

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 14, 2008

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: M. P. Duncan and M. T. Sautman, SRS Site Representatives
SUBJECT: SRS Report for Week Ending March 14, 2008

Mr. Sautman was off-site this week.

Special Nuclear Material Consolidation: The site rep attended a meeting where personnel from across the complex discussed special nuclear material consolidation and de-inventory plans and their impact on operations at SRS.

Saltstone: WSRC convened an independent technical review team to examine the actions and decisions leading to higher than expected radiological contamination levels on the roof of a Saltstone vault during operations disposing of higher curie salt waste. The team reviewed documents and interviewed over a dozen people involved with the project. They concluded that frequent monitoring during the initial startup of the higher curie salt waste operations mitigated the consequences of the event. They also identified several opportunities for improvement, such as (1) improving tracking of the need for controls for hazards that fall below the safety-significant threshold, (2) minimizing loss of continuity as key personnel change, (3) improving the interface with non-facility personnel (in this case, from the Savannah River National Laboratory) when they perform tests and communicate the results of their studies, and (4) reducing information management stovepipes between organizations such as engineering and radiological control.

Tritium: While performing a function test on a weapon assembly, a specialist inadvertently bumped a valve, which cracked it open and caused an unintentional transfer of gas. Upon discovery, he closed the valve and contacted management. After some discussion, they decided to finish the procedure to put the system in a safe and stable configuration and salvage the function test results.

A fire protection engineer questioned the contents of a tank containing helium, nitrogen, argon, and hydrogen that is used along with six other tanks to qualitatively verify the functionality of a mass spectrometer. Sample results showed that the oxygen concentration was below the limiting oxygen concentration required for hydrogen combustion; however, it was well above the facility's administrative limit of 1.5%. Facility personnel took immediate action in accordance with their abnormal operating procedures and they later purged the tank with nitrogen to reduce the oxygen concentration below 1.5%. All similar tanks in SRS tritium facilities will now be periodically sampled to monitor for any oxygen inleakage.

Chief of Defense Nuclear Safety: This week, the Office of the Chief of Defense Nuclear Safety performed a follow-up review to its 2005 Biennial Review of the Savannah River Site Office and revalidated its positive conclusions. The team also identified a few areas that could be improved, such as the site office's interface with DOE-SR and its staffing levels for reviewing and approving documented safety analyses for upcoming NNSA construction projects at SRS.