

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 22, 2017

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending September 22, 2017

D. Gutowski was at Los Alamos National Laboratory providing Resident Inspector support.

**Waste Treatment Plant (WTP).** The ORP Senior Review Board (SRB) met to consider approval of revision 7 of the High Level Waste (HLW) Facility PDSA (see Activity Report 9/8/2017). The SRB noted that this revision reflects the approved but unincorporated safety design strategy (see Activity Report 8/8/2014) and addresses issues raised by the Board regarding hydrogen explosion control strategy, HLW melter accidents, and seismic classification of the C5V ventilation system. The SRB recommended approval.

ORP completed heavy plutonium particle (HPP) de-inventory testing at the full scale vessel test facility. This capability will be important for ensuring effectiveness of criticality controls if HPP is included in the WTP treatment scope. Preliminary results show that the system can mix and remove the simulated HPP from the vessel. This test completes full-scale vessel testing.

**105-KW Basin.** The contractor implemented the recently approved 105-KW Facility DSA and the TSRs (see Activity Report 9/8/2017). The implementation allows introduction of basin water into the annex to support the completion of performance acceptance testing.

**Low Activity Pretreatment System (LAWPS).** ORP approved the LAWPS PSDR with two conditions of approval (COA). The first COA requires resolution of specific comments prior to executing long-lead procurements for the facility. The second requires resolution of another set of comments before issuance of the PDSA.

**Tank Farms.** The contractor removed a failed float pump from AP-106. The pump removal operation was completed without incident. The resident inspector noted that work crew performance was exemplary and the equipment that was recently developed to improve control of pump removals and reduce radiation exposure to personnel performed as expected.

**Plutonium Finishing Plant.** The contractor has received the results from all bioassay kits that were issued following the June 8 contamination release (see Activity Reports 6/9/2017 and 8/4/2017). 269 of the 300 individuals who were issued kits did not receive a detected uptake. Detectable doses for the remaining individuals were very low with most rounding down to zero millirem. However thirteen individuals did receive higher assigned doses. The highest assigned dose was ten millirem which will be incurred over a period of 50 years.

**PUREX Plant.** The work team has set two of the four trench boxes that will be used to support and provide tunnel access for grout lances and instrumentation pipes.

**Office of River Protection.** Another facility representative completed qualification and is assigned to retrieval and closure operation oversight.