Citizens Advisory Board
Nuclear Materials Committee

Surplus, Non-Pit Plutonium Consolidation at the Savannah River Site

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Purpose

- To update the SRS CAB on the status of the Plutonium Consolidation

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Acronyms

- Pu Plutonium
- DOE Department of Energy
- MT Metric Tons
- STD Standard
- DNFSB Defense Nuclear Facilities Safety Board
- NDE Non-destructive Examination
- DE Destructive Examination
- DWPF Defense Waste Processing Facility
- MFFF Mixed Oxide Fuel Fabrication Facility

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Plutonium Consolidation

- Scope
  - Quantity: 12.8 Metric Tons (MTs)
  - Material: Surplus, Non-Pit Plutonium-239
  - Form: Solid form (metal, oxide powder, scrap, and unirrradiated fuel)
- Shipping and Storage
  - DOE Standard 3013 Storage Container, except unirradiated fuel
  - DOE 9975 Shipping Package (also storage)
  - Safe, Secure Transport Trailers
- Storage Location
  - K-Area
  - Existing Reactor Building
  - Meets 2005 Design Basis Threat Guidance
  - Continuous Surveillance to Ensure Safe Storage

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3013 Containers

PU Metal Button

Bagless Transfer Can

Sectioned Outer 3013 Can with One Bagless Transfer Can

Outer 3013 Can

Exterior View of 9975 Shipping Container

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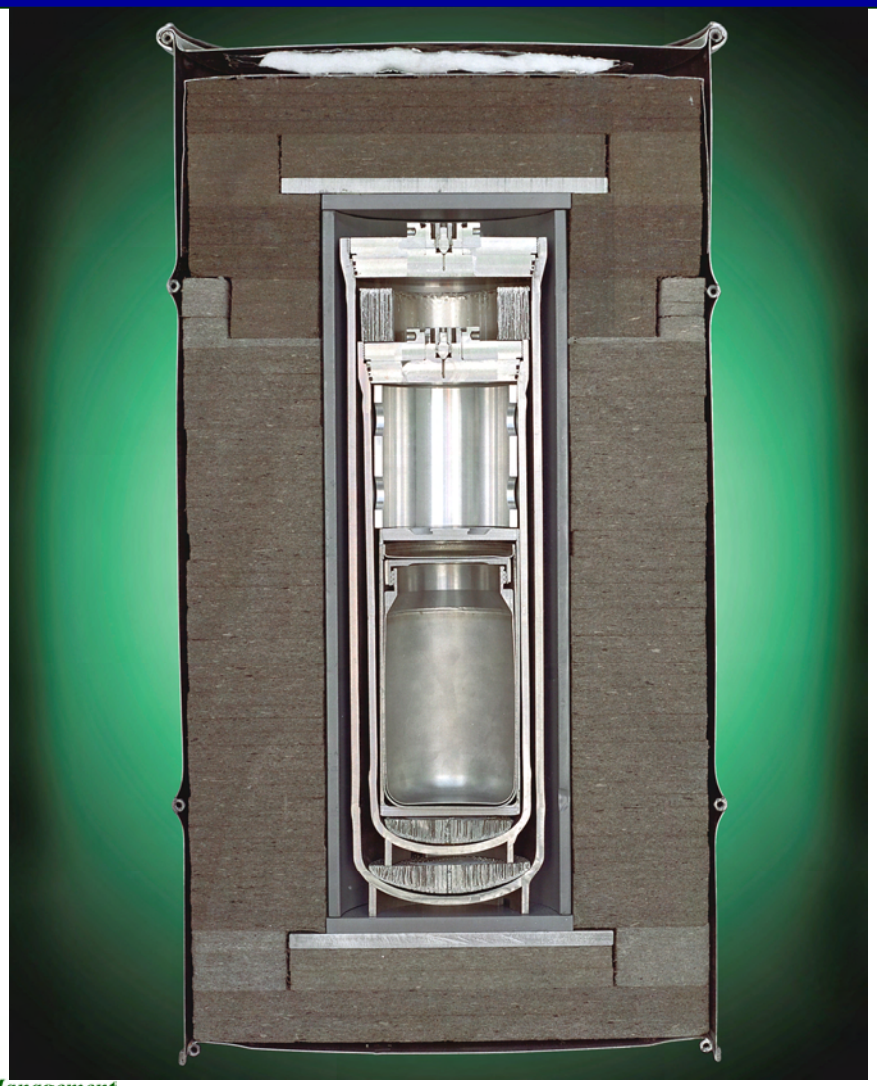
Cross Sectional View of 9975 Shipping Container



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KAMS in 2000

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KAMS in 2009

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Plutonium Consolidation

- Shipping Sites
  - Savannah River – 910 containers (completed)
  - Rocky Flats – 1889 containers (completed)
  - Hanford – 2257 containers
  - Hanford Unirradiated Fast Flux Test Reactor Fuel – 13 casks
  - Lawrence Liver National Laboratory – 115 containers
  - Los Alamos National Laboratory – 96 containers
  - Potential Future Surplus Material Receipts
    - » LLNL and LANL – 500 containers
- Future Storage Capability
  - Pre-Conceptual Design for new Vault (ECD: Sept. 2009)
  - Within existing K-Area Reactor Building
  - 500 -900 additional storage locations (3013 containers)

