

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 24, 2015

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending April 24, 2015

**Tank Farms.** During C-102 retrieval operations, radiological surveys, an area radiation monitor, and a leak detector in the sluicer box, all provided indications of a possible waste leak. The retrieval was halted. Investigative radiological surveys found no evidence of waste outside of the sluicer box. The contractor inserted a camera into the sluicer box to verify a waste leak. The camera showed dried waste on the inside of the box and a test with flush water clearly indicated a leak in the supernate line to the sluicer. The leak is underneath insulation so the exact location was not determined. This line is a safety-significant primary confinement boundary.

Workers measured flammable gas at 98% of the lower flammability limit (LFL) while performing work to remove abandoned transfer lines in AX farm. They were drilling into a line to check for flammable gas prior to cutting the line. Upon discovery of greater than 25% LFL, the workers followed their instructions to stop use of all ignition sources, continue monitoring, and make notifications. The measurement quickly dropped.

**Plutonium Finishing Plant (PFP).** The RL Senior Review Board (SRB) met to consider Revision (Rev) 12 of the PFP DSA. Rev 12 defines controls that apply during the transition of activities from the deactivation through the pre-demolition phase and into the demolition phase. The safety-significant fire protection and ventilation systems will become defense-in-depth early in the process while the facility will remain a hazard category 2 facility into the demolition phase. The SRB recommended approval of the proposed revision with minor changes.

**Waste Treatment Plant (WTP).** The contractor recently issued a new engineering department project instruction related to licensing documents and two design guides for nuclear safety engineering activities at WTP. ORP determined that the documents do not appear to comply with the contractor's quality assurance manual, lack adequate detail to accomplish consistent and acceptable safety basis work, and are not compliant with previous ORP direction. The contractor has suspended work performed under the affected documents, including work related to nuclear criticality safety design, and nuclear safety analyses.

**222-S Laboratory.** Workers performing tank waste sample preparation received elevated extremity beta doses. No personnel dose limits were exceeded. The contractor placed an administrative requirement to perform additional radiological surveys during some sample preparation activities. The contractors are planning ALARA evaluations of sample preparation and additional training. The lab has seen a large influx of new personnel recently and not all of these workers received supplemental training that followed a similar incident several years ago.

**Reactors.** A site rep accompanied contractor personnel on a structural evaluation walkdown of 100-N Reactor. No concerns with the building condition were noted.

**Radiochemical Processing Laboratory (RPL).** The site reps walked down the RPL with PNSO and contractor personnel.