

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 12, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending June 12, 2009

Highly Enriched Uranium Materials Facility (HEUMF). B&W and YSO have continued their efforts to resolve the extensive set of YSO comments on the HEUMF Documented Safety Analysis (DSA) and associated Technical Safety Requirements (TSR), which were first submitted for approval in late December (see the 1/2/09 and 2/13/09 and site rep. reports). This week, B&W formally transmitted a revised HEUMF DSA and TSR to YSO for approval. Related to this submittal, B&W has documented their response to the YSO comments. YSO personnel noted to the site reps. that the YSO review and the YSO Safety Evaluation Report are expected to be completed by mid-July.

B&W has been working to resolve concerns identified by YSO and an independent criticality safety expert regarding its documented technical design basis for the HEUMF Criticality Accident Alarm System (CAAS, see the 3/6/09 site rep. report). B&W recently revised and re-issued its Detector Response Calculation for the HEUMF. Based on Monte Carlo analysis results, the calculation concludes that the installed HEUMF CAAS would detect the design-basis criticality accident (the ANSI/ANS-8.3 specified minimum accident of concern).

NNSA Headquarters Biennial Review/Criticality Safety. NNSA Headquarters issued the final report of its Biennial Review of Y-12 (see the 3/27/09 site rep. report). The review team assessed YSO oversight of 17 functional areas (e.g., conduct of operations, training and qualification, fire protection, etc.). Generally, the review team commended YSO for exceptional management of issues identified during the last Biennial Review. The primary shortcomings identified in the report were related to criticality safety. Specifically, the review team stated that YSO should consider (1) increasing the number of criticality safety basis documents it reviews and (2) requesting additional assistance from external sources (e.g., the Criticality Safety Support Group, DOE Headquarters, and the NNSA Service Center).

Special Materials Processing. During a routine walk-down around midnight last Friday, an operator in the Special Materials Processing Building noticed a smell of smoke and called supervision. The Y-12 Fire Department was summoned and determined smoke was coming from a container used for lithium-contaminated waste. The Fire Department applied coke to the waste container. At the critique, B&W determined that the last known addition of waste to the container was to support lithium processing glovebox work conducted more than 30 hours prior to this event. B&W intends to evaluate the container contents as part of determining the cause and corrective actions.

Nuclear Facility Clean-up. As part of its overall initiative to de-inventory and clean-up nuclear facilities (now termed the Y-12 Sustainability and Stewardship Program), B&W conducted a two-day effort to de-inventory and clean-up Building 9204-2E (see the 12/5/08 site rep. report). This effort resulted in the removal of 228 tons of material including 25 large boxes of low-level radioactive waste. Several organizations supported this activity including Radiological Control, Industrial Hygiene, Waste Management, and Maintenance.