U.S. DEPARTMENT OF ENERGY

Presentation to the SRS Citizens Advisory Board

SRS Performance Measures Update

July 25, 2011

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DOE-SR / AMIP

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

Purpose

- Review the major areas of the EM Cleanup Program at SRS
  - Explain supporting high level performance measures

- Provide a update to EM performance measures through June
  - Include status of CAB S&LM Committee suggestion to:

  "Create graphical analysis of lifecycle projections for key performance measures"

Lifecycle Baseline:

Management Tool for SRS Cleanup Program

- The Lifecycle Baseline (Scope, Cost & Schedule) for the SRS cleanup program was originally established in the 1990's

- Over the years, modifications to the Lifecycle Baseline have been managed through a disciplined Change Control process
  - changes due to technology, funding, regulatory, etc.

- Performance Measures have evolved to track progress towards current Lifecycle Baseline targets

SRS Clean Up Program - Major Areas

Liquid Waste	Solid Waste	Nuclear Materials	Soil, Groundwater & Facilities
Insoluble Sludge	Transuranic Waste	Highly Enriched Uranium	Waste Site Remediation
Salt Waste	Mixed & Low Level Waste	Used Nuclear Fuel	Deactivation and Decommission
Tank Closures		Plutonium	

“How are we doing ?”

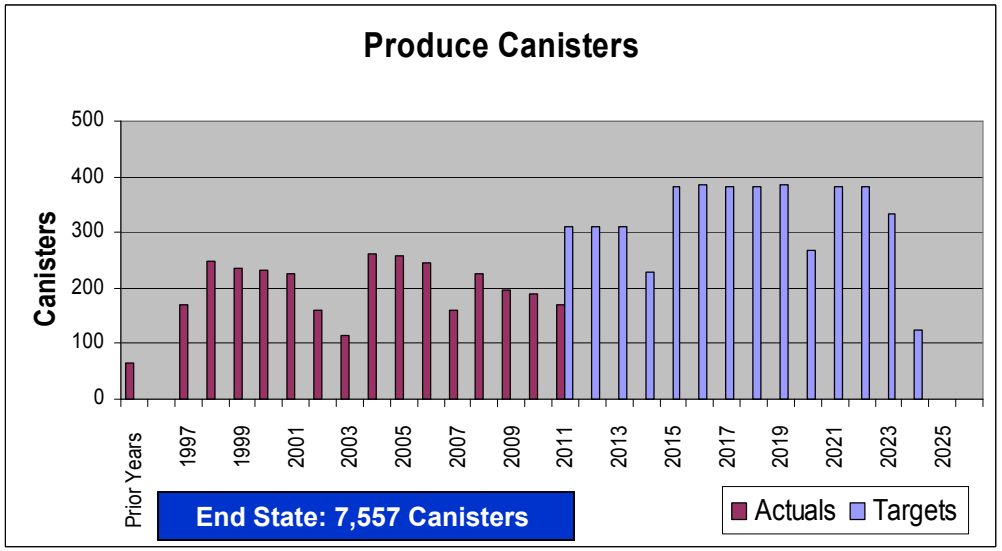
Progress towards EM Site Cleanup – through June FY 2011

