

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 20, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending August 20, 2010

R. Quirk was off-site this week.

Waste Treatment Plant (WTP): The contractor held an integrated safety design meeting to discuss the hazards associated with inspection ports in vessels in the Pretreatment facility. They envision that the ports would allow inspection inside the vessels to determine the amount of accumulated solids. The current design direction would have two inspection ports per vessel and each would consist of an 8-inch-diameter pipe extended down to the vessel from the floor above. The 8-inch diameter was based on the anticipated size of the camera and its ability to navigate bends in the pipe. The hazards identified include potentially high dose rates due to streaming from the tank below and the spread of contamination due to air flow reversals out of the tank during inspections. Some participants in the meeting expressed that it may be difficult to design the ports in a way that allows visual observation of the bottom surface of the tank because of all the obstructions associated with pulse jet mixers and structural supports that are in the vessels. In at least one case, the room on the level above the vessel is a high-dose, unoccupied space (C5 area), therefore, that port could only be accessed remotely.

In another safety design meeting, the contractor discussed the seismic shutdown switches that secure electrical power after a design basis earthquake in the Pretreatment and High Level Waste facilities. Currently, the PDSA requires a control room operator to remotely secure all non-important-to-safety electrical power to the facilities after confirmation of the earthquake. Electrical engineers on the project want to change the requirement to allow isolation of the specific components that could cause the hazardous condition post-earthquake because they already have electrical isolation switches in the design for many components for other events.

River Corridor Closure Project (RCCP): The site rep met with contractor senior management to discuss observations and concerns on several projects. Topics included the recently completed shipment of the two high-dose debris containers from B-cell and the hazards associated with future large-scale diamond wire cutting of the cells at Building 324. Also discussed were the recent events at ERDF, including the near miss event in which a small crane flipped over (see Activity Report 8/6/10). The root cause analysis for this event is nearing completion.

The site rep conducted a walkdown of the 618-10 burial ground and observed the progress in the performance of intrusive characterization of the trenches. The contractor has completed digging two exploratory trenches and has encountered less debris than expected, but the project did encounter drums with uranium turnings packed in oil as expected. One of these drums has been retrieved and is in the process of more detailed characterization to determine the appropriate disposal path. The project is continuing this exploratory trenching and will modify their safety approach as needed based on what they find. Full-scale remediation of the trenches will most likely start in late spring of next year.

During the walkdown of the burial ground, the site rep was able to observe an area of land to the north that had been blackened by a range fire that burned roughly 1,300 acres. Firefighters constructed fire breaks that stopped the fire before it could threaten any nearby facilities.