### HFBR and BGRR Decommissioning Projects

Chuck Armitage
Director, Environmental Restoration Projects

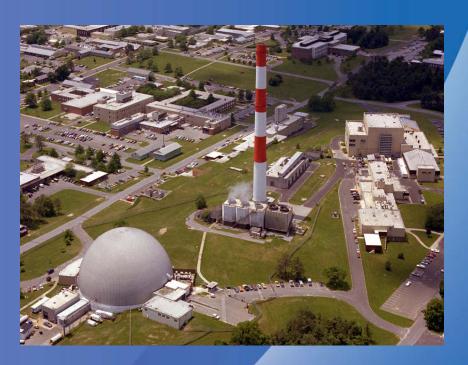
Community Advisory Council March 12, 2009





#### **HFBR Update**

- Control rod blades
- Beam plugs
- Next steps

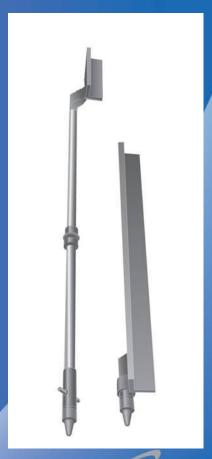






#### **HFBR Control Rod Blades**

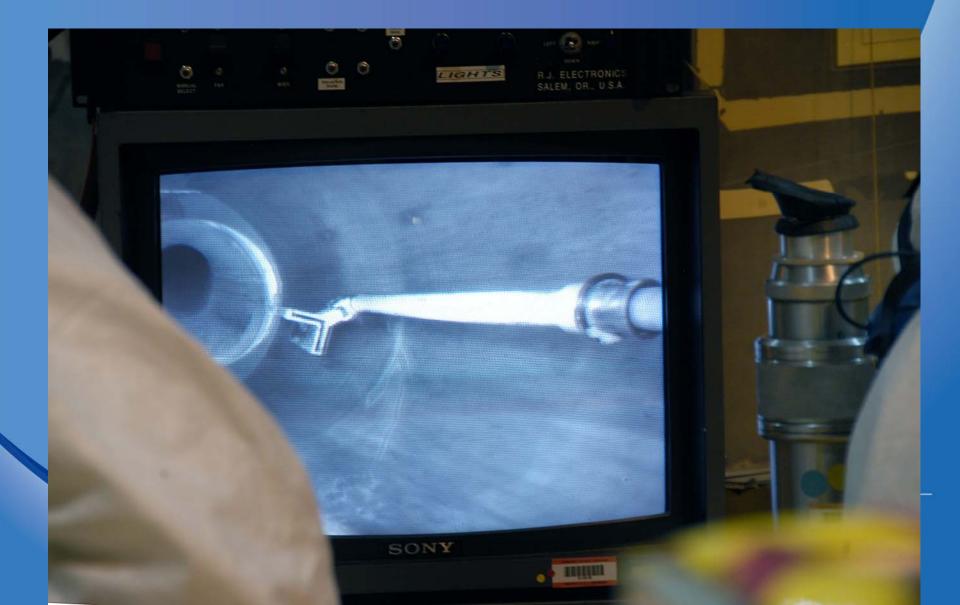
- 8 main blades
  - Removed from reactor vessel
  - Loaded into Shipping Cask CNS 1-13G
  - Shipped to Nevada Test Site (NTS) for disposal
- 8 auxiliary blades
  - Removed from reactor vessel
  - 6 Loaded into shipping cask CNS 1-13G and shipped to NTS
  - 2 Loaded into shipping cask CNS 1-13C along with rod followers awaiting shipment to NTS
- Excellent agreement between measured dose rates and values predicted by activation analysis



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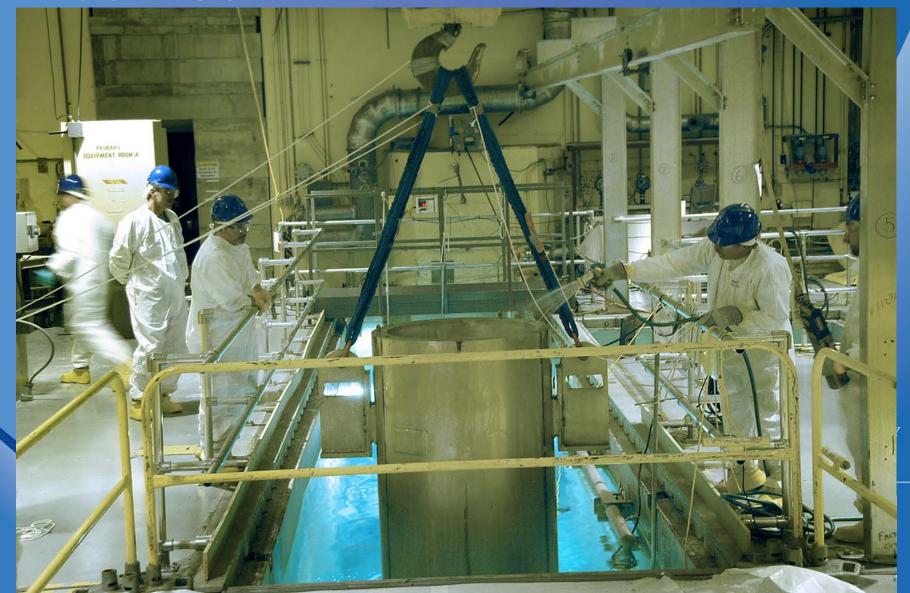
# **Auxiliary CRB Removal from Reactor Vessel**