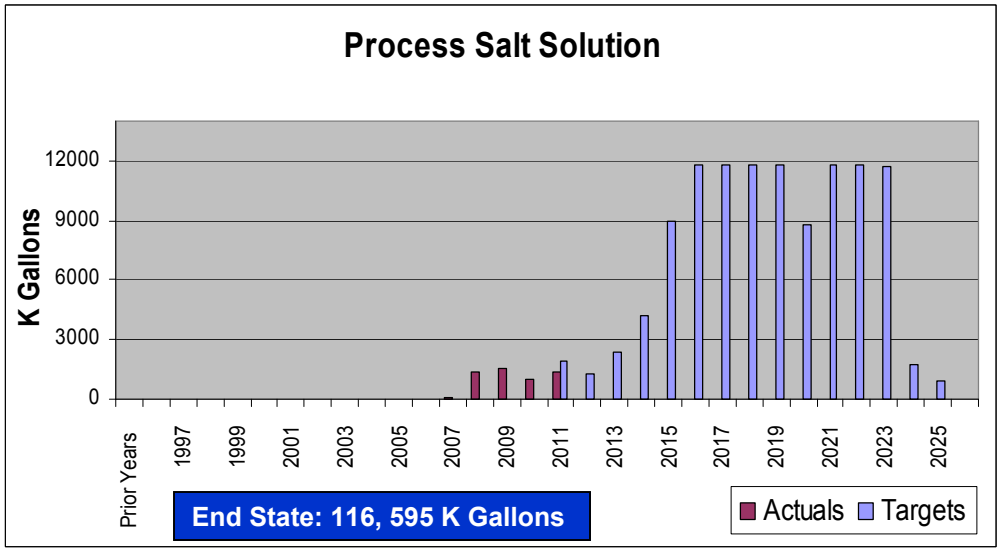
EM Site Cleanup- Major Areas	% End State Complete			End State Quantity	Unit of Measure	Year of Completion
	FY 09	FY10	FY11			
Liquid Waste						
Disposition Radioactive Liquid Waste						
Produce Canisters	39%	40%	**42%**	7,557	Canisters	2024 / 2028
Process Salt Solution	2%	4%	**5%**	116,595	k Gallons	2025
Close Tanks						
Old Style	8%	8%	**8%**	24	Tanks	2018 / 2022
Newer Style	0%	0%	**0%**	27	Tanks	2026
Solid Waste						
Disposition Radioactive Solid Waste						
Transuranic (TRU) Waste Disposed*	39%	43%	**48%**	15,658	Cu Meters	2038
Mixed & Low-Level Waste Disposed**	77%	83%	**91%**	137,579	Cu Meters	2038
Nuclear Materials						
Highly Enriched Uranium: Blend Down & Ship	89%	96%	**99%**	334	Trailers	2011
Used Nuclear Fuel: Blend Down & Ship	0%	0%	**0%**	180	Trailers	TBD
Plutonium Disposition						
Plutonium Dissolved in H-Area	54%	86%	**100%**	100	Containers	2011
Other Disposition Paths (WIPP, MOX, etc.)	0%	0%	**0%**	~ 6,000	Containers	TBD
Soil & Ground Water						
Complete Remediation of Waste Sites	71%	72%	**74%**	515	Release Sites	2038
Facilities						
Facilities Deactivated & Decommissioned	24%	24%	**25%**	1054	Facilities	2032

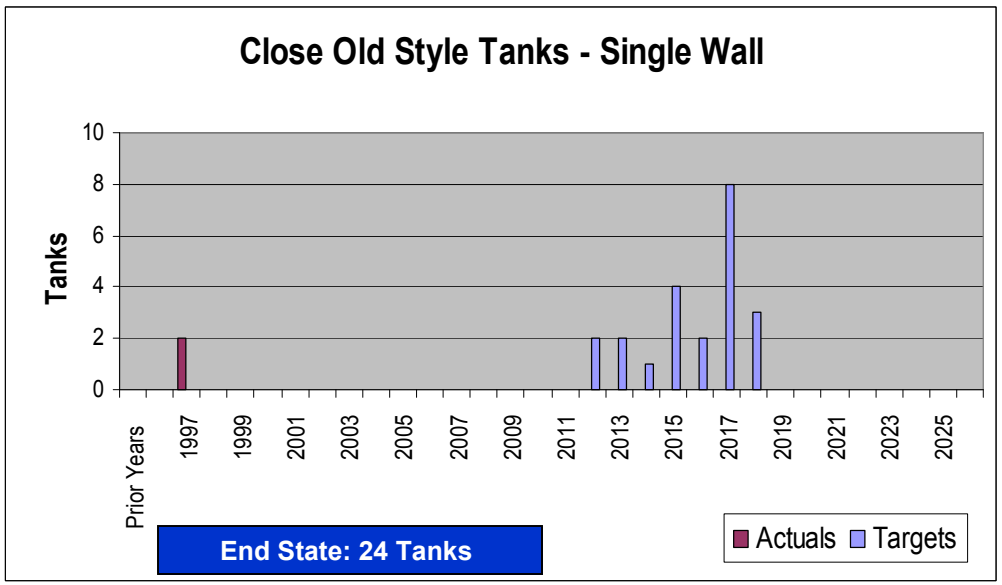
* Includes both Legacy TRU & Future TRU (from MOX operations)

