

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 4, 2007

**TO:** J. Kent Fortenberry, Technical Director  
**FROM:** R. Todd Davis/Donald Owen, Oak Ridge Site Representatives  
**SUBJECT:** Activity Report for Week Ending May 4, 2007

Mr. Davis was at Los Alamos National Laboratory this week.

A. Wet Chemistry Spill - Update. As reported on February 9<sup>th</sup> and 16<sup>th</sup>, BWXT had started an investigation of two spills of enriched uranium solution from secondary extraction system product storage tanks. This week, BWXT presented results of the investigation to date to YSO management and issued a report. The investigation to date has not determined the specific cause of the unintended transfers of solution that led to the spills; however, system interaction with the air emissions control scrubber is considered the most likely cause of the unintended transfers. This aspect of the investigation has been turned over to the BWXT engineering personnel to conduct additional assessment and testing.

The investigation report notes that prior leakage from certain upper glass section flanges of the storage tanks had been known but that maintenance was not performed due to a concern with lack of availability of spare parts. The report further states that a design change request submitted in early 2006 to install alternate glass sections was not acted on due to lack of funding (BWXT management also noted a lack of priority). Not addressed in the report regarding the prior leakage was any evaluation of operational configuration management of the tanks (e.g., shift management knowledge and control). The site rep. discussed this observation with YSO and BWXT management who indicated that the role of operational configuration management would be evaluated as part of follow-up actions.

B. Y-12 Electrical Panels. The Board's letter of June 22, 2005 forwarded staff observations regarding actions taken by Y-12 in response to a fire in a degraded electrical panel in Building 9212 in 2003. One observation was that BWXT was considering additional thermal imaging evaluations to identify any degrading conditions for Y-12 electrical panels. In October 2005, the staff and site reps. were informed that BWXT planned to conduct thermal imaging evaluations of electrical panels every two years to identify potential problems (see the 10/28/05 site rep. report). In response to staff and site rep. inquiry this week, BWXT personnel stated that the two-year thermal imaging periodicity had not been instituted, but instead remained at the prior five-year periodicity. BWXT personnel subsequently informed the site rep. that an evaluation planned in mid-2006 that would address thermal imaging periodicity had not been performed. YSO and BWXT personnel indicated that the evaluation will be performed and the periodicity evaluated.

Following prior intrusive panel inspections and repairs, BWXT identified that 33 electrical panels required further repair or replacement due to either age or location in a ventilation system plenum (also see the 10/28/05 site rep. report). This week, BWXT personnel stated that 3 of those panels have been repaired, replaced or removed. Of the remaining 30 panels (all in Building 9212 and awaiting funding for replacement), only 4 panels that are located in ventilation system plenums would be subject to annual thermal imaging to monitor for potential problems. Following discussion with the staff and site rep., BWXT personnel stated that this protocol will be revised to require that all 30 panels be subject to annual thermal imaging.