

1.0 Background

The Savannah River Site (SRS) is a key Department of Energy (DOE) industrial complex dedicated to the accelerated reduction of risks through safe stabilization, treatment, and disposition of legacy nuclear materials, spent nuclear fuel, and waste. Also, the National Nuclear Security Administration at SRS supports DOE's national security and non-proliferation programs. The site's current primary focus is on the cleanup of legacy materials, facilities, and waste sites left from the Cold War.

In August 2002, the *Savannah River Site Environmental Management (EM) Program Performance Management Plan (2002 PMP)* was published that described the approach SRS would implement to accelerate the SRS EM cleanup program. The *2002 PMP* contained 14 initiatives designed to reduce risk, cut cost, and accelerate cleanup. This *2002 PMP* directly supported the Calls to Action discussed in the *Top-to-Bottom Review of the EM Program* and provided for expedited cleanup, resulting in significant and early risk reduction, reduced costs, accelerated schedules, and enhanced Homeland Security.

The *2002 PMP* described the approach to be taken to achieve an accelerated cleanup of SRS. Now, this *Savannah River Site Environmental Management (EM) Program Performance Management Plan (2004 PMP)* expands on the acceleration initiatives and provides a comprehensive approach to the EM cleanup at SRS.

The SRS cleanup is now being managed as a project that features a defined scope of work—all work to complete the EM mission at SRS, and deadline—2025. This *2004 PMP* is the project execution plan for the cleanup at SRS—the SRS EM Cleanup Project.

1.1 Mission Need and Project Objectives

There have been significant changes since issuance of the *2002 PMP*. Beginning in late 2002 and continuing into 2003, DOE Savannah River Operations Office (SR)

renegotiated its contract with the site management and operating contractor, Westinghouse Savannah River Company (WSRC) to further accelerate cleanup. In this Contract Modification M100, WSRC is incentivized to accelerate cleanup work. Other significant changes since 2002 include issuance of the *Savannah River Site Integrated Deactivation and Decommissioning Plan*; regulator acceptance of a *Federal Facility Agreement Appendix E* aligned with the area closure strategy; development of the area closure strategy; and the drafting of a Risk Based End State Vision document.

Several key programmatic issues have also evolved including impacts of the waste incidental to reprocessing lawsuit, programmatic ownership of certain facilities, and the need to disposition non-MOXable plutonium. The content has been expanded to include all elements of the EM Cleanup Project lifecycle baseline.

The *2002 PMP* focused on new initiatives that would accelerate the EM Cleanup Project at SRS, but did not include all work scope, or annual funding projections. The *2004 PMP* includes all EM work scope, is based on the Project Baseline Summaries (PBS) used in the budget process, and begins with a risk-based end state defined for each major area of the SRS. The *2004 PMP* provides a plan to accomplish all EM cleanup work at SRS by the end of FY 2025.

The *2004 PMP* is the central document in the SRS EM lifecycle and near-term planning activities. As such, it serves as the:

- § EM Cleanup Project Execution Plan
- § SR federal baseline
- § basis for updating the Integrated Planning, Accountability, and Budgeting System for SRS
- § basis for estimates for the EM lifecycle cost baseline
- § basis for environmental liability audit
- § basis for budget preparation activities
- § basis for updating the EM Corporate Performance Measures (Gold Metrics), and
- § a planning tool for future contract acquisitions.

1.2 EM Completion Strategy

In 2002, DOE's Office of Environmental Management (EM) published an internal review of the EM program. The *Top-to-Bottom Review of the EM Program* identified several challenges facing EM. There was a need for EM to undergo a transformation driven from the necessity to address a large environmental liability to the taxpayers and a schedule that would leave a cleanup legacy for many generations. Prior to 2002, EM was focused on risk management rather than addressing the more-challenging effort of accelerating risk reduction. Since the *Top-to-Bottom Review of the EM Program*, EM has taken aggressive action to accelerate risk reduction.

This *2004 PMP* expands on the acceleration initiatives and provides a comprehensive approach to the EM cleanup at SRS. Specific program benefits realized from accelerating the SRS EM Cleanup Project will be significant and are summarized in Table 1.2.1.

