

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 28, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: M.T. Sautman, SRS Site Representative
SUBJECT: SRS Report for Week Ending April 28, 2006

Mr. Contardi was off-site this week at a training course. Mr. Blackman and outside experts reviewed Salt Waste Processing Facility geotechnical and seismic issues. Mr. Winters observed the Readiness Assessment at the Savannah River National Laboratory:

F/H Laboratory: Workers had repacked a drum of transuranic waste, removed it from the glovebag, and were trying to get the lid back on again. When a worker pushed down on the plastic bags inside the drum, an unknown sharp object poked through the plastic sleeve, the worker's leather gloves, and two pairs of latex gloves, puncturing his palm. Although initial surveys did not find any contamination, subsequent monitoring indicated the presence of plutonium and americium in the wound. As a result, the wound was excised and the employee underwent chelation therapy. The potential presence of sharp objects was a recognized hazard. Tools were used during waste handling and compacting waste when the drum was in a horizontal position, but a tool was not used when the drum was put back into a vertical position because of concerns with breaching the sleeve. The repacking activity was suspended while the hazards analysis and procedure were revised and a new engineered control developed.

Transuranic (TRU) Waste Remediation: The TRU Drum Remediation Project Readiness Assessment (RA) commenced this week at the Savannah River National Laboratory and is ongoing. The RA team is identifying weaknesses with conduct of operations, procedures, and radiological protection. The Board staff observed dry runs, drills, and interviews. Meanwhile, preparations continue for starting TRU waste remediation in F-Canyon.

Solid Waste Management Facility: Last November, the mass for triggering various criticality requirements was changed to account for two standard deviations of the mass rather than one. This triggered a change in the required labeling of a > 485 fissile gram equivalent (FGE) drum, but this was not recognized until last week. Furthermore, this same drum was shown in their database as only containing 34 FGE rather than the correct 536 FGE. In addition, facility representatives identified that a TRU drum was moved which should not have been. While the initial mass estimate was low enough to allow movement, a subsequent review of the data determined that the best estimate of 1100 FGE would have exceeded the limit.

Tank Farms: 2F and 2H evaporator feed pumps were shut down after a Potential Inadequacy of the Safety Analysis was declared. There is a potential for waste being pushed back up into the flush water system during evaporator feed pump operations and feed pump priming operations and causing an aboveground spill. While this scenario was identified in the hazards analysis and process controls were in place, the control set specified in the documented safety analysis did not effectively prevent and mitigate this event. A Justification for Continued Operations that defined compensatory measures was developed later in the week.