

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 29, 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 29, 2011

Staff members P. Meyer, A. Poloski, and S. Stokes were on-site to discuss the draft implementation plan for Board Recommendation 2010-2 as well as the hazards and controls associated with the ammonia that will be used at the Waste Treatment Plant.

Waste Receiving and Packaging (WRAP) Facility: A waste drum in a storage facility leaked approximately 20 ml of liquid with contamination levels as high as 1.2 million dpm  $\alpha$ /100 cm<sup>2</sup>. During the response, a radiological control technician (RCT) failed to take appropriate action when he exceeded the void limit in the radiological work permit. Additionally, facility management incorrectly concluded that the spill response procedure did not apply because the release of material from the waste storage drum was not energetic. At the critique, the Richland Operations Office (RL) facility representatives and radiological control lead clearly expressed their concerns that the lessons learned by the Waste Retrieval Project had not been adopted by the personnel at WRAP.

Plutonium Finishing Plant (PFP): A critique was held this week to discuss the contamination events that started four weeks ago while removing a material transfer line in the duct level of the 234-5Z (see Activity Report 4/15/11). The critique covered a series of significant events during the four-week period, yet no critiques were held and a lack of clear work notes made it difficult at times to reconstruct when some significant activities occurred. There were leading indicators before the spill, including shifting radiation levels in the pipe segment that was being removed and the discovery that the entire transfer line was not fabricated as designed, but workers did not recognize the potential impact. Additionally, planners specified a type of tape to seal the sleeving around the pipe segments because it was acid-resistant, but they did not realize the adhesive on the tape had a short life when directly exposed to this acidic waste.

100K Project: Last week, contamination was found on a worker's shirt along with elevated lapel air sampler readings resulting from moving entangled debris in the KW Basin. On two separate occasions, the worker alarmed the automated personnel contamination monitor, but hand surveys failed to find the contamination. RCTs confiscated his modesty-garment shirt the next day when it happened again. The highest preliminary count of the lapel air sampler was 25 DAC-hours, and workers were not required to wear respiratory protection. The contamination of the shirt and air sampler probably occurred when the handle of the pole tool contacted the worker's chest.

Richland Operations Office: The site reps expressed concern to RL managers about the repeated problems the contractor is having controlling contamination associated with D&D of equipment that contains residual acidic plutonium solutions. The site reps questioned if the recent spill at PFP and the contamination event at Building 209-E (see Activity Reports 4/15/11 and 4/22/11) are indications that additional evaluation of the controls for acidic waste is needed. In late August of last year, contamination of the exterior of a drum was discovered due to a pinhole leak caused by acidic residue. In March 2010, a worker was injured due to inhalation of acidic fumes during D&D work at PFP. The normal methods for contamination control are ineffective in containing strong acidic wastes.