DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 18, 2001

TO: K. Fortenberry, Technical Director

FROM: M. Sautman, Hanford Site Representative

SUBJ: Activity Report for the Week Ending May 18, 2001

Tank Farms: Citing concerns with conduct of operations and their Integrated Safety Management System implementation as exemplified by near misses, authorization basis issues and violations, findings by independent review teams, etc., the Office of River Protection (ORP) sent CH2M Hill Hanford Group (CHG) a letter expressing concern that there is not an effectively managed safety net to span the gap of risk while improvements are being made. ORP is requiring that CHG demonstrate their recognition of current vulnerabilities and immediately implement actions to mitigate risk. Last week, a facility representative identified that swivel hoist rings on a pump pit cover were incorrectly installed and that CHG did not follow their processes for addressing this issue. In addition, a near miss occurred when a 3/4" steel plug was forcibly ejected between 50 and 75 feet. A construction crew was trying to remove the plug from a quick disconnect in preparation for a pneumatic pressure test of some newly installed transfer piping. During earlier maintenance of the manifold, a several inch section of the manifold was isolated and accidentally pressurized to an estimated 400 psi. No one was injured, but the consequences could have been much worse since a worker had been standing directly in front of the plug trying to remove it by hand moments before. After the ejection, the test was allowed to continue. Discussions of the incident's facts and the ensuing work stoppage were marred by poor communication between CHG and their subcontractor. Unlike other critiques, the presence of a senior CHG vice president ensured that the circumstances of the event were scrutinized in more detail. The maintenance of the manifold was performed in an informal manner that solely relied on one worker's memory to ensure that the entire system was depressurized correctly. (1-C)

CHG has recommended immediate caustic additions be performed for two additional tanks, AW-102 and AN-106, to ensure they are within chemistry specifications. It has also been recommended that the caustic addition to AN-102 be limited to avoid increasing the risk of creating a gas release event. (3-A)

Plutonium Finishing Plant (PFP): The unmitigated dose consequences of a fire in the area where 3013 cans are to be handled are 15,000 rem on-site and 250 rem off-site, and possibly much higher if multiple cans fail. The large doses result from: 1) the quantity of fixed combustibles and the room's geometry can lead to a flashover, 2) the general service fire suppression and a ventilation interlocks cannot be credited for preventing a HEPA filter failure, 3) the belief that the high temperatures lower the burst pressure of the can while increasing the internal can pressure, and 4) the use of much higher consequence assumptions since the release is pressurized. A Justification for Continued Operations is being submitted to allow packaging to continue while the uncertainties are further analyzed and controls to prevent flashover and unfiltered releases are evaluated. The staff believes a JCO is an appropriate response since storing plutonium oxide in 3013 cans is still safer than continued storage in food pack cans.
cc: Board Members