

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 16, 2012

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending March 16, 2012

Waste Treatment Plant (WTP): The nuclear safety organization initiated a project issues evaluation report (PIER) that notes that the Basis of Design (BOD) document contains invalid assumptions about the size and density of plutonium particles in the feed to WTP. The assumptions in the BOD are no longer technically defensible since two evaluation reports were issued (one in 2010 and a confirmatory report in 2011) that indicated the use of those assumptions was no longer appropriate. The PIER also notes that the nuclear safety organization is being asked to review and approve design and testing documents that are still based on these invalid assumptions because they are still in the BOD document.

Spent Nuclear Fuel (SNF): The contractor started a readiness assessment (RA) for restarting SNF operations in the 100 K West Basin and Cold Vacuum Drying Facility. Similar to the RA last week, the site rep questioned if a DOE RA was also required. The Richland Operations Office is contacting the DOE interpretive authority for DOE Order 425.1D to clarify the requirements.

Plutonium Finishing Plant: The contractor held a significant number of critiques during the last few weeks when work was not performed as planned or when unexpected conditions arose. Contrary to the situation several years ago, the critiques were well conducted and both workers and managers freely expressed their observations and concerns. Last week, the contractor critiqued two situations where workers failed to follow work instructions; one was self-identified and the other was noted by the facility representative. The contractor is re-instituting controls for place-keeping in the work documents. Additionally, there were three recent events in which the plastic confinement sleeving tore and resulted in the spread of contamination. In each case, workers were adequately protected by their personal protective equipment, including respiratory protection. The contractor is investigating if there is a common cause for the torn sleeving, such as an incorrect material specification, manufacturing error, or incorrect installation.

Tank Farms: The contractor removed the failed pump from double-shell tank AN-106 (see Activity Report 3/2/12). In general, the work went well, but one problem occurred after the pump was removed from the tank and was being rotated to the horizontal position. The sling on the midpoint of the pump slipped, tearing the outer plastic sleeve, but there was no spread of contamination. The tear was repaired and the pump was safely lowered into a disposal box. The site rep suggested to Office of River Protection personnel observing the operation that the future designs for tank waste pumps should include design features that facilitate safe removal and disposal.

Emergency Preparedness (EP): The site EP organization completed their limited quarterly drill. The exercise was conducted at the 618-10 Burial Ground and involved a simulated explosion of a drum and subsequent fire in the drum-punch station. The evaluation team discussed some initial impressions after the drill, which included a general agreement that the command and control in the incident command post was above average and that additional emergency planning (such as written instruction on how to secure electrical power to the station) would have expedited the fire-fighting efforts.