

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 26, 2010

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending March 26, 2010

R. Quirk was in training and off-site the rest of the week.

Plutonium Finishing Plant (PFP): A worker was injured from inhalation of nitric acid vapors during D&D work. Workers were removing nitric acid transfer piping when a small amount of residual acid spilled from a 2-foot section. From discussion during the fact-finding, the project personnel believe the most likely scenario for how the worker received the inhalation is that some of the spilled acid landed directly on the filter of the worker's respiratory protection unit. The work area near the pipe had been fitted with a ventilated drape for vapor control and a catch basin was installed to collect any residual nitric acid in the pipe. This localized ventilation had been smoke-tested to ensure consistent air flow, but earlier this week workers had to leave the room as a precaution from smelling chemical odors while doing similar work. The air purifying respiratory protection worn by the workers was fitted with particulate filters and the localized ventilation was the planned protection for the vapor hazard. In addition to the worker who was injured from the vapors, seven other individuals were sent for precautionary medical evaluation and six of these individuals had no indications of immediate adverse effects; the status on the seventh is unknown.

Fire Department maintenance personnel were troubleshooting a temperature sensor when they inadvertently bypassed the interlock that secures ventilation during a fire in certain areas of the facility. Bypassing the interlock represents an entry into a limiting condition of operation. The error was quickly discovered, and the system restored and verified operable.

222-S Laboratory: A technician spilled a small sample of tank waste when it was dropped during placement into a storage cell. The sample was 5 milliliters of recently collected waste from double-shell tank AZ-101. The technician was carrying the sample in a lifting apparatus in one hand and was attempting to unlatch the storage cell door with the other. The glass sample bottle fell from the apparatus, broke open, and spilled the waste on the floor. The technician immediately called for assistance and spill response measures were taken. Radiological controls technicians conducted a whole body survey and found a small amount of contamination on the personal protective clothing, but there was no skin contamination and nasal smears were negative. In addition, no spread of contamination was found outside the room. Personnel donned double sets of anti-contamination clothing, including supplied air respiratory protection, and re-entered the room to conduct a survey of the area and they minimized spread of the contamination by putting a wet towel over the spill area. It appears that the personnel followed their response procedure and are preparing a recovery plan to clean up the spill and decontaminate the area.

Tank Farms: The Office of River Protection completed an assessment of the quality assurance practices at Tank Farms. Two findings were discussed at the exit briefing along with eight observations. The findings were: (1) the records stations were not always maintained as required, which resulted in some records being unprotected or unsecured; and (2) audit reports did not always report conditions adverse to quality as findings, which resulted in inadequate corrective actions.