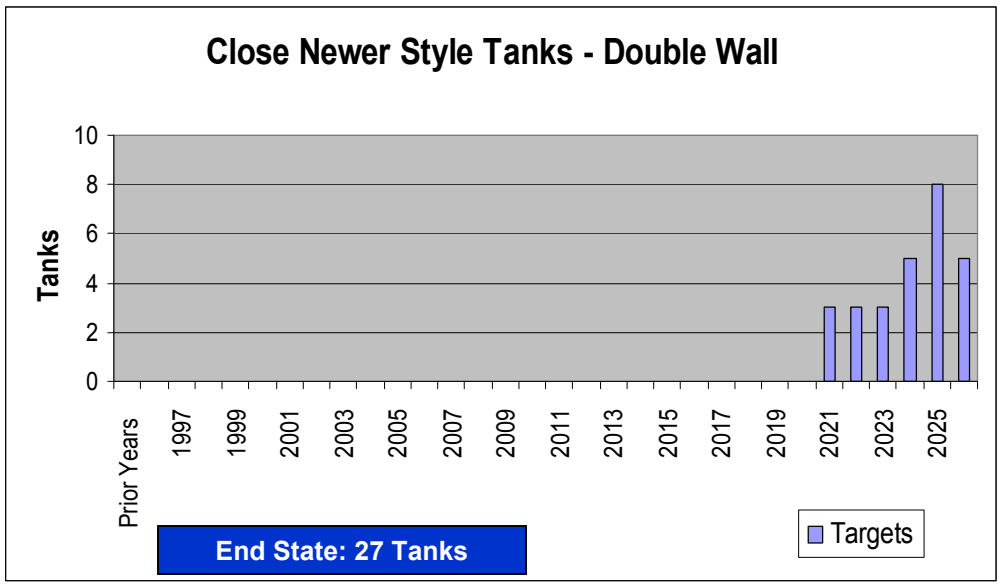
** Includes both Legacy and Newly Generated Waste; Legacy is 100% Complete

