DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 11, 2003

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending July 11, 2003

Tank Farms: CH2M Hill Hanford Group (CHG) has completed a preliminary investigation of the June 25 contamination event which resulted in 12 workers having positive nasal smears (two of which also had skin contaminations) and will be conducting root cause analyses for both the contamination event and its response. This pit work was initially screened as high radiological risk work, but was later reduced to medium risk based on past performance of similar work so no enhanced work planning session was held. (Note that a June DNFSB staff work planning review identified that CHG had among the highest thresholds in the complex for requiring a formal work planning process). The health physics technician counting contamination samples unsuccessfully tried to stop the work. CHG has developed compensatory actions and is planning future contamination drills to address the command and control problems seen for serious events like this which do not trigger the declaration of an emergency.

Recent core samples taken from AY-102 indicate that the sludge was not in compliance with Corrosion Mitigation Administrative Control limits for free hydroxide and nitrite. These samples were taken from the same riser that NaOH and $NaNO_2$ were added in February and November 2001, respectively. In addition, core sludge results taken in April 2002 from the other side of the tank were in compliance with the limits and seemed to indicate that natural mixing had been adequate. The latest results call into question whether depletion is occurring faster than predicted or whether there were problems with either the April 2002 or 2003 samples or their analysis.

A CHG Management Assessment of the Tank Farms Criticality Safety Program found that the program is functioning at a barely adequate level. Although no actual safety problems were found, the administrative procedures controlling the criticality safety program had not routinely been complied with, and key engineers and field work supervisors demonstrated an inadequate level of criticality safety knowledge for the tasks they perform. (I-C, III-A)

Spent Nuclear Fuel Project (SNFP): In addition to the problems discussed in last week's activity report with the improper use of categorical exclusions, DOE identified that other issues documented in the Fluor Hanford (FH) engineering assessment were not resolved adequately. Reevaluation of the engineering documents has resulted in the project discovering 2 Potential Inadequacies in the documented Safety Analysis (PISA) to date. In response to the inadequate resolution of engineering issues, FH central engineering will perform an independent review of the closure packages for all the issues identified by the FH engineering assessment. FH central nuclear safety personnel are also overseeing the reperformance of Unreviewed Safety Questions (USQ). The procedure for USQ performance has been changed to require a qualified USQ evaluator or SNFP nuclear safety to approve the use of a categorical exclusion. (I-C)

cc: Board Members