

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 22, 2003

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending August 22, 2003

Spent Nuclear Fuel Project (SNFP): Fluor Hanford (FH) submitted a request for approval to proceed with construction of design changes associated with the revised control strategy for the K-East (KE) Basin Sludge Water System. The proposed design will include safety significant primary and backup air purges of the sludge container and shipping cask for facility operations at the KE Basin and T Plant as well as transportation. The purge will then be flow through safety significant filtration in the KE process system or on both the LDC and cask. FH requested DOE approval by August 22, 2003, to support the proposed schedule for the system startup. In discussions with DOE it was identified that DOE did not plan to approve the submittal in its current form. This is likely to result in additional delays to the completion of the December 31, 2002, Recommendation 94-1 Implementation Plan milestone for the removal of sludge, which is currently scheduled for December 19, 2003. (I-C, III-A)

The SNFP declared a Potential Inadequacy in the Safety Analysis (PISA) related to the Fuel Transfer System (FTS). The situation under evaluation is whether the authorization basis (AB) adequately analyzed the potential for a drop of the shielded transfer cask when one jackscrew is removed from the lift table. The review identified that the seismic analysis of the system assumed all jackscrews to be present. Also while the AB identified that the cask would be supported by diagonally opposite jackscrews in case of the failure of one screw, removing one jackscrew could result in the system being unable to support the load if an adjacent jackscrew failed during the repair. This analysis is being performed in response to DOE facility representative concerns following a mechanical failure of a jackscrew earlier this year. During that event a jackscrew was removed while the cask was on the lift table in an elevated position and the system operated to facilitate the repair. The Unreviewed Safety Question (USQ) for that activity failed to identify the potential for an increased risk of a cask drop into the basin. This is another example of poor engineering and nuclear safety reviews at SNFP which also led to the readiness preparation problems with the Sludge Water System project. (I-C)

USQ Categorical Exclusions: FH restricted the use of categorical exclusions at its nuclear facilities. During a review by the FH nuclear and criticality safety group prior to submitting them to DOE Richland, they were determined to be inadequate. FH is working to standardize the format, boundary conditions, and criteria for the categorical exclusions. Facilities are being allowed to use categorical exclusions only if they have been reviewed and approved as part of the current effort. Reviews at the SNFP and other facilities have identified that categorical exclusions recently had been improperly used up to 35 percent of the cases. This problem was discussed in the July 4 activity report. (I-C)

cc: Board Members