

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 28, 1997

**MEMORANDUM FOR:** G. W. Cunningham, Technical Director

**FROM:** J. Kent Fortenberry / Joe Sanders

**SUBJECT:** SRS Activity Report for Week Ending March 28, 1997

Mike Merritt, Ralph West, and Todd Davis were onsite this week reviewing H-Canyon dissolving/head-end cold runs and other startup activities.

**Proposed Scope Changes to the Tritium Extraction Facility (TEF)** - The cost estimate for TEF based on the draft conceptual design completed last December was ~\$670M. As a result, the site project team was requested to modify the design to reduce the cost. The revised scope reduced the total cost to ~\$395M. Some of the more significant changes are mentioned below:

- TEF will be constructed above ground and will utilize common functions being installed as part of the 233-H (RTF) Modernization and Consolidation Project.
- The "hot" analytical cell will be eliminated; this will prevent onsite examination of potentially damaged rods.
- TEF will not handle baseplates; the rods will need to be separated from the baseplate and packaged (in bundles of 300) at the participating commercial light water reactor.
- TEF will be unable to extract tritium from damaged rods containing water; unextracted rods will be disposed in the E-Area LLW vaults.
- Rod storage capability will be reduced to 4200 (from 6800).

Title I (Preliminary) design will be performed by WSRC beginning November 1997 and the Title II (Final) design subcontract will be awarded in October 1998.

**Taiwan Research Reactor (TRR) Spent Nuclear Fuel** - Indications of failure in some of the 62 canisters of "undamaged" TRR fuel raised concern about continued wet storage of all of this material (see January 10, 1997 Weekly report). TRR fuel is aluminum-clad uranium metal fuel that is very susceptible to clad damage and subsequent corrosion of the uranium metal. DOE-EM HQ initially preferred to address only the new failures, leaving the remaining highly unreliable fuel in wet storage until it also failed. However, DOE is now preparing to issue an amended Record of Decision to the Interim Management of Nuclear Materials EIS which will allow all of the remaining TRR fuel to be stabilized in the F-Canyon.

**Canyon Utilization** - The likely DOE-EM canyon utilization strategy consists of two parts. First, two canyon operation (Optimized Stabilization) will be pursued until the end of FY98. Second, a decision scheduled for March 1998 will look at either continuing two canyon operation or pursuing a one canyon (H-Area) operation strategy.