Inactive Process Sewer Lines (081-H) Field Start	SR-ER02-049		9/1/2002	9/1/2002			Y				
H-Area Inactive Process Sewer Lines (081-H) RA Start	SR-ER02-051		12/30/2006	12/30/2006			Y				

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H-Area Inactive Process Sewer Lines (081-H) ROD Submittal	SR-ER02-050		12/30/2004	12/30/2004			Y			Y	
H-Area Retention Basin (281-3H) Phase II RA Start	SR-ER02-028		9/30/2002	9/30/2002			Y				
H-Area Retention Basin (281-3H) Phase II ROD Submittal	SR-ER02-027		5/25/2001	5/25/2001			Y			Y	
H-Area Retention Basin (281-8H)	SR-ER02-046		4/30/2008	4/30/2008			Y				
H-Area Retention Basin (281-8H) Phase II Field Start	SR-ER02-053		9/30/2010	9/30/2010			Y				
H-Area Retention Basin (281-8H) RA Start	SR-ER02-055		12/30/2014	12/30/2014			Y				
H-Area Retention Basin (281-8H) ROD Submittal	SR-ER02-054		9/30/2013	9/30/2013			Y			Y	
H-Area Retention Basin Groundwater (281-8H) RA Start	SR-ER02-056		12/30/2011	12/30/2011			Y				
HP-52 Ponds and Warner`s Pond Field Start	SR-ER02-057		12/30/2001	12/30/2001			Y				
HP-52 Ponds and Warner`s Pond Groundwater RA Start	SR-ER02-060		3/30/2006	3/30/2006			Y				
HP-52 Ponds and Warner`s Pond RA Start	SR-ER02-059		9/30/2001	9/30/2001			Y				
HP-52 Ponds and Warner`s Pond ROD Submittal	SR-ER02-058		12/30/2004	12/30/2004			Y			Y	
LT S&M Completion (If applicable)	SR-ER02-003		9/30/2038	9/30/2038							
Old Radioactive Waste Burial Ground (643-E) RA Start	SR-ER02-066		9/16/2001	9/16/2001			Y				
Old Radioactive Waste Burial Ground (643-E) ROD	SR-ER02-065		6/16/2000	6/16/2000			Y			Y	
Project Mission Complete	SR-ER02-002		6/12/2015	6/12/2015							
Road A Chemical Basin (904-111G) Field Start	SR-ER02-021		6/30/1999	6/30/1999			Y				
Road A Chemical Basin (904-111G) RA Start	SR-ER02-033		9/30/2003	9/30/2003			Y				
Road A Chemical Basin Field Start	SR-ER02-064		6/1/1999	6/1/1999			Y				
Road A Chemical Basin RA Start	SR-ER02-068		9/1/2003	9/1/2003			Y				

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Project **SR-ER02 / Four Mile Branch Project**

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Road A Chemical Basin ROD Submittal	SR-ER02-067		6/30/2002	6/30/2002			Y			Y	
Stormwater Outfall H-13 Field Start	SR-ER02-061		9/30/2003	9/30/2003			Y				
Stormwater Outfall H-13 ROD Submittal	SR-ER02-062		9/30/2006	9/30/2006			Y			Y	
Stormwater Outfall H-13 RA Start	SR-ER02-063		12/30/2007	12/30/2007			Y				
H-Area Tank Farm Groundwater Operable Unit RA Start	SR-ER02-090		12/30/2001	12/30/2001			Y				
C-Area Reactor Seepage Basins (904-066G, -067G, -066G, -068G) Source RA Start	SR-ER02-040		12/30/2000	12/30/2000			Y				
H-Area Tank Farm Groundwater Operable Unit	SR-ER02-085		7/18/2000	7/18/2000			Y				
Heavy Equipment Wash Basin and Central Shops Burning/Rubble Pit (631-5G) Field Start	SR-ER02-101		6/30/2002	6/30/2002			Y				
Heavy Equipment Wash Basin and Central Shops Burning/Rubble Pit (631-5G) ROD	SR-ER02-102		6/30/2005	6/30/2005			Y			Y	
Heavy Equipment Waste Basin and Central Shops Burning/Rubble Pit (631-5G) RA Start	SR-ER02-104		9/30/2006	9/30/2006			Y				
C-Area Reactor Groundwater Field Start	SR-ER02-105		12/30/2002	12/30/2002			Y				
C-Area Reactor Groundwater ROD	SR-ER02-106		9/30/2011	9/30/2011			Y			Y	
C-Area Reactor Groundwater RA Start	SR-ER02-107		12/30/2012	12/30/2012			Y				
Project Start	SR-ER02-001		10/1/1996								
Project End			9/30/2035								

