

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 26, 2002

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending July 26, 2002

Board Visit: Drs. Eggenberger and Mansfield along with members of the technical staff visited the Waste Treatment Plant (WTP) construction site and reviewed issues associated with the WTP, Spent Nuclear Fuel Project, Plutonium Finishing Plant, and tank farms.

T Plant: The DOE Operational Readiness Review (ORR) for the increase in hazard categorization and fuel removal concluded this week. The DOE ORR team concluded that T Plant had demonstrated an appropriate state of readiness and recommended to the DOE Richland manager to authorize implementation of the revised safety basis and authorize fuel removal as a Hazard Category 2 nuclear facility. The team noted that safety culture has substantially improved in the facility since the failed DOE ORR last year. The team noted that there were no prestart findings and the severity of the post start findings represented items of continuous improvement. The site rep raised concerns that the valve misalignments identified during demonstrations illustrated shortcomings in the man-machine interface for the processing equipment. This has the potential to increase the probability of a fuel canister not being processed to the requirements of the safety basis to an unacceptable level. The addition of position indicators for valves or additional formality to the operating procedures could easily increase the reliability of this operation to appropriate levels. (III-A)

Tank Farms: The Office of River Protection (ORP) is requiring that CH2M Hill Hanford Group (CHG) develop formal criteria and limits in a Justification for Continued Usage and complete formal proof testing using bounding pressures and temperatures before they will approve waste transfers using the existing BY tank farm Hose-in-Hose Transfer Line (HIHTL). In addition, they are requesting a commitment date for completing a failure analysis of the SX farm HIHTL. Based on testing and material information provided by CHG engineers, the SX failure appears to have resulted from either a defect not detected by the inadequate qualification test, damage to the HIHTL after testing, or an unknown aging issue.

Saltwell pumping in tank SX-102 was shutdown due to elevated hydrogen concentrations (23% of the lower flammability limit). In addition, S-111 has not been able to resume pumping since its concentrations were near 20%. U-108 has also read as high as 20% this week.

Core sample results indicate that AY-101's hydroxide concentration and AY-102's hydroxide and nitrite concentrations in the sludge are now within chemistry specifications. (III-A)

Building 324: The Readiness Assessment (RA) for spent fuel removal from the hot cells commenced this week. Due to the radiological hazards associated with the hot cells the performance demonstrations are being conducted using mockups in a cold facility. Problems with the realism in the mockup demonstration is hindering the ability of the RA team to adequately evaluate the ability of the facility to perform the work. Multiple issues associated with hoisting and rigging operations have also been identified. (III-A)

cc: Board Members