

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 18, 2013

TO: T. J. Dwyer, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending January 18, 2013

Tank Farms. The contractor met with an outside expert in sampling systems to discuss how they can improve the sampling systems that will be used to certify that waste in the double-shell tanks will meet the Waste Treatment Plant waste acceptance criteria. After a preliminary review, the expert said that the conceptual design being tested by the contractor will not be able to detect large, dense particles of plutonium scattered sparsely in the waste, but no other system will be able to do this either. The expert will submit a draft set of recommendations to the contractor within a few weeks.

The contractor's Plant Review Committee (PRC) determined that the potential inadequacy in the safety analysis related to deep sludge gas release events (see Activity Report 12/7/2012) constituted an unreviewed safety question and would require a change to the Tank Farms safety basis. The PRC members then reviewed a proposed justification for continued operation (JCO) which included a new method for calculating gas releases from sludge layers deeper than 170 inches. If implemented, this JCO would provide interim safety basis coverage to allow deeper sludge layers and continued retrieval of waste from single-shell tanks. The JCO would only impact the sludge depth limits in double-shell tanks currently used for retrieval, AN-101 and AN-106. Since the contractor is still evaluating some of the many assumptions in the gas release model with experts from Pacific Northwest National Laboratory, the PRC decided not to move forward with the JCO until they resolve the technical bases of these assumptions.

Cold Vacuum Drying Facility (CVDF). The Richland Operations Office issued a safety evaluation report that approves the downgrade of the CVDF from a hazard category (HC)-2 facility to a radiological facility. No additional radioactive material needs to be removed from CVDF to meet the less than HC-3 criteria. The contractor is developing a plan to step out of the existing safety basis and anticipates completing these activities by early April.

K West Basin. The contractor is planning to revise the safety basis to eliminate information related to legacy missions such as loading fuel into multi-canister overpacks. The plan is to include information that remains in the existing final safety analysis report with information related to the sludge treatment project in a combined documented safety analysis.

REDOX Plant. During continued annual surveillance activities in the REDOX Plant (see Activity Report 12/28/2012), the Central Plateau Contractor noted that contamination levels are steadily rising and contaminated areas are spreading each year. Workers sent to investigate the source of one area of high contamination discovered alpha contamination well in excess of their radiological work permit's void limits and made an egress from the area. The contractor believes rain leakage through the facility's degrading roof is likely a major contributor to the spreading contamination. The contractor is developing a special radiological work permit to allow a team to complete this contamination investigation. A separate work package to characterize the chemical powder discovered last month was also completed and the entry to sample that material is planned for next week.