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
C-, F-, K-, and P-Area Coal Pile Runoff Basins (189-C, 289-F, 189	SR-ER02-031										

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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
C-Area Burning/Rubble Pit (131-C) ROD*	SR-ER02-010										Unfunded at Target
C-Area Burning/Rubble Pit (131-C) Remedial Action Start	SR-ER02-019										Unfunded at Target
C-Area Reactor Seepage Basins GW (904-066G, -067G, - 068G) RA Sta	SR-ER02-030										
C-Area Reactor Seepage Basins GW (904-066G, -067G, - 068G) ROD	SR-ER02-029										
Central Shops Burning/Rubble Pits (631-1G, -3G) RA Start	SR-ER02-026										Unfunded at Target
Central Shops Burning/Rubble Pits (631-1G, -3G) ROD Submittal	SR-ER02-025										
F-Area Inactive Process Sewer Line (081-1F) RA Start	SR-ER02-109										Unfunded at Target
F-Area Inactive Process Sewer Line (081-1F) RI Field Start	SR-ER02-108										Unfunded at Target
F-Area Inactive Process Sewer Line (081-1F) ROD Submittal	SR-ER02-035										Unfunded at Target
F-Area Retention Basin (281-3F) Remedial Action Start	SR-ER02-017										
Fire Dept. Hose Training Facility (904-113G) RA Start	SR-ER02-042										
Four Mile Branch IOU Field Start	SR-ER02-043										
Four Mile Branch IOU Monitoring Field Start	SR-ER02-048										
Four Mile Branch IOU RA Start	SR-ER02-045										

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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
Four Mile Branch IOU RA Start	SR-ER02-047									Y	
Four Mile Branch IOU ROD Submittal	SR-ER02-044										
Four Mile Branch IOU Remediated	SR-ER02-80									Y	
H-Area Inactive Process Sewer Line (081-H) RA Start	SR-ER02-036										
H-Area Inactive Process Sewer Line (081-H) RI Field Start	SR-ER02-034										
H-Area Inactive Process Sewer Line (081-H) ROD Submittal	SR-ER02-037										
H-Area Inactive Process Sewer Lines (081-H) Field Start	SR-ER02-049									Y	
H-Area Inactive Process Sewer Lines (081-H) RA Start	SR-ER02-051									Y	
H-Area Inactive Process Sewer Lines (081-H) ROD Submittal	SR-ER02-050									Y	
H-Area Retention Basin (281-3H) Phase II RA Start	SR-ER02-028										
H-Area Retention Basin (281-3H) Phase II ROD Submittal	SR-ER02-027										
H-Area Retention Basin (281-8H)	SR-ER02-046									Y	
H-Area Retention Basin (281-8H) Phase II Field Start	SR-ER02-053									Y	
H-Area Retention Basin (281-8H) RA Start	SR-ER02-055									Y	
H-Area Retention Basin (281-8H) ROD Submittal	SR-ER02-054									Y	

