

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 28, 1997

**TO:** G.W. Cunningham, Technical Director

**FROM:** P.F. Gubanc & D.G. Ogg, Hanford Site Representatives

**SUBJ:** Activity Report for Week Ending November 28, 1997

No report was issued for the week ending November 21 as the Site Representatives were meeting at DNFSB-Headquarters. Mr. Ogg was on leave November 28.

A. Plutonium Finishing Plant: Although under an administrative hold for fissile material handling, DOE-RL has permitted PFP to move fissile material on a case basis, with 100% DOE oversight, for inventory verification (e.g., IAEA inspections). On November 17, PFP initiated a five-week evolution to verify the contents of over 70 items via non-destructive assay. On November 20, that evolution was also placed on hold due to violating a criticality prevention specification (CPS) for a fixed-array wagon. Observations from the event are as follows:

1. The fixed-array wagon CPS permits only an H/Pu ratio of  $<2$ . All five items which were placed in the wagon were confirmed *by record* as having an H/Pu  $<2$  although one item was *labeled* H/Pu $<20$ . PFP practice and procedure do not specifically confirm the labeled H/Pu ratio before handling.
2. The error was noticed by an operator and immediately brought to management's attention. The manager, after consulting with the PFP criticality safety representative, stated that the wagon CPS only applied when the wagon was in motion. This absurd interpretation was not accepted by the DOE monitor. The item was appropriately segregated and stored.
3. A quick review of PFPs fissile handling procedures and CPSs found some of them to be redundant, vague and internally inconsistent. Repeatability during use is questionable.
4. PFP has relieved the manager and safety rep. of their duties pending upgrading. However, neither B&W Hanford nor Fluor Daniel Hanford have altered their position that PFP is ready to resume fissile material handling.

B. Tank 101-SY: In mid-1993, a mixer pump was installed into high level waste tank 101-SY to mitigate episodic releases of flammable gas. Running the pump for 15 minute intervals, three times per week, has been sufficient to relieve gas buildup and maintain a stable tank level. Waste level in the tank is measured by two high precision ( $\pm 0.1$  inch) devices (called "ENRAFs") which consist of a plummet suspended on a titanium wire which is attached to a calibrated take-up spool.

Over the last twelve months, data from both ENRAFs clearly show a level increase of over two inches (current level approximately 400 inches). Pump operations were increased to four times per week at the beginning of November. While hydrogen spikes continue to be observed during pump operations, there has been no significant reduction in tank level. DOE-RL and its contractors are monitoring this closely and pump replacement preparations are being reverified.

cc: Board Members