

## 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 April 15, 2011

**Uranium Processing Facility (UPF).** On Thursday, YSO issued technical direction to B&W regarding the Safety Design Strategy (SDS) for UPF (see the 4/1/11 and 3/4/11 reports). B&W is already in the process of revising the SDS as part of its corrective actions in response to NNSA's 'vertical slice' review. Key components of YSO's direction include the following:

- YSO concurred with B&W's decisions to (a) downgrade the safety designation of the confinement ventilation system from safety-significant to defense-in-depth and (b) reduce the Seismic Design Category (SDC) of the confinement ventilation system and criticality accident alarm system to SDC-1.
- YSO directed B&W that, until DOE headquarters formally concurs with the toxicological hazard screening methodology described in the SDS, the full-scope Preliminary Safety Design Report should include analysis of toxicological hazards and identification of safety-related controls for worker protection from toxicological hazards.
- YSO directed B&W that the revision of the SDS should clearly describe (a) the strategy for analyzing and preventing post-seismic criticality events and (b) the defense-in-depth strategy that is being applied to the design of UPF safety systems.

**ORNL Tank W-1A.** During the past few weeks, Bechtel Jacobs Company (BJC) concurrently performed and completed (1) a Management Assessment (MA) of Tank W-1A removal activities to validate readiness to proceed with the contractor Operational Readiness Review (ORR) and (2) an Implementation Validation Review (IVR) to validate that the safety basis controls are adequately implemented (see the 3/11/11 report). The MA team identified 13 findings and the IVR team identified 8 findings. In its final report, the MA team stated that the project needed to improve in the following areas in order to meet the rigors of the upcoming ORRs: (a) assure all applicable evidence documents are complete, approved, and available, (b) cease revising the work package, (c) practice performing the work instructions verbatim and consistently, and (d) assure that training is complete for latest revisions of the work packages and procedures. The MA team also noted that the IVR should have been completed prior to initiating the MA. On Monday of this week, the ORR team began their review. As of Thursday afternoon, the ORR team had identified several dozen issues and BJC decided to 'pause' the review. BJC is developing a recovery plan based on the issues documented and provided by the ORR team.

**Feedback and Improvement/Conduct of Operations.** Last week, operators in the dismantlement area of the Assembly/Disassembly Building discovered that the calibration sticker on a differential pressure gauge had expired two months earlier. The pressure gauge measures the pressure drop across two High Efficiency Particulate Air filters for a ventilated process hood. Operations were conducted in the subject ventilation hood on eight occasions while the calibration of the gauge was expired. During the critique, B&W determined that although the applicable operating procedure requires a pre-use verification of the pressure drop across the filters, the procedure does not require operators to check the calibration sticker associated with the pressure gauge. In addition, operator training on the calibration program only describes actions to be taken upon discovery of an expired calibration sticker; the training does not describe operator responsibilities associated with checking the calibration expiration of equipment prior to use. The site representatives have noted repeated instances of operators using equipment that was not calibrated within the required periodicity and the potential need for specific mechanisms for operators to systematically verify equipment is within required calibrations/inspections prior to use (see the 3/12/10, 11/25/09 and 10/16/09 reports). B&W's corrective actions associated with these previous events were insufficient to prevent recurrence.