

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 27, 2014

TO: S. A. Stokes, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending June 27, 2014

Board staff member P. Fox was onsite providing site rep support.

Plutonium Finishing Plant (PFP). The site rep discussed possible changes to the safety classification of the PFP exhaust fans with RL personnel. The currently implemented safety basis credits the ventilation system, including the fans, for mitigating several accidents with significant co-located worker consequences. The fans have degraded over the years (see Activity Report 6/13/2014) and some RL engineers questioned if the fans could still be credited as safety-significant safety components. The new path forward is to continue crediting the fans as safety significant and allow senior RL management to determine if they are willing to accept the risk that the fans may not operate when needed to mitigate accident consequences.

The site reps accompanied the ventilation system engineer on a quarterly system walkdown in the Plutonium Reclamation Facility (PRF). It included observations of equipment associated with an exhaust duct section that the contractor recently learned had been damaged during an explosion in a tank 17 years ago (see Activity Report 5/23/1997). The data collected during the walkdown may be used to inform equipment repair decisions and other changes to rebalance the ventilation flow in PRF.

Following additional curing time, the contractor noted that the light-weight concrete tested last week (see Activity Report 6/20/2014) contracted, cracked, and did not have the expected strength. They are working with the vendor to determine the cause for these unexpected results and the impact it will have on current D&D plans.

242-A Evaporator. ORP issued a Safety Evaluation Report for the safety basis amendment that addresses the unreviewed safety question on fire impacts to safety significant components and includes a compensatory measure for steam isolation (see Activity Report 5/16/2014).

Waste Treatment Plant. The contractor formally transmitted their final version of the Safety Design Strategy for the High Level Waste facility to ORP.

Low-Activity Waste Pretreatment System. The contractor held a control decision meeting to support conceptual design. They used previous work supporting the Interim Pretreatment System as a starting point for the effort and selected an initial set of proposed controls for waste leaks and misroutes, flammable gas accidents, and high temperature scenarios.

Processing Canyons. During the extent of condition review for the WIPP accident, the contractor noted degrading conditions prevented them from inspecting portions of the former fuel processing canyons (see Activity Report 6/20/2104). This week, the contractor determined that these inspection restrictions do not result in the facilities being outside their safety bases.

Waste Encapsulation and Storage Facility. The contractor completed the alternatives analysis for the upgrade to the K3 ventilation system (see Activity Report 5/23/2014).