

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 31, 2002

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending May 31, 2002

Tank Farms: An electrician working near tank U-109 cut an energized 120 VAC heat trace cable. When the line was cut, there was more than normal sparking and a breaker tripped. The electrician did not feel a shock though. Based on the Event Investigation Team's preliminary report, there appeared to have been several breakdowns in the work planning and execution:

- Normally when disconnecting interim stabilization (IS) pumping systems, the main breaker in the dilution panel is locked out. However, because troubleshooting was being performed on nearby IS equipment, it was decided to just de-energize the power from the metering pump control station.
- This normally would have been adequate except the power supply to the heat trace was configured differently than in several other tank farms.
- The drawings did not depict the routing of the heat trace adequately.
- The Lock and Tag Administrator noted apparent discrepancies between the drawings and the actual field conditions. He noticed that the correct breaker was labeled "Heat Trace U-109" on a drawing and in the field, but believed the power source was another breaker based on the configuration in other tank farms.
- A safe condition check confirmed that the load side of the affected, but incorrect, breaker had been de-energized, however, a check was not performed on the heat trace itself.
- Workers noticed a nearby heat trace line was slightly warm and possibly still energized. The Field Work Supervisor told the electricians not to work on that line, but did not consider that the heat trace line they were working on might still be energized.
- Conduit and piping were removed using a double insulated portable band saw although the Job Hazards Analysis did not anticipate the use of power held hand tools and did not provide any controls.

CH2M Hill Hanford Group(CHG) is reviewing all other recent lock and tag events and has issued a Lessons Learned. All electrical work requiring Authorized Worker Locks or Lock and Tag within Interim Stabilization has been suspended pending an investigation. In addition, a standing order was revised to state that if safe condition checks or safe to work checks cannot be performed where the exposure to electrical energy could occur (i.e., where the conduit is to be cut), the job will be treated as work on energized equipment and require an energized electrical work permit. The Site Rep is investigating what, if any, actions the Office of River Protection or CHG had taken in response to recent, similar events at Oak Ridge and Rocky Flats. (I-C)

Plutonium Finishing Plant (PFP): PFP has submitted an application for process qualification of their stabilization and packaging equipment (i.e., the Project W-460 line) as allowed by DOE-STD-3013. The technical review of the application will be performed by a team consisting of representatives from Savannah River, Rocky Flats, Los Alamos, and Lawrence Livermore. (III-A)

cc: Board Members