

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 11, 2014

**TO:** S. A. Stokes, Technical Director  
**FROM:** D. Gutowski and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending April 11, 2014

**Plutonium Finishing Plant.** During the non-destructive assay (NDA) of a flange removed from a pencil tank in a glovebox, the plastic containment bags ruptured resulting in a contamination spread. Workers had placed the flange upright and supported one side with a roll of tape while they were performing the NDA, but the flange fell onto its non-supported side. The three workers in the room where the NDA was being performed did not realize that the bags had ruptured until they turned the flange over and saw a three-inch slice in the outer containment bag. The radiological controls technician directed another worker to tape the ruptured bag and requested damp rags from outside the room. At that time, contamination levels exceeded the alpha survey meter's maximum level of 5-million dpm alpha/100cm<sup>2</sup>. When a worker opened a door to provide the damp rags, the air flow mobilized some of the contamination resulting in continuous air monitor (CAM) alarms. The CAMs indicated up to 308 Derived Airborne Concentration (DAC)-hours. Workers in the room as well as support personnel in adjacent areas evacuated as required. During exit surveys, contamination levels as high as 200,000 dpm alpha/100cm<sup>2</sup> were found on the outer sets of workers' personal protective equipment as well as lower levels on one inner set. Work packages were developed and implemented to decontaminate the area. The workers found removable contamination levels as high as high as 1.5M dpm alpha/100cm<sup>2</sup> in the area around the flange, but these were decontaminated to 200,000 dpm alpha/100cm<sup>2</sup>. Additional recovery actions are planned.

**Waste Treatment Plant.** The contractor provided the Office of River Protection (ORP) with a management-approved draft of the Safety Design Strategy (SDS) for the High Level Waste facility. ORP plans to review and comment on the SDS draft with support from DOE headquarters personnel. The contractor will submit a final version for ORP approval following incorporation of comments.

Last week, the contractor provided ORP with their Managed Improvement Plan (MIP) (see Activity Report 12/20/2013). The MIP has focused improvement areas for quality program execution and effectiveness, quality of technical products, quality of procurements, quality of construction, and quality culture development. The MIP will be updated in the near future as well as periodically reviewed and updated as necessary.

The design and operability review team for the Low Activity Waste Facility provided a briefing on their scope and progress to ORP and contractor management (see Activity Report 2/28/2014). The review is still in its early stages and some of its key focus areas include: ventilation systems, process offgas systems, and control system maturity.

**Tank Farms.** The contractor recently moved the Tank Monitoring and Control Systems (TMACS) to a new location. TMACS is used in the implementation of a Technical Safety Requirements surveillance. The move was hurried due to potential asbestos issues in the previous TMACS room, and workers noted that some of the procedures have not been fully updated to address the new location. They also noted problems with audible alarms and alarm printer location. Contractor management and ORP are reviewing these concerns.