

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 21, 2007

TO: K. Fortenberry, Technical Director
FROM: R. Quirk and W. Linzau, Hanford Site Representatives
SUBJECT: Activity Report for the Week Ending September 21, 2007

Tank Farms: The DOE Type A team issued the first volume of their investigation report of the spill of tank waste from S-102 (see Hanford Activity Report 7/28/07). The root cause was determined to be a failure to implement the safety basis requirements to provide isolation of the dilution hose from the waste transfer route. The report listed 16 judgments of need (JONs) in the areas of engineering design, industrial hygiene and medical programs, work control, emergency management, and management systems.

The contractor's root cause report for the event leading up to discovery of the spill was also issued this week. The root causes in the contractor's report were the system design was inadequate as it did not meet safety basis requirements, and the management of changes to design, operation, and safety basis was deficient. The contractor's report for the health effects from the spill is still being developed.

The contractor paused work for two days to address a number of safety infractions, including an event in which workers failed to wear respiratory equipment required by the radiological work permit (RWP). Workers were removing sampling equipment from a miscellaneous underground storage tank, U-361, and failed to recognize the requirement in the RWP for respiratory protection. There was no indication of contamination of personnel.

Plutonium Finishing Plant (PFP): Richland Operations Office (RL) directed the contractor to declare a Technical Safety Requirements (TSR) violation because of missed fire protection systems inspections, testing, and maintenance. The administrative control (AC), through its implementing safety management program (SMP), requires the fire alarm and suppression systems to be maintained to meet National Fire Protection Association and DOE standards. PFP currently has 32 overdue testing and maintenance activities. RL concluded that a TSR violation is appropriate because the SMP noncompliance demonstrated a programmatic breakdown of a key element of the AC.

Waste Treatment Plant (WTP): The contractor restarted construction of the High Level Waste (HLW) facility this week following a curtailment of work for about 20 months. The restart of construction at HLW was defined by the placement of concrete in the facility. The contractor conducted various reviews of design and construction to ensure they were ready to restart. The site rep walked-down the formwork prior to the placement and noted it was clear of debris, reinforcement had minimal rust, and surveyors were checking the positions of embeds and the elevations of the forms.

The site rep met with the contractor to discuss the process being used to freeze parts of the design. Parts of the design are frozen when critical reviews are completed and no substantive issues are open that have the potential to significantly impact downstream designs. Freezing parts of the design does not mean it will not change, but significant changes require elevated reviews, such as an integrated review panel comprised of representatives from each engineering discipline.