

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 4, 2014

TO: S. A. Stokes, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending April 4, 2014

242-A Evaporator. The contractor declared a Potential Inadequacy in the Safety Analysis relating to credible fire scenarios that could prevent the safe shutdown of the 242-A Evaporator. This issue was originally raised by members of the Board's technical staff as part of their onsite safety basis review (See Activity Report 3/28/2014). The contractor identified at least one credible fire scenario in the condenser room that could cause safety-significant solenoid valves to fail in a non-safe condition due to high temperatures and thus prevent the removal of waste from the evaporator vessel in accident conditions.

Tank Farms. The contractor held an event investigation to evaluate the practice of blocking pit wall nozzles with drain plugs. These plugs have been used during work as temporary radiological barriers but the contractor's TSR assessment team (see Activity Report 1/10/2014) identified that their use was not authorized by an associated work package. The plugs were not evaluated for their impact on flammable gas accumulation and ignition prior to installation.

Plutonium Finishing Plant. Workers inadvertently spread contamination while replacing an original 24-inch port on a glovebox. They found levels as high as 20,000 dpm/100 cm² alpha on the outside of a respirator hood and 1.5 million dpm/100 cm² alpha on the floor. Workers were wearing the appropriate PPE for the high contamination/airborne radioactivity/ radiation area. They successfully exited the area without further spread of contamination. The next day, workers cleaned up the residual contamination in accordance with a recovery plan. The staff, site rep, and facility representative noted that besides the decontamination of the area, the recovery plan included a step to replace the port. Replacing the port was beyond the defined work scope, which indicated that it was only for decontamination. The site rep and facility representative also noted some steps in the procedure for replacing the port were performed out of order but this resulted in a minimal impact on safety.

Richland Operations Office (RL). RL issued a report from their review of procedure use and content at PFP, the Solid Waste Operations Complex (SWOC), and Effluent Treatment Facility (ETF). The review, which occurred in November, noted these processes were, in general, adequately implemented at SWOC and ETF, but only marginally implemented at PFP. Since then, significant changes have been made at PFP to address procedure use and content (see Activity Report 1/24/2014).

T Plant. The T Plant canyon and tunnel do not have fire protection sprinklers because these portions of the facility were not designed to be manned. More recently, the canyon has been used to repackage waste drums, but RL authorized this work without adding sprinklers. The contractor informally requested RL to approve the handling, storage, and surveillance of the containerized K Basin Sludge in T Plant as well as continued repackaging waste drums in T Plant without adding sprinklers. RL rejected this request and noted that an equivalency request that incorporates administrative controls for the sludge will be necessary. RL also indicated that sprinklers will have to be added for future waste repackaging activities.