

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 17, 2007

**TO:** J. Kent Fortenberry, Technical Director  
**FROM:** R. Todd Davis/Donald Owen, Oak Ridge Site Representatives  
**SUBJECT:** Activity Report for Week Ending August 17, 2007

A. Recommendation 2005-1. On Thursday, staff members Matt Duncan and Jonathan Plaue were on-site to discuss Y-12 implementation of Recommendation 2005-1, *Nuclear Material Packaging*. A complex-wide working group has developed a draft DOE Manual 441.1.1, *Nuclear Material Packaging Manual*. Previous Y-12 evaluations against the draft manual had indicated that approximately 2500 containers would fall within the scope of the manual (see the 6/22/07 and 7/6/07 site rep. reports); however, recently proposed changes to the draft manual by Y-12 personnel may exclude a significant portion of those containers. The staff noted that the draft manual provides a graded approach for design and implementation based on material hazard and that the current plans to simplify containers at Y-12, which includes development of several new container designs, appear consistent with the intent of the draft manual. Based on this information, the staff questioned whether the proposed manual changes that effect scope are warranted.

B. Building 9212 Documented Safety Analysis. Last month, BWXT requested an extension for the safety basis annual update for Building 9212 to October 2007 (previously July 2007) and provided an implementation strategy describing the planned changes. Notably, BWXT stated the intention to revisit off-site dose consequences based on revised industry guidance. BWXT noted that this may result in reduced off-site dose consequences sufficient to allow downgrading the functional classification of certain safety systems.

C. Personnel Contamination Events/Feedback and Improvement. Two contamination events occurred in the Enriched Uranium Operations Building this week. On Tuesday, an engineer was contaminated while observing a post-maintenance test for a machining chip cleaning system containing contaminated Freon liquid. Upon startup of the system pump to check for leaks, contaminated liquid sprayed out of a valve that had been used in checking that the system was drained several days earlier. The spray seeped through the engineer's protective clothing and resulted in skin contamination. The valve was found to be partially open. Due to potential work control issues, BWXT management is chartering an independent investigation of this event. On Thursday, an operator was contaminated by solution while handling a safe bottle that had been opened and was about to be emptied into a pour-up station. BWXT's investigation continues.

During the critique for Tuesday's event, applicable work control documents (e.g., maintenance work package, lockout/tagout permit) were not specifically reviewed to establish pertinent facts until prompting by a YSO Facility Representative near the end of the critique.

D. Dismantlement Activities. During unpacking in preparation for a dismantlement activity on Monday, personnel noted a small amount of smoke after the unit was exposed to air. Facility personnel took appropriate action to stop the activity and contact fire department personnel. The smoke ceased after a short time and air samples indicated no significant airborne contamination. After approval from fire department and radiological personnel, the unit was moved to a ventilated hood for further processing. BWXT subsequently issued a standing order that requires these units be moved to a ventilated hood prior to unpacking.