

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 29, 2005

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover, Hanford Site Representative  
**SUBJ:** Activity Report for the Week Ending April 29, 2005

Board staff member Mr. Quirk was on-site this week performing site representative duties. Staff member Mr. Feldman was on-site providing oversight for the DOE review of the sludge project.

K Basin Closure Project: This week the review team commissioned by DOE's Office of Environmental Management conducted their onsite assessment of K Basin sludge characterization. The review concluded that the project could probably design sludge retrieval and processing systems without any additional characterization data. The review team also felt that the sludge processing method was robust and could operate effectively even with the uncertainties in the sludge properties. The team did have concerns with the fragmentation of the sections of the project leading to the potential for interface problems. The team also identified that design reviews of all portions of the sludge project should be conducted, that well-conducted testing would be important for project success, and that strong process control would be a key activity through operations.

Solid Waste Operations Complex: There was a TSR violation earlier this month when the fire protection system at a waste storage building was shut down during maintenance activities. The fire protection system is safety significant. This work was being performed using a minor maintenance work ticket, which is not permitted for safety systems. The critique into the occurrence identified that the work ticket checklist correctly identified this condition and that the minor work ticket should not be used. Personnel identified that the work was being performed as emergency work per the fire department procedures, however, this definition of emergency work is not consistent with that in the TSRs. The work ticket also initially identified that a USQ would be needed for the work, this was then lined out and no USQ performed without a clear justification for the change. The communications between the maintenance personnel and facility person in charge were also determined to be inadequate.

Plutonium Finishing Plant (PFP): Four Scott Health and Safety-brand respirator airline hoses at PFP were found to be partially obstructed. These hoses are used at the site with Scott SKA-PAK respiratory equipment, and are used extensively in the tank farms. As a result of this discovery on April 21, 2005, field work across the site has been significantly impacted, particularly in the tank farms. The inner surfaces of the hoses near the connectors have peeled off and restricted air flow. Manufacturer's representatives are on-site and are working with various site contractors to develop an appropriate field test for the hoses, including the 20,000 feet of hoses used in the tank farms. The test will probably consist of a combination of a flow test at higher than normal flow rates coupled with a collection of debris at the low pressure end. The cause of the problem appears to be a manufacturing defect, but cannot be associated with a particular lot. Other causes, such as improper handling or storage, are also being investigated. This is reportedly the first time that this problem has been identified with these airline hoses.