



U.S. DEPARTMENT OF
ENERGY

*Presentation to the SRS Citizen's Advisory Board
Nuclear Materials Subcommittee*

**SRS Performance Measures Update
Nuclear Materials**

April 26, 2011

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EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

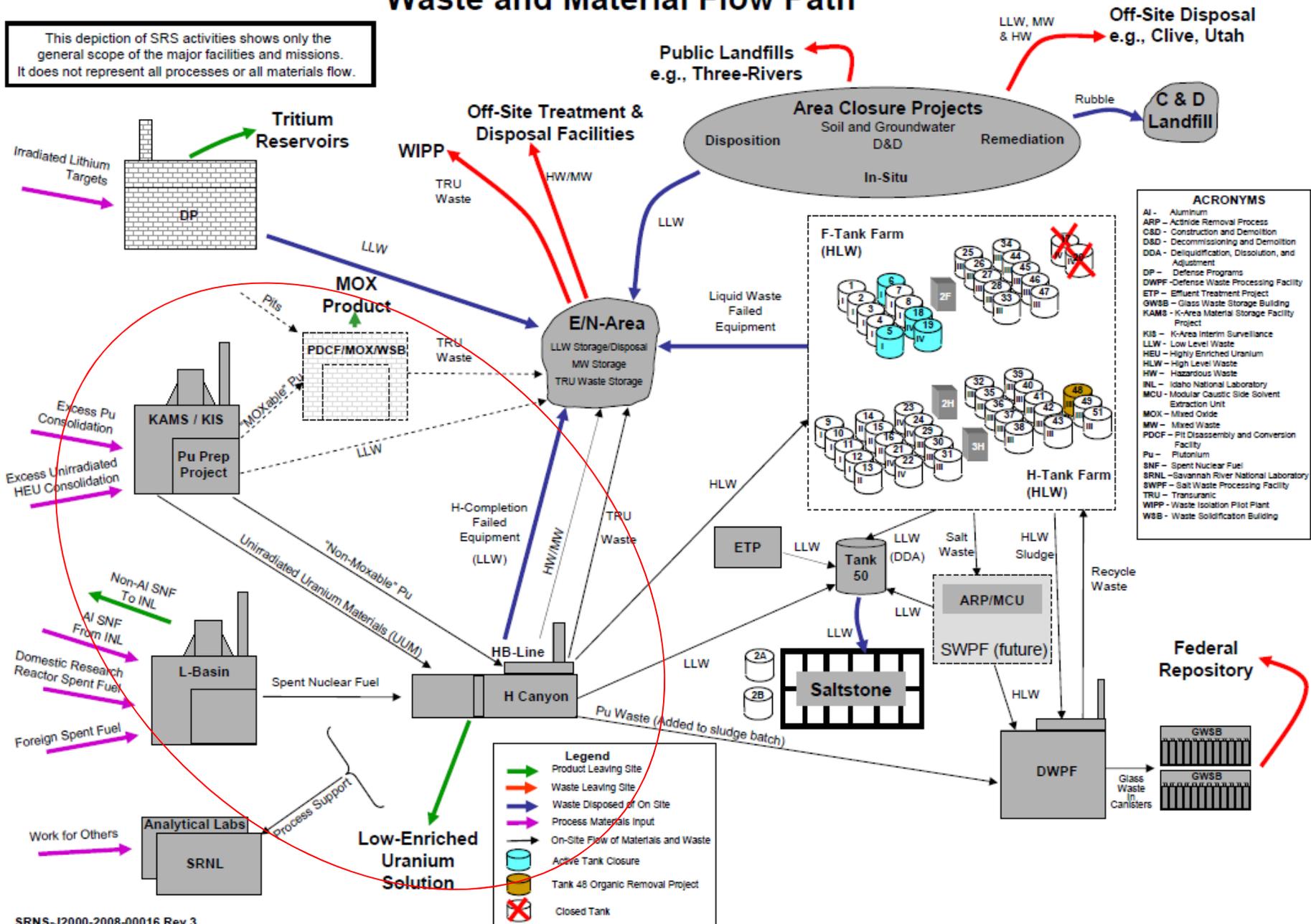
Acronyms

| | |
|----------------|--|
| DRR | Domestic Research Reactor |
| FRR | Foreign Research Reactor |
| LEU | Low Enriched Uranium |
| HEU | Highly Enriched Uranium |
| NU | Natural Uranium |
| SNF/UNF | Spent Nuclear Fuel / Used Nuclear Fuel |
| SRNS | Savannah River Nuclear Solutions |
| TVA | Tennessee Valley Authority |

Focus of Discussion – CAB Slide

Savannah River Site Waste and Material Flow Path

This depiction of SRS activities shows only the general scope of the major facilities and missions. It does not represent all processes or all materials flow.



