

# Completed Return-On-Investment Project Case Study



United States Department of Energy  
Office of Environmental Management  
Fact Sheet

## HLW Valve Tool Savannah River Site, South Carolina

### Original Problem

High level liquid waste transfers are routed through large, below grade, heavily shielded diversion boxes at the tank farms. Access to valves in the diversion boxes requires breaking into contamination containments and setting up a contamination area with associated personal protective equipment and work practices established.

### The ROI Project Solution

A HLW operator developed a valve alignment tool that was installed on a high use valve in Diversion Box 7 allowing access without breaking diversion box containment. This will eliminate the need to establish and work in high contamination areas for this routine valve alignment change that occurs an average of 7 times per week.

### Value Of Improvement

Reducing the need for and work in radiological areas support SRS ALARA goals to reduce employee hazard exposure and improves working conditions that result in reduced labor and improved operator morale. This project saves annually about 17 m3 of LLW generation, avoids 4,000 pounds of radioactive laundry and \$38,000 in productivity improvement by eliminating work in contamination areas. These savings are included in the benefits documented for the Contamination Area (CA) recovery program.

Project cost includes both the cost of valve tool deployment and recovery of the existing contamination area.



### DOE Monetary Benefits

Cost	\$39,000
Lifecycle Savings	\$380,000
Return on Investment	235 %

### Benefits At-A-Glance

- Supports ALARA hazard reduction goals
- Saves ~\$100,000 per year from radioactive waste and laundry avoidance and productivity improvement.
- Provides model for deployment at remaining diversion boxes in F and H Area Tank Farms.

### Lifecycle Waste Reduction

Life Cycle Waste Reduction	85 m3
Operation Commencement Date	12/97
Project Useful Life (Years)	5 years

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#### Summary Data

<b>ROI Priority Area:</b>	<b>Newly Generated Waste</b>
<b>ROI Project Type:</b>	<b>Source Reduction</b>
<b>Project Cost:</b>	<b>\$39,000</b>
<b>Lifecycle Savings:</b>	<b>\$380,000</b>
<b>Implementing Group:</b>	EM, SRS, High Level Waste Division
<b>Benefiting Group:</b>	EM, SRS, High Level Waste Division
<b>Useful Life Years:</b>	<b>5</b>
<b>Return On Investment:</b>	<b>235 %</b>
<b>Lifecycle Waste Reduction:</b>	<b>1,500 m3</b>
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