

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 25, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending November 25, 2011

W. Linzau was off-site this week

Tank Farms: The contractor expanded the operational restrictions for eight waste tanks that contain significant quantities of large, dense plutonium and plutonium oxide particles because they concluded that the initial restriction was unclear. The initial restriction, prohibiting sludge-disturbing activities (see Activity Report 10/7/11), was expanded to prohibiting all in-tank activities because work managers had authorized workers to perform work that could have disturbed the sludge in one of these tanks, single-shell tank (SST) C-102. The work instructions specified using raw water to flush a level instrument before removing it from the tank, but workers asked if they could use potable water rather than raw water. This question was relayed to a nuclear safety engineer, who also happened to be the criticality safety representative (CSR). The CSR recognized that this could be interpreted as a prohibited sludge-disturbing activity and stopped the work, although the formal stop work process was not used. Contractor management failed to require an investigation of why this activity was scheduled and released to work until a facility representative learned of the work cancellation the next day and requested an investigation. Two days after the event, the contractor performed their lowest level of event investigation and concluded that the term sludge-disturbing activities needs to be better defined. The site rep questioned if a higher level of event investigation was required and if the event should have been reported as a near-miss but notes that stopping the work in C-102 is an improvement over actions that could have disturbed the sludge in double-shell tank AN-101 (see Activity Report 10/14/28). The site rep also identified to the contractor and Office of River Protection (ORP) apparent contradictions in the criticality prevention specification.

The contractor briefed ORP management on their efforts to correct multiple errors in the technical evaluation used to develop compensatory actions for design inadequacies of the safety-significant waste transfer system during low temperature conditions (see Activity Report 11/18/11). The contractor expects to complete a more thorough thermal analysis, provide options for temperatures at the design basis temperature of -25 as well as the less limiting 10° F, and submit a revised Justification for Continued Operation in approximately one week.