DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 29, 2005

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending July 29, 2005

A. Oxide Conversion Facility. On Monday, BWXT conducted an evolution to drain hydrogen fluoride (HF) from the vaporizer back to the HF cylinder following prior unsuccessful HF system testing (see last week's report). At the end of this evolution, multiple low-level alarms for the dock scrubber bottoms tank were received. The safety-significant low-level switches activated the safety shutdown system. The site rep. observed operators responding in accordance with the alarm response procedure. Subsequent investigation indicates that tank level was above the low-level set point and that the low-level switches provided false signals. BWXT continues to troubleshoot this issue.

B. Melton Valley Transuranic Waste Processing. On Wednesday, Foster-Wheeler started their Operational Readiness Review (ORR) for processing contact-handled transuranic waste. The processing campaign (for about 1300 drums and 500 boxes) is to receive, characterize, sort and repackage the waste to meet disposal site waste acceptance criteria (as transuranic or low-level waste). The ORR is expected to be completed next week.

C. Purification Facility Startup Preparations. On Wednesday, the site rep. observed conduct of an emergency exercise at the Purification Facility that included a simulated spill of acetonitrile (ACN) and subsequent fire. This exercise was conducted for readiness demonstration purposes for upcoming contractor and NNSA Readiness Assessments (RAs). During the exercise, a facility worker was simulated to have been injured and contaminated with ACN. While all other facility personnel evacuated the area, the injured worker remained alone in a safety shower in the area while the spill and subsequent fire continued to progress. In addition, an expected indication of the facility emergency shutdown control activated by operators was not received at the plant shift superintendent's office. These issues were noted by exercise controllers and may become findings of the RAs. BWXT plans to begin their line management performance self-assessment next week.

D. Chip Container Failure - Update. As reported on July 1st, two of five containers with machine chips stored since 1987 had a small hole in the wall of the container and material was spilled. The chips have been stored for the past 18 years in thin-walled containers typically used for handling chips during production operations, but not intended for interim or long-term storage. This week, BWXT responded to a site rep. and staff inquiry on Y-12's implementation of "Strategy Part 2" under NNSA's inactive actinide effort. Strategy Part 2 addresses item-level characterization to support decisions on storage adequacy. A documented assessment of the chips in these containers was performed in late 2003. Numerous data was recorded such as container type, material characteristics, applicable safety basis documents, etc., however, the time in storage was not part of the required data set. There was no apparent evaluation of container type versus time in storage in reaching the conclusion on current storage adequacy. BWXT and YSO personnel noted that this deficiency will be addressed in material storage improvement initiatives under Recommendation 2005-1, *Nuclear Material Packaging*.

E. Y-12 Welding Program. The independent assessment team provided feedback this week on their review of the Y-12 welding program (see last week's report). The team's overall conclusion was that Y-12 has implemented a viable and effective welding program and that improvements were noted in most of the areas reviewed; however, the team identified some issues. Most notably, the team recommended that BWXT and their construction contractor for the Highly Enriched Uranium Materials Facility (HEUMF) address a lack of documented assessments of subcontractor welding activities in order to ensure appropriate oversight and feedback and improvement for HEUMF welding activities.