

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 23, 2004

**TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Donald Owen, Oak Ridge Site Representative  
**SUBJ:** Activity Report for Week Ending July 23, 2004

A. Y-12 Conduct of Operations. As reported on July 9<sup>th</sup>, as a result of a YSO Facility Representative inquiry during a Warehouse operation to receive nuclear material containers, it had been determined that written data on moderator to nuclear material ratios (“H/X”) were not available as required. BWXT followup determined: that Warehouse personnel were not deliberately following the procedure; that personnel had a lack of understanding of the relevance and use of H/X data and that training in this area was inadequate; and that the supervisor and shift manager did not properly demand to see the H/X data nor stop the evolution as would have been expected. Corrective actions were being developed.

This week, senior YSO and BWXT management met to discuss BWXT’s corrective actions. The actions include: assessment of level of knowledge of Warehouse personnel on other controls in material management procedures; development of new training on use of H/X data for Warehouse personnel; and review of procedures to ensure all steps are understood and followed. YSO management noted the need for additional, broader (site-wide) action, however, to address the failures to deliberately follow the procedure and stop when completion of a step is in question; BWXT management indicated that they will develop such additional actions.

B. Wet Chemistry Startup. As reported last week, the initial attempt to operate the Secondary Extraction system under “first use” controls was unsuccessful due to failed electronic system inputs on feed concentration. Subsequently, a modification to allow for manual adjustment of system fluid flows based on fluid sampling had been approved. This week the site rep. observed multiple additional attempts to operate the Secondary Extraction system but the product/reflux circulation subsystem was not functioning. Troubleshooting continues.

As also reported last week, transfer of Denitrator product oxide from the product receiver to the product canning glovebox using pressurized nitrogen gas was unsuccessful as the transfer line had plugged. This week, following development of a new procedure, a portable vacuum was used to remove oxide from the transfer line. Line breaches were made at two locations, the line was unplugged, and all Denitrator product was recovered. BWXT believes the cause of the plugged line to be a reduction in the nitrogen pressure used in the transfer line from about following a pressure vessel safety assessment a few years ago. An interim modification to the product canning process is being developed as an interim measure pending redesign of the product transfer/canning subsystem.

C. Y-12 Activity-Level Work Planning. As reported on April 8<sup>th</sup>, YSO and BWXT had evaluated existing work planning and authorization processes for addressing infrequent and potentially hazardous activities. BWXT had developed two sets of criteria that would trigger successively higher levels of review by either a facility review board or a site-wide review board. While trial use of the criteria and reviews at two facilities has resulted in a small number of activities being reviewed since April, the results are considered by BWXT to be favorable and worthwhile. BWXT management indicated that use of the criteria and special reviews is being expanded to all major nuclear facilities in the Manufacturing Division. The site rep. considers this a positive development. YSO management noted to BWXT management that development of a mechanism to notify site management of pending activity reviews should be expedited.