DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 20, 2009

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending November 20, 2009

Board staff members C. March and J. Troan were on-site reviewing site-wide fire protection programs and conducted walkdowns of the Plutonium Finishing Plant (PFP) and the fire protection water distribution system.

Tank Farms: The Office of River Protection (ORP) approved the justification for continued operation (JCO) for the waste transfer pump for double-shell tank (DST) AN-101 that has inoperable pressure-relieving devices (see Activity Report 11/13/09). The compensatory actions are Specific Administrative Controls and include: controls for the overspeed setpoint of the variable frequency drive (VFD); and continuous monitoring of the discharge pressure of the pump during operation and immediate shutdown of the pump if the pressure exceeds a setpoint less than the maximum design pressure for the transfer system. The JCO will expire when the near-term planned waste transfer operations are completed, or by January 31, 2010, whichever occurs first.

Other issues identified by the site rep, such as using a test procedure to perform the transfer and lack of a formal control area, were resolved. The site rep noted that the additional controls were implemented when the waste transfer began on Friday afternoon. Additionally, the site rep noted opportunities for improvement in the transfer procedure, the pre-job briefing, and the startup of the transfer, and discussed these with ORP senior management and facility representatives. There was adequate margin between the actual discharge pressure and the high pressure setpoint.

The contractor conducted a control decision meeting to discuss the controls required for waste transfer pumps powered by VFDs. The conclusion from the meeting was that pumps that are incapable of producing pressure greater than the system design pressure should be installed in the future. If this cannot be done, pressure-relieving devices should be used or there should be an automatic, safety-significant trip device to prevent over-pressurizing the waste transfer system. The trip device would have to meet the requirements of ISA 84.00.01.

Plateau Remediation Contractor: During the extent of condition review for non-conservative assumptions in a criticality safety evaluation reports (CSER) (see Activity Report 7/10/2009), the contractor identified problems with assumptions in three CSERs at the 100 K Closure Project. Three new potential inadequacies in the safety analysis were identified, but the contractor anticipates the unreviewed safety question evaluations will be negative. Three similar problems were also noted in CSERs at PFP and, as a result, all of the CSERs at PFP will be reviewed.

Solid Waste Operations Complex: The Richland Operations Office conducted a surveillance of the contractor's effectiveness in the application of fire protection requirements and noted three findings. One of the findings is related to not using the appropriate codes and not applying the most recent edition of the applicable codes for fire protection. The other two findings dealt with not having code requirements in the implementing procedures for the Waste and Chemical Management Programs. These requirements are from NFPA and the International Fire Code and provide maximum allowable quantities of material in facilities or controlled areas.