

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 11, 2009

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending September 11, 2009

Staff member Andersen and outside expert Jirsa visited Y-12 to observe the taking of core samples for compressive strength testing as part of determining the extent of chemical damage to an elevated concrete slab in Building 9204-2E (see the 5/15/09 site rep. report).

Highly Enriched Uranium Materials Facility (HEUMF). In 2007, the Board noted that the water supply for HEUMF was not designated as a safety-significant system despite that it supports the safety-significant fire protection system (see the 12/7/07 site rep. report). In its letter to NNSA dated February 6, 2008, the Board agreed with NNSA's decision to install a safety-significant water supply pressure monitor and noted the need for safety basis controls that would ensure a reliable flow path from the current water supply to HEUMF. This week, during the B&W Implementation Validation Review (IVR) of HEUMF safety basis controls, the IVR team validated the function of the safety-significant pressure monitor and B&W's surveillance and control (tamper-indicating devices) of valves that ensure an open flow path from the water supply to HEUMF.

Conduct of Operations/Criticality Safety. B&W management discussed with the staff and site reps. additional information on the recent event where operators violated procedural criticality safety requirements when placing used bag filters into drums (see the 8/28/09 and 9/4/09 site rep. reports). Two bag filters were placed in a drum in violation of the criticality safety limit of one bag filter per drum. B&W management has determined that the operators removing and cutting the bag filters into halves were properly using and following the procedure; however, a supervisor and two operators that were receiving and placing the half-filters into drums in a separate area were not using the procedure (the procedure was not even in the area). B&W management stated that the supervisor directed that two half-filters already placed into one drum be removed and combined with two other half-filters in another drum (apparently believing the bag filters were cut in quarters). B&W management stated the operators knew the requirement of one filter per drum but failed to effectively question the supervisor's direction or invoke their stop work authority. Investigation and overall determination of corrective actions continues.

Uranium Processing Facility (UPF). Last week, B&W submitted a proposal to revise the UPF project Critical Decision strategy to YSO. The first Critical Decision 2/3 would be an accelerated approval for site preparation and long lead procurement in late FY 2010. B&W and YSO personnel discussed this proposed strategy with the staff and site rep. this week. The proposed strategy not only includes full excavation but also construction of the facility base slab in the scope of site preparation. A concern with the strategy is that the proposed Critical Decision 2/3 approval would be granted prior to completing the facility and process design work needed to finalize the base slab design. NNSA review of the proposal is in progress.

Criticality Safety. Last week, the results of non-destructive assay (NDA) indicated that uranium holdup in the exhaust line of a glovebox in Building 9212 was about 720 grams, which exceeds the criticality safety limit of 700 grams. B&W determined that while the NDA protocol had been properly followed, the NDA action level (total counts per second) for the exhaust line that triggers performance of a holdup mass estimate does not adequately protect the criticality safety limit. Exhaust filters have been replaced and other corrective actions are being determined.