

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 8, 2004

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending October 8, 2004

Tank Farms: CH2M Hill Hanford Group (CHG) completed a common cause analysis of seven radiation control events. Repetitive causes between events included: 1) hazard recognition and mitigation is not effective, 2) work planning and execution is not effective, and 3) substandard work practices and performance standards are demonstrated by field workers and supervisors. A series of management weaknesses was identified as common underlying causes. CHG will be issuing several new work control procedures next week. The Job Hazards Analysis will be required to have a documented analysis, the assumptions used in the analysis, method of implementation, and specific instructions for how the worker is to use the controls. (IV)

Waste Treatment Plant: Bechtel plans to protect two 6000-gallon ammonia vessels with a safety class earthen berm and safety significant vessels, shutoff isolation and pressure relief valves, piping, fittings, and vaporizer interlock. Bechtel is also trying to increase the design basis times to reach the lower flammability limit for hydrogen by excluding three of the worst feed tanks from the calculations. This may allow the elimination of redundant air supplies to pulse jet mixers. They propose addressing these three tanks by operating certain WTP vessels at a lower level or by blending the waste with other tank farm waste before shipment to the WTP. (III)

Recommendation 2000-2: When a major Documented Safety Analysis (DSA) revision for the Plutonium Finishing Plant was implemented the Vital Safety System (VSS) System Engineers (SEs) were not trained to the new DSA in a manner comparable to the old DSA as was required to become a qualified SE, e.g., an evaluation by a facility safety basis expert of each candidate's knowledge regarding the VSS and its relationship to the DSA. The lack of knowledge of the new DSA was a major factor in a recent TSR violation in which the SE approved the continued use of equipment despite it failing to meet the performance criteria of the TSR surveillance requirement. This was permitted under the old TSRs but not the new ones. Following this TSR violation, PFP initiated training comparable to that required for the initial qualification requirements. The Fluor Hanford training procedure for SEs does identify participation in DSA revisions as a continuing training item, however, it does not require an evaluation to determine if requalification is required based on the extent of the DSA change. The Site Rep will continue to review the corrective actions related to any needed system engineer procedure changes and site-wide training implications. (IV)

Plutonium Finishing Plant (PFP): Following the TSR violation discussed above coupled with other recent TSR violations, PFP has restricted all fissile material movement and work that require entry into TSR Limiting Conditions of Operations (LCOs), excluding those necessary to maintain compliance with the DSA or safety of workers. The project has developed corrective actions to evaluate the current plant compliance with the DSA and the level of knowledge of personnel regarding the DSA. Observations of a recent management assessment of DSA implementation will also be evaluated. Resumption of restricted activities will not occur until these actions are complete and independently reviewed by the Fluor Hanford Regulatory Compliance group. (II)