DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 2, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending September 2, 2011

Board staff members A. Poloski and S. Stokes were on-site to discuss the draft implementation plan for the Board's Recommendation 2010-2.

Plutonium Finishing Plant (PFP): Shaft bearings on one of the seven safety-significant (SS) exhaust fans in Building 291-Z catastrophically failed, resulting in the loss of the normal confinement ventilation system for the major PFP facilities. Workers safely evacuated the affected facilities. A fan belt contacted one of the very hot bearings and ignited. Unlike other occasions (see Hanford Activity Report 8-12-11), workers promptly called 911 and the fire was extinguished by the Hanford Fire Department. The non-safety backup fans in Building 291-Z automatically started and maintained a reduced ventilation exhaust flow when operators, per procedure, stopped the other SS exhaust fans. Most D&D operations are restricted until normal ventilation is restored. The contractor plans to inspect the other six SS fans and perhaps restore normal ventilation this weekend. DOE and the contractor will evaluate if they should replace the failed fan or continue D&D operations with the remaining SS fans.

209-E Facility D&D: A worker fractured his index finger and severed the tip while placing a glovebox on a cart inside a high contamination area. No contamination was found on the worker or during wound counts. The estimated weight of the glovebox was approximately 200 pounds and it was being moved to clear a path for moving another piece of equipment. The worker's finger was pinched between the box and the flat cart when other workers released their hold when setting the box down. During the critique a number of causal factors were discussed, including: lack of planning, cramped working conditions, failure to wear leather gloves, and that this crew had worked a double-shift the prior day. Several hours later, a radiological controls technician declared a stop work because of a general safety concern caused by schedule pressures to expedite work combined with the difficulties preventing heat stress.

TRU Retrieval Project: Workers discovered a leak from a drum while loading it into a standard waste box. Upon discovery of contamination, workers moved 100 feet upwind and the project manned their incident control post. The Building Emergency Director followed the emergency response procedure for off-normal conditions but did not initially enter into the spill procedure because of a belief that it only applied if it was an energetic release. The DOE facility representative questioned this and the project director then instructed entry into the spill procedure. The failure to apply the spill response procedure has been an ongoing issue with this contractor and it was thought to have been resolved at this project (see Activity Report 4/29/11).

Tank Farms: The contractor used a new pump to transfer supernatant from double-shell tank AN-106. The contractor did not perform a formal readiness review because they and ORP approved this transfer as a routine activity. Workers noted unexpectedly high motor currents during startup and the site rep questioned if a lack of operator familiarity with the equipment and its expected operating characteristics indicates that the conclusion on readiness was flawed.