



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
ENVIRONMENTAL
MANAGEMENT

Environmental Management Cleanup Program Performance Measures FY 2015 Actuals, FY 2016 Targets

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- Fulfill a Strategic & Legacy Management (S&LM) Committee Work Plan requirement to periodically provide Environmental Management (EM) performance updates.
 - Review Fiscal Year 2015 actual performance results
 - Provide targets for Fiscal Year 2016 & actuals through January

SRS Cleanup Program - Background

- The EM Cleanup Program for the SRS started in the 1990's.
- Performance Measures have been developed to track progress towards end state targets.

SRS Cleanup Program – Major Areas

**Radioactive
Liquid
Waste**

**Vitrify Highly
Radioactive
Component**

**Process Low
Level Component
(Saltstone)**

**Tank
Closures**

**Solid
Waste**

**Transuranic
(TRU)
Waste**

**Mixed & Low
Level Waste**

**Nuclear
Materials**

**Nuclear
Materials
Disposition**

**Spent Nuclear Fuel
Receipt, Storage
& Disposition**

**Soil,
Water
& Facilities**

**Waste Site
Remediation**

**Facilities
Deactivation &
Decommission**

“ How did we do in FY 2015 ? ”



Answer: Continued Progress but with Challenges

- **Temporary Closing of Waste Isolation Pilot Plant (WIPP)**
 - Delay of Transuranic Waste (TRU) shipments
- **Higher than expected level of Mercury in Liquid Waste**
 - Impacted operations of Saltstone Facility and Defense Waste Processing Facility (DWPF)
- **Antifoam issue in Defense Waste Processing Facility (DWPF)**
 - Impacted Canister production and ARP/MCU operations
- **HB Line Agitator Event and Operational Pause**
 - Impacted operations of Nuclear Materials

Highlights of FY 2015 SRS Cleanup Program

- Vitrified 93 Canisters of Radioactive Liquid Waste
- Completed operational closure of Liquid Waste Tank (Tank 16)
- Spent Nuclear Fuel: Continued Dissolution of Foreign & Domestic Research Reactor fuel for uranium recovery & completed L-Basin modifications for acceptance of Canadian fuel receipts
- Prepared Plutonium for Disposition
- Continued receipt, safe storage and shipment of Nuclear Materials, including Spent Nuclear Fuel
- Significant progress towards closure of the D Area Ash Basin
- Upgrades to Site Infrastructure (Roof Replacements, Telephone System, Laboratory Facilities)
- Met 100% of FY 2015 FAA & RCRA Regulatory Milestones

Canister Production



Performance Measure	Unit of Measure	Target FY15	Actual FY15	Target FY16	Jan YTD Actuals FY16	Cum To Date	End State*	% Compl.
Vitrify Insoluble Waste (Sludge)	Canisters Produced	156	93	150	41	4,011	8,582	46.7%

*Based on System Plan Rev 19

Liquid Waste: Saltstone Processing

Saltstone Production Facility



Saltstone Disposal Unit (SDU-6)



Performance Measure	Unit of Measure	Target FY15	Actual FY15	Target FY16	Jan YTD Actuals FY16	Cum To Date	End State*	% Compl.
Process Salt Solution	K Gallons Processed	1,200	828	1,500	167	10,788	152,743	7.1%

* Based on System Plan Rev 19

Liquid Waste: Tank Closure

Tank 12 Grouting

Tank 12
to be operationally
Closed in FY16



Performance Measure	Unit of Measure	Target FY15	Actual FY15	Target FY16	Jan YTD Actuals FY16	Cum To Date	End State*	% Compl.
Close Tanks: Old Style	Tanks Closed	1	1	1	0	7	24	29%
Close Tanks: New Style	Tanks Closed	0	0	0	0	0	27	0%

* Based on System Plan Rev 19

Transuranic Waste (TRU) Shipment to WIPP

Note: WIPP Shipments
Temporarily
Halted



Performance Measure	Unit of Measure	Target FY15	Actual FY15	Target FY16	Jan YTD Actuals FY16	Cum To Date	End State	% Compl.
TRU- Legacy Shipped (in storage prior 2009)	Cubic Meters	0	0	0	0	10,445	11,062	95%
TRU- Newly Generated Shipped	Cubic Meters	0	0	0	0	177	TBD	Ongoing

