

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 29, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending July 29, 2011

R. Quirk was out of the office this week.

618-10 Burial Ground: The site rep met with contractor project managers at the burial ground to discuss the status of remediation activities and receive updates on corrective actions from recent events. The project has uncovered nearly 190 anomalies, including concreted 55-gallon drums, 30-gallon drums with metallic shavings, and significantly more bottles of liquids than expected. The bottles vary in size from two-ounce vials to one-gallon plastic jugs. The project was planning to use one of their two drum punch stations (DPSs) to break open the bottles, but that station has been out of commission for repairs. The site rep questioned if there were limits on what could be safely opened in the DPS, but management was not aware of any such limits and they appeared to rely solely on the judgment of the resident engineers (REs) in the field. Since the contamination spread event occurred a few weeks ago (see Activity Report 7/15/2011), the project has been trying to devise a new method to stabilize the bottles prior to removing them from the trench. The method currently being pursued involves placing the bottles in a tray in the bottom of the trench, covering them with dirt, and using the excavator to crush them. Once the bottles are crushed, the tray would be grouted, but the means to sample the contained liquids and the required controls have not yet been devised.

The corrective actions from the concern expressed by the DOE facility representative (FR) (see Activity Report 7/1/2011) are being implemented and include rewriting procedures, conducting training, and assigning a Compliance Officer. The FR is closely monitoring these actions.

The site rep also conducted a walkdown of the burial ground with the deputy project manager and noted that the status board tracking the location of in-process waste had not been updated. Two drums had been moved to a sampling location, but the board still showed them in their storage location. The error was pointed out to the RE who quickly corrected the deficiency.

Waste Treatment Plant (WTP): The project held an integrated design meeting to discuss controls to protect workers from potential leaks from the ventilation system in the Analytical Laboratory facility. More than two years ago, the ventilation system that supported the hot cells was downgraded to less than safety-significant because the control strategy was changed to having alarming air monitors adjacent to pressurized ducts and workers evacuating the facility during upset conditions (see Activity Report 3/13/2009). The project is now evaluating if a preventive control should be used to protect workers from a leak in a duct upstream of the fans. Several meeting participants appeared baffled at the decision to downgrade the ventilation system and asked repeatedly what it would take to make them safety-significant again. The leader of the review decided that a hazard and operability analysis of the ventilation system is needed.

K West Basin: The project determined that a potential inadequacy in the safety analysis exists because the estimated frequency for similar events was different in separate hazard analyses. The K West Basin FSAR determined that a pipe break that could overflow the basin was an unlikely event while a line break due to water hammer in the infrastructure hazard analysis had a qualitatively assigned frequency of anticipated.