DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 21, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending January 21, 2011

Board staff members M. Horr and J. Troan were on-site to review various Richland Operations Office projects. Additionally, S. Stokes was here to observe Waste Treatment Plant contractor training and have discussions with the contractor and the Office of River Protection (ORP).

Tank Farms: The contractor declared a Potential Inadequacy in the Safety Analysis (PISA) because they had not tested a number of waste transfer jumpers to the correct hydrostatic leak test pressure. The jumpers were leak-tested at 600 psig rather than the required 667 psig and the breadth of the issue may include most, if not all, installed jumpers with valves except for those procured since last year. The applicable code of record, ASME B31.3-2002, *Process Piping*, requires the leak test pressure to be adjusted if the test temperature is less than the design temperature. The jumpers were leak-tested at 100° F rather than the design temperature of 200° F. The valves in question have different steel at the butt weld end and the code requires a larger adjustment for temperature when determining the test pressure in this location. The contractor restricted the use of the affected jumpers, but ORP agreed that they could classify this condition as a pre-existing test deficiency and approved using the jumpers within the C-104 transfer route. The contractor anticipates that this condition will result in a positive unreviewed safety question determination. The Technical Safety Requirements (TSR) requires the jumpers to be leak-tested; the site rep questioned the ORP nuclear safety staff and the contractor why this is a PISA and not a TSR violation.

Waste Treatment Plant: ORP started an assessment of the contractor's process models used to estimate plant availability, material balance, and throughput. The lines of inquiry include a check to see if the models reveal deviations from safety limits, such as hydrogen generation rates and waste dose limits. Also being assessed is if the models account for stratification and precipitation of chemical components of the waste during processing. The ORP assessment report is scheduled to be completed at the end of February.

The contractor announced a reorganization that eliminates the position of Project Technical Director, and now engineering and nuclear safety have separate and independent reporting chains to the Project Director. In addition, a new assistant director position has been created to support transitions between construction completion, systems acceptance testing, and facility operational readiness reviews. This group will include the Start-up Manager and Tank Farms Integration Manager.

Emergency Response: The Mission Support Contractor will be reviewing the emergency response procedures and training to address the confusion with command and control noted in the drill at 12B burial ground (see Activity Reports 1/7/11 and 1/14/11). The Hanford Emergency Management Plan indicates that the Hanford Fire Department (HFD) takes command after turnover from the facility's Building Emergency Director, but the HFD training indicates that they take command once they arrive at the scene.