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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
H-Area Retention Basin Groundwater (281-8H) RA Start	SR-ER02-056									Y	
HP-52 Ponds and Warner`s Pond Field Start	SR-ER02-057										
HP-52 Ponds and Warner`s Pond Groundwater RA Start	SR-ER02-060										
HP-52 Ponds and Warner`s Pond RA Start	SR-ER02-059									Y	
HP-52 Ponds and Warner`s Pond ROD Submittal	SR-ER02-058										
LT S&M Completion (If applicable)	SR-ER02-003				Y						
Old Radioactive Waste Burial Ground (643-E) RA Start	SR-ER02-066										
Old Radioactive Waste Burial Ground (643-E) ROD	SR-ER02-065										
Project Mission Complete	SR-ER02-002										
Road A Chemical Basin (904-111G) Field Start	SR-ER02-021										
Road A Chemical Basin (904-111G) RA Start	SR-ER02-033										Unfunded at Target
Road A Chemical Basin Field Start	SR-ER02-064									Y	
Road A Chemical Basin RA Start	SR-ER02-068									Y	Unfunded at Target
Road A Chemical Basin ROD Submittal	SR-ER02-067										Unfunded at Target
Stormwater Outfall H-13 Field Start	SR-ER02-061										
Stormwater Outfall H-13 ROD	SR-ER02-062										

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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
Submittal											
Stormwater Outfall H-13 RA Start	SR-ER02-063										
H-Area Tank Farm Groundwater Operable Unit RA Start	SR-ER02-090										
C-Area Reactor Seepage Basins (904-066G, -067G, -066G, -068G) Source RA Start	SR-ER02-040										
H-Area Tank Farm Groundwater Operable Unit	SR-ER02-085										
Heavy Equipment Wash Basin and Central Shops Burning/Rubble Pit (631-5G) Field Start	SR-ER02-101										
Heavy Equipment Wash Basin and Central Shops Burning/Rubble Pit (631-5G) ROD	SR-ER02-102										
Heavy Equipment Waste Basin and Central Shops Burning/Rubble Pit (631-5G) RA Start	SR-ER02-104										
C-Area Reactor Groundwater Field Start	SR-ER02-105										
C-Area Reactor Groundwater ROD	SR-ER02-106										
C-Area Reactor Groundwater RA Start	SR-ER02-107										
Project Start	SR-ER02-001			Y							
Project End					Y					Y	

Performance Measure Metrics

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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
RS														
Assess.	NR	52.00	9.00	61.00	1.00	10.00	10.00	4.00	1.00	6.00	5.00	3.00	1.00	1.0
RS														
Cleanup	NR	27.00	32.00	59.00	1.00	10.00	10.00	1.00				2.00	1.00	6.0
Tech.														
Deployed	Ntd	3.00	0.00	3.00					2.00		1.00			

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
RS													
Assess.	NR	1.00	14.00	7.00	2.00	2.00		2.00	3.00				
RS													
Cleanup	NR	6.00	5.00	2.00	1.00	1.00	13.00	8.00	7.00	2.00			
Tech.													
Deployed	Ntd												

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
RS										
Assess.	NR									67.00
RS										
Cleanup	NR									67.00
Tech.										
Deployed	Ntd								3.00	4.00

