

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 28, 2004

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending May 28, 2004

Sludge Retrieval and Disposition Project (SRDP): The DOE Operational Readiness Review (ORR) for North Load-Out Pit Sludge retrieval concluded this week. Two prestart findings were identified. The first dealt with the lack of a safety basis analysis of the potential to inadvertently retrieve floor and canister sludge. The second dealt with the Spent Nuclear Fuel Project administrative procedure for technical procedure use and compliance potentially allowing temporary changes to equipment and procedures to recover from procedure problems without applying the Unreviewed Safety Question (USQ) process as required by the Nuclear Safety Management rule. In addition, the discussion in the USQ for the relevant section of the administrative procedure did not adequately reflect the actions allowed by the procedure. With the completion of the ORR, discussions are being held whether to authorize the start of retrieval prior to Building 325 being able to receive sludge. These discussions have included the potential use of T Plant for interim storage. (II)

Tank Farms: During last week's field investigation of the high-level waste (HLW) leak at clean-out box AW-2, operators discovered ~500 ml of HLW inside a plastic cover which was clean up by the workers. The Site Rep questioned whether this activity was authorized since the work package and radiation work permit only addressed taking radiation surveys and contamination swipes and it was stated at the pre-job briefing that decontamination was not allowed. The field work supervisor did not notify the shift office when the liquid was discovered as required by the procedure and did not even note this unexpected condition in the work package since he considered handling 500 ml of HLW to be housekeeping and routine risk reduction work. While the workers were on breathing air, they were wearing cloth anti-contamination clothing that would not prevent possible chemical and radiological exposure if spilled liquid soaked through the cloth nor were they required to use a pan to catch any spills of liquid waste. This was not an isolated event. On Monday, 2 workers had their shoes and/or pants contaminated (up to 180,000 dpm/100 cm<sup>2</sup> βγ) while transferring a pump from a tilt trailer to stanchions in preparation for size reduction. Although the pump was highly contaminated (up to 9 R/hr on contact), this activity was performed by workers in street clothes since this farm is only a radiation buffer area (RBA). It appears that held up waste was forced through a hole in the single plastic bag wrapped around the pump. Only 1 of 2 assigned health physics technicians (HPT) was available. Before the contamination event, another hole had been found in the bag, which was taped up. A HPT was not present when this first hole was discovered since the only HPT had temporarily left the farm although riggers were in a high radiation area and continuous HPT coverage was required. Because of contractor, Department of Energy, and Site Rep concerns with these radiological control weaknesses and the significant findings of a contractor assessment (see last week's report), the contractor decided to implement compensatory actions that included briefings to the work force, requiring radiation control supervisors to be present for jobs with a high potential for contamination spread, and writing a standing order for handling items with significant contamination inside RBA's. (IV)