

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 3, 2014

TO: S. A. Stokes, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending January 3, 2014

D. Gutowski was off-site.

Plutonium Finishing Plant (PFP). The contractor has noted higher than desired axial vibrations in some of the exhaust fans of the safety-significant confinement ventilation system. They believed the vibrations were caused by the reduced air flows associated with the deactivation, decontamination, decommissioning, and demolition (D4) of equipment, such as gloveboxes, as well as the removal of some walls. The safety basis notes that four or five of the six operable electric exhaust fans are operated in parallel to exhaust the desired volume of filtered air from the facility. Last weekend, the contractor completed a detailed test to determine which combinations of supply fans, exhaust fans, damper positions, and setpoints minimize fan vibrations while also maintaining adequate confinement and desired flow directions. Another goal of the test was to determine if the system could meet required flows with just three or two operating exhaust fans. The results of the test are still being evaluated but it appears that only three exhaust fans will be required for routine operations, including D4, in the facility. Richland Operations Office (RL) facility representatives provided significant oversight of the three-day test and noted good performance by test directors, technicians, and engineering support personnel.

Solid Waste Operations Complex (SWOC). RL approved the annual update to the SWOC safety basis. Significant changes include: clarification of the minimum water supply requirements for the fire suppression systems, clarification of preventive maintenance activities for passive design features, and the addition of a new specific administrative control for missile protection of gloveboxes windows in the Waste Receiving and Processing Facility.

Major Site Accomplishments in 2013.

- Removed 12 gloveboxes and hoods from PFP, bringing the total to 190 removed with 42 remaining. Workers made more than 50,000 entries into the radiologically contaminated areas in PFP with no resulting skin contaminations and only one reportable clothing contamination.
- Completed retrieving one single shell tank (SST), bringing the total number of SSTs retrieved to 11. Another SST is being reviewed for completion. Three more SSTs are in various stages of retrieval and the last two SSTs in C Farm are being prepared for retrieval.
- Completed a framework document that describes an approach for beginning the stabilization of tank waste through direct feed to the Low Activity Waste Facility while resolving the technical issues with other facilities in the Waste Treatment Plant.
- Upgraded the 618-10 burial ground trenches to a Hazard Category 3 (HC-3) facility.
- Placed the 100N Reactor into Interim Safe Storage.
- Downgraded the Cold Vacuum Drying Facility and K East Reactor to less than HC-3 facilities.
- Published a record of decision (ROD) that addresses the closure of the SSTs in the tank farms, decommissioning of the Fast Flux Test Facility, and continued waste management operations including disposal of low-level and mixed low-level radioactive waste.