

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 15, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending April 15, 2011

Board members P. Winokur, J. Roberson, and J. Mansfield, and staff members T. Dwyer, J. Troan, and D. Ogg were on-site reviewing various site activities, including feeding tank waste to the Waste Treatment Plant (WTP) and site clean-up activities. The Board and staff also conducted walkdowns of the 222-S Laboratory, AP and C Tank Farms, 12B Burial Ground, and WTP. Additionally, P. Fox, J. MacSleyne, and R. Rosen were on-site reviewing erosion and corrosion calculations for WTP.

Plutonium Finishing Plant: Acidic material inside a process line that was being removed leaked through the plastic confinement and resulted in a seven-foot-radius spill on the metal decking, with contamination levels as high as 150,000,000 dpm alpha/100 cm². Workers were removing the last segment of a 200-foot run of process piping that ran between two gloveboxes in the rooms below the work area. Last Wednesday, the workers thought they drained any potential liquid inside the pipe segment into a glovebag, then capped and sealed the piping in layers of plastic sleeving, and left the work area. They did not realize that the waste was very viscous and did not drain quickly. Upon exiting the area, workers discovered high levels of contamination, up to 360,000 dpm alpha/100 cm², on their protective clothing. The contractor responded appropriately, isolating the surrounding areas and posting them as airborne radioactivity areas (ARAs). Last week, workers developed the recovery plans to re-enter the room, and upon the initial entry on Monday, workers discovered a viscous material had leaked from the capped end of the pipe and through the plastic sleeving, but had to leave because contamination levels were much higher than anticipated. Two more entries were made to neutralize and clean up the spill, but both entries ended when the void limits of the radiological work permit were exceeded. The site rep noted excellent communications between the work supervisor, workers, and subject matter experts in a planning session for the next entry, which is expected to occur this weekend.

TRU Retrievals: The contractor retrieved a metal storage box from Trench 11 without the appropriate work planning documentation as specified in the safety management program (SMP). The SMP requires that containers greater than 10,000 lbs have a critical lift plan that documents the adequacy of the lifting equipment and arrangement. The records for the box in question indicated that it weighed about 5,500 lbs but upon the initial lift of the box, the weight was roughly 11,000 lbs. The rigger noted the discrepancy and determined that the rigging equipment was adequate, but he was unaware of the 10,000-lbs requirement for a critical lift plan because it wasn't briefed at the pre-job briefing or clearly noted in that step in the work package.

Building 324 D&D: The contractor inserted another push-rod under the B-cell to determine the extent of the contamination spread into the cobble that is below the sandy layer directly under the facility. Dose readings in the cobble were very much reduced compared to those in the sandy soil (see Activity Report 11/19/10). The contractor noted that pushing the rod into the cobble may have caused the rod to bend slightly, which in turn could be the cause of the discovery of a small amount of contamination found on one of the probes. The bend in the rod and contamination has hindered data collection and the contractor is considering pushing another rod for additional data.