



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Environmental Management Cleanup Program Performance Measures Update

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Strategic & Legacy Management Committee
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- Fulfill a Strategic & Legacy Management (S&LM) Committee Work Plan requirement to periodically provide Environmental Management (EM) performance updates.
- Provide an update to EM performance measures for Fiscal Year 2013 (ending Sept. 30).

Note: This update will not include target levels for FY 2014 and beyond as EM Budget & Funding has not been finalized.

ARP	Actinide Removal Process
D&D	Deactivation & Decommission
DWPF	Defense Waste Processing Facility
HEU	Highly Enriched Uranium
LLW	Low Level Waste
MCU	Modular Caustic Side Solvent Unit
MLLW	Mixed Low level Waste
Pu	Plutonium
SRE	Sodium Reactor Experiment
SWPF	Salt Waste Processing Facility
TRU	Transuranic Waste
UNF	Used Nuclear Fuel
WIPP	Waste Isolation Pilot Plant

- **The EM Cleanup Program for the SRS started in the 1990's.**
 - Current Lifecycle Estimate (scope, cost, schedule) indicates EM cleanup completion by 2042.
- **Performance Measures have been developed to track progress towards end state targets.**

SRS Cleanup Program – Major Areas

**Liquid
Waste**

**Solid
Waste**

**Nuclear
Materials**

**Soil,
Groundwater
& Facilities**

**Insoluble
Waste
(Sludge)**

**Transuranic
(TRU)
Waste**

**Nuclear
Materials
Disposition**

**Waste Site
Remediation**

**Soluble
Waste
(Salt)**

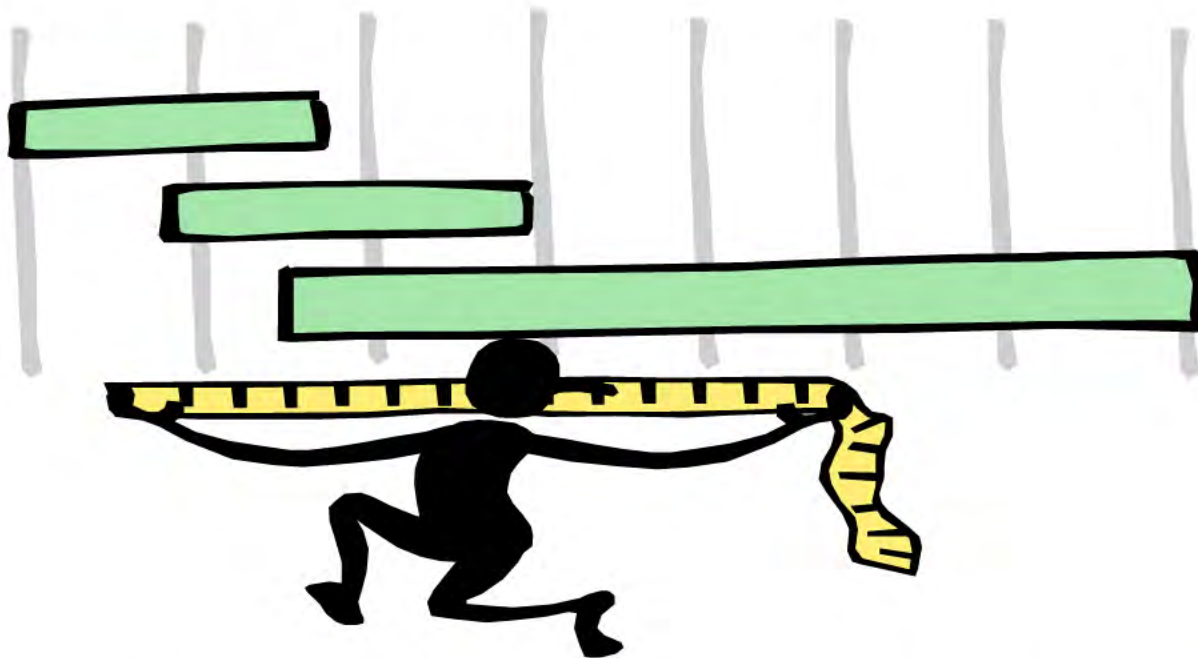
**Mixed & Low
Level Waste**

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

**Facilities
Deactivation &
Decommission**

**Tank
Closures**

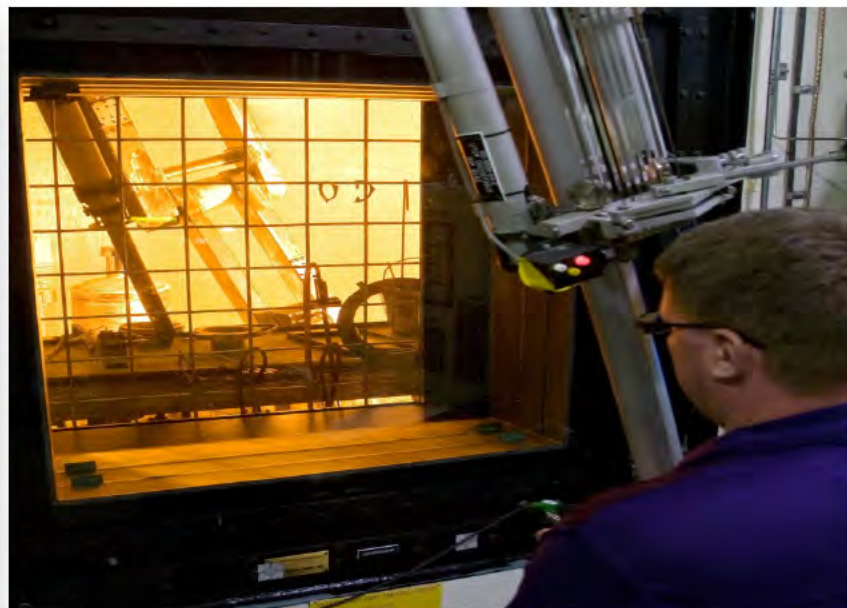
“How did we do in FY 2013 ?”



**Answer: continued progress under
funding constraints**

- Vitrified 225 Canisters of Radioactive Waste, including record of 40 in month of August
- Commenced grouting of two Liquid Waste Tanks (to be closed in FY14)
