

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 22, 2006

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending September 22, 2006

A. Special Processing Activity. As reported last week, BWXT had started their Readiness Assessment (RA) for a special campaign to dissolve and convert machining chips to a uranyl-nitrate solution (beaker leaching). This week, the RA team completed their review and briefed results to BWXT management. Pre-start findings regarding some needed procedural changes, lack of in-place HEPA filter testing for the process hood, and need to include a process drawing in the listing of controlled drawings were identified. The site rep. inquired with BWXT management on any plans for additional management oversight during startup, particularly given that no surrogate material (other than water) was used in the demonstration. BWXT management noted that management oversight personnel will be used for at least the first operation. The beaker leaching procedure allows for a much broader scope of material including various fines, filters, oxides and combustibles, yet the RA scope was limited to this special campaign of machining chips. The site rep. has inquired with YSO management on control or limitation of the operation and any plans for additional readiness review(s).

B. Building 9212 Facility Risk Review. As noted on September 8th, YSO is performing a risk-based prioritization of potential facility upgrades for Building 9212 in response to the Board's November 28, 2005 letter. This week, the staff and site reps. discussed the overall plans and status of this effort. The staff provided observations during these discussions including the need to evaluate and characterize all potential safety risks (e.g., natural phenomena hazards to Performance Category-3 criteria) in developing the list of prioritized upgrades.

C. Feedback and Improvement. On Tuesday, personnel in the Enriched Uranium Operations Building noted a spill of solution from product tanks associated with the High Capacity Evaporator. The evaporator had been operated in the morning, secured, and personnel had left the area for a mid-day break. Upon return to the area, personnel noted the spill (estimated to be several liters of product solution) having overflowed from the vent catch bottle onto the floor. Spill response actions were taken. The cause of the spill was not immediately evident. By Thursday, neither facility nor production crew management had called for a critique to formally evaluate the event as required by the Y-12 Integrated Safety Management System. On Thursday, the site rep. inquired with YSO management on need for a critique. Late Thursday, YSO management informed the site rep. that a critique of the event will be conducted.

D. Wet Chemistry Operations. In December 2005, secondary extraction operations were suspended because of an Unreviewed Safety Question associated with the concentration of organics. BWXT developed a Justification for Continued Operations and implemented these controls in July (see 7/7/06 site rep. report). In early August, BWXT successfully restarted the secondary extraction system. However, because of the sequential nature of the wet chemistry systems and the limited lag storage capacity, secondary extraction has not run since that time because of equipment problems with a downstream activity (i.e., the denitrator). Currently, BWXT continues to troubleshoot issues with the denitrator thermocouples and plans to attempt a denitrator activity next week. As previously noted (see 2/17/06 site rep. report), wet chemistry equipment and safety basis issues have resulted in a significant backlog of uranium solutions stored in facility tanks and safe bottles.