Table 1.2.1 Benefit Summary of SRS Cleanup Reform Vision

SRS Strategy before 2002 PMP	Accelerated 2004 PMP Schedule
§ Complete HLW Project by 2039 § Produce ~6,000 canisters	§ Complete HLW Project by 2020 § Produce ~5,000 HLW canisters
§ Operate F Canyon through 2003 and FB Line through 2006 § Continue operations in H Area until a replacement capability for SNF was available (approximately 2013) § Operate three spent fuel storage basins	§ Deactivate F Canyon by 2006 § Operate H Canyon through 2010 § Operate one spent fuel storage basin after 2004
§ Ship TRU waste to WIPP by 2034 § Treat PUREX waste at SRS incinerator	§ Ship all legacy TRU waste to WIPP by 2009 § Treat PUREX offsite
§ Remediate contaminated soil and water by 2037	§ Remediate contaminated soil and water by 2025
§ Risk mitigation and long term stewardship of EM excess facilities until 2070	§ Decommissioning of all EM major facilities by 2025

The High Level Waste (HLW) Project, which is the critical path for the EM Cleanup Project at SRS, will be completed about 20 years earlier than past projections and will produce 17% fewer HLW canisters. The deactivation of the F Canyon and FB Line chemical processing facilities is accelerated so that only H Canyon and HB Line remain operational after FY 2006. SRS has consolidated spent nuclear fuel (SNF) from three storage basins to a single storage basin. The legacy transuranic (TRU) waste is being shipped to the Waste Isolation Pilot Plant (WIPP) nearly three decades ahead of schedule. The Soil and Groundwater Project is accelerated from FY 2037 to FY 2025.

Accelerating risk reduction, with a continued strong emphasis on protecting the environment and the health and safety of workers and the public, is a primary objective of the SRS EM Cleanup Project. With this aggressive focus on reducing risk as quickly as possible, SRS will realize completion of the EM task by 2025. Table 1.2.1 summarizes the benefits of aggressively pursuing accelerated cleanup.

This focus on completing the SRS EM Cleanup Project by 2025 and minimizing the lifecycle costs of operations requires changes not only in how projects are currently sequenced and scheduled, but also in currently planned approaches to cleanup.

Adopting a Project Approach as described in this Plan is fundamental to achieving accelerated cleanup and risk reduction.

1.3 Cleanup Project Description

The scope of this accelerated cleanup project is the stabilization and disposition of all EM-owned nuclear material; receipt and disposition of SNF; completion of the removal of waste from all SRS HLW tanks and closure of the tanks; safe treatment and disposition of solid waste; decommissioning of all SRS EM facilities; and remediation of groundwater plumes and soil contamination.

This *2004 PMP* describes the framework to achieve accelerated cleanup and risk reduction more cost-effectively. It includes the scope, schedule, cost, roles and responsibilities, milestones, end state descriptions, performance metrics, and actions required to achieve cleanup by the end of FY 2025.

The EM Cleanup Project is described in the 2004 PMP as follows:

The vision for the final end state for the EM missions is discussed in Section 2.0.

Section 3.0 includes an integrated schedule; key milestones and metrics for the EM Cleanup Project; and the key assumptions. The project approach and benefits of project acceleration are discussed, as well as project risk.

Section 4.0 describes the SRS business management approach, including roles and responsibilities; acquisition strategy; baseline definition and description; change control; performance monitoring; evaluation and reporting; and the risk management process.

Section 5.0 identifies the numerous interface activities required in the execution of the EM Cleanup Project. Interfaces with onsite and offsite programs are described.

Section 6.0 describes federal resource requirements, PBS funding requirements, and technology needs. The Government Furnished Services and Items required to execute the cleanup project are also identified.

Section 7.0 identifies regulator interfaces and discusses key agreements and implementation plans to facilitate EM cleanup. It also discusses the role of stakeholders in providing advice and recommendations for key decisions in the accomplishment of cleanup objectives.

Section 8.0 details the funding requirements and assumptions for each PBS.

Each PBS addresses a specific portion of the EM Cleanup Project. A complete list of the SR EM PBSs is provided in the following Table 1.3.1

Table 1.3.1 Project Baseline Summaries

PBS Number	PBS Title
SR-0011A	Nuclear Material Stabilization and Disposition - 2006
SR-0011B	Nuclear Material Stabilization and Disposition - 2012
SR-0011C	Nuclear Material Stabilization and Disposition - 2035
SR-0012/12X	Spent Nuclear Fuel Stabilization and Disposition
SR-0013	Solid Waste Stabilization and Disposition
SR-0014C/14X	Radioactive Liquid Tank Waste Stabilization and Disposition
SR-0020	Safeguards and Security
SR-0030	Soil and Water Remediation
SR-0040	Nuclear Facility D&D
SR-0100	Non-Closure Mission Support
SR-0101	SR Community and Regulatory Support

A summary scope description for each of the PBSs is provided as follows. Detailed information on each PBS, including scope, schedule, and cost is provided in Section 8.0.

