

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 9, 2016

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending September 9, 2016

Radiochemical Processing Laboratory. The contractor declared a PISA when they discovered non-conservative errors in the calculation that they use to show that the criticality alarm system (CAS) provides adequate coverage for the facility. The problem has existed since 2009 when a unit conversion error was made in the building model that supports the Monte Carlo N-Particle analysis of the system. The contractor has determined that the CAS system remains operable and provides adequate coverage, but has put conservative compensatory measures in place to allow work to continue while they revise and review the calculation, and modify related TSRs.

Tank Farms. The contractor held a fact finding meeting to determine the cause of a water supply tank rupture that occurred while testing the tank's high level alarm. They determined that the only vent path for the tank was isolated when workers installed a valve on the atmospheric tank overflow line. The workers took this action to prevent the escape of residual anti-freeze in the system during the test. They felt that the valve would provide better control of any overflow and help prevent a hazardous material spill. The tank subsequently failed when the workers forgot to open the valve when they filled the tank from a 120 psig source. The valve installation was not covered by the test procedure and was not approved by engineering. This tank is part of a high pressure water skid that supports continued retrieval of AY-102. The contractor is working to identify corrective actions and a path forward for repair of the water skid.

The contractor started hot operational acceptance testing of the new AP tank farm exhausters.

A site rep attended a training class on ignition controls. This class was part of the corrective actions for earlier TSR violations (see Activity Reports 4/4/2014, 7/18/2014). The two day course covered tank farm and evaporator flammable gas hazards, the recently approved safety basis requirements for ignition controls (see Activity Report 9/1/2016), tank farms engineering standards and procedures, electrostatic discharge controls, and electrical area classifications.

Plutonium Finishing Plant. The contractor transitioned the Americium Recovery Facility (242-Z) to the pre-demolition phase.

The team assigned to evaluate the contractor's readiness to start demolition of the Plutonium Reclamation Facility is in the process of documenting their findings.

Waste Encapsulation and Storage Facility. The contractor performed operational acceptance testing of the new K3 ventilation fans and associated high efficiency particulate air filter bank. The system has been in service and providing satisfactory flow for a week without any problems.

Sludge Transfer Project. Last week, the construction crew continued installation of the new Engineered Container Retrieval and Transfer System (ECRTS) by successfully completing a 28,000 lb critical lift to move the ECRTS sand filter shield into place in the annex truck bay.