DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 2, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending April 2, 2021

Central Waste Complex (CWC): Last week, while performing a routine weekly surveillance, CWC Nuclear Chemical Operators identified corrosion on a 55 gallon drum waste container located in 2403-WA, which is one of the large waste storage buildings. The corrosion appeared to originate from inside the drum rather than its surface. Facility operations personnel placed the building in a restricted status and entered the appropriate limiting condition for operation while performing the required evaluation of the waste package. The waste package evaluator determined that the safety significant drum was inoperable. To restore waste package operability, contractor management elected to overpack the compromised waste package into an 85 gallon drum. This week, a resident inspector (RI) observed performance of the overpack activity. The work included the movement of 26 other drum pallets in order to access the affected drum and the workers performed the overpack work in a posted contamination and airborne radioactivity area. The work activities were conducted safely. The resident inspector noted several instances where the work team could improve radiological control performance and their use of procedures. The observations were provided to the DOE facility representative, who also observed parts of the work activity, and the facility manager.

105-KW Basin: An RI performed a walk down of the 400 area Maintenance and Storage Facility (MASF) to gain an understanding of upcoming Vertical Pipe Casing (VPC) work at the 105KW Basin. The contractor will use the VPCs to segregate higher dose debris material from the remaining debris located within the basin while preparing it for demolition. Once the high dose debris is transferred to the VPCs, the segregated material will be stabilized with grout, after which the project team will drain and stabilize the basin. Workers will then use an auger to break up the solidified VPC material so that it can be sampled and blended with other materials. They expect that the segregation, sampling, and blending process will provide a characterization basis that will allow most of the high dose waste to be packaged and transported to the Environmental Restoration Disposal Facility for disposal. The contractor is using the 105-KW basin mockup at MASF to test VPC equipment and train the equipment installers and operators. During the walk down, the resident inspector noted that workers were using the mockup basin to develop methods for handling a large sparger manifold that will be used to establish correct fluid flow in the four VPCs during material transfer. The manifold will be located underwater and the workers are developing tools to operate the manifold connections from above the water. An engineer for the project who accompanied the RI on the walk down noted that the mockup activities have allowed the team to identify a number of necessary improvements that were subsequently incorporated into the equipment design. The improvements will reduce the potential for significant problems once the equipment is placed into its highly contaminated operating environment. Other equipment, including the modular VPCs, a hydraulic power unit, the transfer basket, and transfer basket tipping unit are staged for transfer to 105-KW. Upcoming work in the basin will modify grating and handrails to support VPC installation.

Tank Side Cesium Removal System (TSCR): A tank farm contract team achieved a significant milestone by completing installation of the TSCR system feed pump and associated equipment at tank AP-107.