

## 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 May 31, 2013

**Aging Infrastructure Management:** In the October 2012 Contractor Assurance System Performance Report (see 12/7/12 report), the Feedback and Improvement Working Group (FIWG) noted that there were several ongoing initiatives to address Y-12's aging infrastructure (e.g., operations plans, system health reporting, utility migration plan), yet none of these initiatives have been formally integrated. The FIWG recommended that B&W establish a sitewide aging facility management program. This week, B&W issued the Production Facilities and Infrastructure Aging Management Program (AMP) document. It describes B&W's strategy for coordinating the current suite of Y-12's aging infrastructure initiatives in order to ensure that age-related effects on structures, systems, and components can be detected and mitigated in a timely manner. The AMP is also intended to provide a basis for prioritizing funding to address age-related effects and provide a means of informing management if continued safe operation in a particular facility can no longer be assured.

The Continued Safe Operability Oversight Team (CSOOT) provides a critical role in the AMP by providing independent oversight of the plant's aging infrastructure-related initiatives for Buildings 9212, 9204-2E, and 9215. To date, NPO and B&W had conducted CSOOT activities under different charters. Last week, B&W updated the CSOOT charter to include NPO representation, which should improve the coordination of NPO and B&W CSOOT activities.

**Building 9212 Operations:** Operations in the Oxide Conversion Facility (OCF) have been on hold for the last three weeks while engineers address a problem with the programmable logic controller (PLC) that performs various safety-significant functions for fluid bed operations. The PLC utilizes multiple, redundant processors that analyze incoming data independently. The PLC is configured with a voting scheme whereby the PLC will only select an output command if at least 2 of the 3 processors generate the same output. If the processors' decisions do not conform to the voting logic, or if at least two of the processors fail, the PLC is designed to place the OCF systems in a pre-defined safe configuration. This architecture is common for safety PLCs and is intended to be quite tolerant to internal faults. Several weeks ago, one of the processors would not start, which in turn prevented the PLC from starting. This week, engineers believe they identified the source of the issue, but it could be another several weeks before the replacement part arrives.

Aside from OCF, system availability in Building 9212 has significantly improved this month. As a result, Enriched Uranium Production personnel produced nearly double the quantity of purified  $UO_3$  (the feed material for OCF) relative to the quantity produced during the first seven months of the fiscal year combined.

**Lockout/Tagout (LO/TO):** In response to a series of LO/TO events in early 2012 and the subsequent NPO and B&W-led causal analyses (see 5/25/12 report), B&W developed a Hazardous Energy Control Performance Improvement Plan (HECPIP). B&W's Environment, Safety, and Health organization recently completed an effectiveness review of the actions completed in the HECPIP and other LO/TO-related corrective actions. The team concluded that the actions taken had significantly improved the execution of LO/TO activities. They also identified six findings. Most notably, the team found that recent LO/TO procedure changes to increase efficiency are creating performance variances that could degrade program effectiveness.