SR-0011A, Nuclear Material Stabilization and Disposition–2006 – This project provides for the completion of certain line item projects in the F and H Canyons. These projects include the exhaust upgrades for the two canyon facilities and a plutonium stabilization and storage capability in FB Line. These projects are complete and this PBS will be closed in FY 2004.

SR-0011B, Nuclear Material Stabilization and Disposition–2012 – This project scope includes the operation, deinventory, and deactivation of the F and H canyon and B-Line facilities. These facilities will complete the stabilization and disposition of nuclear materials. In addition, a line item project is included in this PBS to install a surveillance capability in 235-F to monitor DOE-STD-3013 plutonium containers stored in KAMS and 235-F.

SR-0011C, Nuclear Material Stabilization and Disposition–2035 – This project scope includes the storage of nuclear materials in the 235-F and KAMS facilities. The nuclear material will be transferred to other programs or dispositioned via a yet-to-be-defined process. The facilities will then be deactivated pending final decommissioning.

SR-0012/12X, Spent Nuclear Fuel Stabilization and Disposition – This project scope includes the receipt, storage, and ultimate disposition of spent nuclear fuel from foreign and domestic research reactors in L Area. A capability to package the fuel for ultimate disposal in the Federal Repository is included in this PBS. The facility will then be deactivated pending decommissioning.

SR-0013, Solid Waste Stabilization and Disposition — This project includes the storage, treatment and disposal of legacy TRU, low-level, mixed low-level, hazardous and sanitary waste, and general landlord functions to support the general operations of the site. By its very nature, this project will be one of the final projects to turn over completion of environmental remediation.

SR-0014C/14X, Radioactive Liquid Tank Waste Stabilization and Disposition – This project includes the removal, treatment, and permanent disposal of liquid high-

level waste stored in tanks and, ultimately, tank closure. This includes the operation of Defense Waste Processing Facility, waste tank farms, and future waste facilities including Salt Waste Processing Facility and Saltstone vaults. Upon completion of the liquid waste disposition activities, the facilities will be deactivated pending final decommissioning.

SR-0020, Safeguards and Security – This project provides the protection of the SRS nuclear materials, production facilities, and classified matter from theft, sabotage, or unauthorized control. The program provides for uniformed protective force personnel, law enforcement and general site security, aviation operations, and special response teams, as well as special nuclear materials control and accountability.

SR-0030, Soil and Water Remediation – This project includes the remediation of contaminated waste sites and groundwater.

SR-0040, Nuclear Facility D&D – This project includes the decommissioning of 1013 buildings and structures currently identified in the EM cleanup project. The basis for the work scope is defined in the *Savannah River Site Integrated Deactivation and Decommissioning Plan*.

SR-0100, Non-Closure Mission Support – This project provides support to enable SR to perform its missions and accelerated cleanup activities. Support activities consist of community outreach, environmental activities, geological surveys, archaeological research, and forest management. Other funded activities include all training activities for SR, summer diversity interns, and Historically Black Colleges and Universities grants.

SR-0101, SR Community and Regulatory Support – This project provides funding to the States of South Carolina and Georgia for independent environmental monitoring and emergency management activities under either an Agreement-in-Principle or grant. Funding is provided to the South Carolina Department of Health and Environmental Control (SCDHEC) for oversight and implementation of the Federal Facility Agreement (FFA). SCDHEC reviews primary and secondary documents listed in the FFA and coordinates public participation processes prescribed in CERCLA/RCRA. Payments-in-Lieu-of-Taxes (PILTS) are provided for Aiken, Allendale, and Barnwell counties. Funding is provided for the operation and maintenance of a public reading room for SRS documents to support stakeholder involvement.

1.4 Project Baseline Identification and Execution Plans

The elements of a baseline as identified in DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*, are included in the *2004 PMP*, establishing the basis of the EM Lifecycle Cost Baseline as reflected in the Integrated Planning, Accountability, and Budgeting System (IPABS), and reflecting the highest level of the EM Integrated Lifecycle Schedule.

The elements of a Federal Baseline as described by the *EM Federal Baseline Development Policy* are included in the *2004 PMP*, thus establishing the PMP as the SR Federal Baseline.

The sections within the *2004 PMP* and each Project Baseline Summary (PBS) description in Section 8.0, as augmented by certain SR, SRS, or PBS-specific

documents, provide the equivalent of a project execution plan as identified in DOE Order 413.3. Therefore, the *2004 PMP* is the Project Execution Plan for the EM Cleanup Project and each PBS description included in Section 8.0 of the *PMP* is the Project Execution Plan for that PBS.

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