

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 7, 2005

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover, W. Linzau, and R. Quirk, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending October 7, 2005

Tank Farm Potential Inadequacy in the Safety Analysis (PISA): Two PISAs were initiated by the Tank Farm Contractor. The first one was a result of a personnel contamination event (Site Rep Weekly 9/23/2005). The material at risk in the vacuum retrieval system used for the C-200 tanks has the potential to lead to consequences greater than that assumed for a waste release from a pressurized air line in the Documented Safety Analysis. This could result in the elevation of the consequence level for toxicological events from “Low” to “Moderate.” A proposed solution is the elimination of pressurized air hoses in the vacuum retrieval system.

The second PISA concerned the fire hazard associated with a spray leak from a pressurized hydraulic line. This is a potential problem throughout the tank farms in systems such as the C-200 and C-103 waste retrieval systems and the proposed S-112 tank heel remote water lance (Site Rep Weekly 9/2/2005). The concern is that a fine spray of hydraulic fluid, ignited by an in-tank source such as the high temperature of lights used for video cameras, could act like a blow torch. The likelihood and consequences of this scenario are being evaluated.

Waste Treatment and Immobilization Plant (WTP): The redesign of the structural steel for the Analytical Lab (LAB) is currently being reviewed by the Bechtel Corporate Engineering Chief. The root cause analysis for the LAB design problems (Site Rep Weekly 9/2/2005 ) is now scheduled for completion next week. In March 2005, the Office of River Protection (ORP) Peer Review Team (PRT) made the following comment based on errors they found during their design review of the Pretreatment Facility: “BNI [Bechtel National, Inc.] needs to initiate an internal review to determine if the calculation checking process is effective in light of these comments.” The failure of the checking process for the LAB steel design calculations further highlights this problem. In a letter sent this week, ORP expressed that the PRT comment had not been addressed and requested a response in two weeks.

ORP sent a second letter to BNI requesting the corrective actions to address deficiencies in the welding program. BNI has not yet responded to a letter on this topic dated August 10, 2005. Since the August letter, an additional failure to comply with code requirements was identified for piping in the LAB and the balance of facility (BOF). The vast majority of welding at the WTP has yet to be accomplished and further delays to correct weakness in the welding program may allow significant future problems.

Plutonium Finishing Plant (PFP): The site rep attended a planning meeting that discussed placing sections of the facility into a lay-up status. Due to forecast budget restraints, some deactivation and dismantlement activities may be suspended for years. This meeting focused on stabilizing chemicals and chemical systems.