

# *Savannah River Recovery Act Program*

*Office of Environmental Management  
Savannah River Operations Office  
Savannah River Site  
Aiken, South Carolina*



**U.S. DEPARTMENT OF  
ENERGY**

## *Savannah River Site Citizens Advisory Board Meeting*

### *Update on Savannah River Recovery Act Program*

**Presented by**

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U.S. Department of Energy  
Savannah River Operations Office**



# Discussion Topics



- ❖ **Jobs**
- ❖ **Contracts**
- ❖ **Cost**
- ❖ **Portfolio Planning Update**
- ❖ **Portfolio Overview**
- ❖ **Portfolio Structure**
- ❖ **Scope Summaries**



# Jobs

- ❖ **SRNS: Saved = 798; Created = 1,414; Total = 2,212**
- ❖ **SRR: Saved = 271; Created = 345; Total = 616**
- ❖ **SREL: Saved = 17; Created = 1; Total = 18**
- ❖ **Cavanaugh: Created = 1**
- ❖ **DOE: Created = 13**
- ❖ **SRS TOTAL = 2,860**
- ❖ **Job collection data will be revised to reflect FTE methodology prescribed by OMB Memo M-10-08 (12/18/2009)**
  - **If a normal full-time schedule is 40 hours a week, multiply 40 hours x 52 weeks = 2,080 Total Hours per year**
  - **Divide 2,080 Total Hours by 4 to equal 520 regular quarterly hours.**
  - **If two full-time employees each worked 520 hours (1,040 hours) for the quarter and another half-time employee worked 260 hours, the Total Hours for the three employees is 1300 (520 + 520 + 260 = 1300).**
  - **Divide 1300 by 520 to equal 2.5 Recovery funded jobs during that quarter**



# Contracts

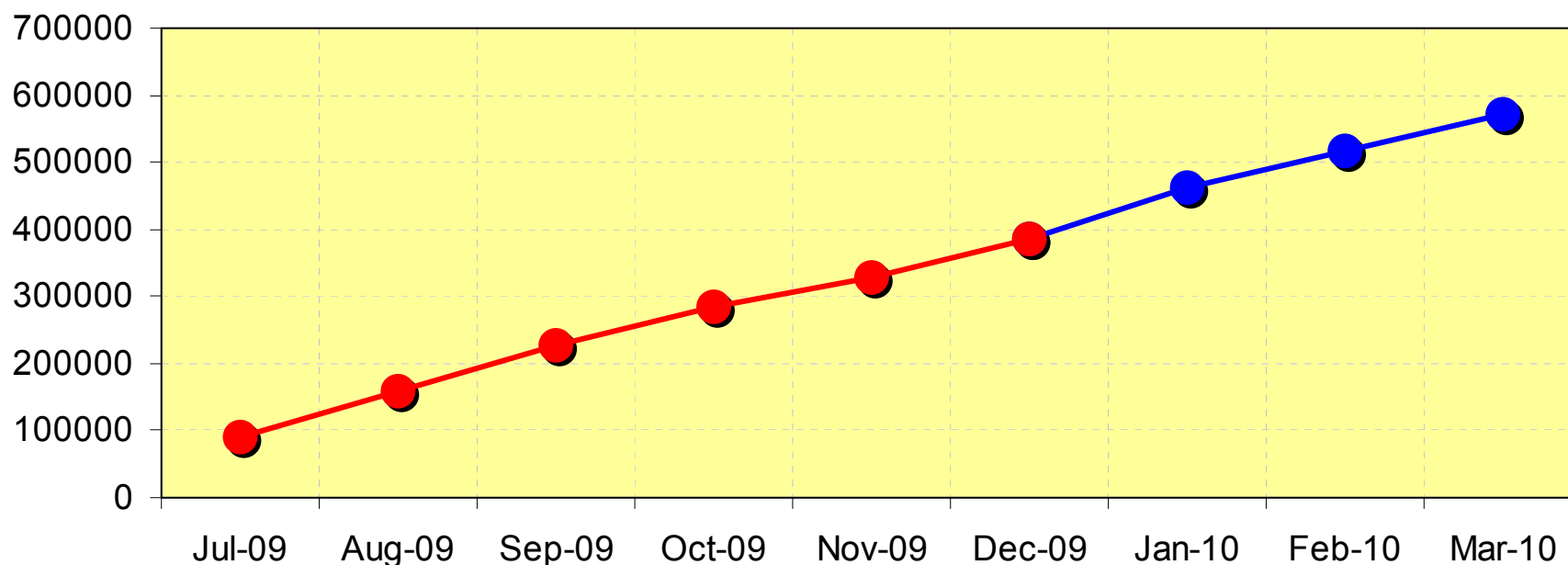


- ❖ **Savannah River Nuclear Solutions, LLC**
  - **Total Recovery Act contracts awarded = \$266,429,784**
    - **Total Small Business contracts awarded = \$195,088,355**
    - **Local contracts awarded = \$115,100,184**
- ❖ **Savannah River Remediation (SRR)**
  - **Total Recovery Act contracts awarded = \$7,942,285**
    - **Total Small Business contracts awarded = \$6,404,763**
    - **Local contracts awarded = \$5,643,994**



