

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 27, 2007

**TO:** K. Fortenberry, Technical Director  
**FROM:** R. Quirk and W. Linzau, Hanford Site Representatives  
**SUBJECT:** Activity Report for the Week Ending July 27, 2007

Tank Farms: A spill of radioactive waste occurred from the system used to transfer from single-shell tank S-102 to double-shell tank SY-102. The contractor was attempting to free waste stuck in the S-102 transfer pump by back-flowing waste into tank S-102 early Friday morning. The spill was discovered when background radiation in a nearby trailer indicated elevated counts. Fortunately, three workers assisting in the efforts to free the stuck waste had just left the immediate area around the S-102 transfer pump. Later that morning radiological control technicians discovered a wet area around the steel box covering the pump. Surface dose readings were as high as 25 rad/hour beta/gamma, but air samples taken at the boundary of the S Tank Farms were less than detectable. The contractor applied a fixative to the affected area, which is believed to be within a 10-foot radius around the pump. Stabilization efforts are continuing and planning for the recovery efforts from the spill are expected to begin this weekend. Personnel are evaluating information to determine the exact cause of the spill. The leading theory is that waste was back-flowed into an isolated line normally used to dilute the waste near the pump suction, resulting in a rupture of the line. If this theory is correct, then it bears similarities to an event when workers were contaminated by a pressurized air hose (see Hanford Activity Report 9/23/05).

River Corridor Closure (RCC): The site reps met with the new manager of Safety, Health, and Quality (SH&Q) to discuss the changes in his organization and actions management is taking to improve their Integrated Safety Management System (ISMS). The SH&Q organization is verifying information from a broad management review of the various aspects of ISMS. The preliminary observations indicate that some organizations are essentially ready for the DOE review of the implementation of ISMS, but others require improvement. The contractor has scheduled a detailed review of ISMS next month by a team of outside experts.

The site rep observed a meeting between the contractor and Richland Operations Office where the contractor discussed their detailed review of all active work packages. A number of problems were identified, including packages that did not contain a means to document the completion of prerequisites. Other problems noted in work packages included a failure to incorporate controls for identified hazards in the work steps or notes, job hazard analyses (JHAs) were not task-specific, some JHAs missed true hazards while some identified hazards that did not exist, and work was performed outside the approved work scope. The first revision to the Integrated Work Control Program (IWCP) will be implemented next month. Experts have been hired to coach the planners, managers, and workers.

Waste Treatment Plant: The Plant Safety Committee (PSC) has undergone changes to improve effectiveness. The site rep attended a PSC weekly meeting and noted that the committee members asked appropriate questions related to safety and offered advice on how to resolve issues.