- All Legacy Transuranic Waste (TRU) Remediated
- Second best year ever for legacy Transuranic Waste (TRU) disposed with disposition of 1168 cubic meters
- Continued Used Nuclear Fuel (UNF) processing of the Sodium Reactor Experiment (SRE) Campaign
- Prepared Plutonium for future MOX Plutonium Production
- Continued receipt and safe storage of Nuclear Materials (including UNF)
- Transition from active to passive groundwater cleanup operations
- Successful optimization of groundwater monitoring

Canister Production



Performance Measure	Unit of Measure	Target FY13	Actuals FY13	Cum FY13	End State	% Complete	Est. Year Complete
Vitrify Insoluble Waste (Sludge)	Canisters Produced	275	225	3,753	7,580	50%	2026

Saltstone Production Facility



Saltstone Disposal Unit (SDU2)



Performance Measure	Unit of Measure	Target FY13	Actuals FY13	Cum FY13	End State	% Complete	Est. Year Complete
Process Salt Solution	K Gallons Processed	1,548	2,005	8,724	124,657	7%	2026

Liquid Waste: Tank Closure

Grouting of Tanks 5 & 6 (Tanks to be operationally closed in Fiscal Year 2014)



Performance Measure	Unit of Measure	Target FY13	Actuals FY13	Cum FY13	End State	% Complete	Est. Year Complete
Close Tanks: Old Style	Tanks Closed	0	0	4	24	17%	2022
Close Tanks: New Style	Tanks Closed	0	0	0	27	0	2028

Transuranic Waste (TRU) Shipment to WIPP



Last Legacy TRU Container Remediated



Performance Measure	Unit of Measure	Target FY13	Actuals FY13	Cum FY13	End State	% Complete	Est. Year Complete
TRU- Legacy (in storage prior 2009)	Cubic Meters	1,372	1,168	10,658	11,084	96%	2014
TRU- Newly Generated	Cubic Meters	40	42	115	3,980	Ongoing	TBD

Mixed Waste Shipment to Utah



Low Level Waste (LLW) New Trench - On Site

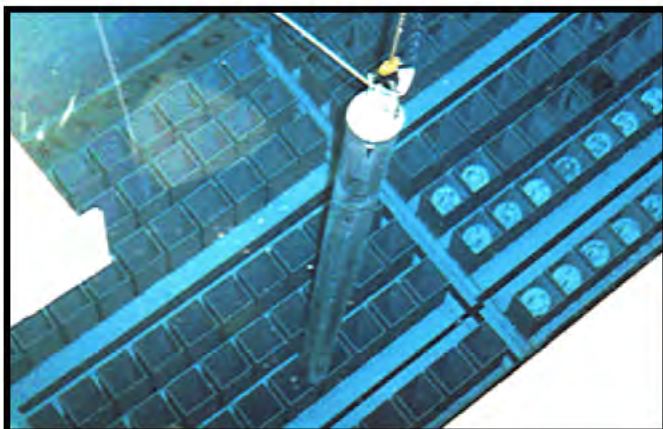


Performance Measure	Unit of Measure	Target FY13	Actuals FY13	Cum FY13	End State	% Complete	Est. Year Complete
M&LL-Legacy (Prior to April 2008)	Cubic Meters	0	0	103,171	103,171	100%	2008
M&LL-Newly Generated	Cubic Meters	< 400*	Met	< 400	< 400	Ongoing	TBD