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Plutonium Consolidation

- Plutonium Consolidation Rationale
  - Reduces risk to public and environment by consolidating to a single location
  - Improves Homeland Security
    - » Reduces the number of facilities to protect
  - Allow sites to deinventory to meet regulatory commitments
  - Significant cost avoidance (billions of dollars) to consolidate surplus nuclear materials at a single location
    - » Eliminates multiple (existing) storage vaults across the complex
    - » Avoid building new storage vaults to replace outdated facilities
    - » Eliminates multiple security projects across the complex
  - Allow facilities to close reducing the DOE national nuclear footprint (and avoid operating costs)

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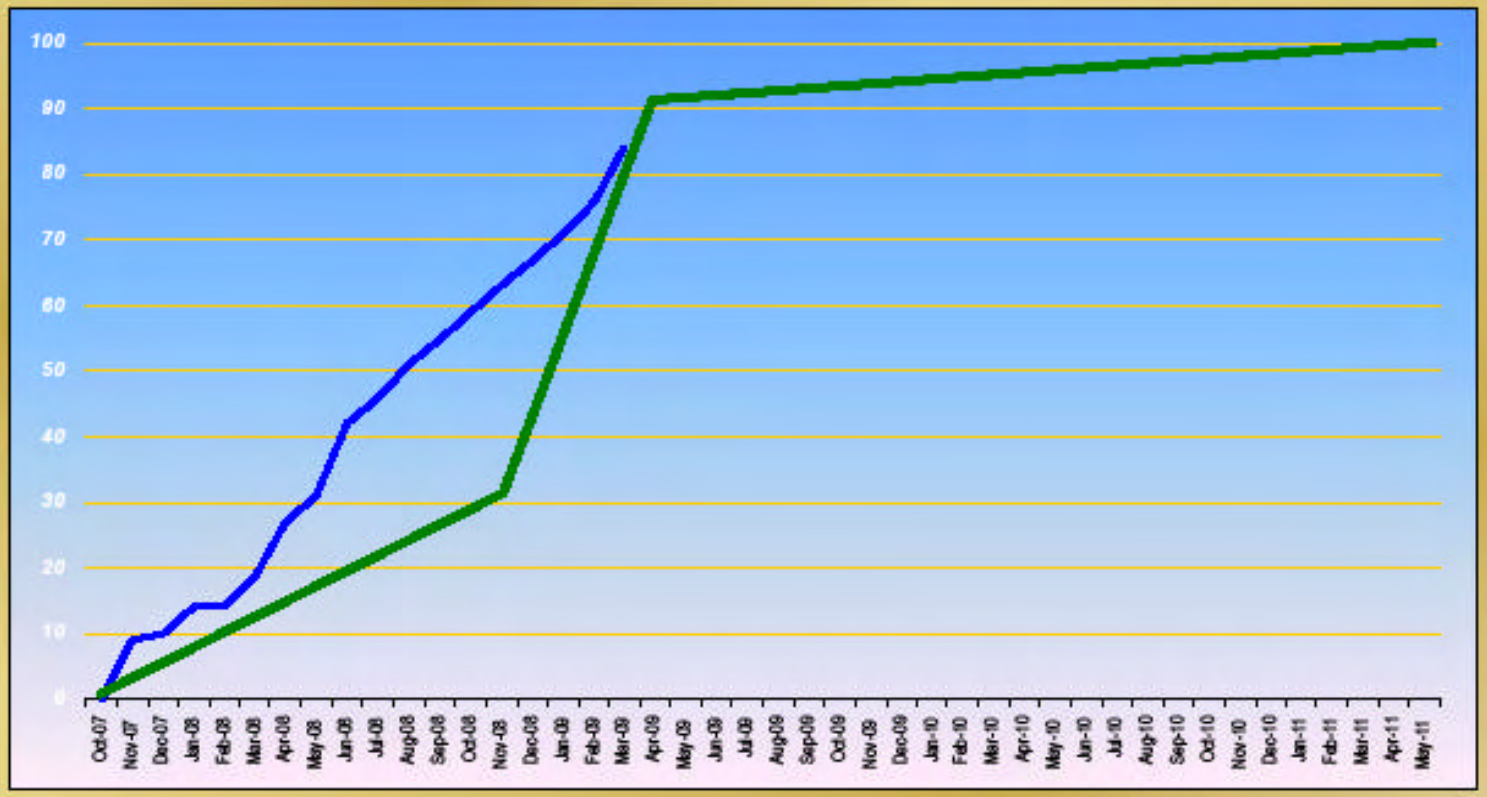
EM Non-Pit Pu Consolidation Receipts



Note: Reflects campaign extension due to proposed LANL shipment schedule

Data Date 3/31/09

Summary

- Plutonium Consolidation is 75% complete with an Completion Date of FY2013
- New Vault may be installed to receive all non-pit plutonium
- All plutonium is safely and securely stored in K-Area
- The Department has a pathway for dispositioning plutonium out of South Carolina (H-Canyon/DWPF and MFFF)
- Evaluating alternatives to optimize Plutonium Disposition, forecast completion summer of 2009

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