

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 27, 2002

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending September 27, 2002

Tank Farms: A project engineer troubleshooting a locked in alarm at the 242-A Evaporator identified that a jumper between two terminals that was shown on a project drawing had not been installed in a panel. The engineer then had an electrician (assigned to a different job) install the jumper on the energized panel even though this activity had not been authorized and they did not have a work package. However, they did not notice that there was another internal jumper present that was not shown on the drawings. The installation of the new jumper combined with the other jumper connected 120 volts AC with the neutral line. This event has similarities to a serious near miss event in July where an electrician at the Cold Test Facility (CTF) also performed unauthorized work on an energized system (1600 amps, 480 volts) without any controls. In that case, the worker was burned by an arc flash which ultimately caused a loss of power to the entire CTF complex. In other recent events, workers have inadvertently worked on energized equipment or disabled safety equipment. The Site Rep discussed this with the CH2M Hill Hanford Group Deputy General Manager, who has called for a common cause analysis of 10 recent electrical events. (I-C)

Spent Nuclear Fuel Project (SNFP): The contractor Operational Readiness Review (ORR) for the Fuel Transfer System (FTS) commenced on September 25. This represented a week of delay to allow additional operator familiarization with the equipment and procedures following construction delays. While operations performance of the FTS equipment was identified as good, procedures had not been updated to reflect the turnover of the FTS annex crane from construction to operations and the shift manager was not aware of his responsibilities for verifying crane inspection status. During the first day of demonstrations, a continuous air monitor alarmed. The radiological control organization acted quickly and effectively in clearing the basin. During the recovery actions it was stated that voltage spikes had caused numerous recent alarms and the alarm ceasing as the evacuation was completed indicated that this was also a voltage spike. As a result, management made an unconservative decision to not have the responders wear respiratory protection while verifying the cause of the alarm. In addition, all of the required actions of the alarm recovery procedures were not performed. The movement of empty fuel canisters into the cask also raised concerns when the operators allowed multiple canisters to impact the jackscrews for the cask lift table. The ORR team also identified a concern with LCO surveillance procedures for equipment not being performed and only table top verifications being conducted to determine the adequacy of these procedures. (III-A)

Waste Treatment Plant: Bechtel National Inc. has hired Olson Engineering to examine the cold joint. Impact echo analysis identified some areas in the 4' thick portion that appeared to have some softness near the surface. Olson is performing spectral analysis of surface waves now to determine the thickness of the possibly soft concrete in these areas. (I-C)