

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 23, 2008

TO: J. Kent Fortenberry, Technical Director  
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives  
SUBJECT: Activity Report for Week Ending May 23, 2008

**Highly Enriched Uranium Materials Facility (HEUMF):** As reported on March 28<sup>th</sup>, significant deficiencies had been observed in a concrete placement in the HEUMF loading dock. Specifically, there were broad areas in the overhead roof slab in which a lack of consolidation was evident and reinforcing steel was exposed. A causal analysis was recently completed by B&W. The causal analysis notes several factors that may have contributed to the deficiencies including the following: number of vibrators for given pour rate (2 used vs. 3 required), time of vibration, spacing of vibrator placement, and concrete layer depth. The causal analysis concluded that the number of vibrators was most likely the primary cause. The site reps. note that out of these four factors only a maximum depth was explicitly defined in the governing procedure (and was not met for this placement) and quality assurance documentation. The other factors are defined in applicable industry standards which are referenced in the governing procedure. The casual analysis did not address any procedural aspects of this event. The site reps. discussed these observations with YSO and B&W management. B&W is in the process of replacing a large portion of the roof slab.

**Feedback and Improvement:** Per site procedure, B&W management use subjective criteria to determine whether or not it would be worthwhile to convene critiques to investigate unanticipated events. In some instances when critiques are not convened, the site reps. have observed that important management notifications and opportunities to generate effective corrective actions and communicate lessons learned are being missed. Beginning next week, a protocol previously implemented at Pantex will be implemented at Y-12. The B&W production division will formally distribute "initial event information" documents to site management immediately following the discovery of an event. This timely visibility of events should increase management involvement in the determination of whether a critique is necessary and therefore facilitate appropriate decisions on convening future critiques.

**Transuranic Waste Processing Center (TWPC):** DOE Operational Readiness Review (ORR) team members observed an integrated demonstration of remote-handled (RH) transuranic waste processing at the TWPC last week. This demonstration followed several weeks of additional preparations by the contractor after the initial, unsuccessful attempt of an integrated demonstration for the ORR in mid-April. The ORR team members were satisfied with the most recent demonstration and provided a recommendation for startup to the DOE Office of Environmental Management (EM). This week, DOE-EM approved startup of RH operations at TWPC. RH operations were initiated on Thursday.

**Conduct of Operations:** This week, a YSO Facility Representative raised a concern regarding a specific lockout/tagout (LO/TO) configuration. Specifically, a single chain and lock were used to secure two valves, despite that two locks were provided with the LO/TO permit. It appears that maintenance personnel responsible for applying LO/TO devices may be unaware of the LO/TO requirement that a single LO/TO device is to be used to secure each energy isolating device. Similar LO/TO activities have been suspended while LO/TO configurations are being inspected. B&W is also considering whether a revision to the requirement is warranted.