

# **Waste Management '12 The Mixed Waste Orphan Streams of 2012 and Beyond**

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# DOE Problematic Wastes

- Problematic wastes (formerly known as orphans) are those without a current **known** treatment or disposal path, have no available funding for disposition, or have not yet been generated.
- Most are low volume/high unit cost that are low priority for disposition during tough budget years unless there is a specific driver.
- ARRA funding and DOE's Journey to Excellence did allow for developing disposition paths or provided the necessary funding so that significant volumes of problematic wastes could be dispositioned.
  - EM sites disposed over 97,300m<sup>3</sup> LLW/MLLW;
  - EM sites dispositioned over 5,200m<sup>3</sup> of TRU.

# Problematic Waste Types

- DOE EM's WIMs Database provides status for waste streams. Yellow or red status flags indicate problem for disposition. Examples include:
  - Transuranic MLLW
  - Lab-packs
  - Classified MLLW
  - Reactive metals (e.g., Sodium bearing wastes)
  - Gloveboxes with high SCO (GTCC)
  - Dioxins/Furans
  - Heavy metals – Beryllium, Mercury contaminated wastes

# ARRA Provided Funding for Problematic Wastes – TRU Wastes

- At Hanford, CHPRC dispositioned 2,100 m<sup>3</sup> of TRU waste with ARRA funding in 18 months
- These TRU wastes were problematic:
  - Required retrieval of packages in poor condition
  - CHPRC needed additional onsite treatment capacity
  - Perma-Fix's Northwest Facility added capability to sort/segregate and NDA for large boxes



# ARRA Provided Funding for Problematic Wastes – TRU Dropouts

- At Savannah River, SRNS dispositioned 2,180 m<sup>3</sup> of TRU waste with ARRA funding.
- ~20% of waste dropped out of TRU program (<100 nCi/g) requiring treatment as MLLW
- The TRU dropout wastes were problematic due to their alpha activity (PU contamination concerns)
- Perma-Fix of FL instituted more stringent contamination controls for Sorting, Macroencapsulation, and packaging for NNS disposal.



# ARRA Provided Funding for Problematic Wastes – Heavy Metal Wastes

- At Oak Ridge, B&W Y-12 used ARRA funds to disposition:
  - Mercury contaminated soils/sludges from storm drains on the Y-12 site;
- Alpha 5 and Beta 4 Building legacy waste clean-out projects:
  - 100,000 ft<sup>3</sup> of waste removed;
  - Variety of problematic wastes including: Beryllium, corrosive liquids, oils, TSCA liquids and solids, reactive metals and classified materials.

WEMA Storm Drain Effort



# Commercial Problematic Wastes

- Currently, commercial LLW and MLLW that exceed Class A have no available disposal path and are thus problematic.
  - Resins containing PCBs
  - Utility Primary System Filter media that are high dose (>1000 R/hr)
- Sealed Sources

# Challenges for the Future





# Summary

- The market place will add technologies and capabilities to address most problematic MLLW/LLW but with ARRA funds practically gone what will focus be for FY 12 – 13? Where is the “pile of money” going to come from?
- The EFCOG WM Working Group can be a resource to generators with problematic wastes. Contact us if we can help facilitate resolution. Renee Echols – [rechols@perma-fix.com](mailto:rechols@perma-fix.com), 865-599-4064.