Liquid Waste





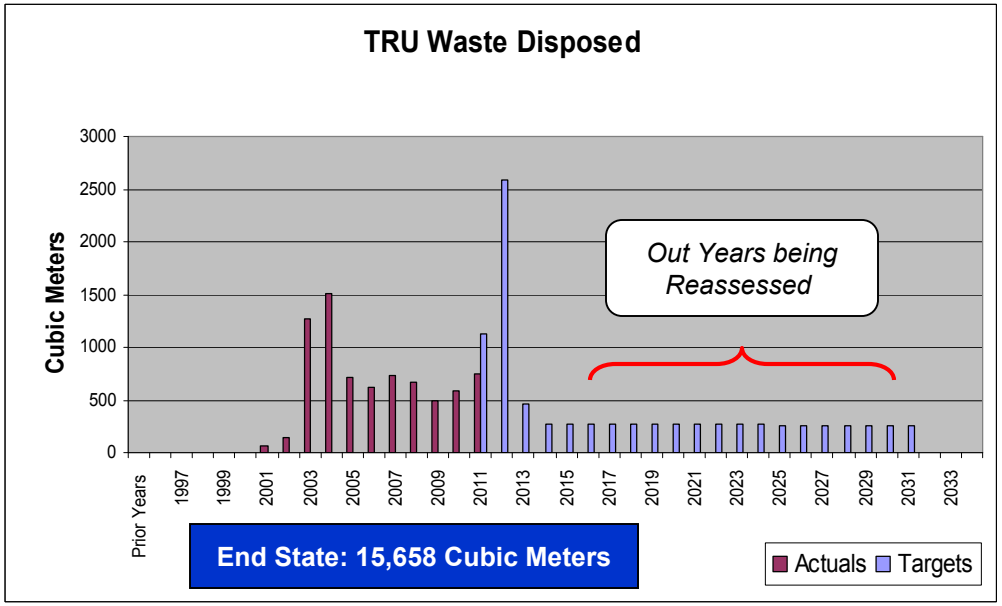


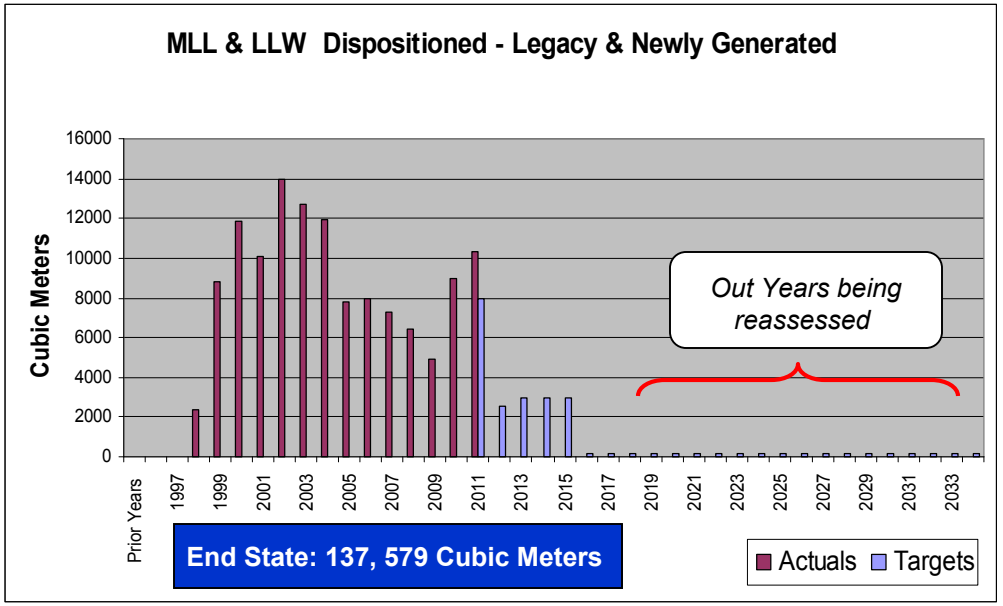


Note: Targets Based on Liquid Waste System Plan Rev 16

Graphical Analysis & Lifecycle Projections

