

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 9, 2009

TO: Timothy Dwyer, Technical Director  
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives  
SUBJECT: Activity Report for Week Ending October 9, 2009

Mr. Kupferer was out of the office from Tuesday through Friday.

**Uranium Processing Facility (UPF).** The staff discussed observations with Y-12 management from last week's review of design efforts and B&W peer review of UPF seismic/structural design (see last week's site rep. report). The staff noted observations on the planning for and methods being utilized on various seismic/structural analyses, integration of subcontractor organizations performing the analyses, and YSO oversight.

**Criticality Safety.** As part of the response to recent criticality safety violations, B&W tasked a senior production manager to lead a review of criticality safety issues over the past year and make any recommendations (see the 9/04/09 site rep. report). This week, B&W management discussed the results of this review with YSO management. The review team observed operations, reviewed past events and developed recommendations. The most notable recommendation was to manage responsibilities, functions and collateral duties for Criticality Safety Officers (CSOs) in order to allow at least 50% of CSO time to be spent providing active, on-the-floor support of operations. Actions responding to the recommendations are to be developed by B&W.

**Conduct of Operations – Dismantlement Event Update.** B&W management discussed with the staff and site rep. additional information on the event in mid-September involving an unexpected separation of the exterior casing of a weapon component with underlying materials exposed after machining (see last week's site rep. report). The event was the result of use of a cutting path by operators that was revised from that provided in the applicable procedural specification. This revised cutting path was provided to the operators during the activity by the process engineer (the procedure allowed process engineer direction as an alternate to the written specification). B&W management has determined that such process engineer direction was provided and utilized on a prior unit in August but without exposing underlying materials. For the unit in mid-September, the process engineer revised the cutting path a second time (i.e., different from the first revision) but did not specify a change to depth of cut, resulting in underlying materials being exposed. The intent in both cases was to shorten the follow-on dismantlement process for this design weapon component.

B&W management is completing their investigation, but noted some factors needing to be addressed: (1) use of unwritten direction by process engineers in such situations; (2) proceeding with such a change without the process engineer at the pre-job briefing; (3) lack of involvement of the operators' supervisor in proceeding with such a change; and (4) lack of any peer review of such changes. B&W management stated that a Standing Order is to be issued restricting the use of such process engineer direction until the investigation is completed and other corrective actions are determined.

**Microwave Casting.** Critical Decision-2/3 for the production microwave project was approved in March (see the 4/17/09 site rep. report). B&W has placed a contract with a vendor to design and build a microwave casting unit for use in the Enriched Uranium Operations Building. The vendor has recently submitted its 90% design package for the production microwave. Approval of the design is projected for January and delivery of the microwave to Y-12 is projected by next July.