



# Presentation to SRS CAB H Canyon Update

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# Facility Status

- Facility continues to operate solvent extraction cycles to purify enriched uranium solution from dissolved unirradiated highly enriched uranium and blend down for TVA. *with natural uranium to TVA specs*
- HB-Line continues dissolution of limited Plutonium materials; not suitable as feed for MOX. *limited amount*
- Preparations for Used Nuclear Fuel (UNF) Processing
  - Approved Upgraded Documented Safety Analysis (DSA)
    - Based on extended planned operations, approved upgraded DSA to meet 3009 format and content
  - Revised Facility Procedures
  - Updated Operator Training
  - Completed Readiness Assessment
  - Identified initial UNF assemblies to be processed

*from L-Area*



# Key National Environmental Policy Act (NEPA) Decisions

- 1996 – Foreign Research Reactor (FRR) EIS and Record of Decision (ROD) issued
  - Begin FRR receipts (US origin material)
- 2000 - SRS Spent Nuclear Fuel EIS and ROD was issued with Melt and Dilute of Al-clad UNF
  - Melt and Dilute
    - Al-clad fuel cropped
    - Melted with depleted uranium to form low enriched uranium metal
    - Cast in disk and placed in cans for disposal with high level waste canisters
  - Other alternatives evaluated:
    - Processing through H Canyon; Wet Storage; Other Technologies
- 2006 - Department approved the Uranium Disposition Project which included processing unirradiated highly enriched uranium materials and the Al-clad UNF. Recover the enriched uranium, down-blend to low enriched uranium, and ship to TVA. *to 4.9% U, blended with natural uranium from Canada*
  - Required issuance of Amended Record of Decision for UNF processing
- 2010 - SRS developed and submitted a Safety Analysis (SA) and Amended ROD to support processing of UNF.
  - Wrote SA to update previous analysis
  - AROD to change Department's previous decision  
*under evaluation*



# Scenarios

*\$ for scenarios?*

## • Scenario 1

*DOE wrote letter to contractor in mid-Nov.*

- Assume Continuing Budget Resolution resolved by mid- January and approval to begin UNF processing in H Canyon is provided by January 31, 2011.
  - SRNS is requested to identify alternative scopes of work to replace processing of UNF during time period from mid-Nov thru end of January.
  - SRNS is expected to complete all remaining FY11 and FY12 missions to include UNF, EU/Pu and the remainder of the 400kgs of Plutonium scheduled to be dispositioned through H Canyon and HB-line.

*canyon fully running*

*dissolve U & blend down till end of June*

*dirty Pu in HB-line*



# Scenarios (cont)

- **Scenario 2**

- Assume approval to begin UNF processing in H Canyon is not provided by January 31, 2011.

- SRNS is requested to develop a processing plan to complete all FY11 and FY12 H Canyon and HB-line missions as planned except for the processing of UNF.

- Includes processing the EU/Pu metals and the remainder of the 400kgs of Plutonium to be dispositioned through H Canyon and HB-line by the end of FY12.



# Scenarios (cont)

CR to  
March 18 2011

how can approval  
come by Jan 31?

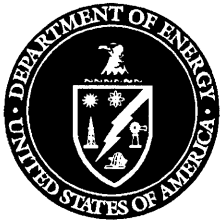
## • Scenario 3

- Assume approval to begin UNF processing in H Canyon is not provided by January 31, 2011 and due to the uncertainty associated with the approval of the SA and AROD.
  - Develop a preliminary deinventory and flush plan to remove bulk (not residual) special nuclear materials from H Canyon, Outside Facilities, and HB-Line
    - Maintain the facilities in a high state of readiness as required by Public Laws 106-398 and 108-136.
    - Improve the safety posture of the facilities.
    - Reduce risks associated with maintaining a high state of readiness and enable mission objectives to be implemented soon after a decision is made.
    - Process existing HEU solutions, down blend to LEU, ship LEU offsite to TVA.
    - No additional dissolution will be performed in H Canyon or HB-Line.

- no response from contractors yet, <sup>due</sup> ~~at~~ end of Jan.

- DOE did not modify request to take into account

CR extended to March 2011



"proof of concept testing" for commercial fuel in H Canyon

# Conclusion

Swap delayed?  
w/ INL

- Facility is ready to begin processing and has completed readiness assessment.
- The Supplemental Analysis and Amended Record of Decision to support processing UNF in H Canyon is currently under consideration.
- Due to numerous uncertainties, SR requested SRNS to evaluate several "what-if" scenarios concerning H Canyon/HB-Line operations.

adequate space to receive  
identified fuel under foreign +  
domestic programs - more reactors  
add

~~why not make countries f<sup>2</sup>?~~