

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 28, 2013

TO: S. A. Stokes, Acting Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending June 28, 2013

Board staff member J. Meszaros was on-site to perform walkdowns of various facilities.

Tank Farms. Per Office of River Protection direction, the contractor is attempting to determine the source of contamination discovered last week during the pumpdown of the AY-102 leak detection pit and preparing to transfer a portion of AY-102 supernate to double-shell tank AP-104. This week, the contractor sampled the AY-102 leak detection pit and inserted a camera into the pit. No unusual radiation or contamination readings were detected during these evolutions and initial sample results do not indicate the presence of tank waste.

The contractor postulated a water hammer scenario that could impact the integrity of the safety-significant (SS) piping in the planned transfer route from AY-102 to AP-104. Analyzing potential pressure transients is required by a Specific Administrative Control. The contractor prepared a safety basis addendum that requires manipulating a valve to vent a portion of the transfer line prior to pump actuation to prevent this postulated scenario.

Plutonium Finishing Plant (PFP). The contractor held a critique meeting to discuss lead shielding that had been piled on the top of a glovebox to a depth that exceeded requirements in the criticality prevention specification. The contractor was not able to determine when the shielding was moved, but it has likely been there for a few months. This thin layer of shielding is classified as “short term use shielding” and its configuration is not controlled as rigorously as other temporary shielding. It became apparent during the meeting that personnel did not clearly understand the requirements for criticality. The contractor is performing an extent of condition review for configuration of short term use shielding.

The Richland Operations Office (RL) nuclear safety organization is reviewing a request from the contractor for relief from safety basis requirements for efficiency testing of SS HEPA filters. RL had already approved extending the time to replace aging filters for the main PFP facility as well as the Plutonium Reclamation Facility (PRF). This recent request is for an extension of the annual efficiency testing of the SS filters for the PRF. The contractor learned more than a year ago that the PRF filters may be already loaded to at least the initial condition assumed in the accident analysis. Contractor personnel submitted a work request to change the filters at that time but they have still not been replaced because of other high priority work. Senior RL management had suggested the contractor skip this round of PRF filter efficiency tests because the filters will be replaced in the near future.

Site Infrastructure. The site rep and staff met with RL senior management to discuss aging and degraded infrastructure including the raw water supply, electrical distribution grid, and roads. The discussion focused on impacts to safety systems in nuclear facilities and emergency response capabilities.

Waste Treatment Plant (WTP). The contractor started hazards analysis meetings to support safety basis improvements for the High Level Waste Facility.