# Cost

## Monthly Planned Costs and Actual Costs (\$K)



	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10
Planned Costs							\$463,446	\$515,955	\$571,895
Actual Costs	\$91,289	\$158,208	\$225,612	\$283,444	\$327,821	\$386,170			



# Portfolio Planning Update



- ❖ **External Independent Review (EIR)**
  - **Assessed P-Area and R-Area completion baselines (8/10/2009)**
  - **Corrective Action Plan (CAP) completed/closed-out (12/17/2009)**
  - **DOE's Office of Engineering and Construction Management independently validated performance baselines (12/17/2009)**
- ❖ **Independent Project Review (IPR)**
  - **Addressed balance of SRRAP work baselines (7/27/2009)**
  - **CAP completed/closed-out (12/17/2009)**
  - **EM's Office of Strategic Planning & Analysis independently validated performance baselines (1/6/2010)**
- ❖ **Start of construction/remedial action approved for major projects**
- ❖ **Work continues on general plant projects and EM operations**



# Portfolio Breakdown



Budget & Reporting Code	Capital Asset Projects		General Plant Projects		Operations & Programs	
	Project	Cost (\$M)	Project	Cost (\$M)	Work Scope	Cost (\$M)
FD.05.11.00.0  <b>P&amp;R</b>	P-Reactor D&D	142.2	5 P-Area Cleanup GPPs	23.2	Pre-D&D / Deact / Ops	74.4
	P-Ash Basin Cleanup	30.0				
	R-Reactor D&D	149.2	5 R-Area Cleanup GPPs	18.6	Pre-D&D / Deact / Ops	49.3
	R-Ash Basin Cleanup	11.8				
FD.05.12.00.0  <b>M&amp;D</b>			1 M-Area Cleanup GPPs	2.7	Ops / Programs	0.7
			3 D-Area Cleanup GPPs	10.6	Ops / Programs	3.3
FD.05.13.00.0  <b>Site-Wide</b>	HWCTR D&D	10.7	4 Cleanup GPPs	22.2	Pre-D&D	9.9
			8 Construction GPPs	18.5	EM Ops	175.9
FD.05.30.00.0  <b>SW&amp; TRU</b>			4 Construction GPPs	14.2	Solid Waste	310.4
			1 Construction GPP	3.6	TRU Waste	300.0
					Canyon Complex	34.0
FD.05.31.00.0 <b>LW</b>			28 Construction GPPs	200.0		
	<b>CAP SUBTOTAL</b>	<b>343.9</b>	<b>GPP SUBTOTAL</b>	<b>313.6</b>	<b>EM OPS SUBTOTAL</b>	<b>957.9</b>
<b>SRRAP GRAND TOTAL (\$M)</b>						<b>1,615.4</b>





# Portfolio Reporting Structure



IPABS PBS Levels			Title	Cost (\$M)
1	2	3		
SR-0011C	SR-0011C.R1		<b>Nuclear Materials Stabilization &amp; Disposition</b> SR Recovery Act Project – CH & RH TRU	
		SR-0011C.R1.1	Canyon Complex Support	34.0
SR-0013	SR-0013.R1		<b>Solid Waste Stabilization &amp; Disposition</b> SR Recovery Act Project – CH and RH TRU	
		SR-0013.R1.1	Solid Waste Disposition	324.6
		SR-0013.R1.2	Accelerated TRU Waste Disposition	303.6
SR-0014C	SR-0014C.R1		<b>Radioactive Liquid Waste Stabilization &amp; Disposition</b> SR Recovery Act Project – Liquid Waste System Operations	
		SR-0014C.R1.1	Liquid Waste System Recapitalization	174.0
		SR-0014C.R1.PEN	Pension and Other Legacy (Post-Retirement) Costs	26.0
SR-0030	SR-0030.R1		<b>Soil &amp; Water Remediation</b> SR Recovery Act Project – P & R Area Completion	
		SR-0030.R1.1	P-Area & R-Area Completion GPP & Operations	165.5
		SR-0030.R1.2	P-Reactor Decommissioning Project	142.2
		SR-0030.R1.3	P-Area Ash Basin Remedial Action Project	30.0
		SR-0030.R1.4	R-Reactor Decommissioning Project	149.2
		SR-0030.R1.5	R-Area Ash Basin Remedial Action Project	11.8
	SR-0030.R2		SR Recovery Act Project – M & D Area Completion	
		SR-0030.R2.1	M-Area & D-Area Completion GPP & Operations	17.3
	SR-0030.R3		SRS D&D, Soil & Groundwater Activities	
		SR-0030.R3.1	Site-Wide Completion GPP & Operations	226.5
SR-0040C	SR-0040C.R1		<b>Nuclear Facility D&amp;D</b> SR Recovery Act Project – Inactive Facility Surveillance & Maintenance	
		SR-0040C.R1.1	Inactive Facility Surveillance & Maintenance	5.9

