

Executive Summary

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. This *2004 Savannah River Site Environmental Management Program Performance Management Plan (2004 PMP)* describes the strategy to achieve accelerated cleanup and risk reduction. 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 cleanup strategy has three primary thrusts to:

- § accelerate elimination of risks through safe stabilization, treatment, and disposition of Office of Environmental Management (EM) owned nuclear materials, spent nuclear fuel, and waste,
- § significantly reduce the costs of continuing operations and surveillance and maintenance, and
- § decommission all EM-owned facilities and remediate groundwater and contaminated soils, adopting an area closure approach.

In 2002, EM published an internal review. The *Top-to-Bottom Review of the EM Program* identified several challenges facing the cleanup program. A need to undergo a transformation was identified, 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.

In August 2002, the *Savannah River Site Environmental Management Program Performance Management Plan (2002 PMP)* was published that described the approach SRS would implement to accelerate the site's EM cleanup program. The *2002 PMP* contained 14 initiatives designed to reduce risk, cut cost, and accelerate cleanup. The *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. While the *2002 PMP* focused on new initiatives that would accelerate the cleanup at SRS, it did not include all work scope to complete the EM mission, nor lifecycle cost profiles. This *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 SRS. The *2004 PMP* provides a comprehensive plan to accomplish all EM cleanup work at SRS by the end of FY 2025.

Since issuance of the *2002 PMP*, significant changes have occurred. In 2003, DOE Savannah River Operations Office (SR) completed the renegotiation of its contract with the site management and operating (M&O) contractor, Westinghouse Savannah River Company (WSRC) and its partners to further accelerate cleanup. Other 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 release of a *Draft Savannah River Site Risk Based End State Vision*.

SRS has continued to demonstrate its commitment to the safety of the public, its workers and the environment during the significantly increased work activities undertaken to support accelerated cleanup. As reflected in the February 2004 *Inspection of Environment, Safety, and Health Management and Emergency Management at the Savannah River Site Summary Report*, the Integrated Safety Management program is mature, comprehensive, well designed, and well documented. The site's implementation of the Integrated Safety Management System elements has contributed to the sustained good performance of site and contractor workforce.

Project Approach

The fundamental difference between the *2002 PMP* and the *2004 PMP* is the change from an initiatives-based approach to an approach that manages the SRS EM cleanup as a project. The key change in the way that work scope is planned and executed at SRS is by treating each of the PBSs, as well as the total scope of work, as projects. Specifically, the scope, end state, cost, and schedule for each of the PBSs is clearly defined and managed in a manner consistent with the Department's guidance for project management. The *2002 PMP* identified key activities required to jumpstart progress in certain programmatic areas. For example, prior to the *2002 PMP* very little decommissioning was performed on site. It was assumed that facilities with no programmatic mission would be deactivated and placed into long-term stewardship pending decommissioning at some later time. The *2002 PMP* identified the need to begin the decommissioning program and initiated the program on a limited basis,

specifically in three areas, D, T, and M. The remainder of the decommissioning program was not included within the cost profile for completion by the end of FY 2025. The current project approach now encompasses the entire decommissioning effort for EM facilities, increasing the scope from 72 facilities to all major EM facilities (1,013) and three planned new EM facilities, to be completed by the end of FY 2025.

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

Management of this cleanup project is comprehensively described in this *2004 PMP*. Therefore, this document serves as the Project Execution Plan for the overall EM Cleanup Project and for each PBS project. This document provides background for the EM Cleanup Project; an end state vision for each major facility and waste unit; and schedules, key milestones, and metrics for each project. The plan identifies key assumptions to guide program planning and describes the business management approach. This *2004 PMP* provides the EM lifecycle baseline, which will be kept under DOE-Headquarters (HQ) configuration control.

Accelerate Cleanup

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 EM Cleanup Project are significant. For example, the 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. Deactivation of F Canyon and FB Line has been accelerated so that H Canyon and HB Line will remain as the only operational chemical separations facilities after FY 2006. SRS has consolidated 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 the original baseline, and the Soil and Groundwater Project is accelerated from FY 2037 to FY 2025. As noted in the table below, the benefits of the EM Cleanup Project are significant.

SRS Strategy before 2002 PMP	Accelerated Schedule 2004 PMP
§ 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	§ Decommission all EM facilities by 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 EM Cleanup Project. Completing the EM Cleanup Project by the end of FY 2025 is dependent both on the ability to drive performance improvement and the appropriate application of resources. SRS will continue to implement integrated project management and explore innovative opportunities to accelerate cleanup.

Business Management

To further accelerate cleanup, SR is developing new business management approaches. Key changes have occurred in the areas of contracting and performance monitoring. An innovative method of providing incentive to accelerate cleanup formed the basis of recent renegotiations between SR and the site's M&O contractor. In the area of performance monitoring, SR has shifted from a management and control system focused on annual performance to a project management system focused on end state objectives. Effective project management methods and processes will provide assurance of the successful accomplishment of performance objectives.

Multi-year technical, scope, schedule, and cost baselines have been developed in this PMP and provide the basis for the EM lifecycle baseline. This 2004 PMP and lifecycle baseline serve as the basis for updating the Department's Integrated Planning, Accountability, and Budgeting System. 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. This plan also provides the elements of a Federal Baseline as required by the *EM Federal Baseline Development Policy*, thus establishing the 2004 PMP as the SR Federal Baseline. In addition, the 2004 PMP serves as the basis for the annual environmental liability audit; the basis for updating the EM Corporate Performance Measures (Gold Metrics), and as a planning tool for future contract acquisitions.

Baseline Management

SR and its contractors have implemented formal techniques and procedures for baseline management and control. SR's project management process ensures that appropriate levels of control are applied to SRS projects. Baselines are developed as an integral part of the EM planning, budgeting, execution, and reporting process, and the project management requirements of DOE Order 413.3 are applied.

A performance-based oversight and assessment process is used to monitor contracts and EM projects. This process will ensure that progress is reported against the baseline (technical, scope, cost, schedule, and key performance metrics) and will facilitate management of contracts and open communications of progress and issues among SR, HQ, and the contractors.

Risks

During the development of any plan of this duration (20+ years), numerous opportunities and challenges present themselves for consideration as alternatives or trade-offs in formulating the scope, schedule, and cost. These options are usually developed based on the risks that are identified while establishing a baseline. This *2004 PMP* provides a brief discussion on the overall risks identified as well as several alternatives, risk mitigation strategies, and open issues still to be resolved. SR recognizes the risk that some of the assumptions and program plans established to achieve accelerated cleanup of SRS may not be realized. Several major programmatic risks are identified in this *2004 PMP*, including impacts of the waste incidental to reprocessing lawsuit, programmatic ownership of certain facilities, and the need to disposition non-MOXable plutonium. If these risks materialize, SR will identify alternatives to minimize impact to cost or schedule baselines. However, significant adverse changes in scope, schedule or cost may greatly affect the site's overall baseline. Consistent with project management practices, the *2004 PMP* includes an estimate of contingency for the lifecycle baseline cost.

Stakeholders

Success depends in part on key stakeholders. Our plan to achieve the aforementioned results will be pursued with deliberate engagement of local communities and stakeholders, including the appropriate regulatory authorities for SRS. SRS is working collaboratively with regulators to find innovative, flexible ways to meet commitments.