

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Acting Technical Director  
FROM: William Linzau and Rory Rauch, Site Representatives  
SUBJECT: Oak Ridge Activity Report for Week Ending July 26, 2013

D. Kupferer and J. McComb were at Y-12 to observe an NNSA criticality safety assessment.

**Work Planning and Control:** The subject matter expert (SME) work package review process is an important component of the General Manager's key initiative to improve WP&C performance at Y-12 (see 5/17/13 report). Facilities, Infrastructure, and Services (FI&S) metrics show that SME work package reviews have been effective at identifying work package problems. Last month, seven of the eight SME work package reviews identified opportunities to improve the work package. In two of these instances, the SME review team deemed the work package unsatisfactory and returned it for rework. Examples of identified problems include packages with radiological and electrical hazard controls that had not been properly de-conflicted and packages with inadequately defined work scopes. Most of these issues were identified by the SME observers (senior FI&S and environment, safety, and health (ES&H) representatives in a mentoring role), who are not only responsible for ensuring that the issues identified during the review are fixed prior to field execution, but are also responsible for providing the issues to line management to improve the quality of future work packages. FI&S management believes this critical feedback and improvement component of the process, along with the other actions associated with the key initiative (e.g., improved planner training), will eventually lead to improved WP&C performance if given sufficient time. One additional action recently taken to improve WP&C performance was to add the Vice President for ES&H as a co-leader for the WP&C key initiative. The intent of this action was to enhance ES&H ownership and accountability for WP&C performance.

**Microwave Casting:** In February 2013, B&W produced a plan to conduct key technology maturation activities to support a decision to continue with microwave casting as the baseline technology for the Uranium Processing Facility (UPF). The actions in the plan were designed to allow B&W to make a "Go/No-Go" decision by the end of June 2013. B&W recently issued a report that highlights the following results from these key activities: the production microwave caster in Building 9212 operated for several months without significant issues, product chemistry from these runs stayed consistent with expectations such as the expected reduction of carbon (see 6/21/13 report), and UPF throughput assumptions for casting uranium-molybdenum alloys are valid. The report concludes that B&W, as the design authority, has reconfirmed microwave casting as the baseline casting process for UPF. The report also notes the planned prototype of the UPF microwave caster will reduce start-up risk.

**Building 9204-2E:** Workers stopped a dismantlement operation in a glovebox with an inert atmosphere due to unusual oxidization of metal turnings while cutting with a lathe. The workers observed a long wire-like turning that was red in color due to elevated temperatures. Because this observation was unusual for this activity, the workers stopped the cutting operation, backed off, and informed their supervisor. The Shift Manager contacted the Y-12 Fire Department who inspected the glovebox using an infrared camera and determined that no elevated temperatures remained. Facility management is investigating possible contributing factors such as the accuracy of the glovebox oxygen monitor and the condition of the cutting bit. This type of event is anticipated in the safety basis and the designated controls were not challenged.