

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 26, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending July 26, 2019

Tank Side Cesium Recovery (TSCR): ORP has determined that a contractor performed Readiness Assessment, with ORP Readiness Assessment is the appropriate level of review for TSCR startup. They also noted that ORP will hold the startup authorization authority.

Tank Farms: The resident inspectors observed an evaluated field drill. The drill was initiated with a simulated seismic event that resulted in two injured personnel; one injured person was potentially contaminated. The scenario also simulated a rupture of the process condensate tank at the evaporator facility. The resident inspectors noted that Facility Emergency Response Organization (FERO) response to the field was timely and that the injured personnel received prompt care. However, responders encountered difficulties with both radio and telephone communications between the scene and the incident command post. Additionally, although the FERO response to the field was timely, link-up with the Hanford Fire Department (HFD) responders was delayed and did not occur until the On Scene Commander left the scene to locate the FERO team. Lastly, there was confusion regarding placement of radiological boundaries at the scene that resulted in a failure to survey individuals who transited from the evaporator facility to interact with HFD and FERO personnel. Based on observation of the drill team and player hot wash meetings, the drill evaluation was effective and noted similar deficiencies.

105-KW Basin: The contractor shipped Sludge Transportation and Storage Container (STSC) #17 to T-Plant. STSC #18 has been moved into the annex to receive sludge.

The contractor held two in-progress ALARA reviews (IPAR) for separate contamination void limit exceedances during work preparation for sludge retrieval. In both cases, the contamination was found on a lighting cable that is lowered into the basin, and workers safely exited following the discovery. In the first IPAR, the work crew explained that contamination could be absorbed by the cable's insulation and leach out after being decontaminated; in the past workers have needed to remove the cable and replace the light. In this case, radiological control technicians (RCTs) decontaminated and surveyed the cable. Contamination was subsequently found on the light cord two days later and the RCTs believe that this confirms that the most likely cause is leached contaminants. 100K personnel are working to procure new lights and determine if other tools may have similar contamination issues.

The first IPAR also identified that workers had attempted to handle other items prior to radiological survey, contrary to a precaution in the work package. This precaution had not been discussed during the pre-job briefing and there was disagreement between radiological control technicians and nuclear chemical operators regarding its meaning. 100K management communicated their expectation for Field Work Supervisors (FWSs) and lead RCTs to cover these precautions during the pre-job briefing. In addition, FWSs will manage future entries to allow adequate time at the start and end of jobs to perform surveys and decontamination in order to reduce the likelihood of a missed survey or discovery of unexpected contamination.