

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 21, 2003

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending March 21, 2003

Plutonium Finishing Plant: An operator lost his balance while repairing some cracked glovebox windows that were on top of a glovebox. When his foot contacted one of the windows, the glovebox window fell into the glovebox. After technicians performed several radiation surveys of the operator and equipment surfaces and found no contamination, the operator proceeded to repair the window without a respirator or confirming that airborne radioactivity levels were safe. In addition, the room was not posted as a potential airborne radioactivity area for 2-1/2 hours and during this period, between 30-35 workers accessed this room. It was only several hours later that the airborne radioactivity levels were confirmed to be safe, primarily due to the very low amount of contamination in this former acid digestion glovebox. Work planning was deficient. While a walkdown and a pre-job brief were performed, no activity job hazards analysis was performed despite the fact that this was not a routine activity. While the operator wore fall protection equipment, the only acknowledgment of the hazard with the windows was that the worker was told during the pre-job to watch his footing and not step on the glass. The Site Rep has been discussing these issues and potential corrective actions with PFP management.

A thermal stabilization operator who had been trying to put an inverted glovebox glove back into its normal position later found contamination on one of his surgeon's gloves (>700,000 dpm). A second operator helping with the glove inspection inserted his hand into the breached glove before he could be warned. Unlike the above incident, the radiological response went well, but both operators still had some counts on their nasal smears. The continuous air monitor showed a maximum exposure of 11.3 DAC-hr. The first operator tested positive for Am-241 during his chest count. Although the count was not high enough for chelation therapy to be recommended, it was offered and the operator requested it. A second chest count was administered Friday. The blended oxide in the glovebox contained elevated Am-241 and Pu-240. (I-C, III-A)

Waste Treatment Plant: The Office of River Protection (ORP) issued a Construction Authorization Agreement for full construction of the Pretreatment facility. The Site Rep observed the newly chartered Requirements Implementation Assessment Team screen a couple dozen proposals that may contain unnecessary plant design features, overly conservative redundancy and margin, or result in increased operations and maintenance complexity. The Site Rep passed on an observation to the ORP Project Manager that none of the 8 screening criteria directly addressed any potential safety impacts. Many of the proposals deal with contract and environmental regulation-driven requirements. However, others deal with using less conservative damage ratios; relying on a physical barrier and an administrative control rather than 2 independent physical barriers for severe accidents; deleting fire protection sprinkler systems in control, electrical and electronics equipment rooms; and eliminating interlocks to protect personnel from high radiation areas. The staff will continue to follow this effort. (I-C)

cc: Board members