

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 8, 2007

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: J. S. Contardi/M.T. Sautman, SRS Site Representatives
SUBJECT: SRS Report for Week Ending June 8, 2007

Transportation: The proposed nonroutine transportation of high-curie transuranic waste drums involves Type B quantities in a Type A container. The inventory being transported is ~27 times the Hazard Category (HC) 2 threshold and ~2880 times the HC 3 threshold. The Department of Energy (DOE) is required to approve the safety basis of facilities that exceed these thresholds. However, DOE-Savannah River (SR) only approves the 28-page Transportation Safety Document (TSD), but not any of the actual transportation safety bases. On the other hand, DOE-Richland (RL) approves both nonroutine transfers and the shipment of Type B quantities in a Type A container. The Los Alamos Site Office (LASO) allows HC 2 and 3 Type B quantities to be shipped in Type A packages, but the TSD LASO approved also includes Technical Safety Requirements that apply to the transportation of quantities \geq HC 3 which are not transported in compliance with Hazardous Material Regulations. LASO also approves the use of any equivalent packages used in nonroutine transfers involving \geq HC 3 quantities of nuclear materials. In addition, both DOE-RL and LASO apply the Unreviewed Safety Question (USQ) process to transportation. If the proposed changes result in a positive USQ, their approval is required. (May 11 and June 1, 2007 Site Rep weekly reports).

Modular Caustic-Side Solvent Extraction Unit (MCU): This week the contractor initiated a mass transfer test for MCU involving all 18 contactors and actual process feed with the exception of the salt solution. The salt solution feed consisted of a simulant spiked with non-radioactive cesium. During the initial startup, both the organic and aqueous streams exhibited erratic behavior because the pressure on the process vessel vent header was outside of the normal operating range.

HB-Line: While in the Phase I control room, the shift operations manager noticed an illuminated safety significant alarm for low purge air flow. The alarm indicated that the condition had been acknowledged but the Limiting Condition for Operations (LCO) had not been entered. Facility personnel entered the LCO and performed the necessary actions. Information presented at the critique indicated that none of the control room operators had acknowledged the alarm. The instrumentation and alarm control card are being tested to verify that they are working properly. The domestic water supply to HB-Line was also temporarily lost during the week. HB-Line personnel had not been notified that Site Utilities Dept. Personnel were working on this system.

Plutonium Operations: K-Area personnel declared a Potential Inadequacy in the Safety Analysis concerning the potential for 3013 containers to contain greater than 4.4 kgs of plutonium. New information indicates that procedures utilized at Rock Flats may not support the assumptions used in calculations to demonstrate criticality is a beyond extremely unlikely event. Compensatory measures include the verification of shipping package weights to determine if they contain the expected level of fissile material.