DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 9, 2007

TO: K. Fortenberry, Technical Director
FROM: R. Quirk and W. Linzau, Hanford Site Representatives
SUBJECT: Activity Report for the Week Ending March 9, 2007

Staff members J. Blackman, A. Gwal, R. Layton, C. March, S. Stokes, and outside experts J. Stevenson and N. Vaidya were on-site reviewing the structural, fire protection, and electrical design of the Waste Treatment Plant. The staff also reviewed site-wide fire protection and electrical safety programs as well as the fire protection and electrical systems at the K Basin Closure project and the 242-A evaporator.

K Basin Closure: Project personnel believe they have completed the transfer of the sludge in K East (KE) container 102 to K West (KW) Basin. This is the first of four containers in KE Basin to reach this stage. Confirmation of the status cannot be made until cameras are lowered into the container. The submerged booster pump in the KE Basin was replaced because a crack had developed in the casing near the discharge pipe. Design changes implemented last month (see Hanford Activity Report 2/16/07) appear to have resolved many of the operational problems. Beneficial changes to the retrieval process that were implemented this week included using a high-pressure washer wand to break up the hard sludge at the bottom of the container and using a remote-reading radiation monitor to augment the installed instrumentation used for monitoring the concentration of suspended solids.

A recent management self-assessment of the Sludge Treatment Project noted that there are a number of significant risks that need to be addressed. The assessment team recommended the identification of mitigation activities for these risks as well as an update of the project baseline. The team also recommended an evaluation of the applicability of the criteria for critical decision (CD)-1 and CD-2 reviews prior to declaring readiness for CD-3. The risks noted by the team included the ability to transfer sludge from KW Basin to the corrosion vessel at steady, predefined suspended solids concentrations; the use of the assumed contents in the unsampled knock-out pots and settler tubes in KW Basin as well as the ability to retrieve this material; the assumption that the corrosion vessel agitator will operate nearly continuously without failure; seismic issues that are not completely resolved; and potential issues with the disposition path for the treated sludge.

Waste Treatment Plant: The project briefed the Board's staff on the fire protection program self-assessments that have been completed over the last three years. Most of the deficiencies found during the assessments appear to be failures to flow down fire protection requirements into the design, not weaknesses with the program. Examples of the deficiencies noted were missing fire barrier requirements and missing requirements to slope floors in truck bays to control fuel leaks. It is unclear why these deficiencies are not captured in an assessment that verifies the flowdown of safety requirements into the design.

Washington Closure Hanford: The project commenced readiness checks for the resin sluicing activity at 107N building (see Hanford Activity Report 2/9/07). This work is part of the decontamination and demolition work at the N Reactor complex.