Savannah River Site
Transuranic Waste Status
Waste Consolidation Prior to Classification

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Waste Management Symposium 2015
March 18, 2015
Savannah River Site Waste Program Overview

- Low Level Waste (LLW) generation is ~5,000 m³/year
- Transuranic (TRU) waste generation is ~30 m³/year
- TRU waste storage capacity is sufficient for at least 5 years
- Hazardous Waste (HW) / Mixed Waste (MW) generation is ~75 m³/year
- Treatment and disposal of HW/MW is by commercial vendors per Land Disposal Restrictions (LDR) requirements
- The Site Treatment Plan identifies a small volume of MW maintained in long term storage to allow for decay of tritium or fission products
SRS E Area – Solid Waste Disposal Facility
TRU Waste Status

• American Recovery and Reinvestment Act (ARRA) funded the majority of legacy TRU waste inventory disposal

• Remaining TRU waste inventory
  – Compliantly packaged with majority certified for disposal
  – Estimate 142 shipments
    • 7 Contact Handled (CH) TRUPACT-III shipments
    • 80 Contact Handled (CH) TRUPACT-II shipments
    • 55 Remote Handled (RH) 72-B shipments
Legacy TRU Waste Storage Over the Years
Waste Consolidation Examples

• DOE Order 435.1 allows for consolidation of compatible waste from multiple streams if it:
  – Reduces worker exposure and/or risk
  – Promotes cost effective life-cycle management
  – Renders the waste more suitable for storage, treatment, or disposal
• Consolidation of waste can result in TRU waste being re-classified as LLW
• Consolidation does not increase the overall volume of waste generated
• Addition of non-waste in order to lower the classification of the waste is considered dilution and is prohibited
• SRS has successfully used consolidation during the legacy TRU waste disposition campaign.
  – Paducah Cask (Spent Fuel Operations)
  – Large Black Boxes (Canyon Operations)
Paducah Cask Waste Stream (Spent Fuel Operations)

- Spent Fuel Operations had several waste items to be disposed and an excess transfer cask.
- Waste items that were consolidated:
  - Cask constructed of depleted uranium and clad with stainless steel (LLW). Used as packaging for other waste items.
  - Cobalt Slugs & Slabs (LLW)
  - Thulium Slugs (LLW)
  - Curium (Pu239) Sampler Slugs (TRU waste)
- Characterization of cask with contents after consolidation resulted in LLW determination and allowed for disposal at SRS
- Avoided repackaging and disposal of curium sampler slugs as TRU
Large Steel Boxes (Canyon Operations)

- With no size reduction capabilities, waste loaded into large steel boxes
- Waste classified as TRU based on usage and expected contamination levels
- Represented a significant percentage of the total legacy TRU inventory
- Repackaging of the waste into WIPP approved containers would result in radiological dose and considerable risk of injury to the workers
- Empty large steel boxes were contaminated and would require disposal as LLW
- In many cases, the weight of the box and the enclosed waste allowed for re-classification from TRU to LLW
Thank You – Any Questions?