

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 2005

**TO:** J. Kent Fortenberry, Technical Director  
**FROM:** R. Todd Davis/Donald Owen, Oak Ridge Site Representatives  
**SUBJECT:** Activity Report for Week Ending March 11, 2005

Staff member Wayne Andrews visited Y-12 to review the recent Warehouse event involving storage of containers exceeding criticality mass limits.

A. Criticality Safety/Conduct of Operations. As reported since February 18th, on-site transfers to the Warehouse have been suspended due to receipt and storage of at least 25 containers with material exceeding criticality mass limits (double contingency was maintained). BWXT is still completing their investigation of the event and has yet to brief YSO on causal factors and corrective actions. The site reps. and staff reviewed available information on the event. BWXT noted that the extent of condition reviews involving more than 4,000 containers are nearing completion. Near-term corrective actions to enable resumption of on-site transfers to the Warehouse and long-term corrective actions are being finalized. BWXT now plans to have an independent assessment and a senior management board review the event and corrective actions. As a result, BWXT will likely not brief YSO until the week of March 21<sup>st</sup>.

During the site reps. and staff review, it became apparent that personnel performance was a substantial factor in the event. For many of the overloaded containers the procedural form used in a container verification check to record the container gross weight, container size, criticality mass limit and container loading was improperly filled out. Specifically, container loading was not entered in the column on the form as required. The column adjacent to container loading called for two entries: container size and criticality mass limit. The criticality mass limit was improperly entered in the column for container loading. No action was apparently taken even when recorded gross weight, considering typical can tare weights, was in clear violation of the limit. Such errors were common to multiple personnel on multiple dates including a verifier signature. BWXT management indicated that any confusion or difficulty with the form would have been an appropriate opportunity to stop. The site reps. and staff noted to YSO and BWXT management that it was not clear that these personnel performance issues were factored into the corrective actions discussed during the review.

B. Container Assessment and Standardization. BWXT continues to assess the integrity and type of both drums and cans stored in the Warehouse (site rep weekly 10/29/04). To date, about 40 of the 800 drums inspected have been identified with integrity issues (i.e., rust). This assessment is scheduled to be complete by the end of March. Information gained as a part of this assessment will be used in evaluating the path forward for ensuring these containers can be transferred to the Highly Enriched Uranium Materials Facility or appropriately dispositioned (e.g., processed, repackaged or shipped off-site). BWXT also continues to pursue the container standardization initiative, but at this point it is not clear when in-process or other materials to be repackaged will be required to be packaged into a standardized container. Prototypes of the new birdcage and can dolly design are scheduled to be produced by September 2005.

C. Microwave Casting. This week, BWXT began their Readiness Assessment (RA) for startup of the microwave casting operation in the Enriched Uranium Operations building. BWXT plans to employ this technology at the new Uranium Processing Facility if enriched uranium testing indicates adequate product quality. Field activities that included casting with a surrogate (copper) and a drill were completed this week and the RA is projected to be finished next week. As of this report, no findings have been identified. The NNSA RA is scheduled to start on March 29<sup>th</sup>.