Solid Waste Disposal: Mixed & Low Level Waste

Mixed Waste Shipment to Utah



Low Level Waste (LLW) New Trench - On Site

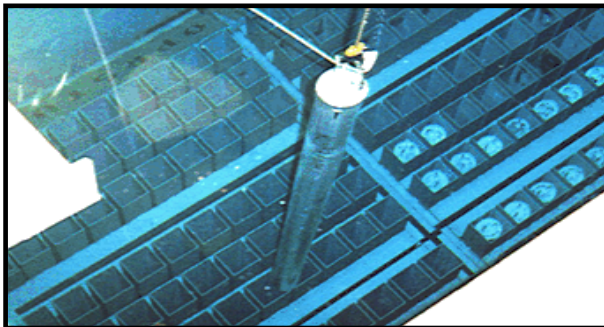


Performance Measure	Unit of Measure	Target FY15	Actual FY15	Target FY16	Jan YTD Actuals FY16	Cum To Date	End State	% Compl.
M&LL-Legacy (Prior to April 2008)	Cubic Meters	-	-	-	-	103,171	103,171	100%
M&LL-Newly Generated	Cubic Meters	< 400*	Met	< 400*	Met	< 400	< 400	Ongoing

* Accumulation of M&LL not to exceed 400 Cu Meters at anytime

Spent Nuclear Fuel Receipt & Storage

Spent Nuclear Fuel (SNF) Bundle stored in L- Basin



SNF being sent to H Canyon via 70 Ton Cask



Performance Measure	Unit of Measure	EOY Actual FY15	EOY Target FY16	Jan YTD Actuals FY16	End State
L- Basin <u>Additions</u> : New Receipts	Bundles	4	NA*	21	-
L-Basin <u>Removals</u> : Packaged for Transfer to H Canyon	Bundles	109	0	0	-
L-Basin <u>Inventory</u>	Bundles	2,960	NA*	2981	0
	Cores	120	0	120	0

* For security reasons targeted new receipts are not provided to the public

Spent Nuclear Fuel (SNF) Bundle placed into H-Canyon Dissolver



Plutonium 3013 Type Container



Performance Measure	Unit of Measure	Target FY15	Actual FY15	Target FY16	Jan YTD Actual FY16	Cum To Date	End State	% Compl.
HEU Dissolved (SNF from L-Basin)	Bundles	69	69	40	0	80	1,000 ⁽¹⁾	8%
	Cores	0	0	0	0	0	200 ⁽¹⁾	0%
Plutonium Prepared for Disposition (All Paths)	Containers	20	8	0	2	177	5,600	3%

