

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 12, 2014

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox, D. Gutowski and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending September 12, 2014

P. Fox started his assignment as Hanford Site Representative. Board staff member T. Hunt was on site to observe the RL self-assessment of federal technical capabilities and qualifications.

**242-A Evaporator.** The contractor introduced waste into the 242-A evaporator. After some additional equipment problems involving the feed pump (see Activity Report 9/5/2014) and the condensate pump, the evaporator settled into stable operations and is transferring concentrated slurry to tank AP-107.

Testing of the new 242-A safety-significant controls did not include a formal verification that the safety shutdown signal remains in a tripped condition after process parameters return to normal levels. This check is also not included in the TSR surveillance procedures. The latching of the signal in the tripped state is required by the invoked consensus standard and the design requirements for these controls. A contractor manager reported that not testing this requirement is acceptable because the latching function is not a safety-related design feature or function.

**Tank Farms.** The contractor started operating the Core Sampling System and completed the first two segments of a core sample from Tank SY-102. The primary objectives of the core sampling in SY-102 in order of priority are: 1) provide interstitial liquid composition data for the chemistry control program to support corrosion controls and tank integrity, 2) obtain additional information on composition and physical properties to support strategic planning for future retrieval and waste feed delivery, and 3) measure fissile constituents to support criticality safety analyses. The first core sample will primarily be used to obtain corrosion data. The contractor has proposed to take second core sample from a different riser in SY-102 which will primarily provide strategic planning data.

**Waste Treatment Plant.** The site representatives met with ORP personnel to discuss DOE's intended approach for addressing impacts of volcanic ashfall on safety systems. The Federal Project Director is chartering a cross-functional team including ORP, the contractor, and outside subject matter experts to review options for addressing this hazard. Based on that review, the team will recommend an approach for the development of a safety strategy that mitigates the ashfall hazard. The proposed charter indicates that the team is expected to complete their work in approximately three months.

**Plutonium Finishing Plant.** Workers entered a highly contaminated room in the Americium Recovery Facility wearing personal protective equipment that has not been used previously at the site (see Activity Report 8/15/2014). These airline-fed, one-piece suits were selected to protect the workers from the extremely high airborne and surface contamination levels as they restore fire protection sprinklers to service and improve the confinement ventilation system. Lessons learned from this initial entry are being incorporated into plans for subsequent entries.

The contractor completed non-destructive assay of a pipe near the ceiling of the duct level (see Activity Report 8/8/2014) and concluded it did not contain excessive levels of fissile material.