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Release Sites

Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
SARS	0018		643-E \ Old Burial Ground	Waste/Landfills	2000	2001		2004	2004		1993	N		Y
SARS	0027		685-23G \ WARNER`S POND	Liquid Surface Impoundments/Holding Ponds	2005	2005		2009	2009		1995	N		Y
SARS	0028		281-3H \ H-AREA RETENTION BASIN NO.3	Above Ground Material / Waste/Debris Piles	2001	2002		2005	2005		1993	N		N
SARS	0029		HP-52 OUTFALL	Liquid Surface Impoundments/Holding Ponds	2005	2005		2009	2009		1993	N		Y
SARS	0031		631-6G \ CENTRAL SHOPS BURNING RUBBLE PIT	Waste/Burn Pits	1997		2/5/1997	1997		2/5/1997		N	Pending	N
SARS	0051		131-C \ C-AREA BURNING/RUBBLE PIT	Waste/Burn Pits	2002	2002		2006	2006		1993	N		N
SARS	0052		189-C \ C-AREA COAL PILE RUNOFF BASIN	Liquid Surface Impoundments/Seepage Basins	1998	1998	4/30/1998	2004	2004	4/30/1998	1993	N		N
SARS	0053		904-66G \ C-AREA REACTOR SEEPAGE BASIN NO.1	Liquid Surface Impoundments/Seepage Basins	2001			2005	2004		1993	N		Y
SARS	0054		904-67G \ C-AREA REACTOR SEEPAGE BASIN NO.2	Liquid Surface Impoundments/Seepage Basins	2001			2005	2004		1993	N		Y
SARS	0055		904-68G \ C-AREA REACTOR SEEPAGE BASIN NO.3	Liquid Surface Impoundments/Seepage Basins	2001			2005	2004		1993	N		Y
SARS	0057		631-5G \ CENTRAL SHOPS BURNING RUBBLE PIT NO.5	Waste/Burn Pits	2000	2005		2004	2004		1993	N		N
SARS	0058		631-1G \ CENTRAL SHOPS BURNING RUBBLE PIT NO.1	Waste/Burn Pits	2000			2004	2004		1993	N		N
SARS	0059		631-3G \ CENTRAL SHOPS BURNING	Waste/Burn Pits	2000			2004	2004		1993	N		N

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Release Sites

Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
			RUBBLE PIT NO.3											
SARS	0060		080-24G \ CENTRAL SHOPS SLUDGE LAGOON	Above Ground Material / Waste/Storage Yards and Pads	2001	2002		2005	2005		1993	N		N
SARS	0072		081-1F \ F-AREA INACTIVE PROCESS SEWER LINES FROM SECURITY FENCE TO SEEPAGE BASIN	Above Ground Material / Waste/Debris Piles	2005	2001		2010	2010		1993	N		N
SARS	0073		281-3F \ F-AREA RETENTION BASIN NO.2	Above Ground Material / Waste/Debris Piles	1998	2001	9/30/1998	2002	2001		1993	N		N
SARS	0074		904-113G \ FIRE DEPARTMENT HOSE TRAINING FACILITY	Above Ground Material / Waste/Debris Piles	1998	1998	2/4/1998	2002	2002	2/4/1998	1993	N		N
SARS	0075		904-91G \ FORD BUILDING SEEPAGE BASIN	Above Ground Material / Waste/Scrap Yards	2000			2004	2004		1993	N		N
SARS	0076		643-11G \ FORD BUILDING WASTE SITE	Above Ground Material / Waste/Debris Piles	1999	1999	6/7/1999	2003	1999		1993	N		N
SARS	0077		761-13G \ G AREA OIL SEEPAGE BASIN	Above Ground Material / Waste/Scrap Yards	2007	2007		2011	2011		1993	N		N
SARS	0080		081-1H \ H-AREA INACTIVE PROCESS SEWER LINES FROM SECURITY FENCE TO SEEPAGE BASIN	Spills and Leaks/Pipeline Leaks	2005	2001		2009	2009		1993	N		Y
SARS	0081		H AREA TANK FARM GROUNDWATER	Surface and Groundwater/Groundwater Plumes	2000	2002		2004	2004		1993	N		Y
SARS	0082		631-4G \ HYDROFLUORIC ACID SPILL	Above Ground Material / Waste/Storage Yards and Pads	2003	2003		2007	2007		1993	N		N
SARS	0103		MIXED WASTE MANAGEMENT FACILITY GROUNDWATER ALL PLUME AREAS	Surface and Groundwater/Groundwater Plumes	2005	2002		2009	2005		1993	N		Y

