

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 1, 2005

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi, SRS Site Representative  
**SUBJECT:** SRS Report for Week Ending April 1, 2005

**DNFSB Site Activity:** Board member Dr. Bruce Matthews was at the Savannah River Site (SRS) on March 28 and 29 to review the implementation of integrated safety management (ISM) and to meet with Savannah River Site Office and Westinghouse Savannah River Company management. Staff member Dan Burnfield assisted in the ISM reviews that included observations of operations in several tritium facilities. Staff member Matt Duncan was at SRS for a review of the Salt Waste Processing Facility. Staff members Neysa Slater-Chandler and Dan Burnfield were also onsite for a quality assurance workshop.

**Site Rep Activities:** On Tuesday, the site representative briefed the Citizens Advisory Board on nuclear material stabilization and storage at SRS. The briefing focused on staff reviews and Board correspondence regarding spent nuclear fuel, plutonium storage, and canyon utilization.

**H-Canyon Operations:** H-Canyon is currently processing unirradiated Mk-22 assemblies and plutonium contaminated scrap. These operations provide feed for the low-enrichment uranium blend down project and both are ahead of schedule. However, several recent radiological occurrences indicate a need to improve work planning. During two operations, significant contamination was discovered, which exceeded the radiological work permit suspension guidelines. In one case, the airborne radioactivity level approached the protection factor for the prescribed respiratory equipment. In another event, a swipe indicating approximately 600,000 decay/minute (alpha) was discovered during maintenance on a radioactively contaminated system. In both cases, the radiological hazards were not adequately identified in the work package nor were the preferred engineered controls implemented. Previous radiological events in late 2004 led to several work planning corrective actions (Site Rep weekly 12/17/04), which may need to be revisited.

H-Canyon is the sole reprocessing facility in the Department of Energy complex and is capable of significant near-term risk reduction activities. Unfortunately, future processing plans have yet to be formally established. Continued planning delays may impact future funding, the spent nuclear fuel program, complex-wide plutonium disposition, and nuclear material storage plans.

**F-Tank Farm Mercury Levels:** Elevated elemental mercury levels were recently discovered surrounding the exhaust system of Tanks 4 and 6. The measured values are approximately three times the 0.008 mg/m<sup>3</sup> limit. Organic mercury measurements were not readily available, but as a precaution the contractor assumed that dimethylmercury was present. In response to the findings, contractor personnel have barricaded off the area and are preparing a path forward. All work in the affected area has been suspended. Contractor management has required mercury monitoring during any necessary entries to the Tank Farm.