

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 23, 2018

TO: Steven A. Stokes, Technical Director
FROM: P. Fox, Resident Inspector
SUBJECT: Hanford Activity Report for Week Ending March 23, 2018

Plutonium Finishing Plant (PFP): 281 individuals requested bioassays as a result of the December 2017 contamination spread at PFP. Results of the bioassays, which were analyzed by an independent laboratory over the last three months, were communicated to affected employees on an individual basis and were provided in periodic updates to the public as they were received. This week, CHPRC reported that the bioassay analysis effort is complete. Of the 281 individuals tested, eleven individuals had a positive dose. All others had zero dose. Of the eleven positive doses, two had a dose of less than one millirem (mrem), eight had doses between one and ten mrem, and one individual had a dose in the ten to twenty mrem range. The doses are defined as the total dose accumulation over a period of fifty years due to the ingestion or inhalation of radioactive material.

Tank Farms: The contractor attempted to conduct a waste transfer from tank AP-103 to tank AN-101 but secured the transfer when a valve pit leak detector alarmed approximately 90 minutes after the start of the transfer. Their subsequent investigation determined that the alarm was caused by the accumulation of approximately three gallons of waste that had leaked from the nozzle of a jumper that is located in the pit. No contamination was found outside of the pit. Operators subsequently drained the waste from the pit to the tank and the transfer line was flushed. The contractor is evaluating actions necessary to repair the leak, and is working to modify waste transfer plans to support evaporator campaign 09, which is scheduled for June.

While preparing to ship reusable contaminated equipment from a radioactive material area to a work site, Health Physicist Technicians (HPT) supporting the work discovered that some of the equipment had contamination that exceeded allowed levels for the storage location. The HPTs bagged the equipment to confine the contamination and surveyed the surrounding area. They did not identify any additional contamination spread.

222-S Laboratory: An HPT that was supporting work to demobilize equipment from a worksite located within a high contamination area/airborne radioactivity area inside the laboratory alarmed a personal contamination monitor (PCM) after doffing their personal protective clothing. Other HPTs provided assistance and discovered contamination on the individual's clothing and the skin of their right arm. The skin contamination was removed on the first decontamination attempt. All other individuals who were performing work in the same location cleared the PCM without incident. The contractor scheduled a meeting to collect facts related to the event.

Waste Treatment Plant: The resident inspector met with DOE-ORP and contractor nuclear safety managers to obtain information regarding implementation of the Low Activity Waste Facility DSA. The DSA is expected to be approved late next month, but will not be implemented until just before the Operational Readiness Review, which will occur after cold commissioning of the facility. The DSA will be maintained using a safety evaluation process during the intervening time period (see Activity Report 11/24/2017).