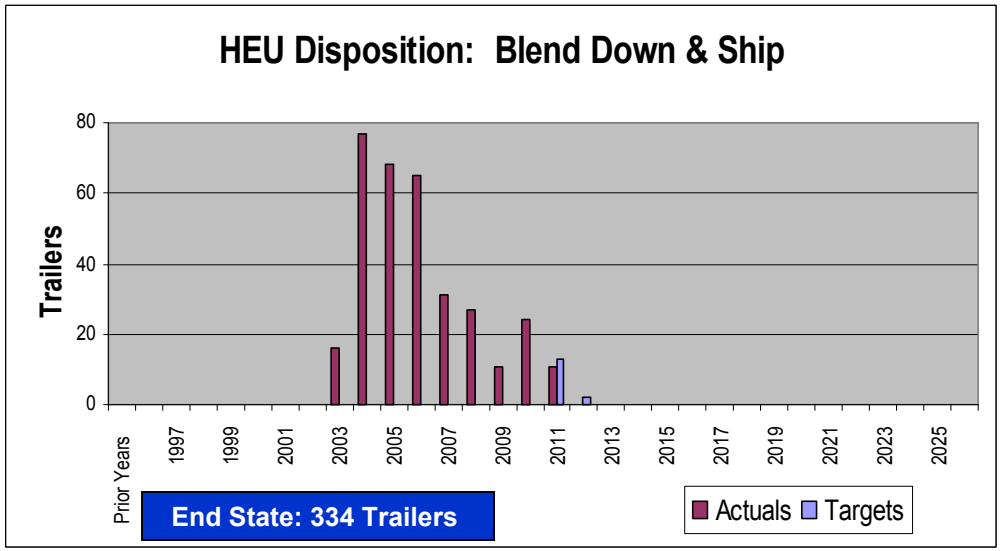
Solid Waste

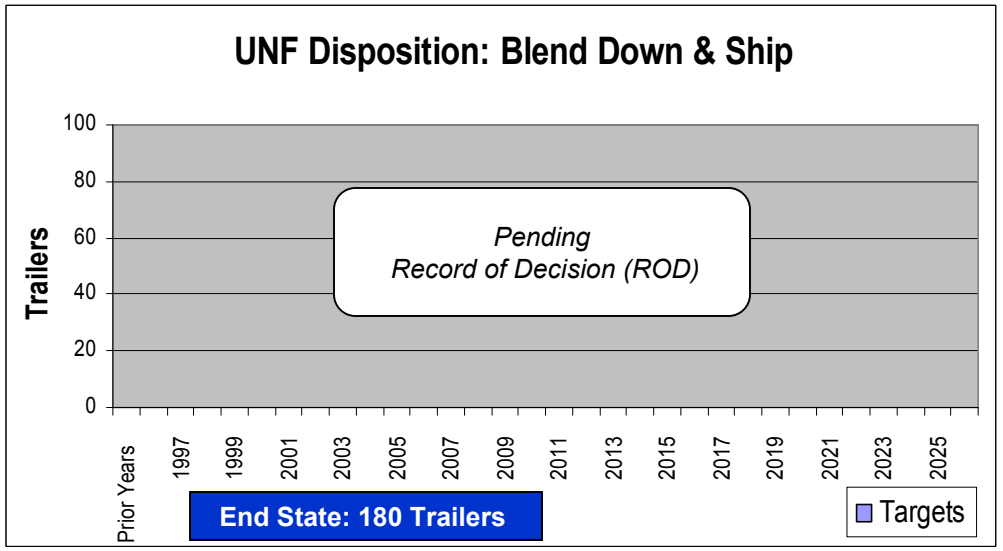


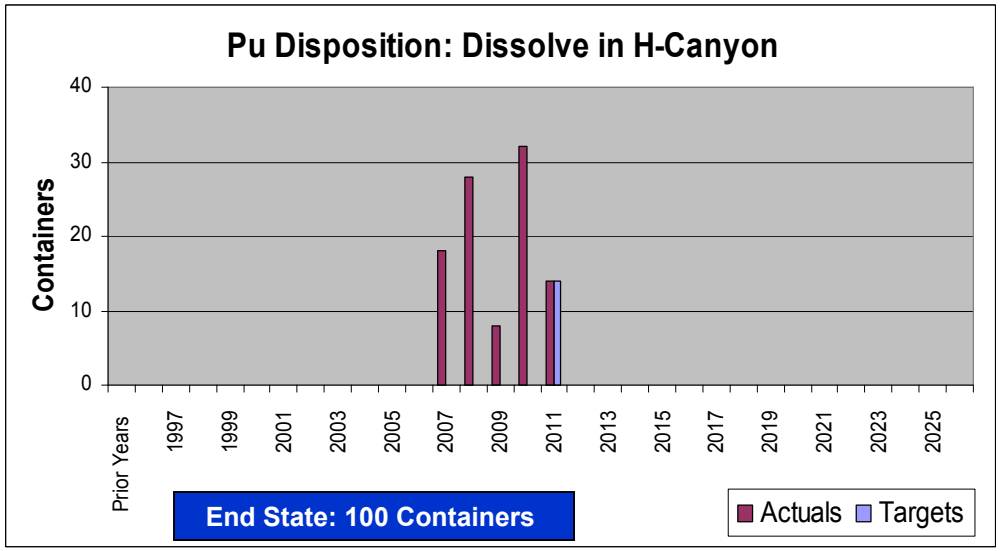


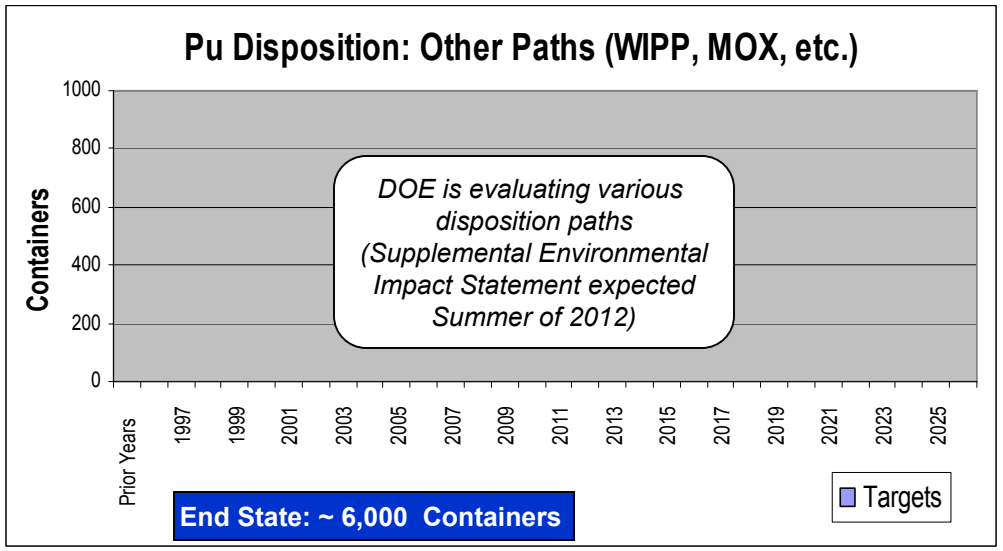
Note: Excludes LLW associated with Facility D&D