**TOTAL 1,615.4**





# SR-0013.R1.1, Solid Waste Disposition

- ❖ **Dispose of ARRA Generated Sanitary, Hazardous, Mixed and Low Level Waste**
- ❖ **Completion: 9/30/2011**
- ❖ **Cost: \$324.5M**
- ❖ **Major Work Activities**
  - Newly generated LLW shall not exceed 500 m<sup>3</sup> in inventory at any time over a three month rolling average
  - Treat and dispose of all SRS newly generated mixed low level (MLLW) and hazardous waste (HW) to prevent future waste accumulation
  - DU & U packaged for disposition = 9,403 metric tons
  - MLLW disposed = 1,109 cubic meters
  - LLW disposed (legacy and NGW) = 24,554 cubic meters
  - LLW disposed (legacy, NGW and DUO) – 27,781 cubic meters
  - ER and D&D debris and remediated soil disposed (MLLW, LLW, Industrial) = 209,995 cubic meters
  - LLW trenches closed = 5 trenches
  - Drums of DUO shipped offsite = 15,606 drums



# SR-0013.R1.2, Accelerated TRU Waste Disposition

- ❖ **Dispose of 4,200 m<sup>3</sup> TRU Waste**
- ❖ **Compliantly Package 800 m<sup>3</sup> of TRU Waste in SLB-2's**
- ❖ **Completion: 12/31/2012**
- ❖ **Cost: \$303.6M**
- ❖ **Major Work Activities**
  - **Dispose of 4,200m<sup>3</sup>**
  - **Remediate, repackage and characterize 800 m<sup>3</sup> to ensure ready to ship status**



# SR-0014C.R1.1, Liquid Waste System Recapitalization

- ❖ **Accelerate Salt Waste Disposition and Sludge Waste Vitrification**
- ❖ **Mechanical Completion: 09/30/2011**
- ❖ **TPC: \$200.0M**
- ❖ **Major Work Activities**
  - **Accelerate connection piping to Salt Waste Processing Facility**
  - **Expand capacity for salt feed**
  - **Install infrastructure for salt disposition**
  - **Increase sludge waste throughput**
  - **Install infrastructure for faster sludge vitrification**



# SR-0030.R1.1, P-Area & R-Area Completion GPP & Operations

- ❖ **P-Area – Complete Remediation of all 17 Waste Units Within 100 acre Footprint**
- ❖ **R-Area - Complete Remediation of all 16 Waste Units Within 120 acre Footprint**
- ❖ **Mechanical completion: 9/30/2011**
- ❖ **Cost: \$165.5M**
- ❖ **Major Work Activities**
  - **P Area Cask Car railroad tracks remedial action**
  - **Potential Source Area (PSA) 3A and 3B remedial action**
  - **Process sewer lines**
  - **P007 outfall remedial action**
  - **Groundwater remedial action**
  - **R Area Cask Car railroad tracks remedial action**
  - **Area North of 105-R, Process sewer lines**
  - **Batch plant operations and maintenance**
  - **Development of the regulatory documentation required for P and R Area is also included**





# SR-0030.R1.2, P-Reactor Decommissioning Project



- ❖ *In Situ* decommissioning of reactor building
- ❖ Mechanical completion: 9/30/2011
- ❖ CD-4 Approval: 1/31/2012
- ❖ TPC: \$142.2M
- ❖ Major Work Activities
  - 105-P Reactor Building
    - Encapsulation of structures, systems & components
      - ◆ Grout all below grade spaces
      - ◆ Grout reactor vessel
      - ◆ Grout disassembly basin
    - Seal all accesses to building
    - Modify roof structures to promote rainwater run-off and minimize water infiltration
  - Remove ventilation stack
  - Install concrete cap over disassembly basin area



# SR-0030.R1.3, P-Area Ash Basin Remedial Action Project



- ❖ ***In Situ* closure of residual contamination**
- ❖ **Mechanical completion: 6/3/2011**
- ❖ **CD-4 Approval: 9/30/2011**
- ❖ **TPC: \$30.0M**
- ❖ **Major Work Activities**
  - **Remove existing vegetation**
  - **Consolidate remaining ash from areas outside proposed cover boundary**
  - **Install soil cover (protect against exposure to ash)**
  - **Install vegetative layer over cover**



