

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 24, 2012

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending August 24, 2012

Waste Treatment Plant (WTP): The Office of River Protection (ORP) Director of the WTP Engineering Division (WED) sent a memorandum to senior ORP management identifying a significant number of instances in which the contractor's technical advice and design solutions were considered inadequate or incorrect. The WED director concluded that the number and significance of these issues indicate that the contractor is not competent to complete their role as the Design Authority (DA) for WTP. The director made a number of recommendations, including selection of an independent DA that represents the interest of DOE and identification of an independent operating contractor with approval authority for design and system turnover.

Plutonium Finishing Plant: The site rep observed the contractor responding in a controlled and professional manner to three concurrent upset conditions. The most significant event was the discovery of 10,000 dpm alpha (direct reading) contamination on wood cribbing that was in the process of being moved from a radiological buffer area (RBA) into a contamination area (CA). The next event involved contamination found on the bib of a worker who was doing a seal-out from a glovebox. The final event, noted during the evacuation for the first item, was a report that water was leaking from an eye wash station in an RBA into a CA. The shift manager and the emergency response team worked to obtain required information, make decisions, and direct appropriate actions.

Tank Farms: Inadequate hazard analysis and control development coupled with an alarm that had been inoperable for years resulted in the potential exposure of workers to hazardous waste vapors and airborne contamination. Workers were modifying a pipe in the 242-A Evaporator facility that was connected to the headspace of double-shell tank AW-102. The vacuum in the tank is typically greater than the vacuum in the facility, but when the tank's ventilation system is off and the loop seal level is not filled, the evaporator facility's ventilation system draws air from the tank. Workers identified that at times air was going into the pipe and at other times it was flowing out but did not recognize that the loop seal was not working properly for several days. Some potentially affected workers were not promptly notified when the possible exposure was recognized. The loop seal has a low-level alarm, but it had been out of service for several years. Work planners had assumed that the seal was functional and therefore did not identify it as a control during the work planning process. It appears that assuming loop seals are functioning properly is a common practice.

The contractor determined that they removed enough waste from single-shell tank C-104 that it meets the criteria for the completion of retrieval. This is a significant accomplishment as it is the first tank to reach this state in more than five years.

River Corridor Closure Contract: The contractor held a fact finding to discuss why they did not tag-out a high pressure steam line in Building 324 prior to replacing a valve. The steam plant is in another building and controlled by a different contractor. The boiler is open for maintenance, so the supervisors of the valve replacement work concluded that no hazardous energy was present and no tag-out was required.