

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 13, 2007

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending April 13, 2007

A. Small Uranium Fire - Update. The BWXT investigation of the small fire during chip handling that occurred on March 15th was completed and results were presented to YSO management on Thursday. Key points noted by the team include:

- the fire was caused by the exposure of chips to air after having been removed from an inert environment during the transfer from a can into the transport dolly;
- a change in handling of chips before the can-to-dolly transfer from past Quality Evaluation (QE) operations was a likely factor in the fire, but was not evaluated for safety impact;
- can-to-dolly chip transfers for other disassembly operations, as well as QE operations prior to relocation to the Assembly/Disassembly Building in late 2006, have been conducted in ventilated walk-in hoods (this event occurred at the QE glovebox);
- the can-to-dolly transfer task was not specifically defined in a procedure or addressed by an activity-level hazard analysis;
- the risk of a uranium chip fire while handling dry chips was not recognized.

The investigation team identified recommendations that include (1) prior to resumption of chip handling in air environments, evaluate all activities involving processing of dry chips or similar materials in non-inert environments to analyze the fire hazard and implement appropriate controls; (2) where no engineered controls are available to preclude contact with air, evaluate potential future process and facility modifications; and (3) emphasize to operations personnel the need to recognize and properly evaluate operational changes. Not explicitly addressed in the team's recommendations was the lack of procedural and hazard analysis coverage for the chip transfer task and the potential need to reinforce with nuclear operations personnel this aspect of the event and evaluate other nuclear operations at Y-12 for such gaps. The site reps. discussed this observation with YSO and BWXT management. BWXT management indicated to the site reps. that the team will revisit their recommendations prior to issuing the investigation report.

As reported last week, the BWXT Management Review Board withheld approval to resume the chip handling activities pending certain actions and completion of the investigation report. This week, the Management Review Board approved resumption of those chip handling activities with the additional proposed controls and other actions directed by the Management Review Board.

B. Criticality Safety. In July 2006, the staff and site rep. noted some issues associated with criticality postings during a walkdown of the Warehouse (see 7/14/06 site rep. report). Based on these observations, BWXT reviewed the site-wide implementation of configuration control of postings and other operational requirements defined by Nuclear Criticality Safety personnel. This review and associated training was completed last year. Recently, the site reps. reviewed a criticality safety deficiency at the Enriched Uranium Machining Building that resulted in a criticality posting. In discussions with the site reps., BWXT building management indicated no mechanism for maintaining configuration control of such postings by operations personnel. This week, the site reps. met with YSO and BWXT to discuss Y-12 expectations on this subject and how this information is communicated to operations personnel.