

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 22, 2014

TO: S. A. Stokes, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending August 22, 2014

Waste Treatment Plant. ORP provided the contractor with conditional authorization to proceed with engineering, procurement, and construction at the High-Level Waste (HLW) facility. This includes engineering work to finalize the design, limited construction and structural procurement subject to risk assessments, and additional limited procurement activities subject to ORP review and approval. ORP also directed contractor management to take several actions during the transition period from now until full authorization to proceed including implementing a systems engineering program, using and maintaining the HLW Safety Design Strategy to align the safety basis and design, and performing design reviews.

Plutonium Finishing Plant. RL is continuing its review of the contractor's plans to close the Justification for Continue Operations for the confinement ventilation system and reduce the number of operating electric exhaust fans from four to three, primarily to allow flexibility as the fans continue to degrade. A preliminary analysis by RL engineering notes that operations with three fans would drop the air changes per hour in the facility below the minimum value in the ASHRAE Design Guide for nuclear facilities. RL and the contractor plan to discuss this analysis and the path forward next week (see Activity Reports 1/3, 5/2, and 6/13/2014).

The canyon bridge crane in the Plutonium Reclamation Facility failed this week after working well for several months (see Activity Report 8/1/2014).

The site rep and contractor discussed preliminary results from the recent test of a material that may be used to fill and stabilize gloveboxes prior to size reduction (see Activity Report 8/15/2014). This test showed better results than the June test. No major cracks in the material were detected, but the fill height of the material reduced by about 10 percent. The contractor noted that this would not be a problem because the box would be filled in a series of lifts, limiting the impact of shrinkage. Early next month, the contractor expects to complete the next stage of testing: cutting the glovebox into segments.

Tank Farms. The contractor's Plant Review Committee approved a safety basis amendment defining Safety Instrumented Alarms (SIAs) (see Activity Report 7/4/2014). There are currently no SIAs in the Tank Farms. The amendment also includes a change to the TSRs defining requirements for double-shell tank ventilation during ashfall events.

The external technical review team was on site to continue their review of tank farms vapors and odors (see Activity Report 8/1/2014).

Building 325. Two workers had contamination levels as high as 500,000 dpm beta/gamma per 100cm² and no alpha on their personal clothing. They were loading vials containing significant quantities of strontium-90 into drums for shipment offsite for medical use. It appears that the contamination spread from an old locking ring that was reused on the shipping drum rather than from the material being shipped this week. The contamination on the drum was removed, a new locking ring was installed, and the drums were shipped.