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SARS	0132		080-16G \ SRL OIL TEST SITE	Above Ground Material / Waste/Scrap Yards	2007	2007	9/30/1998	2011	2011	9/30/1998	1993	N		N
SARS	0146	R	C-AREA REACTOR GROUNDWATER	/	2002	2002		2006	2006		1993	N		Y
SARS	0240		105-C \ C-Area Disassembly Basin	Liquid Surface Impoundments/Holding Ponds	2006	2006		2010	2010		1993	N		Y
SARS	0241		131-1C \ C-Area Erosion Control Site	Waste/Trenches / Outfalls	1997		12/13/1996	1997		12/13/1996		N	Pending	N
SARS	0242		186/190-C \ C-Area Reactor Cooling Water System	Buildings & Equipment/Other Buildings	2006	2006		2010	2010		1993	N		Y
SARS	0243		Central Shops Area of Concern	Miscellaneous/Other	2004	2004		2008	2008		1993	N		N
SARS	0244		631-2G \ Central Shops Scrap Lumber Pile	Above Ground Material / Waste/Scrap Yards	2006	2007		2010	2005		1993	N		N
SARS	0245		105-C \ Combined Spills from 105-C	Spills and Leaks/Surface Spills	1997		6/9/1997	1997		6/9/1997	1993	N	Pending	Y
SARS	0249		106-C \ Combined Spills from 106-C	Spills and Leaks/Surface Spills	1997		6/9/1997	1997		6/9/1997	1993	N	Pending	Y
SARS	0253		109-C \ Combined Spills from 109-C	Spills and Leaks/Surface Spills	1997		6/9/1997	1997		6/9/1997	1993	N	Pending	Y
SARS	0257		183-2C \ Combined Spills from 183-2C	Spills and Leaks/Surface Spills	1997		9/25/1997	1997		9/25/1997	1993	N	Pending	Y
SARS	0261		241-84H \ Combined Spills from 241-84H	Above Ground Material / Waste/Storage Yards and Pads	2012	2012		2016	2016		1993	N		N
SARS	0264		242-H \ Combined Spills from 242-H	Above Ground Material / Waste/Storage Yards and Pads	2008	2008		2012	2012		1993	N		N

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Release Sites

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SARS	0274		Ditch to Outfall H-12	Waste/Ditches	2005	2005		2009	2009		1993	N		Y
SARS	0275	R	907-1H \ Diversion Box - Radioactivity from 907-1H	/	2004	2004		2008	2008		1993	N		N
SARS	0280		281-08F \ F-Area Retention Basin No. 1	Above Ground Material / Waste/Muck Piles	2005	2005		2009	2009		1993	N		N
SARS	0292		288-0H \ H-AREA ASH BASIN, 288-0H	Liquid Surface Impoundments/Settling and Separation Basins	2005			2009			1993	N		N
SARS	0293		281-08H \ H-Area Retention Basin No. 0	Liquid Surface Impoundments/Seepage Basins	2005	2005		2009	2009		1993	N		Y
SARS	0296		H-Area Sanitary Sludge Land Application Site	Liquid Surface Impoundments/Evaporation Ponds / Pits	1997		5/16/1997	1997		5/16/1997	1993	N	Pending	N
SARS	0309		631-7G \ 631-7G MISCELLANEOUS RUBBLE PILE	Waste/Miscellaneous Surface Debris	2005	2005		2009	2009		1993	N		N
SARS	0311		741-G \ New Salvage Yard	Above Ground Material / Waste/Scrap Yards	2012	2012		2016	2016		1993	N		N
SARS	0348		Sandblast Area - 3ETF-Bldgs-H Area (CMH-004)	Above Ground Material / Waste/Scrap Yards	2007	2007		2011	2011		1993	N		N
SARS	0354		725-2N \ Sandblast Area - 725-2N (CMN-001-O&M Plan)	Above Ground Material / Waste/Scrap Yards	2011	2011		2015	2015		1993	N		N
SARS	0355		728-N \ Sandblast Area - 728-N (CMN-002-O&M Plan)	Above Ground Material / Waste/Scrap Yards	2010	2010	6/29/1999	2014	2014	6/29/1999	1993	Y		N
SARS	0363		Spill on 01/01/78 of 50 Gal of 50% Sodium Hydroxide	Above Ground Material / Waste/Storage Yards and Pads	2003	1998	6/30/1998	2003	1998	6/30/1998	1993	N		N
SARS	0382		690-G \ Spill on 10/09/85 of 15 Gal of Aropol from 690-G	Above Ground Material / Waste/Storage Yards	1998	1997	12/8/1997	1998	1997	12/8/1997	1993	N		N

