

## 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 March 2, 2012

**Uranium Processing Facility.** This week, B&W committed to execute the following corrective actions to address weaknesses YSO identified in the Preliminary Safety Design Report (PSDR) for UPF (see the 1/20/12 report): (a) supplement existing analysis to provide a basis for the size of the water tank that supplies fire suppression systems, (b) determine the need for additional controls to protect workers from the consequences associated with small fires, (c) identify safety-credited fire barriers, (d) identify safety-credited shielding (i.e., external walls) to mitigate criticality accident consequences, (e) review the safety functions and functional requirements associated with identified controls, and (f) address specific control inadequacies identified by YSO. B&W is planning to revise its PSDR during the next six months.

**Emergency Management.** In February, DOE's Office of Health, Safety and Security (HSS) performed an independent review of Y-12's preparedness to respond to severe natural phenomena events (e.g., earthquakes, tornados, floods and fires). The scope of the review included the following emergency management program elements: (a) technical planning basis, (b) plans and procedures, (c) emergency response organization, (d) emergency response facilities and equipment, and (e) offsite response interfaces. The review team's conclusions included the following: (a) B&W has adequately analyzed and planned for responding to plausible scenarios involving severe natural phenomena events, (b) B&W is capable of quickly determining whether an event that results in a significant release of hazard material is beyond the site's capability to respond, and (c) Y-12 power and communications systems are, in general, expected to reliably operate subsequent to all but the most severe natural phenomena events. The review team also noted that B&W (a) has done minimal planning on how infrastructure damage and outages might affect offsite responders, (b) has not tested the Lead Federal Manager concept—established by a 3/24/03 memorandum from the Deputy Secretary of Energy—for managing a multi-site emergency on the Oak Ridge Reservation since 2005, and (c) has conducted few exercises focused catastrophic events at hazardous materials facilities. The review team recommended that Y-12 (a) develop a catastrophic event plan as an appendix to the site emergency plan and (b) conduct tabletop exercises with appropriate federal, state, and local agencies and organizations that would respond to a catastrophic event caused by natural phenomena. HSS considered this review to be a 'pilot' in that it intends to perform similar reviews at other DOE sites.

On Wednesday, the site representatives observed an emergency management tabletop drill involving personnel from ORNL, Y-12, and the East Tennessee Technology Park (ETTP, formerly K-25). The purpose of the drill was to identify any issues (e.g., areas for improvement in planning documents and procedures) associated with responding to an event that effects multiple nuclear facilities across the Oak Ridge Reservation (i.e., ORNL, Y-12, and ETTP), causes the loss of infrastructure capabilities (e.g., power, communications, and roadways), and results in the unavailability of mutual aid support. The specific scenario selected for the drill was a large tornado, high wind event. The results of the tabletop and lessons learned will be reported in the near future.