

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 14, 2005

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending January 14, 2005

K Basin Closure Project (KBC): The site rep observed operations to fill the second Large Diameter Container (LDC) with North Load Out Pit (NLOP) Sludge. This LDC is planned to be filled at lower flow rates 20 to 30 gallons per minute rather than that used for the first LDC, 60 gallons per minute in an effort to allow enhanced settling of sludge and not clog the LDC filters. During the observed operations, the pressure differential across the LDC filters exceeded the permissible levels upon startup of the primary motors. The project plans to incrementally increase the allowable pressure differential and conduct frequent filter backwashes in the next few weeks to determine if this system is viable for continued use in sludge removal.

Observation of deactivation walkdowns of basin equipment and sludge consolidation work in the basin was also conducted. Sludge disruption activities appear to have significantly degraded visibility in the basins again. This appears to have severely impacted the ability of the workforce to perform work. Activities in the basin must be performed with cameras and even then visibility becomes very limited unless they are positioned very close to the work

The project has also initiated the hazards analyses for the sludge transfer and processing system being designed by BNFL. The scope of work has been broken into two major pieces with different groups performing the analyses. The two are 1) the retrieval from K-West storage containers and transfers to and from the Cold Vacuum Drying Facility (CVDF) and 2) the processing and packaging equipment at the CVDF. From the discussion, it appears that the definition of the scope of work between these two groups was not adequately defined and communicated to all participants before the efforts initiated. Discussions with the KBC nuclear safety manager identified that the scope of each is defined, a method to document conditions in one piece that may affect the other is put in place, and personnel are assigned to attend both sessions to ensure that the resulting hazard analyses are adequate.

Plutonium Finishing Plant (PFP): PFP conducted a preliminary hazard analysis for Plutonium Reclamation Facility (PRF) pencil tank size reduction. These pencil tanks are located in the PRF canyon, one of the more highly contaminated areas of PFP. The canyon airlock will be modified with a confinement structure for a glove box like access and a port for loading standard waste boxes. The pencil tanks will be measured for holdup in the canyon maintenance area and then moved into the airlock using existing hoists and size reduced using remotely operated shears. A second NDA station will be in the airlock if holdup values for a tank indicate that it exceeds the allowable quantity for one waste box. The pieces will then be loaded into the waste boxes for eventual shipment to the Waste Isolation Pilot Project.

Cc: Board Members