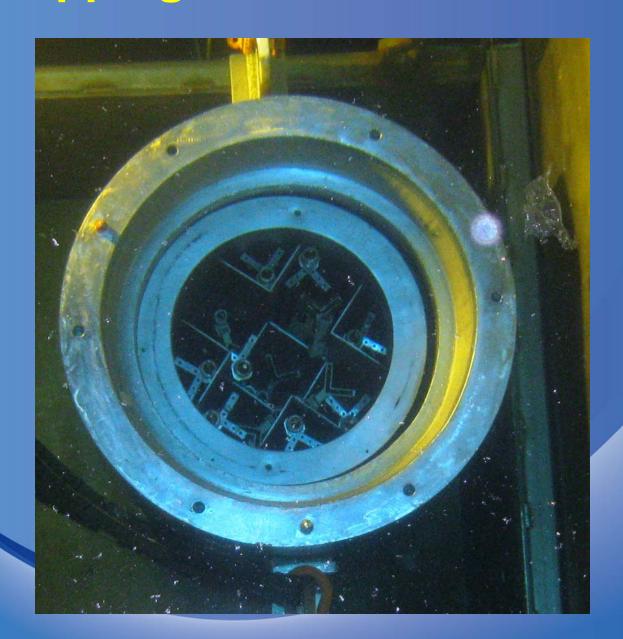
# **Shipping Cask being Moved Close to Fuel Pool**



# **Shipping Cask being Moved Into Fuel Pool**



#### **Shipping Cask with CRBs in Fuel Pool**









#### **HFBR Vessel After CRB Removal**



## Moving Shipping Cask with CRBs to Transport Trailer



### **Shipping Cask with CRBs Ready for the Road**



#### HFBR Beam Plugs

- 9 beam plugs
  - Beam plug with highest radiological inventory removed from HFBR
  - Loaded into Shipping Cask CNS 3-55
  - Shipped to NTS for disposal
  - Arrived safely at NTS February 23
  - 8 remaining beam plugs to be removed and shipped to NTS/Energy Solutions, Utah





## Beam Plug H-9 Being Loaded Into Shipping Cask CNS 3-55



#### **Preparation of CNS 3-55 for Transport**



#### CNS 3-55 Ready to Roll



#### Part of the HFBR Crew



#### **Next Steps**

- Remove contaminated water from reactor vessel and fuel canal
- Solidify using polymer
- Ship to Energy Solutions, Utah for disposal





#### **BGRR Update**

Preparations continue for graphite pile and bioshield removal







#### **Asbestos Abatement**



Asbestos containing floor tiles were removed from all elevations in contact with the graphite pile





#### **Elevator Demolition**



The elevator demolition commenced August 2008 and was completed December 2008





#### **Balcony Removal**



Three balconies attached to the pile had to be removed to install the cranes and CCE





#### Conduit and Miscellaneous Services Removal



Numerous conduits and service piping were removed for CCE installation







## New Steel Installed in Elevator Shaft to Support New Cranes



### Columns Erected to Support New Cranes



### Contamination Control Enclosure HEPA Ventilation System



One of the four HEPA units being installed to provide filtration of radioactive airborne particulates during graphite pile removal





#### **HEPA Ventilation Ductwork**



#### **HEPA Ventilation Exhaust Ducts**



HEPA ventilation exhausts ducts waiting to be connected to blower trailer





#### **Graphite Pile Removal Control Room**



Excavator and gantry crane will be operated remotely from this location





#### **Next Steps**

- Install Crane Girders and Trusses
- Install Excavator Crane
- Install Gantry Crane
- Install CCE
- Complete Installation of Ventilation System
- Test and Approve System for Graphite and Bioshield Removal

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