

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 21, 2007

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending November 23, 2007

The site reps. will be out of the office Thursday and Friday.

A. Highly Enriched Uranium Materials Facility. As reported on October 19th, BWXT was to provide a recommended path forward to address the lack of safety-significant classification for the water supply (the potable water system) to the fire protection system for the Highly Enriched Uranium Materials Facility (HEUMF). This issue has been identified in the Board's quarterly project report to Congress dated October 17, 2007. On November 7th, BWXT provided a recommended path forward. BWXT notes YSO's verbal direction to include safety-significant pressure monitoring of the water supply at HEUMF. BWXT recommends, however, that equipment modifications follow start-up of HEUMF operations due to a potential (and yet undefined) project cost increase and schedule delay. BWXT also proposed a review during development of the HEUMF Documented Safety Analysis to determine whether any additional surveillances of key valve alignments or any increased flow testing are warranted. The path forward, however, does not include any specific measures to increase control of key valve alignments (e.g., valves locked open) in the potable water system (see the 10/19/07 site rep. report). BWXT requested formal direction from YSO to proceed. YSO management stated to the site reps. that YSO will issue a formal response in the next few weeks.

B. Criticality Safety. In the high capacity evaporator system, a gamma radiation monitor is used to detect carryover of uranium from the evaporator to the downstream condensate system. An interlock operates to redirect the condensate when carryover is detected. Use of the monitor and interlock is identified as a "good practice" by the applicable Criticality Safety Evaluation (CSE) but had not been defined as a required control. Based on YSO concerns with this approach earlier this year, BWXT has implemented a compensatory measure that requires use of the gamma monitor and interlock (see the 7/20/07 site rep. report). BWXT had committed to YSO to revise the CSE to address the need for the gamma monitor and interlock; however, the CSE revision is not formally scheduled to be completed until April 2008. There have been questions raised about the reliability of the gamma monitor and interlock system. Completion of the revised CSE may lead to classification of the system as safety-significant and an associated design adequacy review would be required. The site reps. have inquired with YSO management on whether the schedule to revise the CSE should be accelerated to address this matter.

C. Uranium Holdup Survey Program/Criticality Safety. Earlier this year, BWXT noted their intention of tracking holdup surveys as a part of the Uranium Holdup Survey Program (UHSP) vice the previous practice of facilities tracking completion as a surveillance (see the 5/11/07 site rep. report). Some holdup surveys are specifically required by applicable CSEs. In May, the site reps. questioned how facility personnel (line management) would ensure compliance with the CSEs if tracking was only maintained by the UHSP. Recently, during a walkdown of the Enriched Uranium Machining Building, the site rep. was informed that facility line management no longer tracks completion of CSE-driven holdup surveys. The site reps. have inquired with YSO and BWXT management on whether facility line management should be required to track completion of CSE-driven holdup surveys.