Completed Return-On-Investment Project Case Study

United States Department of Energy
Office of Environmental Management
Fact Sheet

Clean Waste Diversion Pilots

Savannah River Site, South Carolina

Original Problem

Material from radioactive controlled areas are classified as low level wastes unless demonstrated otherwise. Studies completed by DOE sites indicate as much as 50-80% of LLW is actually free of radioactive contaminates but are not unconditionally released due to conservative safety practices.

The ROI Project Solution

A SRS task team issued protocols for the release of material form radiological areas in 1999. The protocols are being piloted at two areas: a plutonium processing facility and the high-level waste tank farm. Waste streams (the air hoods at the Pu facility and step-off pad waste at the tank farm) that are assessed to have low probability of contamination based on process knowledge are manually surveyed and segregated into LLW and sanitary waste. Over eighty percent of the selected waste streams that were surveyed met unconditional release criteria for diversion to sanitary waste through the SRS Green is Clean (GIC) Program. The GIC Program provides a final waste review prior to sanitary waste disposal.

Value Of Improvement

SRS has released ~1185 Air Hoods to GIC in the first 5 months in the Pu facility. In HLW Tank Farm, ~1/3 of the waste generated meets criteria for evaluation through the pilot program. The release to GIC has been above 80% since the start of the two clean waste segregation pilots. Based on initial net savings from the two pilots, SRS will avoid ~170 m3 of LLW and save ~$800K per year from the two pilot areas.

Lifecycle Waste Reduction	
Life Cycle Waste Reduction	850 m3
Operation Commencement Date	1/00
Project Useful Life (Years)	5

DOE Monetary Benefits	
Cost	$250,000
Lifecycle Savings	$4,000,000
Return on Investment	300 %

Benefits At-A-Glance

- Establishes protocols and effectiveness of waste segregation programs at the SRS.
- Avoids over 80% of the selected streams by unconditionally release to sanitary waste.
- Avoids ~170 m3 of LLW and ~$800K per year from two pilots.

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Summary Data

ROI Priority Area: **New Waste Generation**

ROI Project Type: **Source Reduction**

Project Cost: **$250,000**

Lifecycle Savings: **$4,000,000**

Implementing Group: EM, SRS HLW and NMS&S Divisions

Benefiting Group: EM, SRS HLW, NMSS, and Solid Waste Divisions

Useful Life Years: **5 years used for calculation**

Return On Investment: **300 %**

Lifecycle Waste Reduction: **850 m3**

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