# SR-0030.R1.4, R-Reactor Decommissioning Project



- ❖ *In Situ* decommissioning of reactor building
- ❖ Mechanical completion: 9/30/2011
- ❖ CD-4 Approval: 1/31/2012
- ❖ TPC: \$149.3M
- ❖ Major Work Activities
  - 105-R Reactor Building
    - Encapsulation of structures, systems & components
      - ◆ Grout all below grade spaces
      - ◆ Grout reactor vessel
      - ◆ Grout disassembly basin
    - Seal all accesses to building
    - Modify roof structures to promote rainwater run-off and minimize water infiltration
  - Remove ventilation stack
  - Install concrete cap over disassembly basin area





# SR-0030.R1.5, R-Area Ash Basin Remedial Action Project

- ❖ ***In Situ* closure of residual contamination**
- ❖ **Mechanical completion: 6/3/2011**
- ❖ **CD-4 Approval: 9/30/2011**
- ❖ **TPC: \$11.8M**
- ❖ **Major Work Activities**
  - **Remove existing vegetation**
  - **Consolidate remaining ash from areas outside proposed cover boundary**
  - **Install soil cover (protect against exposure to ash)**
  - **Install vegetative layer over cover**



# SR-0030.R2.1, M-Area & D-Area Completion GPP & Operations

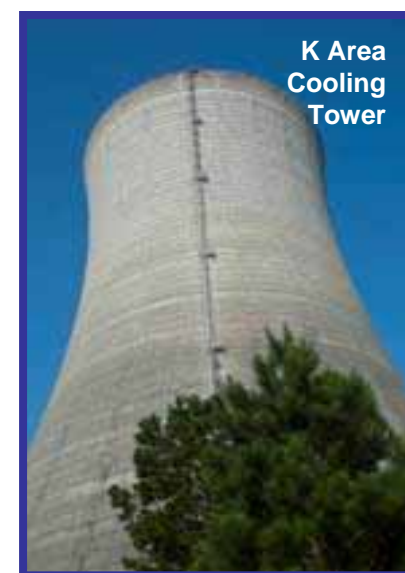
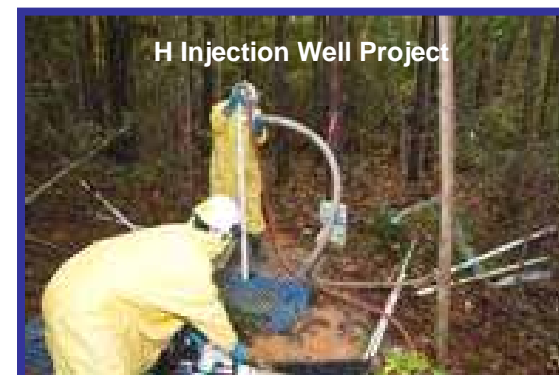
- ❖ Remediation activities in M & D Areas, resulting in closure for the M Area
- ❖ Mechanical completion: 9/30/2011
- ❖ Cost: \$17.3M
- ❖ Major Work Activities
  - Complete the remediation and closure of M Area including 19 waste units and 45 acres of contaminated soil
  - Remove known sources to a 1,500 acre groundwater plume
  - Complete remediation of 11 D Area waste units and an estimated 65,100 cubic yards of tritium contaminated soils and concrete



# SR-0030.R3.1, Site-Wide Completion GPP & Operations



- ❖ **Environmental restoration and deactivation and decommissioning activities site wide**
- ❖ **Mechanical completion: 9/30/2011**
- ❖ **Cost: \$226.5M**
- ❖ **Major Work Activities**
  - **Pre-characterization of four A Area waste units**
  - **Remediation and D&D of SATA, and the soil remediation associated with the consolidation of SATA to ATTA**
  - **Includes RCRA/CERCLA/FFA compliance, post-closure/post-ROD care and maintenance, operations of soil and groundwater remedial systems and remedial technology development and deployment**
  - **D&D of the K Area Cooling Tower**
  - **Completion of the D&D Basis of interim operation and deactivation project plan for 235-F and 293-F stack height reduction**





# SR-0030.R3.2, Heavy Water Components Test Reactor Decommissioning Project



- ❖ Places the HWCTR in its final end state, which is in situ decommissioning
- ❖ Mechanical completion: 9/30/2011
- ❖ CD-4 Approval: 3/31/2010
- ❖ TPC: \$10.7M
- ❖ Major Work Activities
  - Removal /disposition of the metal dome
  - Removal/disposition of the reactor vessel
  - Removal/disposition of the two steam generators
  - Grouting the spent fuel pool
  - Grouting the below grade areas of the building (remaining piping and equipment grouted in-situ)
  - Placing a concrete cover over the remaining grouted structure