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Release Sites

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				and Pads										
SARS	0386		254-8H \ Spill on 11/24/89 of 10 mCi of Cs - 137 from 254-8H	Above Ground Material / Waste/Storage Yards and Pads	2006	2006		2010	2010		1993	N		N
SARS	0392		Spill on 02/12/84 of 200 Gal of Tritiated Water in C-Area	Spills and Leaks/Surface Spills	1997		12/13/1996	1997		12/13/1996		N	Pending	Y
SARS	0398		Spill on 02/08/78 of Unknown of H-Area Process Sewer Line Cave-In	Above Ground Material / Waste/Debris Piles	2006	2006		2010	2010		1993	N		N
SARS	0405		Spill on 03/08/78 of Unknown of Seepage Basin Pipe Leak In H-Area Seepage Basin	Above Ground Material / Waste/Debris Piles	2006	2006		2010	2010		1993	N		N
SARS	0417		Spill on 05/01/56 of Unknown of Retention Basin Pipe Leak	Above Ground Material / Waste/Storage Yards and Pads	2006	2006		2010	2010		1993	N		N
SARS	0418		Spill on 05/01/71 of Unknown of Seepage Basin Pipe Leak	Above Ground Material / Waste/Debris Piles	2002	2002		2002	2002		1993	N		N
SARS	0433		295-H \ Spill on 05/04/87 of 30 Gal of Caustic from 295-H	Above Ground Material / Waste/Storage Yards and Pads	2001	1998	6/30/1998	2001	1998	6/30/1998	1993	N		N
SARS	0459		Stormwater Outfall H-013	Waste/Trenches / Outfalls	2005	2005		2009	2009		1993	N		N
SARS	0470		GENERAL AREA, OTHER PROCESS AND SEWER LINES AS ABANDONED, NBN	/	2010	2010		2014	2014			N		
SARS	0475		C-AREA REACTOR CASK CAR RAILROAD TRACKS AS ABANDONED, NBN	/	2005	2005		2009	2009			N		
SARS	0483		STORMWATER OUTFALL A-013, NBN	Above Ground Material / Waste/Debris Piles	2008	2008		2012	2012			N		N
SARS	0489		C-AREA ASH PILE OFF POWERLINE ROAD, NBN	/	2003	1995	9/30/1995	2003	1995	9/30/1995		N		

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: **0052**

Project **SR-ER02 / Four Mile Branch Project**

Release Sites

Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
SARS	0493		SANDBLAST AREA CMC-002, NBN	/	1997		2/21/1997	1997		2/21/1997		N	Pending	
SARS	0494		SANDBLAST AREA CMC-003, NBN	/	1997		2/21/1997	1997		2/21/1997		N	Pending	
SARS	0499		CENTRAL SHOPS OPEN DISPOSAL TRENCH	/	2007	2007	9/30/1999	2011	2011	9/30/1999		Y		
SARS	3007		Heavy Equipment Wash Basin (Index# 502)	/	2002	2002		2006	2006			N		N
SARS	3009		Fourmile Branch Integrator Operable Unit (Index# 504)	/	2005	2005		2009	2009			N		N
SARS	3016		C-Area Reactor Discharge Canal, NBN (Index# 511)	/	2010	2010		2014	2014			N		N
SARS	3020		Combined Spills form 105-P, 106-P, and 109-P, NBN (Index# 516)	/	2005	2005		2009	2009			N		N

