

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 17, 2010

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending September 17, 2010

Tank Farms: The contractor commenced retrieving waste from single-shell tank (SST) C-111 to double-shell tank AN-101 but had to stop twice when they exceeded radiation dose setpoints in the radiological monitoring plan (RMP). The RMP, a corrective action for the spill of waste from SST S-102, provides dose rates, which if exceeded, could indicate an upset, such as a waste leak. The first transient, shortly after the retrieval began on Wednesday, was related to a survey marker that was incorrectly placed and perhaps using conservative values for the radionuclide concentration in the supernatant from AN-101. On Friday morning, health physics technicians (HPTs) noted the open window (beta and gamma) readings were greater than closed window (gamma) readings on their handheld monitors during a survey of the transfer route, indicating a potential for unshielded waste. In both cases workers followed their procedures and terminated the transfers. On Friday, Office of River Protection (ORP) oversight personnel noted the contractor followed their response procedures and approved an appropriate investigative survey. The ORP personnel also noted the HPTs demonstrated good conduct of operations during the investigative surveys. The surveys did not reveal the cause of the difference between open and closed window readings, but the project is continuing its evaluation.

Waste Treatment Plant: The project conducted a Safety Input Review Committee meeting to evaluate a revision to the PDSA addendum for changes to the safety control strategy for the Pretreatment facility. The revision incorporates results from a new severity level assessment (SLA) and a revised methodology for spray leaks. Although the revised SLA increased consequences of some events, the addendum indicated that none of the controls required an upgrade in the existing functional classifications because consequences were still less than the evaluation guidelines. The revision to the addendum also included the consequences from accident scenarios involving hydrogen explosions in pulse jet mixers and reverse flow diverters. The credited control for these scenarios is the safety-class vessel ventilation exhaust system, but the contractor has noted design challenges with this system. A significant portion of the meeting was devoted to responding to comments from ORP's reviewer. One of the reviewer's comments was on the design changes based on the HPAV criteria and when ORP should review and approve these changes. The project is evaluating how to balance the regulatory requirement for DOE approval of safety-related design changes, maintaining configuration control between the design and the approved safety basis, and the need to advance the design.

Facility Representatives: The site rep observed the final oral board for qualifying B. Stickney as a facility representative in the tank farms. Stickney was very well prepared and passed.

Hazardous Energy Control: After noting a spike in the number of hazardous energy control problems, the site rep asked DOE senior managers in the Richland Operations Office, ORP, and Pacific Northwest Site Office if there were any common causes. There appear to be some similarities in that many of the problems involve the new site-wide lockout/tagout procedure, work being done by subcontractors, or work funded by the American Recovery and Reinvestment Act. DOE and their contractors responded to the site rep's question in a positive manner and are evaluating if there are common causes.