

## 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 May 20, 2011

Board members Peter Winokur, Joseph Bader, John Mansfield, and Jessie Roberson and staff members David Campbell, Matt Moury, and Rich Tontodonato visited Oak Ridge this week.

**Board Visit to Oak Ridge.** YSO, DOE-ORO and contractor personnel briefed the Board members and staff on nuclear operations and safety initiatives at Y-12 and ORNL. The Board members and staff also walked-down several Y-12 and ORNL defense nuclear facilities including the following: Building 9212, Building 9720-5, the Highly Enriched Uranium Materials Facility (HEUMF), and Tank W-1A. Some noteworthy items from the visit include:

- Uranium Processing Facility (UPF) – Last week, in response to direction from NNSA Headquarters to revise the project execution strategy for UPF project (see the 2/11/11 report), B&W submitted three execution alternatives to NNSA that conform to the funding profile specified in the Section 1251 Report of the FY2010 National Defense Authorization Act. During the Board’s visit, NNSA stated that its preferred alternative includes the following milestones: (1) beneficial occupancy of the UPF building in FY2020, (2) startup of chemical recovery and casting operations in FY2021, and (3) startup of metal production, machining, assembly, and disassembly operations in FY2026. The UPF project team is planning to issue (a) an updated Preliminary Fire Hazards Analysis next month and (b) the full-scope Preliminary Safety Design Report in July.
- Storage Operations – In response to the Board’s 2/4/11 letter, NNSA briefed the Board on the safety considerations that led to the decision to consolidate nuclear materials in Building 9720-5 (see the 4/22/11 and 2/18/11 reports). NNSA stated that it will (a) perform a documented programmatic and safety evaluation of continuing to store nuclear materials in Building 9720-5 five years after the material consolidation effort is completed, (b) overpack wooden crates used to store depleted uranium by FY2016 to reduce the combustible loading in Building 9720-5, and (c) pursue construction of a new warehouse during the 2025-2028 time frame to replace Building 9720-5.
- Conduct of Operations – B&W briefed the Board on corrective actions being taken in response to recent events (see the 4/8/11 and 7/9/10 reports) and observations identified by the staff during its conduct of operations review three weeks ago (see the 4/29/11 report). B&W’s corrective actions include the following: (1) increasing oversight, (2) revising the dismantlement procedure to consolidate several procedures and reduce the number of precautions and limitations, (3) providing formal guidance on standardized place keeping techniques by this summer, and (4) converting some operator training on conduct of operations from web-based training to classroom training.
- UPF and HEUMF Safety Analyses and Safety Systems – In a 4/20/11 letter, the Board requested NNSA provide a report and briefing that describes (a) the technical basis for determining that toxicological hazards need not be considered in the development of safety basis documents and (b) the benefits expected to be gained by potentially downgrading the Secondary Confinement System (SCS) of HEUMF. In response to this letter, NNSA briefed the Board that (a) it plans to issue a Technical Bulletin that reiterates the requirement to evaluate hazardous materials including toxicological hazards during development of safety basis documents, (b) B&W will incorporate analysis of toxicological hazards in the safety basis documents for HEUMF and UPF, and (c) B&W is planning to pursue downgrading the SCS later this year given the marginal safety benefit associated with the SCS in HEUMF.