DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 24, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending January 24, 2020

Building 324: Contractor management held a critique to gather facts related to the movement of a hydraulic power unit (HPU) that was potentially contaminated with radioactive material from Building 324 to a subcontractor facility located offsite; radiological control (radcon) personnel had not performed an appropriate clearance survey due to the unit not having radiological markings (see 1/17/2020 report). Participants noted that workers had disconnected and reconnected hoses from the pilot hole drill rig, which was located in the Room 18 High Contamination Area (HCA) several times over the course of their work, in order to move it within the room. This activity resulted in conditions that may have allowed radioactively contaminated dirt or debris to enter the system. Radcon personnel had performed cursory surveys of the quick-connect ends during the work, but these did not conform with verification survey processes that would have provided certainty that contamination had not been introduced to the HPU and associated hoses. The HPU removal was discovered when a subcontractor supervisor raised a question about whether lines between the HCA and skids, such as the HPU skid, required radiological controls since they were exposed at one end to an HCA environment. While responding to this question, project personnel learned the HPU had been moved to the drilling subcontractor's shop for maintenance. Upon discovery of the equipment removal, contractor personnel promptly secured the subcontractor's shop. In consultation with DOE and the Washington State Department of Health, contractor radcon personnel performed surveys. They returned the HPU to a radiological material area at Building 324, but no contamination was identified. Currently, the contractor is performing more detailed surveys of the HPU's internal components. Based on initial surveys, and the types of connections used at the drill, internal contamination of the HPU is unlikely. The contractor also performed an extent of condition check to ensure other equipment in clean areas of Building 324 is properly controlled. Additionally, they identified a need to improve procedures for control of equipment used to support work in radiological areas, and the need for work instructions to better address the connecting and disconnecting of equipment in contaminated areas.

Waste Treatment Plant (WTP): The Safety Basis Approval Authority approved a change to the WTP Low-Activity Waste Facility Documented Safety Analysis (DSA) that implements the safe harbor methodology of DOE-STD-1228-2019, *Preparation of Documented Safety Analysis for Hazard Category 3 DOE Nuclear Facilities*, as supplemented by a recently issued U.S. Department of Energy (DOE) guidance memorandum entitled "*Implementation Guidance for Chemical Safety Management*" (see 1/3/2020 report). This is the first approved DSA in the DOE complex developed under this safe harbor methodology. The new DSA is supported by a recently developed Chemical Safety Management Plan, which DOE also approved this week.

Tank Side Cesium Removal (TSCR) System: The DOE Safety Basis Approval Authority approved the TSCR System Preliminary Documented Safety Analysis (see 12/20/2019 report). The TSCR system will eventually become a Tank Farm system and the content of the PDSA will transition into the Tank Farm DSA prior to start of TSCR operations.