DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 30, 2007

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending November 30, 2007

This week, BWXT management announced a corporate name change to Babcock and Wilcox Company (B&W). Staff members David Kupferer and Dermot Winters were in Oak Ridge to augment site rep. coverage and review radioactive waste management, respectively.

A. Authorization Basis Implementation - Independent Validation. Following discussion with the Board in January 2005 on the need for periodic revalidation of implementation of authorization basis controls, B&W had revised their governing procedure to require such reviews every three years (see the 4/29/05 site rep. report). Such revalidations would be accomplished by an Implementation Validation Review (IVR) and/or an independent Facility Evaluation review in each nuclear facility. Following site rep. inquiry this week, B&W personnel indicated that these revalidations have been performed at some facilities earlier this year within the three-year timeframe. B&W has decided to defer upcoming revalidations, however, at most nuclear facilities (including five Hazard Category 2 nuclear facilities) due to other priorities. B&W has revised their governing procedure to relax the revalidation requirement to every five years.

B. Conduct of Operations. B&W management determined that a safety interlock in the Warehouse glovebox shearing machine had been electrically bypassed by operations personnel. The interlock prevents shear blade movement until the shear enclosure door is closed. This condition was discovered last week by a maintenance worker who identified an interlock wire connected to the wrong electrical lug. During investigation, three shearing machine operators stated that during the prior week they had discovered a loose wire after the shear failed to operate. The operators stated that they connected the loose wire to what they believed to be the correct lug, and the machine then worked. Shear operations were then conducted with the safety interlock bypassed in the ensuing days until the scheduled maintenance last week.

B&W management determined that the operators did not notify the supervisor and shift manager either of the problem with the shear nor of the loose wire as required by the B&W Conduct of Operations Manual when encountering such an abnormal problem or condition. The subsequent connection of the loose wire was also not identified to the supervisor or shift manager by the operators. B&W management externally reported the event and actions to inform other Y-12 operations personnel of the event and the conduct of operations failure are being developed. The site reps. discussed with YSO and B&W management the potential need for senior management involvement in emphasizing the requirement for operations personnel to properly stop and report such abnormal situations during a nuclear operation.

C. Criticality Safety. As noted on November 9th, the site reps. had questioned whether the formal control developed for loading uranium oxide in a container would reliably ensure the criticality safety mass limit was protected. This week, B&W management informed the site reps. that the control will be revised and an additional posting implemented to limit the volume of oxide allowed in the container. This change should ensure the criticality safety mass limit is protected. For the long-term, Nuclear Criticality Safety personnel are evaluating changes to the applicable Criticality Safety Evaluation to allow these containers to be volumetrically full. In addition, B&W continues to evaluate the chemical agent used for cleaning uranium machining chips that appears to have increased the density of the uranium oxide produced during chip casting.