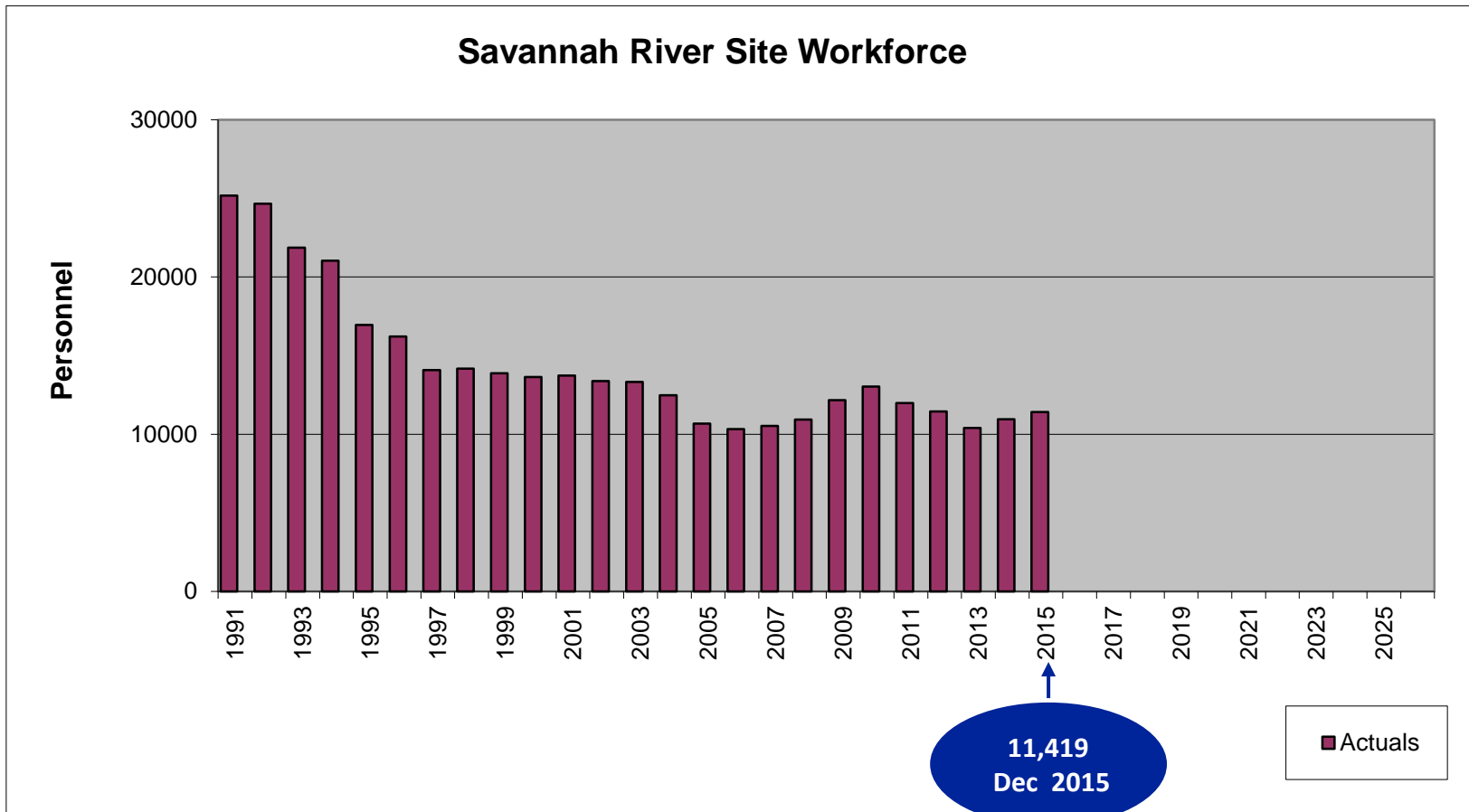
⁽¹⁾ AROD approved amounts of Material Test Reactor Bundles and HFIR Cores

D Area Ash Project 488-2D and 488-4D



Performance Measure	Unit of Measure	Target FY15	Actual FY15	Target FY16	Jan YTD Actual FY16	Cum To Date	End State	% Compl.
Remediation of Waste Sites	Waste Site	0	0	0	0	402	515	78%
Facilities D&D*	Facilities	0	0	0	0	289	1,127	26%

*Deactivated & Decommissioned



- DOE-SR will continue to track & monitor performance measures for the key operational areas of EM cleanup operations.
- Suggestions from the CAB for any additional improvements are welcomed.

AROD	Amended Record of Decision (1000 bundles + 200 HFIR Cores)
ARP	Actinide Removal Process
D&D	Deactivation & Decommission
DWPF	Defense Waste Processing Facility
FFA	Federal Facility Agreement
HEU	Highly Enriched Uranium
LLW	Low Level Waste
MCU	Modular Caustic Side Solvent Extraction Unit
MLLW	Mixed Low level Waste
Pu	Plutonium
RCRA	Resource Conservation & Recovery Act
SNF	Spent Nuclear Fuel
SRNS	Savannah River Nuclear Solutions
SRE	Sodium Reactor Experiment
SRR	Savannah River Remediation
SWPF	Salt Waste Processing Facility
TRU	Transuranic Waste
WIPP	Waste Isolation Pilot Plant