FY 2011 EM Performance Metrics Report
Through January 16, 2011

| <u>Nuclear Materials</u> | | Unit of Measure | Actuals thru FY2007 | FY2008 Actuals | FY2009 Actuals | FY2010 Actuals | FY2011 Actuals thru 1/16/11 | Cum Actuals thru 1/16/11 | FY 2011 Analysis | | End State Analysis | | |
|--|-------------------------------|-----------------|---------------------|----------------|----------------|----------------|-----------------------------|--------------------------|------------------|-----------|--------------------|-------------------------|--|
| Measure | FY2011 Actuals (thru 1/16/11) | | | | | | | | Annual Target | End State | % Complete | Target Year to Complete | |
| Plutonium Disposition | | | | | | | | | | | | | |
| Current Disposition Path¹ | | | | | | | | | | | | | |
| (Plutonium Dissolved in H-Area) | Containers | 18 | 28 | 8 | 32 | 12 | 98 | 12 | 92 | 339 | 29% | 2012 | |
| Potential Disposition Paths^{2,3} | | | | | | | | | | | | | |
| (WIPP, MOX, Add'l H-Area/DWPF) | Containers | | | | | 0 | 0 | 0 | 0 | TBD | | 2019 | |
| Total Plutonium | Containers | | 28 | 8 | 32 | 12 | 98 | 12 | 92 | TBD | | 2019 | |
| Enriched Uranium Disposition | | | | | | | | | | | | | |
| LEU Shipped to TVA Vendor | Trailers | 257 | 27 | 11 | 24 | 2 | 321 | 2 | 12 | 333 | 96% | 2011 | |
| (from diss. of site fuel and unirradiated HEU) | | | | | | | | | | | | | |
| LEU Shipped to TVA Vendor | Trailers | | | | | 0 | 0 | 0 | 4 | 180 | 0% | 2019 | |
| (from dissolution of Used Nuclear Fuel) | | | | | | | | | Note 4 | | | | |
| Total LEU Shipped to TVA Vendor | Trailers | 257 | 27 | 11 | 24 | 2 | 321 | 2 | 16 | 513 | 63% | 2019 | |
| (Note: LEU = HEU blended with NU) | | | | | | | | | Note 4 | | | | |
| Used Nuclear Fuel (UNF) Dissolved | Bundles | | | | | 0 | 0 | 0 | 52 | 3268 | 0% | 2019 | |
| (To begin in 2Q FY 2011) | | | | | | | | | Note 4 | | | | |
| Used Nuclear Fuel Exchange with INL (TBD) | Bundles | | | | | | | | | | | 2019 | |

Nuclear Materials Notes:

- Quantities Since 2007, End State Quantity is Pre- Decisional (Includes LAP & EU/Pu Containers)
- DOE/NNSA is in the process of evaluating Plutonium disposition paths (via the NEPA process) including:
 - Shipping to WIPP
 - MOX
 - Additional H- Area Processing / DWPF
- Start-up of HB-Line South will double through-put capacity of plutonium disposition
- Dependent on receiving approval of the Amended ROD and SA in 2nd Qtr FY11

-  On / Ahead of Schedule
-  Behind Schedule

End State Basis
Nuclear Material "End State Quantities" and "Target Year to Complete" are based on the 2008 Certified Life Cycle Plan

| Nuclear Materials | | Unit of Measure | Actuals thru FY2007 | FY2008 Actuals | FY2009 Actuals | FY2010 Actuals | FY2011 Actuals thru 4/25/11 | Cum Actuals thru 4/25/11 | FY 2011 Analysis | | End State Analysis | | |
|---|-------------------------------|-----------------|---------------------|----------------|----------------|----------------|-----------------------------|--------------------------|------------------|-----------|--------------------|-------------------------|--|
| Measure | FY2011 Actuals (thru 4/25/11) | | | | | | | | Annual Target | End State | % Complete | Target Year to Complete | |
| Plutonium Disposition | | | | | | | | | | | | | |
| Current Disposition Path¹ | | | | | | | | | | | | | |
| (Plutonium Dissolved in H-Area) | Containers | 18 | 28 | 8 | 32 | 14 | 100 | 14 | 14 | 100 | 100% | 2011 | |
| Potential Disposition Paths^{2,3} | | | | | | | | | | | | | |
| (WIPP, MOX, Add'l H-Area/DWPF) | Containers | | | | | 0 | 0 | 0 | 0 | TBD | | 2019 | |
| Total Plutonium | Containers | 18 | 28 | 8 | 32 | 14 | 100 | 14 | 14 | TBD | | 2019 | |
| Enriched Uranium Disposition | | | | | | | | | | | | | |
| LEU Shipped to TVA Vendor (from diss. of site fuel and unirradiated HEU) | Trailers | 257 | 27 | 11 | 24 | 6 | 325 | 6 | 14 | 333 | 98% | 2011 | |
| LEU Shipped to TVA Vendor (from dissolution of Used Nuclear Fuel) | Trailers | | | | | 0 | 0 | 0 | 2 | 180 | 0% | 2019 | |
| | | | | | | | | | Note 4 | | | | |
| Total LEU Shipped to TVA Vendor (Note: LEU = HEU blended with NU) | Trailers | 257 | 27 | 11 | 24 | 6 | 325 | 6 | 16 | 513 | 63% | 2019 | |
| | | | | | | | | | Note 4 | | | | |
| Used Nuclear Fuel (UNF) Dissolved (To begin in 3Q FY 2011) | Bundles | | | | | 0 | 0 | 0 | 26 | 3268 | 0% | 2019 | |
| | | | | | | | | | Note 4 | | | | |
| Used Nuclear Fuel Exchange with INL (TBD) | Bundles | | | | | | | | | | | 2019 | |

Nuclear Materials Notes:

- Quantities Since 2007, End State Quantity is Pre- Decisional (Includes LAP & EU/Pu Containers)
- DOE/NNSA is in the process of evaluating Plutonium disposition paths (via the NEPA process) including:
 - Shipping to WIPP
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-  On / Ahead of Schedule
-  Behind Schedule

| <u>End State Basis</u> |
|---|
| Nuclear Material "End State Quantities" and "Target Year to Complete" are based on the 2008 Certified Life Cycle Plan as modified with direction provided 2Q 2011 |