

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 16, 2017

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending June 16, 2017

Staff member D. Cleaves was onsite providing Resident Inspector support.

Plutonium Finishing Plant (PFP). The contractor is continuing recovery efforts from last week's contamination spread during Plutonium Reclamation Facility (PRF) demolition (see Activity Report 6/9/2017). They have surveyed and downposted the mask issue and change trailers, access routes to those trailers, and routes to the demolition site.

A critique for the event was unable to conclusively determine a cause for the contamination spread. Possible contributing causes include a wind-tunnel effect between 234-5Z and PRF, higher material at risk (MAR) and more difficulty in removing gallery glovebox section three than in previously removed sections, and liberation of contamination due to direct impingement by the water cannon. They subsequently conducted a hotwash to evaluate the emergency response actions for the event. Key items for improvement included communication methods to inform the workforce of the take cover, ensuring all take cover locations have known ventilation shutoffs and appropriate postings, and control of nearby roads.

As a result of this spread, the contractor has decided to resequence the demolition of the PFP complex. They will pause PRF demolition and move to demolition of the 291-Z fanhouse which contains less MAR, then the ventilation stack will be felled. Demolition of the lower MAR southeast portion of 234-5Z will be started to reduce the wind-tunnel effect. PRF demolition will then resume with corrective actions developed from this event including the use of portable exhausters to put negative pressure on the canyon and larger foggers to create a water wall. The contractor is considering simultaneous demolition of the clean north side of 234-5Z and PRF. This week, the contractor fogged the ventilation stack with fixative to lock down contamination in preparation for its removal and secured the ventilation fans supplying 234-5Z.

Tank Farms. The contractor determined that the PISA for In-Pit Heaters (see Activity Report 3/27/2017) did not constitute a positive USQ. A new temperature calculation to determine standoff distances between heaters and safety-significant components corrected an error in the original supporting calculation and included additional precision. The approved, but not implemented, DSA amendment was revised to reference the new calculation. Restrictions on use of heaters will remain in place until the Evaluation of the Safety Situation is submitted to ORP.

242-A Evaporator. The contractor continues preparations for the next campaign and is completing an operational readiness checklist (see Activity Report 4/27/2017). Management has reached an agreement on respiratory protection boundaries with the union (see Activity Report 6/24/2016). A new extended stack for the vessel vent system has been installed to increase dispersion and, at the request of the union, a precautionary supplied air boundary will be implemented around, but not in, the facility for the start of the campaign. Workers in the facility will enter through a monitored corridor with no respiratory protection.