

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 14, 2019

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** B. Caleca and P. Fox, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending June 14, 2019

**105KW Annex:** During preparations of sludge transport system cask 16, operators adding clean water to the cask received a transfer line service box leak alarm. The system automatically shut down as designed, and workers correctly followed their alarm response procedures and secured the facility. After a successful re-entry, workers found a manually operated valve that was not fully closed. A critique held following the re-entry, determined that the valve handle had become loose. Facility procedures require workers to verify the valve's position visually without touching the handle, but as the handle loosened, the valve would show an indication of being closed with the valve still partially opened. Facility personnel intend to modify procedures to require workers to physically ensure closure and to perform inspection of all manually operated valves in the system for evidence of misaligned handles.

**REDOX Plant:** Contractor management held an in-progress ALARA review (IPAR) after an air sample taken outside of the airborne radioactivity area (ARA) boundary exceeded the limiting value. While lapel samples and samples taken in the ARA were below limits, workers noted that airflow where work was being performed was very low, with only a slight negative pressure between the ARA and the sample location. Personnel also discussed recovery actions to investigate potential sources of airborne radioactivity, however workers noted that this entry had been stopped by reaching the turn-back value for airborne mercury, and that the current work permits and personal protective equipment did not guarantee a successful entry. Contractor personnel stated that a new work package that accounts for both airborne radioactivity and elevated mercury levels should be developed prior to making another entry.

**Central Waste Complex:** The contractor reported a TSR violation following incomplete documentation of a combustible load surveillance. The worker who performed the surveillance stated that it was a documentation error. The critique noted that multiple levels of review missed the error and that the surveillance does not require retention of records that would facilitate an effective follow-on review. The critique also examined the reasons why management had not declared a TSR violation until receiving feedback from the Facility Representative (FacRep). While the FacRep noted that DOE's directives make it clear that this was a violation, facility management, in consultation with their subject matter experts, made their determination based on the definition of a TSR violation within the facility's TSR document, which is more vague and can be interpreted to preclude a TSR violation if a surveillance is promptly completed to correct the issue. Contractor management intends to modify the language in the facility's TSRs.

**Waste Treatment Plant:** ORP determined that controls applied through application of 10 CFR 851 adequately address non-radioactive sodium hydroxide (NaOH) reagent system hazards at the Low Activity Waste facility. Consequently, the NaOH reagent hazard may be considered a standard industrial hazard for purposes of implementing DOE Standard 3009, CN3, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*. The LAW facility DSA, process hazards analysis, and TSRs will be modified, accordingly.