



Savannah River Operations Office Nuclear Materials Stabilization Project

Spent Nuclear Fuel Disposition FY2006 – FY2019

Scotty DeClue
Federal Project Director
January 23, 2007





SNF Program Status

- Spent Nuclear Fuel has been received and stored safely at SRS for over 40 years
- Using H-Canyon to disposition SNF is a major change in mission from Treatment Storage Capability (TSC)
- FY07 and FY08 are Mission Transition years



SFP Operations Safety Performance

- Over 5400 Consecutive Safe Days
- Over 1000 Consecutive Days With No Personnel Contamination Cases



SNF Disposition

- August 17, 2006, EU Disposition Project CD-0/1
- EU Disposition Project Scope includes disposition of approximately 26 Metric Tons Heavy Metal (MTHM) of Spent Nuclear Fuel (SNF) and other nuclear materials
- H-Canyon selected as the Preferred Alternative
- Idaho SNF Swap required for Stainless Steel/zirconium-clad fuel disposition
- NE & EM MOA to process NE ATR SNF being developed



SNF Disposition Scope

- DRR Receipt through 2019
- FRR Receipt through 2019
- De-inventory L-Area by 2019
- Heavy Water Disposition by 2019
- Turnover L-Area to D&D in 2020



SNF Receipts 2007-2019

- Receive 157 DRR Casks containing 934 Assemblies (Purdue, HFIR, NIST, MURR, MIT)
- Receive 99 FRR Casks containing 3166 Assemblies (Australia, Japan, Sweden, Argentina, Brazil, Portugal, Netherlands, Peru, Indonesia, Taiwan, Canada, Jamaica)



De-Inventory L-Area

- Ship 10,426 Aluminum SNF Assemblies/pieces from L-Area to H-Canyon
 - 1976 Stainless Steel/zirconium Assemblies/pieces
 - Review Burial ground WAC for onsite disposal
 - Ship remaining inventory to INL
 - Receive 4400 Aluminum Assemblies from INL
- ~17,000 Aluminum Assemblies/pieces to H-Canyon**
- ~ 2,000 Stainless Steel Assemblies/pieces to INL**



Near Term Activities

Clarify SNF Scope Statements

- IPABS
- PEP
- Exhibit 300



Near Term Activities

Pursue Agency MOAs

NNSA

Sat

NE

Unclear

OS

Unclear

Dept of Commerce

Unclear



Schedule and Key Milestones

<u>Milestone</u>	<u>Date</u>
Project Initiation	FY06
Define Scope, Schedule, and Strategy	FY07
Begin Shipping Preparations	FY08
Initiate SNF shipments to H-Canyon	FY09
Initiate INL Swap	FY10
Complete FRR receipt program	FY19
Complete DRR receipt program	FY19
Complete disposition of Heavy Water inventory	FY20
Complete L Area deactivation	FY22
Turnover L Area for final disposition	FY22



Planning Metrics

H-Canyon Processing Capability

- 1000 MTRE/dissolver/year
- 40 HFIR cores/dissolver/year

70 ton Cask

- 60 to 75 assemblies per shipment
- 2 shifts to load



SNF Cask Considerations

NAC LWT Cask

- 12 ATR assemblies per Cask
- 370 Cask shipments required for INL Swap

DOE Fort St Vrain Casks (2)

- 21 ATR assemblies per Cask
- 210 Cask shipments required for INL Swap

GE-2000 (DOE Owns 1)

- 20 ATR assemblies per Cask
- 222 Cask shipments required for INL Swap



INL Swap (Not Official Route)



Total Est. Time: 33 hours Total Est. Distance: 2200 miles



Risks

- MOX may lose funding for Railroad mainline restoration
- 40% of experienced Basin Fuel Handlers could retire before 2019 Project completion
- Education and Training may be requested by the public along the Idaho Swap route
- Security and State Police escort requirements may increase



Summary

- SFP has a strong Safety and Radcon performance record
- Shipping SNF is a validated capability
- DOE working with WSRC will develop detailed Schedule and outyear budget plan in Spring 2007