Misc SNF Issues
Na-Bonded

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Na-Bonded SNF Issues

- DOE-EM had ~60 MTHM of Na-bonded SNF in storage
- DOE ROD removed 25 MTHM EBR-II, ~0.3 MTHM FFTF driver fuel for EMT at MFC (ANL-W)
- ~34 MTHM of FERMI-1 blanket Na-bonded SNF under evaluation for alternative treatment
- One possibility is direct disposition

Fermi-1 Blanket
Chemical Reactivity Modeling

- Evaluate chemical reactivity potential of Fermi-1 blanket metallic sodium
- Determine if differences exist between blanket fuel and other sodium bonded SNF to pursue removal of RCRA status
- Analysis and Computer modeling performed under NSNFP Quality Program

Fermi-1 Blanket Chemical Reactivity Modeling Status

- Modeling software selected and installed
  - COMSOL Multi-physics
  - Installation tests passed
- Validation model under construction
  - Duplicating N-Reactor UH_3 analysis performed with GOTH-SNF
- Plan to have first working Fermi model complete at end of fiscal year 2007

Fermi-1 Blanket Chemical Reactivity Modeling Schedule

- Sep 2007 - Model ready for initial runs
- Feb 2008 – Complete CR Analysis runs
- Feb 2008 – Decision on TSPA analysis
- Sep 2008 – Complete Geochemistry and TSPA analysis work if needed

Summary

- Chemical reactivity modeling of Fermi-1 blanket in process
- The modeling effort is progressing well
  - Software selected
  - Model construction in progress
- Working model 9-07
- Decision to continue 2-08
- Complete TSPA and geochemistry analyses 9-08