

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 22, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending November 22, 2019

DNFSB Staff: D. Brown was onsite performing oversight activities at the Plutonium Finishing Plant and Building 324. J. Flora was onsite for site familiarization and introductory meetings with DOE and contractor health physics personnel.

222-S Laboratory: Laboratory management held an event investigation meeting to discuss higher than expected airborne radioactivity levels identified in air samples taken by three fixed head air samplers located in room 1F of the laboratory. Room 1F is posted as a Radiation Area/Contamination Area. Although the airborne radioactivity concentrations on all three samples were well below limits, the levels were above those normally encountered in this area of the laboratory. During the meeting, attendees noted that a Health Physics Technician (HPT) had discovered unexpected contamination in the same room during routine weekly surveys several weeks prior to the air sample anomalies. The contamination appeared to be associated with a discolored area on the floor. Subsequent surveys found contamination at two additional locations in the room but surveys taken outside of the room did not identify any spread beyond the room. Attendees also noted that there is a trench in the room that may contain contamination which is normally covered with plastic, but the plastic had been removed during housekeeping activities several weeks before the contamination event. However, they did not identify a mechanism for transfer of material from the trench to the floor, or the cause of the discolored residue observed at the contamination location. In addition, the plastic had been replaced before the discovery of higher than expected airborne contamination levels. Based on the information available, the attendees were not able to identify a definitive source for the contamination or determine whether the two events are linked. Consequently, the room remains on restricted access pending additional investigation to identify the source and any related mitigation actions.

Building 324: Following the stop work issued by the facility contractor (see 11/15/19 report), contractor management assembled an independent team to review the project's strategy and radiological controls. This team, in addition to the team of facility personnel analyzing past contamination events, will develop corrective actions prior to resumption of radiological activities beyond minimum-safe operations.

100KW Basin: Contractor personnel held a Hazards Review Board (HRB) for a work package to install the Garnet Filter Media Retrieval (GFMR) System. The GFMR system is designed to mobilize garnet filter media into a slurry that can be pumped into Sludge Transport System Casks in a process similar to retrieval of basin sludge completed this fall (see 9/13/19 report). The HRB identified package deficiencies that included combining multiple steps, listing controls in notes rather than formal steps, and duplicative requirements. The HRB chair elected to reject the package and directed it back to planning for corrections of the deficiencies, and to improve workability and format of procedural tasks. The resident inspector notes that the HRB performed well, and participation from all attendees produced insightful comments that should lead to a significantly improved work package.