

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 13, 2006

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending January 13, 2006

Staff members M. Duncan, J. Plaue and R. Rosen visited Y-12 this week to review implementation issues associated with Recommendation 2005-1, *Nuclear Material Packaging*.

A. Highly Enriched Uranium Materials Facility. Concrete placements for reinforced concrete walls designed to meet Performance Category 3 requirements were suspended due to discovery of a widespread non-conformance involving the length of reinforcing steel that functions to tie the foundation slab to the vertical wall. A project design engineer (working for BWXT) noted during a walkdown that the height of the reinforcing steel above the slab did not meet the BWXT steel reinforcement drawings of record. Specifically, the field lengths were found to be significantly less than drawing requirements. Initial investigation by YSO and BWXT indicates that the length requirements in the BWXT drawings of record were incorrectly translated to construction contractor fabrication drawings. BWXT and YSO personnel noted that this issue is being evaluated through the site's Non-Conformance Report process including causal analysis and calculations to determine the design impact. Affected concrete placements are expected to be resumed next week following these evaluations.

B. Uranium Processing Facility. This week, an Independent Project Review (IPR) was conducted for the Critical Decision-1 package. On Friday, the IPR team provided an out-brief on the results of their review to YSO and BWXT management. The team noted that the proposed cost and schedule ranges do not adequately reflect project uncertainties and risk. They also identified that the proposed design may not be consistent with current program requirements (e.g., facility throughput and capability). In addition, the team concluded that the Preliminary Hazard Analysis does not include sufficient analysis to identify a preliminary list of safety significant and safety class structures, systems and components. The final IPR report is expected to be complete in mid-February.

C. Container Simplification. BWXT continues to pursue new standard container designs to reduce the number of different containers used for material storage. These designs are expected to greatly simplify the criticality safety requirements associated with material storage. In September 2005, BWXT produced a prototype birdcage and wet material storage container. Several standard container designs are now being finalized based on operator, fabricator and testing feedback. Additional testing (e.g., drop testing) is expected to occur in 2006 to support fabrication and use of these containers in 2007.

D. Purification Facility. As previously noted (see 10/14/05 site rep. report), readiness reviews have been completed for this facility and BWXT was working to correct a conduit issue. BWXT has now corrected this issue and began the initial introduction of solvent to the facility this week.

E. Rolling and Forming Operation. YSO had requested BWXT to formally propose the level of readiness review for the planned restart of the rolling and forming operation following an extended shutdown (see 12/23/05 site rep. report). This restart had not been addressed in the most recent BWXT Startup Notification Report. This week, BWXT submitted a revised Startup Notification Report identifying this restart and proposing a contractor Readiness Assessment (RA) to confirm readiness for this operation. The RA is expected to start in the next several weeks.