Nuclear Materials



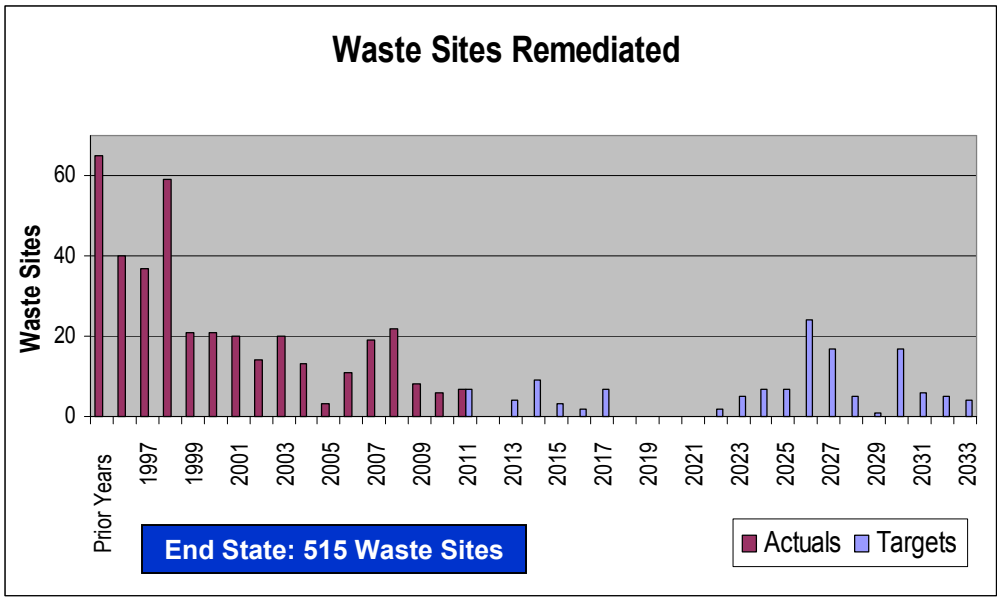


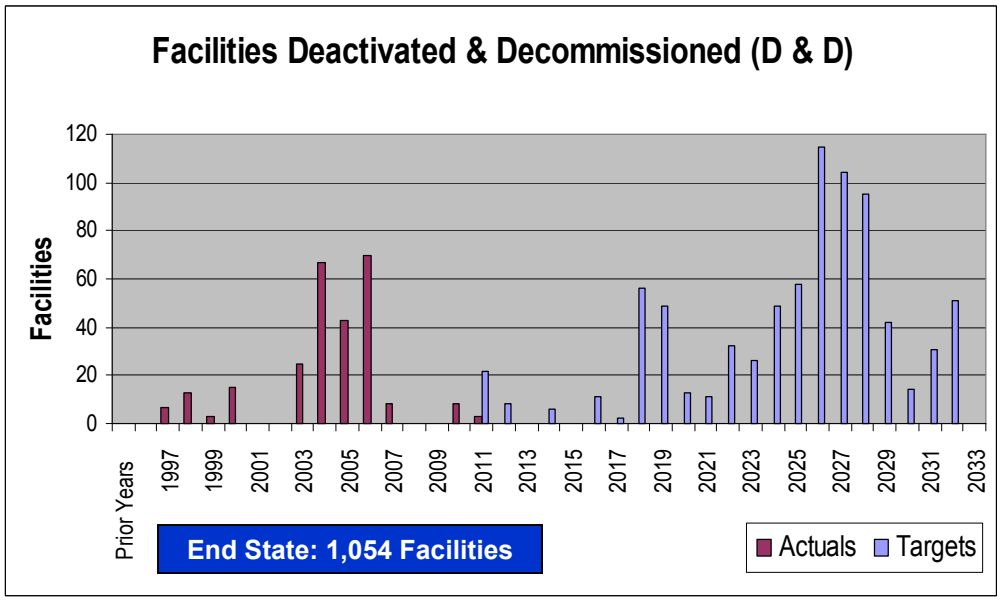




Note: 86 Kg of Pu has been authorized to be processed to WIPP in the interim

Area Completion





Summary and Path Forward

- DOE-SR will continue to update & validate Lifecycle measures (including graphs) for the key operational areas of EM cleanup operations

- Suggestions from the CAB for any additional improvements are welcomed

Environmental Management

Performance Metrics Report

Through June 30, FY2011

Doug Hintze, Assistant Manager
Integration & Planning
DOE-SR

EM Performance Metrics Report – through June 30, 2011

Liquid Waste

Measure	Unit of Measure	Cum Actuals thru FY 2010	FY 2011 Analysis		End State Analysis				
			Actuals FYTD	Accel. Annual Target	Cum Act thru 2011 (FYTD)	End State	% Complete	Forecast to Complete	Regulatory Commitment to Complete
			5/31/11						
DWPF Canisters Poured & Tested									
Canisters Produced[1, 2]	Canisters	2,986	169	311	3,155	7,557	42%	2024	2028
Old-style Tank Preparation and Closure									
Bulk Waste Removal Complete	Tanks	9	2	1	11	24	46%	2017	2020
Heel Removal Campaign Complete	Tanks	6	0	0	6	24	25%	2018	
Annuli Prepared for Closure[3]	Tanks	2	0	2	2	16	13%	2017	
Tanks Isolated	Tanks	2	2	2	4	24	17%	2018	
Operationally Closed	Tanks	2	0	0	2	24	8%	2018	2022
SPF Salt Solution Processed									
Salt Solution Processed	k Gallons	3,981	1,355	1,955	5,336	116,595	5%	2025	
Radioactivity									
Curies Stabilized in Canisters[4]	k Curies	31,444	6,591	12,130	38,035	385,000	10%	2024	2028

