DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 14, 2007

TO: K. Fortenberry, Technical Director
FROM: R. Quirk and W. Linzau, Hanford Site Representatives
SUBJECT: Activity Report for the Week Ending December 14, 2007

Staff members J. Troan and R. Zavadoski were on-site this week to review the confinement system for the Demonstration Bulk Vitrification System.

Waste Treatment Plant: The contractor completed the root cause analysis for the quality control problems identified with the black cell piping (see Hanford Activity Report 10/26/07). Two root causes were identified: 1) the contractor did not have a process to ensure that the supplier understood and implemented the specification for black cell piping, and 2) the project did not have a process to recognize the significance and consequences of identified issues. For each root cause there are a number of contributing causes such as: schedule consideration, cost factors, and production pressures in 2004 that hindered critical thinking; and the lack of a questioning attitude that resulted in missed opportunities to identify and address the problem. The contractor was self-critical in that the failure to ensure quality was directed at themselves and not the vendor. A significant number of corrective actions and recommendations are included in the report, but the details for each corrective action, several of which involve management assessments, will be captured in a single corrective action plan (CAP).

The site rep observed testing to gather data on potential plugging of the ultrafilters. The purpose of the testing is to determine if a hydrogen vent path to the upstream vessel will remain open after shutdown and if a viable filter flux can be maintained. The testing is being conducted to NQA-1 standards. Both horizontal and vertical filter configurations are being tested along with flushes with air and pressurized water (also known as a "Power Flush").

The Office of River Protection completed a software quality assurance assessment. The team determined that the project is in transition in implementing a DOE O 414.1C compliant process. Weaknesses were noted in the contractor's program, but the team found that in most cases work was conducted appropriately and no errors in calculations or other software outputs were found.

Solid Waste Processing Capabilities: The contractor is sponsoring an independent team to review the selection process of alternatives for the new facility to process large-package and transuranic waste. The project has received CD-0 approval and the contractor is hoping to provide preferred options to DOE in March 2008 (see Hanford Activity Report 10/26/07). The contractor has committed to following the draft 1189 standard. The team will have the first on-site workshop in January with a follow-up meeting in March. One of the options being considered is modifying T Plant and the team's agenda includes a discussion of the seismic considerations.

River Corridor Closure Project: The Richland Operations Office (RL) directed the contractor to prepare a CAP for the four concerns identified in the ISMS Phase II Verification Report. RL commended the contractor on their significant progress but believes it is necessary to resolve these concerns to establish mature and effective ISM processes.