

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 20, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: P. Foster and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending July 20, 2018

222-S Laboratory: Analysts identified low levels of plutonium and americium on a supply ventilation pre-filter that was in service at the 222-S Laboratory during the December 2017 contamination spread events at the Plutonium Finishing Plant (see 12/22/2017 report). The evaluation was performed in response to worker concerns after the filter media was removed from the system during routine maintenance. Based on the low activity levels found on the pre-filter and the extensive air and surface contamination surveys that were performed in and around the laboratory during and after the events, current estimates of the potential radiation dose to laboratory workers from this event are very low. However, workers have been offered the opportunity to receive bioassay tests to determine their exposure, if any, to the isotopes. The results of the bioassay tests are expected to be received at the end of August.

Tank Farms: The contractor Joint Review Group (JRG) met to evaluate the readiness to perform activities related to preparing tank AX-104 for retrieval. The workers will move a submersible pump that has become separated from its discharge hose and cannot be retrieved. Its presence below the riser blocks the desired installation location for the tank retrieval system. As described in the work package, workers will lift the pump using its de-energized power cord and then use a long-length tool to move the pump head to a location that no longer blocks the retrieval system installation path. The workers will then remove the pump components that are installed on the riser. In addition to the JRG evaluation, the contractor has completed several activities, including a mockup, to validate the use of the procedures and selected equipment.

B-Plant: While performing a monthly survey of the radiological conditions around the B-Plant ventilation system, technicians found contamination on the false floor of the tents outside the two filter housings. Due to this unexpected condition, an in-progress ALARA review was held to discuss the event. The review highlighted a number of conditions that make controlling contamination in these areas challenging, including elevated background radiation levels and significant temperature fluctuations in the summer months. Since new work is scheduled to begin soon, the discussions focused on whether the area should be maintained as a contamination area or if deconning/replacing the false tent floor is a more effective control strategy. More comprehensive topics such as procedure and equipment changes were also discussed.

105-KW Basin: Floor sampling activities at the basin were recently performed under the incorrect revision of the radiological work permit (RWP). Personnel were briefed under revision 2 of the RWP, as this was the most recent version available online and in the logbooks; however, the electronic access software was updated and had people sign in under revision 3. This discrepancy was not noted until the second day of work. As a result, an employee requested a company-wide stop work to determine if there were other ongoing activities with similar RWP disconnects. Work was stopped at 105-KW Basin and an extent-of-condition was performed company-wide. Two other instances were located outside of the 100 Area. A critique was held on the event and the subsequent stop work.