Liquid Waste Notes:

1. GWSB # 3 Contingency Capacity - TBD
2. Canister Storage Space Available: 1486
3. 16 of 24 Tanks Require Annuli Preparation
4. Estimate based on Sludge Batch Sampling

On / Ahead of Schedule

Behind Schedule

End State Basis

End State Quantities based on Rev 16 System Plan

Commitment to Complete

Based on FFA and Site Treatment Plan

EM Performance Metrics Report – through June 30, 2011

Solid Waste

Measure	Unit of Measure	Cum Actuals thru FY 2010	FY 2011 Analysis		End State Analysis			
			Actuals FY2011	Annual Target	Cum Act thru 2011 (FYTD)	End State	% Complete	Target Year to Complete
			6/30/11					
TRU, MLLW & LLW								
RH-TRU Waste Disposed		17	5	6	22	68		
CH-TRU Waste Disposed		6,749	737	1,122	7,486	15,590		
Total Transuranic Waste Disposed	Cubic Meters	6,766	742	1,128	7,508	15,658	48%	2038
LL &and MLL Waste Disposed[1]	Cubic Meters	114,558	10,316	7,938	124,874	137,579	91%	2038
Maintain Newly Generated Low Level Waste Below Target Level	Cubic Meters	Met	Met	< 400	Met	< 400	NA	

Solid Waste Notes:

1. LL = Low Level
   MLL = Mixed Low Level

2. Legacy MLL & LL Waste disposition complete; Newly Generated LL Waste disposition is ongoing with a target of not exceeding accumulation on site of 400 cubic meters at any time

On / Ahead of Schedule

Behind Schedule

End State Basis

Solid Waste End State Quantities and Target Year to Complete are based on 2008 Certified Life Cycle Plan

EM Performance Metrics Report – through June 30, 2011

Nuclear Materials

Measure	Unit of Measure	Cum Actuals thru FY 2010	FY 2011 Analysis		End State Analysis			
			Actuals FY2011	Annual Target	Cum Act thru 2011 (FYTD)	End State	% Complete	Target Year to Complete
			6/30/11					
Enriched Uranium Disposition								
HEU (Highly Enriched Uranium)								
Blend Down to LEU & Ship to TVA	Trailers	319	11	13	330	334	99%	2011
UNF (Used Nuclear Fuel)[3]								
Blend Down to LEU & Ship to TVA	Trailers	0	0	0	0	180	0%	TBD
Plutonium								
Plutonium Disposition								
Plutonium Dissolved in H-Area[1]	Containers[4]	86	14	14	100	100	100%	2011
Other Disposition Paths[2]	Containers[4]	0	0	0	0	TBD	0%	TBD
Total Plutonium Disposition		86	14	14	100	~6,000	TBD	
Note: LEU = HEU blended with NU								

Nuclear Materials Notes:

1. Quantities Since 2008 (Includes LAPContainers)
2. DOE-SR is in the process of evaluating other Plutonium disposition paths includung:
   - Shipping to WIPP
   - Vitrification
   - MOX
   - Additional H- Area Processing
3. Dependent on receiving approval of the Amended ROD and SA
4. DOE Standard 3013 Containers

On / Ahead of Schedule

Behind Schedule

End State Basis

UNF Dispostion Path is pending Record of Decision (ROD)

Definitions

LEU	Low Enriched Uranium
HEU	Highly Enriched Uranium
NU	Natural Uranium
FRR	Foreign Research Reactor
DRR	DomesticForeign Reactor
UNF	Used Nuclear Fuel (from FRR's & DRR's)

EM Performance Metrics Report – through June 30, 2011

Area Completion

Measure	Unit of Measure	Cum Actuals thru FY 2010	FY 2011 Analysis		End State Analysis			
			Actuals FY2011	Annual Target	Cum Act thru 2011 (FYTD)	End State	% Complete	Target Year to Complete
			6/30/11					
Remediations & Facilities D&D'd								
Remediations Completed	Release Sites	373	7	7	380	515	74%	2038
Facilities -Deactivated & Decommissioned								
Industrial Facilities- Major[1]		240	3	6	243	815		
Nuclear Facilities		11	0	0	11	199		
Radioactive Facilites		7	0	16	7	40		
Total Facilities D&D'd	Major Facilities	258	3	22	261	1054	25%	2032
Operational Footprint Reduction (75%)								
Site Remediated/ Footprint Reduction	Square Miles	113	46	104	157	234	67%	2012

