



U.S. DEPARTMENT OF
ENERGY

*Presentation to the SRS CAB
Nuclear Materials Committee*

**Spent Fuel Project Planning
for FY2010**

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

Acronyms

Al – Aluminum

ATR – Advanced Test Reactor

DOE – Department of Energy

DRR – Domestic Research Reactor

EM – DOE Office of Environmental Management

EUD – Enriched Uranium Disposition

FRR – Foreign Research Reactor

FY – Fiscal Year

HEU – Highly Enriched Uranium >20%

HFIR – High Flux Isotope Reactor

INL – Idaho National Laboratory

IPT – Integrated Project Team

LAC – L Area Complex

LEU – Low Enriched Uranium <20%

LWT – Legal Weight Truck

LTH – L-Area To H-Area

MTMH – Metric Tons Heavy Metal

MTR - Material Test Reactor

NE – DOE Office of Nuclear Energy

NNSA – National Nuclear Security
Administration

ORNL – Oak Ridge National Laboratory

SC – DOE Office of Science

SNF – Spent Nuclear Fuel

SRNS –Savannah River Nuclear Solutions

SRS – Savannah River Site



Purpose

Spent Fuel Project FY10 Activities

- Railroad repairs
- On-site transport of SNF (70-ton cask)
- L-Basin crane upgrades
- INL SNF Exchange
- FRR/DRR Receipts
- Summary



L to H Transfers

Preparations to ship SNF from L to H Area

- **Onsite Railroad Upgrade**
 - **Begun FY08, suspended early FY09, restarted now, and will finish FY10**
- **Upgrade of 70-Ton Casks for Onsite Shipping**
 - **As-built drawings complete for all 5 casks to support design**
 - **Design work completed June 2009 for required safety upgrades**
 - **Cask modifications to be performed FY10 (3 casks)**
- **L Area Crane Upgrade**
 - **Modifications required to meet single point failure criteria for 70-Ton cask handling (DOE 420.1B). To complete FY10.**
- **First shipment from L to H Area planned for May 2011.**



INL SNF Exchange

Preparations for shipping non-AI-based SNF to INL and receiving AI-based SNF from INL

- **Funding has been requested to begin preparations in FY10**
- **FY10 funding would support:**
 - **Start of procurement and licensing of a commercial cask for the exchange**
 - **Start of L Area project to modify cask and fuel handling equipment for SNF packaging and cask loading**
- **INL Exchange shipments begin in FY12**



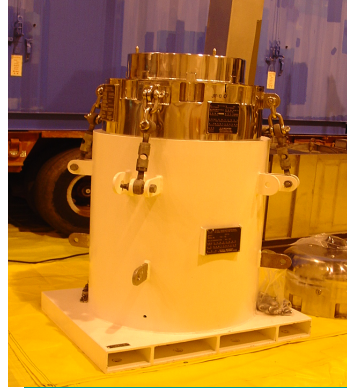
Approved SNF Casks



GNS-16



TN-7/2



JRF-90Y-950K



LWT



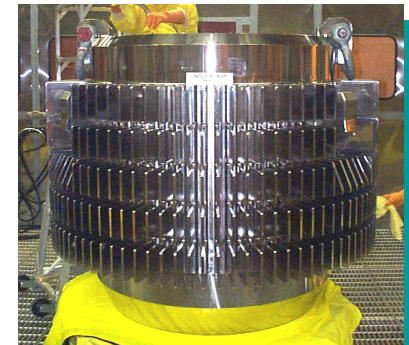
JRC-80Y-20T



TN-MTR



GE-2000



JMS-87Y-18.5T



L to H Transfers and INL SNF Exchange

- **Current baseline - H Canyon starts processing SNF May 2011**
 - **Current (May 2009) L Area inventory: ~12,000 assemblies**
 - **Future FRR/DRR receipts: ~ 3,000 assemblies**
 - **INL SNF Exchange receipts: ~ 4,000 assemblies**
 - **Total SNF to be processed: ~19,000 assemblies**

- **Current baseline – SNF Exchange starts April 2012**
 - **L Area SS/Zr-clad inventory to INL: ~ 2,000 items**
 - **INL Al-clad inventory: ~ 4,000 assemblies**
 - **Approximately 20 shipments per year each way thru 2019**



FY10 FRR/DRR Receipts

- Funding has been requested to continue receipts in FY10
- DRR receipts from:
 - NIST (Maryland)
 - MURR (Missouri)
 - MIT (Massachusetts)
 - HIFR (Tennessee)
- FRR receipts from:
 - Germany
 - Israel
 - Japan
 - Turkey



Summary

- **L – Area SNF receipt and storage mission ends 2019**
- **LTH shipments begin May 2011**
- **LTH preparations begin continue in FY10**
- **INL Exchange shipments begin in FY12**
- **FRR/DRR receipts continue**