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

Used Nuclear Fuel Receipt, Storage & Disposition

Used Nuclear Fuel (UNF)
Bundle stored in L- Basin



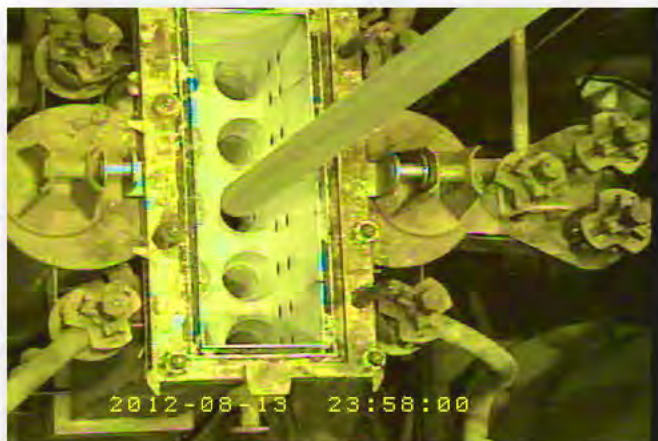
UNF being sent to H Canyon
via 70 Ton Cask



Performance Measure	Unit of Measure	FY12	Target FY13	Actuals FY13	FY13	L-Basin Capacity	% Fill
L-Basin Inventory	Bundles	3,197			3,165	3,650	87%
Added: New Receipts	Bundles		11	11			
Removed: Package SRE* for Disposition	Bundles		43	43			

- Represents Used Nuclear Fuel from Sodium Reactor Experiment (SRE) campaign which includes a total of 147 bundles

First UNF Bundle Charged to H-Canyon Dissolver in SRE Campaign



Plutonium 3013 Type Container



Performance Measure	Unit of Measure	Target FY13	Actuals FY13	Cum FY13	End State	% Complete	Est. Year Complete
HEU Dissolved (UNF from L-Basin)	Bundles	45	45	52	147	35%	2014
Plutonium Prepared for Disposition (All Paths)	Containers	30	30	157	5,600	3%	2033

Transition and Optimization

Conversion to solar powered subsurface venting Microblowers at the M-Area Settling Basin and a reduction of groundwater monitoring wells a 5 waste sites



Performance Measure	Unit of Measure	Target FY13	Actuals FY13	Cum FY13	End State	% Complete	Est. Year Complete
Remediation of Waste Sites	Waste Site	0	0	399	515	77%	2042
Facilities D&D'd	Facilities	0	0	284	1,103	26%	2042

<u>EM Site Cleanup- Major Categories</u>	Unit of Measure	Fiscal Year 2013		Cum Actuals	End State Quantity	% Complete	Est. Year to Complete
		Actuals (FYTD)	Annual Target				
Liquid Waste							
Vitrify Highly Radioactive Components	Canisters	225	275	3,753	7,580	50%	2026
Process Low Level Components (Saltstone)	k Gallons	2,005	1,548	8,724	124,657	7%	2026
Close Tanks - Old Style	Tanks	0	0	4	24	17%	2022
Close Tanks - Newer Style	Tanks	0	0	0	27	0%	2028
Solid Waste							
Transuranic Waste Disposed							
Legacy TRU (prior to 2009)	Cu Meters	1,168	1,372	10,658	11,084	96%	2014
Newly Generated TRU	Cu Meters	42	40	115	3,980	Ongoing	2042
Mixed & Low-Level Waste Disposed							
Legacy (prior to 2008)	Cu Meters	Complete	Complete	Complete	103,171	Complete	2008
Nuclear Materials Disposition							
Highly Enriched Uranium: Blend Down & Ship	Trailers	Complete	Complete	Complete	336	Complete	2012
Plutonium Disposition - All Paths	Containers	30	30	157	5,600	3%	2033
Used Nuclear Fuel: Dissolve SRE **	Bundles	45	45	52	147	35%	2014
Used Nuclear Fuel Receipt & Storage							
Inventory in L-Basin	Bundles	3165	3165	3165	3,650*	87%	TBD
Soil, Ground Water & Facilities							
Remediation of Waste Sites	Waste Sites	0	0	399	515	77%	2042
Facilities Deactivated & Decommissioned	Facilities	0	0	284	1,103	26%	2042

* Dependent upon negotiations with foreign countries & current capacity of L-Basin

** Represents Used Nuclear Fuel from Sodium Reactor Experiment (SRE) campaign

- **DOE-SR will continue to track & monitor performance measures for the key operational areas of EM cleanup operations.**
 - Performance Targets for FY14 & beyond will be shared with the CAB when available
- **Suggestions from the CAB for any additional improvements are welcomed.**