Notes

1. Excludes smaller ancillary buildings

On / Ahead of Schedule

Behind Schedule

End State Basis

Area Completion End State Quantities and Target Year to Complete are based on 2008 Certified Life Cycle Plan

EM Performance Metrics Report – through June 30, 2011

Recovery Act (2009 - 2012)	Unit of Measure	Cum Actuals thru FY 2010	FY 2011 Analysis		End State Analysis			
Measure			Actuals FY2011	Annual Target	Cum Act thru 2011 (FYTD)	End State	% Complete	Target Year to Complete
			6/30/11					
Funding Spent								
SRNS		726,664	370,258	503,633	1,096,922	1,415,400	77%	2013
SRR		90,900	78,601	108,952	169,501	200,000	85%	2011
Total	$ (000)	817,564	448,859	612,585	1,266,423	1,615,400	78%	2013
Solid Waste Disposition								
RH-TRU Waste Disposed		17	5	6	22	39	57%	
CH-TRU Waste Disposed		865	737	1,122	1,602	4,961	32%	
Total Transuranic Waste Disposed	Cubic Meters	882	742	1,128	1,624	5,000	32%	2013
PAD 1 - % TRU Waste Removed	%	82%	18%	18%	100%	100%	100%	2011
PAD 1 - % TRU Waste Disposed	%	0%	22%	0%	22%	90%	22%	2013
Mixed Low Level Waste Disposed[1]		393	158	352	551	755	73%	
Low Level Waste Disposed[1]		10,993	10,158	7,586	21,151	17,231	123%	
Total MLLW / LLW	Cubic Meters	11,386	10,316	7,938	21,702	17,986	121%	2011
Maintain Newly Generated Low Level Waste Below Target Level	Cubic Meters	Met	Met	< 400	Met	< 400	NA	
Nuclear Material Disposition								
Depleted Uranium Oxide Shipped	Drums	6,214	7,676	9,392	13,890	15,603	89%	2011

Recovery Act Notes:

On / Ahead of Schedule

Behind Schedule

ARRA End State Basis

Recovery Act End State Quantities and Target Year to Complete are based on ARRA Certified Baseline

EM Performance Metrics Report – through June 30, 2011

Recovery Act (2009 - 2012)

Measure	Unit of Measure	Cum Actuals thru FY 2010	FY 2011 Analysis		End State Analysis			
			Actuals FY2011	Annual Target	Cum Act thru 2011 (FYTD)	End State	% Complete	Target Year to Complete
			6/30/11					
Soil & Water Remediation								
Characterized for Remediation	Waste Sites	16	1	7	17	23	74%	2011
Remediation Systems Installed	Systems	7	4	5	11	12	92%	2011
Remediations Completed	Release Sites	7	7	7	14	14	100%	2011
Ground Water Plumes Remediated	# of Plumes	3	2	4	5	7	71%	2011
Facility Deactivation & Decommission								
Industrial Facilities- Major		4	0	6	4	10	40%	2011
Industrial Facilities- Ancillary		4	0	0	4	4	100%	2011
Total Industrial Facilities		8	0	6	8	14	57%	2011
Radioactive Facilites		0	7	16	7	16	44%	2011
Total Facilities D&D'd	Facilities	8	7	22	15	30	50%	2012
Reactors Decommissioned	# Completed	0	0	1	0	3	0%	2012
						See Note 1		
Operational Footprint Reduction (75%)								
Site Remediated/ Footprint Reduction	Square Miles	113.3	45.6	103.6	159	233.6	68%	2012

Recovery Act Notes:

1. HWCTR to be decommissioned in 2011
   P & R to be decommissioned in 2012

On / Ahead of Schedule

Behind Schedule

ARRA End State Basis

Recovery Act End State Quantities and Target Year to Complete are based on ARRA Certified Baseline

Acronyms

ARRA	American Recovery & Reinvestment Act
DRR	Domestic Research Reactor
D&D	Decommission & Demolition
FFA	Federal Facility Agreement
FRR	Foreign Research Reactor
LEU	Low Enriched Uranium
HEU	Highly Enriched Uranium
LLW	Low Level Waste
MLLW	Mixed Low level Waste
NU	Natural Uranium
Pu	Plutonium
SCDHEC	South Carolina Dept of Health & Environmental Control
UNF	Used Nuclear Fuel
SRNS	Savannah River Nuclear Solutions
SRR	Savannah River Remediation
SWPF	Salt Waste Processing Facility
TRU	Transuranic Waste
TVA	Tennessee Valley Authority