

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 28, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending February 28, 2020

Radiochemical Processing Laboratory: A small fire occurred in a fume hood that is used for experiments involving samples with uranium content. The fire developed when a small portion of a depleted uranium sample that a researcher was cutting with a low-speed precision cutting machine self-ignited, broke free, and fell into the cutting tray, which held fines from the cutting process. A second researcher who was located nearby obtained a can of fire extinguishing media which was then used to cover the fines and extinguish the fire. The researchers contacted Hanford Fire Department, who responded and confirmed that the fire was extinguished and would not reignite. A radiological contamination survey conducted by a Radiation Protection Technologist determined that there was no contamination spread to the surrounding area. Facility managers convened a fact-finding meeting. Attendees identified potential issues associated with the technique used for cutting the sample, the hazard analysis and procedure used to support the process, and training. Similar cutting and grinding activities are suspended pending completion of an apparent cause analysis, which will identify necessary corrective actions.

Central Plateau Risk Management (CPRM): During routine surveys of a large, open-air controlled area, a radiological control technician (RCT) surveyed up to and photographed what appeared to be partially buried cans of unidentified waste. This information was reported to the shift office after their completion of the task. A manager determined that approaching and photographing the containers was not part of the work scope of the RCTs; as a result there was no job hazards analysis performed nor was this topic mentioned in their pre-job meeting. Contractor management held a critique the next day to discuss the event and determine potential improvements for routine survey work. RCTs noted that it was not uncommon to see abandoned equipment or packages near sampling wells, though the age of these waste cans likely predates any recent work activity by Soil and Groundwater personnel in the area. Contractor personnel attending the critique noted that the response to an unanticipated condition did not follow the SWIM process, and CPRM management recognized that this event is similar to a recent improper response to water ingress at the REDOX facility (see 10/4/2019 report). CPRM management subsequently suspended work packages for routine surveys at all CPRM waste sites. Future survey work will be released by the shift office after performing a revised hazards analysis for the survey route. In addition, CPRM management will revise work instruction steps to clarify SWIM actions for survey teams when unidentified legacy waste is observed.

Plutonium Finishing Plant (PRF): PFP project personnel held an in-progress ALARA review of the Plutonium Reclamation Facility debris retrieval and loading activities performed over the last ten working days. During that time, the workforce loaded 17 roll-on/roll-off containers of debris, which was significantly slower than the maximum pace of work analyzed in PFP demolition air dispersion model. Feedback from the workforce focused primarily on improvements to the container loading area, including the design and re-use of barriers used to contain contamination, liquids dripping from a new type of excavator bucket, and other improvements for contamination control.