

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 16, 2018

TO: S. A. Stokes, Technical Director
FROM: P. Fox, Hanford Resident Inspector
SUBJECT: Hanford Activity Report for the Week Ending February 16, 2018

Plutonium Finishing Plant (PFP). Project personnel performing a routine surveillance determined that the staging of some material removed from the Plutonium Reclamation Facility (PRF) during demolition does not comply with DSA requirements. The relevant technical safety requirement (TSR) protects a safety basis assumption that is used to determine consequence levels for design basis non-natural phenomena hazards accidents such as fires, explosions, spills, and equipment drops. The TSR restricts both the quantity of material stored outdoors in a single location and the amount of material in multiple in-process containers in an area where they could be involved in a common accident. The current staging appears to be non-compliant with both restrictions. The contractor is developing a recovery plan to restore compliance.

Project management held a critique to determine the facts related to recent contamination spread events that represent an adverse trend in contamination control (see Activity Report 2/9/2017). The discussion focused primarily on potential contamination sources and transport mechanisms. They also discussed methods that the project could take to establish better control of the radiological area boundaries in order to interrupt the ongoing string of events. Although a specific source was not identified, the project team implemented additional control measures to limit the potential for contamination spreads. In particular, they expanded the radiological buffer areas (RBAs) to include locations that are frequently used to support work inside the existing contamination control areas and RBAs. Additionally, they increased the routine survey frequency for buildings and vehicles used by the work force, imposed a requirement for radiological control technician (RCT) performance of RBA exit surveys, and are resurveying several areas that they believe are potential sources for the contamination spreads.

Tank Farms. The Resident Inspector observed an Incident Command Post limited exercise. The scenario involved a tank dome subsidence and subsequent tank breach caused by inadvertent loading by a crane. The scenario also included a medical emergency for the operator of the crane. Overall performance by the facility emergency response organization was satisfactory. Additionally, the exercise control was effective, the controller hot wash meeting was well managed, and the exercise controllers effectively identified performance deficiencies.

The contractor continues preparations to retrieve waste in AX tank farm. Over the last two weeks they successfully removed a failed pump from AX-102.

105-KW Basin. A Radiological Work Permit (RWP) violation occurred when an operator performed work inside a high contamination area under a RWP that was established to support routine low hazard work in contamination areas. Investigation into the event determined that operators had routinely performed this work over a period of years under low hazard work permits without RCT support or appropriate surveys. Although the problem was recognized in late January, facility management did not formally stop or restrict the practice until the most recent incident.