

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 25, 2008

TO: J. Kent Fortenberry, Technical Director
FROM: M. P. Duncan and M. T. Sautman, SRS Site Representatives
SUBJECT: SRS Weekly Report for Week Ending April 25, 2008

Waste Solidification Building: The Board staff reviewed the hazards and accident analyses and proposed controls in the draft Preliminary Documented Safety Analysis.

Interim Salt Disposition Project: The first batch of ~390,000 gallons of salt solution has been qualified and is staged in tank 49. On Monday, the first transfer of salt solution (3686 gallons) was transferred from tank 49 to the Actinide Removal Process. The Site Rep observed the first strike with monosodium titanate. The operator was unable to flush the MST pail and supply tank and perform a series of valve manipulations within the required 10 minutes, which resulted in some MST flush solution not being added in time. The facility needs to balance their desire for speed with their desire for 3-way communications and use of phonetic alphabet for a series of valves with the same first 12 numbers/letters. During the critical time period, an operator lost a face shield while leaning over a guardrail, and there was a delay to retrieve the face shield. The operator was trying to wear a chemical face shield over chemical splash goggles. Old simulant is still being removed from the Modular Caustic Side Solvent Extraction Unit (MCU). The first transfer of filtered salt solution to MCU is expected next week.

Tank Farms: A Site Rep review of system engineer qualification cards, training records, and interviews reveals that while all tank farm engineers receive the same tank farm system overview courses, there is not an established process for ensuring they get the detailed, system-specific training and qualification required by DOE Orders.

Department of Energy: Management unveiled their plans for increasing the grade level of qualified facility representatives to GS-14 and instituting retention bonuses until the program is fully staffed. In addition, management approved the upgrade of several existing Safety System Oversight (SSO) engineers and the hiring of additional SSO and site engineers.

H-Canyon: As a result of the recent independent verification (IV) event (see last week's report), all flexible jumper installations will require a second person verification (SPV) between the initial installation and the IV. The IV will have to be performed by a person assigned to a different shift. SPV will also be required prior to loosening any Hanford connector heads to ensure the correct route/piping is being manipulated. Furthermore, all disrupted piping or installed piping will require more rigorous visual inspections and leak checks before starting a transfer. A new qualification card is also being instituted for crane supervisors.

Plutonium Disposition: Plutonium processed at H-Canyon is mixed with tank farm's sludge and processed into glass logs at the Defense Waste Processing Facility for eventual disposal at the nation's high level waste repository. Current processing plans at H-Canyon are designed to maximize the plutonium in each sludge batch. While the total volume of sludge is sufficient to accommodate the total mass of plutonium to be disposed, the current plutonium loading does not support having all the plutonium vitrified by 2019. As a result, research is being conducted to justify increasing the plutonium loadings in glass logs, possibly through the use of neutron poisons.