

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director  
FROM: Rory Rauch, Site Representative  
SUBJECT: Oak Ridge Activity Report for Week Ending August 17, 2012

**Operational Suspension:** On Tuesday, the NPO Manager concurred with the B&W General Manager's request to resume interim monitored nuclear operations. The site rep observed the resumption of operations in Buildings 9204-2E and 9212. B&W conducted the resumption of operations using a controlled, phased approach consistent with the restart plan submitted last week.

Just prior to providing his concurrence to restart operations, the NPO Manager issued a memo requesting that B&W critically examine other high-risk, high-hazard operational areas to ensure that similar systemic problems to those illustrated by the events that led to the security stand down are not present. The memo indicated that these problems included a culture of complacency, inattention to detail, inconsistencies between management expectation for work performance and actual field execution of work, and inadequate compensatory measures. The memo provided the expectation that, at a minimum, B&W conduct a review of the supporting analysis and implementation of criticality safety and safety basis requirements. The memo requested that B&W provide a plan for conducting this review in 30 days.

Last week, B&W had begun to take action consistent with the intent of the aforementioned NPO memo. The B&W engineering and production managers chartered management assessment teams to investigate the field implementation and supporting analysis of a sampling of criticality safety requirements and technical safety requirements in Buildings 9212, 9215, and 9204-2E. The results of these assessments should be available next week. B&W plans to use the approach taken for these assessments as a template to aid in developing the response to the NPO memo.

**Microwave Casting:** B&W achieved readiness to perform uranium metal casting operations using the production microwave furnace in October 2011 (see 11/4/11 report). Subsequently, production personnel were unsuccessful in their attempts to melt a uranium metal charge using this unit. Problems included overheating of a waveguide window and flashing (an indicator of plasma generation). In January 2012, the facility engineering manager formed a team to evaluate the current status of the production microwave furnace and make recommendations that would allow it to achieve the desired melting performance. The team concluded that no direct causal relationship between any specific event and unsuccessful performance of the production microwave furnace could be established. However, the team cited several events that occurred during startup testing—most notably a July 2011 bakeout test conducted without any receptor material—which may have caused cascading degradation of components and inadequate performance of the furnace. The team concluded that the production microwave furnace would perform successfully if it were restored to its June 2011 state. B&W has repaired the furnace and resumed startup testing two weeks ago.

**Critique Process:** This week, NPO issued a memorandum to B&W indicating that the timeliness and quality of critiques, including the development of rigorous causal analyses and near-term actions, needs improvement. The memorandum requested that B&W provide a critique process improvement plan by the end of this month. B&W Pantex is also currently taking action to improve its critique process. B&W Y-12 is coordinating its critique process improvements with B&W Pantex.