

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 7, 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 7, 2019

**Tank Farms:** A contractor crew that was removing a deteriorated thermocouple from single-shell tank A-103 stopped their work when a leak of contaminated liquid occurred at a joint in a temporary riser assembly that is installed to support this type of work activity. The leak resulted from an unexpected backup in the assembly of the water they were using to perform gross decontamination of the thermocouple. The crew appropriately stopped the water flow, contained the leak, and placed the thermocouple in a stable condition. They then left the tank farm and subsequently held an in-progress ALARA review to collect facts, consider causes, and develop ideas to recover from the condition. Removal work is expected to continue next week.

The contractor transferred 300,000 gallons of waste from double-shell tank (DST) AZ-102 to DST AN-106. The transfer supports upcoming retrieval work in AX Tank Farm and was completed without incident. The change in tank AN-106 waste composition resulting from the transfer requires an increased flammable gas monitoring frequency for AN Tank Farm. Per procedure, the contractor has placed a timely order in effect pending receipt of DOE's approval for and their subsequent implementation of the required Documented Safety Analysis change (see 5/31/2019 report).

**222-S Laboratory:** A radiological work permit (RWP) radiation limit was exceeded when laboratory personnel were preparing to remove sample waste from a hood for disposal. Radiation readings taken above the waste bottle before its removal from behind its shielding were less than half of the limit. However, when radiation levels were measured again after the bottle was removed from behind lead shield blocks the RWP limit was voided. This event is similar to another recent case where laboratory personnel encountered unexpectedly high radiation levels and voided a RWP limit during their preparation for movement of a sample between hot cells. In both cases, the contractor held recovery meetings to collect facts and evaluate causes. However, the resident inspector notes that the similarities between the events may indicate a need to perform a common cause analysis to limit the potential for similar future events.

**Waste Treatment Plant:** The contractor completed a project-wide Nuclear Safety and Quality Culture (NSQC) survey. Overall participation rate in the survey was 76% with the participation rate of the manual workforce somewhat higher than the participation rate of non-manual workforce. Results, which can be directly compared to the 2017 NSQC survey, show improvements in all areas. The contractor has evaluated the results and identified areas where appropriate action may further improve their NSQC performance.

**Building 324:** The contractor held a critique after a worker performing maintenance activities in a radiological area exceeded the elevated heart rate time allowed under the facility's desk instruction for heat stress physiological monitoring. Participants noted opportunities to improve guidance for situations where immediately stopping work for a rest period may be impractical.