

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 27, 2008

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending June 27, 2008

Staff members D. Grover, D. Gutowski, and W. Von Holle were at Y-12 to assess site processes for developing and inserting new technologies into existing process areas and the planned Uranium Processing Facility.

Safety System Configuration Management: While attempting to reset a safety-significant hydrogen flow control valve for fluid bed operations in the Oxide Conversion Facility (OCF), operators discovered that an associated pressure sensing line valve was closed. The hydrogen flow control valve is designed to close if the system detects a pressure gradient indicative of a downstream leak or break. The control valve is located on the roof of the Enriched Uranium Operations Building. It is currently unknown when and by whom the sensing line valve was closed. An operator attested that he observed the pressure sensing line valve in the open position more than a week ago. B&W has put administrative locks on the valves to ensure that they aren't manipulated without the knowledge of the production supervisor. In addition, B&W has performed a review and determined that there are not any other uncontrolled safety-related valves related to OCF on the roof of the Enriched Uranium Operations Building. The site reps believe that a larger scope extent-of-condition review is warranted to ensure that safety-related valves at Y-12 are being properly controlled. B&W is revising the applicable procedure to require the operators to verify the position of the valves prior to operating the reduction fluid bed. B&W has resumed OCF operations.

Conduct of Operations/Work Planning: This week, B&W briefed YSO on its investigation of a recent event involving a welder whose personnel protective equipment was ignited by welding slag (see the 5/30/08 site rep. report). The slag ignited tape used to secure an anti-contamination rubber glove, burning the sleeve portion of the glove and the welder's forearm (minor second degree burns). B&W determined that the event was primarily due to the welder's failure to wear proper leather gloves for welding. The welder was wearing light leather gloves that are used for hand protection (cuts, pinch points, etc.) but not heavier welding leather gloves that provide more coverage and protection. The applicable Job Hazard Analysis (JHA) called for "leather garment(s)" for parts of the body coming in contact with sparks. Besides the improper gloves, no other leather garments were worn. While the welder was wearing flame retardant coveralls, B&W also noted that the JHA did not specify flame retardant coveralls as expected. Other aspects of this event including improper worker and supervisor adherence to procedures/requirements and activity-level hazard analysis were discussed. Corrective actions are being developed.

Highly Enriched Uranium Materials Facility (HEUMF) Start-up: B&W recently submitted—and YSO has concurred with—the Plan-of-Action for the start-up of HEUMF. The Principal Deputy Administrator of NNSA is the approval authority for start-up. HEUMF construction is expected to be completed next month. B&W is planning to submit the Documented Safety Analysis to YSO for approval in November. Following several months of start-up testing and readiness efforts, the Operational Readiness Reviews are currently scheduled to begin in early fiscal year 2010. One work crew has been training in a mock-up area for approximately 6 months. Start-up testing is expected to begin next month. B&W is planning to start 'cold' operations in November.