

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 29, 2004

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending October 29, 2004

Tank Farms: In general, the Integrated Safety Management (ISM) Improvement Validation Pre-Implementation Assessment found that ISM weaknesses had been identified by CH2M HILL Hanford Group (CHG) causal analyses and that compensatory measures appeared to be sufficient. The team determined that CHG's common cause analysis (CCA) of six radiological events was not really a CCA. CHG had reached the same conclusion and had already started performing a more methodical and comprehensive CCA that will address all of the events noted in the Board's letter. Job Hazards Analyses were found to be generic and did not provide a job specific work step analysis of hazards. Other findings addressed communication of management expectations, workforce knowledge of radiological controls, and first line supervisor understanding of Conduct of Operations and ISM. Managers above the first line supervisor were rarely seen or desired to be seen at the work site by the workforce. (IV)

Waste Treatment Plant: Radiolytic H₂ generation has resulted in two explosions in boiling water reactor primary system pipes, another 25 explosions/fires in reactor facilities, and bound pumps. Bechtel has developed a process for reviewing the H₂ accumulation potential for their pipes and ancillary vessels. Equipment of special concern includes pulse jet mixers, pump suction lines and spares, capped installed spares, and infrequently used equipment like ejectors and reverse flow diverters (some of which may reach the lower flammability limit within 14 hours). While the public dose consequences of a pipe explosion may be minor, an explosion inside the black cell would have significant operational impacts. The staff is following this issue closely. (III)

K Basin Closure Project: The contractor Readiness Assessment (RA) for sludge consolidation was held this week. The Tri-Party Agreement milestone for initiating this activity is October 31, 2004. The declaration of readiness identified four manageable prestart items. Two of these items were questionable. The first was to conduct the enhanced ALARA committee meeting to review the development and implementation of controls for the work. The failure to do this resulted in problems in integrating controls between operations and radiological control procedures. The committee also decided to defer issuance of radiological work permits for removal of tube settlers to a future date. This may not meet the guidance that manageable list items should be well defined with a well-defined closure path as additional actions resulted from the meeting. The second was to finalize the process and update the operating procedure to facilitate tube settler flushing, the main control for the major worker radiological hazard. The project continued to change the scope of work leading into the RA, changing the method of tube settler flushing and equipment planned to be used, without modifying the RA Plan of Action. The project did not develop an adequate startup plan to operations to account for these phased and contingent activities as well as work that could not be demonstrated during the RA. Some of these issues resulted in poststart findings. A prestart finding was identified due to the failure to implement a TSR administrative control to have a trending program for sludge level. (II)