

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 1, 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 1, 2011

Plutonium Finishing Plant (PFP): More than three dozen workers were potentially exposed to high airborne contamination when workers who were preparing to remove a glovebox decided to not follow the work instructions and reduced the required personal protective equipment (PPE). The work instructions required workers to wear respiratory protection while they cut a panel, which surrounded a glovebox that penetrated a wall. Workers convinced their supervisor that they could remove the bolts that held the panel to the wall rather than cut the panel, and they believed this approach would eliminate the airborne contamination hazard. The supervisor did not consult with radiation protection work planners nor did he formally change the work package. Additionally, he did not inform the workers on the other side of the wall of the change so they could evaluate their risk. Workers found 50,000 dpm alpha contaminations on a window gasket in the panel, which exceeded the void limit in the radiological work permit. Workers on both sides of the wall promptly stopped working and exited the area. The worker closest to the contamination source had low level counts on a nasal smear and is undergoing a bioassay.

A contractor project vice-president (VP) and the site rep conducted a walkdown of PFP and discussed the ongoing D&D activities as well as the significant events of the last few weeks. The site rep questioned if pressure to meet schedule milestones was degrading work practices because they are behind the quarterly goal for removing gloveboxes. The VP said that some performance pressure is warranted but should not negatively impact safety, and he still hopes to complete all the planned glovebox removals for this fiscal year. In addition, the contractor is evaluating if they should expand the areas in which respiratory protection is part of the default PPE.

Sludge Treatment Project: The contractor issued the draft accident analysis report for the preliminary design for the retrieval and transfer of the sludge from containers in the K West Basin. The report notes the accident analysis used a more conservative spray leak methodology than required in the existing DOE standards because of issues raised in a Board letter dated December 22, 2010. The report also indicates that the analysis used existing estimates of the radionuclide concentrations in the sludge but will be updated when the results from recent sludge sampling are available.

Tank Farms: This week, the contractor concluded that the valve leakage discovered three weeks ago (see Activity Report 3/18/11) met the requirements for occurrence reporting, but only after being prompted by the facility representatives (FRs). The FRs firmly indicated that the valve performance was degraded and did not meet the safety basis performance requirements. The contractor stated that the valve likely only required adjustment to reduce the leak rate below the allowed "drip wise" leakage criteria and therefore was not degraded.