



U.S. DEPARTMENT OF  
**ENERGY**

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

## **Plutonium Ship to WIPP**

### **HB-Line Mission**

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**EM** *Environmental Management*  
safety ♦ performance ♦ cleanup ♦ closure

# *Background*

- **The Office of Environmental Management has up to ~ 5MT of surplus non-pit plutonium that is not currently suitable as feed to the Mixed Oxide Fuel Fabrication Facility (MFFF).**
  - **Approved Interim Action allows disposition of up to 85 kgs of the ~5MT**
  - **NEPA approval required for dispositioning additional Plutonium**
  
- **There have been several disposition plans for this material and the latest one was to dissolve in H Canyon, transfer to the sludge batch tank, and incorporate into the high level waste glass.**

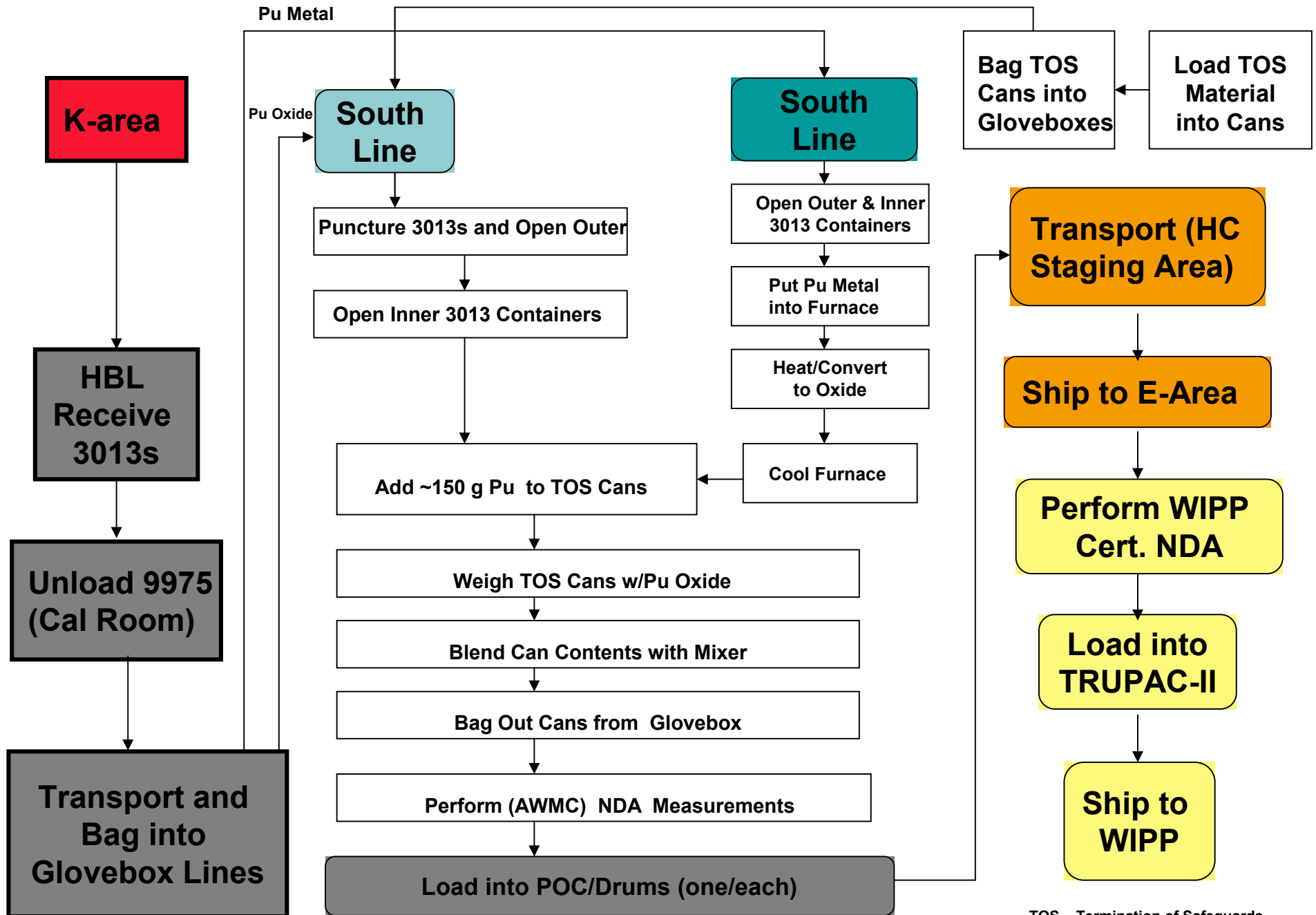


# *Current Plan*

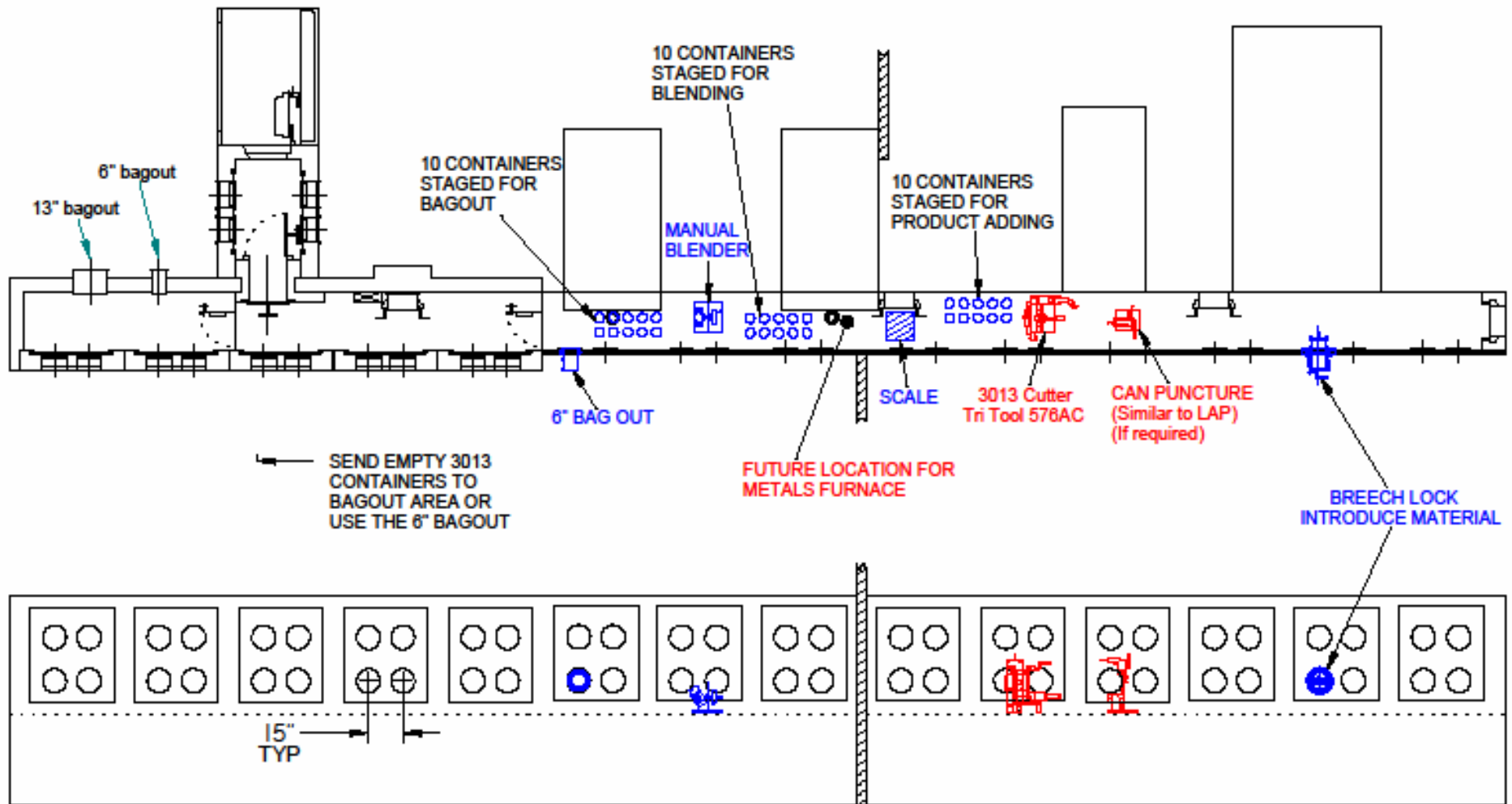
- **Savannah River has identified an approach to dispositioning some or all of this material by downblending and shipping to WIPP for disposal that appears to be more cost effective.**
- **This option not only is more cost effective, it allows the material to be dispositioned earlier, and allows the material to be removed from the State of South Carolina in a more timely manner.**



# HB-LINE WIPP REPACKAGING FLOW SHEET



TOS – Termination of Safeguards



**BLUE - ADDITIONS FOR WIPP DEMONSTRATION**

**RED - ADDITIONS NEEDED FOR FULL SCALE WIPP**

# Option Descriptions

- **Evaluating use of HB-Line**
  - Utilize up to three of the existing HB-Line glovebox lines and ventilation system
  - Blend the plutonium oxide to less than 10% plutonium
  - Oxidize plutonium metal as required
  - Package into Pipe Overpack Containers
  - Ship to E Area for WIPP certification and loading into TRUPAC II container
  
- **Demonstration**
  - Utilize one of the three gloveboxes
  - Expect to prepare 1 shipment this fiscal year
  - Interim Action amended to allow disposition of initial ~ 85 kgs 3013 surveillance material
  
- **Full Campaign**
  - Utilize up to three gloveboxes
  - Process approximately 200 kgs Pu per year with one glovebox and up to 600 kgs per year if three gloveboxes are used
  - Additional NEPA is required in order to process balance of the non-Moxable Pu Inventory.

