

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 12, 2008

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending December 12, 2008

Solid Waste Operation Complex (SWOC): The Richland Operations Office (RL) approved the Justification for Continued Operation (JCO) addressing aging HEPA filters at T-Plant and the Waste Receiving and Processing (WRAP) Facility. The JCO was submitted to RL because of the positive Unreviewed Safety Question Determination (USQD) for HEPA filters older than 10 years. At WRAP, four safety-significant HEPA filter banks are 11 years old and T-Plant has filter banks that are 16 years old (four banks for 291-T and one filter train at 2706-T). RL is willing to accept a small increase in risk until the JCO is closed considering the low filter loading, the existing Technical Safety Requirements (TSR) controls that limit the material at risk (MAR), and a new TSR differential pressure limit for operation of the HEPA filters (four inches water column). In addition, the RL approval is contingent on a Condition of Approval that requires the contractor to revise the safety basis related to the affected areas by April 1, 2009, and provide a report that contains safety basis strategies that support activities that resolve the issue. The contractor is planning to replace the filters that are older than 10 years.

K Basin Closure: The demolition of the K East Basin is being accomplished in four phases. The first phase, already completed, included grouting the ion exchange columns (IXCs) and sand filter (SF), removing the superstructure over the basin and Fuel Transfer System, and removing above-grade equipment except the IXC and SF. The second phase is underway and the contractor is using saws to remove these last two pieces of equipment as well as the ground floor slab. Phase three will remove the upper 10 feet of the basin wall and associated controlled density fill. The MAR for this section would be greater than the hazard category (HC)-3 threshold, but this week RL approved this work as a less than HC-3 activity based on low dispersability and segmentation. The final phase, which will remove the remaining basin wall, floor, debris, and leachate system, will be done as a HC-3 activity and will require a new Documented Safety Analysis (DSA).

Tank Farms: Miscommunication between the Office of River Protection (ORP) and the contractor resulted in the contractor removing, outside the normal amendment process, the requirement to leak test safety-significant waste isolation valves per the standard in the DSA (see Activity Report 11/28/2008). The site rep questioned the appropriateness of using a USQD to remove DSA performance requirements for new valves. ORP concurred with the site rep and took action to ensure the DSA will be updated within a few months to resolve this issue. A JCO will be approved before the affected valves are used for leak isolation. A question on the appropriateness of the DSA specified standard was raised in a Board letter dated 9/17/08.

Waste Treatment Plant (WTP): The Criticality Safety Support Group (CSSG) reviewed the WTP Criticality Safety Evaluation Report (CSER) and determined there were no fundamental flaws. There were no findings, but several recommendations and observations were made, including the need to document process assumptions, clearly identify sampling requirements, evaluate operational constraints due to the uncertainty of tank farm waste contents, and address the impact of a design basis earthquake. The CSSG will probably do another assessment within three years.