

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 August 27, 2010

Board Member Visit. Board member Larry Brown and staff member John Abrefah visited Y-12 to review various operational and safety management issues and walkdown Buildings 9212 and 9204-2E. Some noteworthy items from these discussions include the following:

- Governance — Mr. Brown and the staff met with the co-chairs, representing both YSO and B&W, of the Joint Operating Requirements Review Board (JORRB) to discuss Y-12 management's plan to transition to a new Governance model (see the 8/6/10 site representatives' report). During this discussion, the JORRB co-chairs emphasized their intention to focus the JORRB's efforts on non-nuclear DOE directives.
- Building 9212 — Mr. Brown and the staff met with Building 9212 personnel to discuss (a) the status of enriched uranium processing operations and (b) the status of upgrades associated with the Facility Risk Review (see the 5/18/10 and 4/20/10 site representatives' reports). B&W has made numerous upgrades during this fiscal year including repairing and replacing components associated with electrical, ventilation, heating, and steam systems. B&W is developing a conceptual cost estimate for replacing the Holden Gas Furnace.
- Office of Scientific and Technical Information — Mr. Brown and the staff met with personnel from the Office of Scientific and Technical Information (OSTI) in Oak Ridge. The primary missions of OSTI are (a) to collect and preserve DOE generated scientific and technical information in a central repository and (b) to ensure DOE researchers have access to scientific and technical information that is generated by other organizations, both domestic and foreign. OSTI has more than one million paper documents and four million electronic reports including an electronic database of weapon-specific data.

Reduction Operations/Criticality Safety. Two months ago, B&W declared a Potential Inadequacy in the Safety Analysis (PISA) related to pickling hood operations, in the furnace reduction area of Building 9212, on the basis that the Criticality Safety Evaluation (CSE) did not adequately address interaction between fissile materials that could be collocated against the sheet metal that divides the two sides of the hood (see the 7/9/10 and 7/30/10 site representatives' reports). B&W has revised the subject CSE and the associated criticality safety postings and resumed reduction operations. The primary change B&W made in the revised CSE and postings was to limit the number of button batches that can be processed at a time in the entire hood from six to three. In addition, the new postings include the requirement for no more than one lid to be removed at a time (see the 12/18/09 site representatives' report).

B&W incorporated new calculations into the revised CSE that demonstrate the collocation of bounding quantities of fissile materials from both sides of the hood would not exceed the criticality safety limit. Despite incorporation of this analysis, the site representatives note that the revised CSE still errantly includes the assumption that interaction between the two sides of the hood is insignificant—the basis for the aforementioned PISA—because shelving in the hood would prevent operators from placing fissile material against the sheet metal divider. In reality, the shelves are located above the work area and would not prevent cans of material from being placed against the divider and interacting with the other side of the hood. In addition, the site representatives have urged Y-12 management to consider whether the revised postings are as clear and concise as they could be (see the 1/15/10 and 6/25/10 site representatives' reports).