

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending October 15, 2010

Conduct of Operations. During dismantlement operations last week, operators unknowingly cocked the fixture that is used to hold components in a lathe. The operators did not notice that there was a minor wobble in the part they were cutting as a result of the cocked fixture. Due to this wobble, operators unknowingly cut more material than intended during the operation. Later in the dismantlement process, different operators identified the mistake. B&W suspended dismantlement operations, performed a critique and externally reported this event.

During the critique, unrelated to the error detailed above, operators revealed that they had knowingly skipped a step in the operating procedure to perform nondestructive assay of materials. The reason given by the operators for not performing the assay was that B&W had expanded a respirator area to include the assay equipment within the respirator area. The subject operating procedure is identified as a continuous use procedure. For continuous use procedures, B&W's Conduct of Operations Manual requires operators to (1) review the procedure prior to performing each step or group of steps, (2) perform the steps as written and in the sequence specified and (3) suspend operations if step by step compliance with the procedure cannot be achieved. B&W is performing a follow-up investigation of this event.

Nuclear Criticality Safety (NCS)/Highly Enriched Uranium Materials Facility (HEUMF). B&W has been executing its NCS program improvement plan (see the 6/25/10 report). One initiative in this plan involves simplifying criticality safety postings including two related actions: (1) improve the NCS postings in HEUMF (see the 4/9/10 and 1/15/10 reports) and (2) revise the Y-12 procedure that governs development of NCS postings. B&W has revised the procedure and has simplified the HEUMF NCS postings. While the simplified postings in HEUMF represent a significant improvement, the site representatives note that additional improvements are warranted. The revised procedure includes improved criteria for determining what requirements should and should not be included in criticality safety postings. For example, the procedure now includes the following criteria: (a) limits that cannot be observed or measured by the operators should not be included, (b) passive or active design features should not be included and (c) controls that do not implement NCS requirements shall not be included.

Uranium Processing Facility (UPF). B&W recently issued the final report from an independent design review it performed of the preliminary design for UPF (see the 9/3/10 report). Overall, the review team concluded that the quality and maturity of the UPF preliminary design is consistent with the expected level of design quality and maturity for a preliminary design. However, the review team identified more than 50 issues and opportunities for improvement including the following: (a) the preliminary Fire Hazards Analysis has not been updated and the Design Basis Fire has not been defined and (b) the gap between the maturity of the preliminary design and the maturity of the safety basis is greater than expected. The review team also noted that the Safety Structure, System, and Component (SSC) Table being used by the UPF project is an effective summary tool to identify and maintain configuration management of safety SSCs.