Technology Needs

Site Need Code: SR99-3016

Site Need Name: Tritium Hydrogeological Control and/or Treatment Technologies

Focus Area Work Package ID: SS-08 **Focus Area Work Package:** Saturated Zone Treatment Systems

Focus Area: SCFA **Agree with Technology Link:** N

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
Frozen Soil Barrier		

Technology Needs

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	02214: BS - LLW Groundwater (ETF)	Y	N
	02212: BQ - HAZ Groundwater	Y	N

Site Need Code: SR99-3018

Site Need Name: Innovative Technologies to Replace Pump and Treat Technologies for Groundwater Remediation

Focus Area Work Package ID: SS-08 **Focus Area Work Package:** Saturated Zone Treatment Systems

Focus Area: SCFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate
Dynamic Underground Stripping		
In Situ Redox Manipulation		
Passive Reactive Barrier		
In Situ Chemical Oxidation Using Potassium Permanganate		
Hydrous Pyrolysis/Oxidation		
Geosyphon/Geoflow		
Fenton´s Reagent		

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	02190: AI - LLW Groundwater (F&H Seepage Basin)	Y	N
	02214: BS - LLW Groundwater (ETF)	Y	N
	02191: AK - Hazardous Groundwater (A/S)	Y	N
	02212: BQ - HAZ Groundwater	Y	N

Technology Needs

Site Need Code: SR99-3019

Site Need Name: Long-Term Cover System for a Humid Environment

Focus Area Work Package ID: SS-11 **Focus Area Work Package:** Validation,Verification, & Long-Term Monitoring of Containment & Treatment

Focus Area: SCFA **Agree with Technology Link:** N

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	02209: BM - LLW Soil/Rubble/Debris (Cap)	Y	N
	02205: BI - HAZ Soil/Debris (Cap)	Y	N

Site Need Code: SR99-3021

Site Need Name: Alternative Sample Collection and Well Installation Technology that Eliminates or Significantly Reduces Aqueous or Non-Aqueous Investigative Derived Waste (IDW)

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** N

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Needs

Site Need Code: SR99-3022

Site Need Name: In-Situ Grouting and/or Retrieval of Waste from Underground Tanks (Formerly Used for the Storage of Radioactive Solvents)

Focus Area Work Package ID: TFA-1 **Focus Area Work Package:** Required Steps to Tank Closure at Hanford, ORR, Idaho, and SRS

Focus Area: TFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Related CCP Milestones	Related Waste Streams	Agree?	Change?
	02189: AH - MLLW Solvents	Y	N

Site Need Code: SR99-3023

Site Need Name: Non-Intrusive Methods for Locating Buried Solid Waste Boundaries

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** N

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

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: **0052**

Project **SR-ER02 / Four Mile Branch Project**

Technology Needs

Site Need Code: SR99-3024

Site Need Name: Deploy Phytoremediation or a Passive Technology for Attenuation of VOCs

Focus Area Work Package ID: SS-06 **Focus Area Work Package:** Biological Treatment Systems

Focus Area: SCFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-3025

Site Need Name: Monitoring Technologies for Effectiveness of Solidification and Stabilization Systems

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** N

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Deployments

	Deployment Year		
Deployment Status	Planned	Forecast	Actual Date

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Savannah River**

Site Summary Level: **Savannah River Site**

Project **SR-ER02 / Four Mile Branch Project**

Report Number: **GEN-01b**

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

HQ ID: **0052**

Technology Deployments

	Deployment Year		
Deployment Status	**Planned**	**Forecast**	**Actual Date**
Technology Name: Grout installation with total entrainment			
Potential Deployment	2001		
Technology Name: Non-intrusive detection of buried solid waste			
Potential Deployment			
Technology Name: In-Situ Soil Stabilization/Solidification			
Deployment Commitment	1999		
Technology Name: Purge Water Management System			
Deployment Commitment	1999		