

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 30, 2016

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending December 30, 2016

P. Fox was offsite this week.

**Waste Encapsulation and Storage Facility.** The contractor sent a team into the canyon to perform radiological characterization (see Activity Report 12/23/2016). The team used self-supporting mobile beta dose shields and a limited stay time for this evolution. Data was collected using a gamma camera and a high range survey instrument with the probe at the end of a ten foot pole. Results are being analyzed and will be used to plan recovery actions.

**Plutonium Finishing Plant.** The contractor continued demolition of the fourth floor of the Plutonium Reclamation Facility using the improved container loading workflow (see Activity Report 12/9/2016). They also performed a demolition readiness walkdown of the adjacent 242-Z facility. After addressing remaining pre-demolition items, they commenced demolition of the 242-ZA annex. The main 242-Z building contains several items that require special handling including a number of tanks and a marked high dose area on the mezzanine floor, with holdup remaining from a historical americium column explosion.

**Waste Treatment Plant.** ORP approved the PDSA change package that reflects updated unmitigated consequence calculations and functional classification of structures, systems, and components associated with hydrogen in piping and ancillary vessels (HPAV). The SER contains two conditions of approval (COA). One COA requires additional language to clarify the need for at least one control to limit hydrogen accumulation when piping analysis does not show that the design will withstand hydrogen related loads.

The contractor commenced the third phase of pulse-jet mixer testing in a Standard High Solids Vessel at the Full Scale Test Facility.

**Tank Farms.** During the extent of condition review for inaccuracies in pressure instruments used for TSR verification, the contractor identified additional instruments that cannot be used to fulfill their safety function until they are recalibrated (see Activity Report 4/1/2016). The preventive maintenance calibrations for these instruments in AY, AP, and SY farms provide a calibration accuracy that is less conservative than the value in the set point calculation. Instruments in AN and AW farms are still under evaluation. The contractor restricted use of the affected instruments until they are recalibrated. They have also verified that all tanks are under adequate vacuum using functional instruments.

AY-102 sludge retrieval continues on nights and weekends. Operations over the weekend were impacted by a tripped breaker that serviced heaters needed to maintain temperature requirements. Annulus levels have remained stable.