

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 10, 2009

TO: Timothy Dwyer, Technical Director  
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives  
SUBJECT: Activity Report for Week Ending July 10, 2009

Mr. Kupferer was out of the office this week.

**Enriched Uranium Processing Options Study.** In May, NNSA Headquarters directed that an effort be undertaken to define options for long-term processing of enriched uranium to compare and evaluate against the current plans for constructing the Uranium Processing Facility (UPF) and starting operations in 2018 (see the 5/15/09 site rep. report). Several options were considered by a team comprised of NNSA Headquarters, LANL, LLNL and Y-12 personnel and detailed information on costs, safety risks and program risks were developed. In forwarding the completed options study report to NNSA Headquarters late last week, the YSO Manager noted that no option manages the safety and program risks better than UPF while at the same time providing a better cost and funding profile than UPF.

**Highly Enriched Uranium Materials Facility (HEUMF).** YSO review of the HEUMF Documented Safety Analysis and Technical Safety Requirements has been completed and the YSO Safety Evaluation Report (SER) was issued late last week. The YSO SER identified some Conditions of Approval (COAs). Most notable among the COAs was direction to revise the design basis fire accident analysis at the next annual update to incorporate the bounding airborne release fraction, appropriate (container) damage ratios and other revised accident analysis parameters. Consistent with prior action, another COA directs design and construction of a new safety-significant fire water supply as part of the UPF project (see the 11/26/08 site rep. report). The COA notes, however, that completion dates are to be determined based on the UPF project schedule and funding availability.

Testing of the HEUMF Secondary Confinement System (SCS) has been in progress since early June (see the 6/5/09 site rep. report). On Friday, the site rep. observed most portions of an integrated test to validate the function of the SCS and other safety-significant systems following a total loss of normal power. B&W personnel noted that the test data indicates that the safety-significant diesel generator and power switches functioned properly upon loss of normal power and that operation of the SCS met safety basis functional requirements.

**Building 9206 - New Solutions Processing Campaign.** B&W has been planning to process about 100 safe bottles of enriched uranium solutions as part of de-inventory of Building 9206. The operation involves filtering and diluting the solutions for subsequent waste disposal. The operation is to be performed with previously used equipment in Building 9206 that includes a pan filter in a ventilated hood and a glass column for settling and phase separation. Diluent is to be added as necessary to filtered solutions in the glass column to meet waste disposal criteria. Criticality safety relies primarily on mass control (one safe bottle processed at a time) and the geometry of the processing equipment. B&W is finalizing the Criticality Safety Evaluation for this operation and YSO has approved B&W's proposed safety basis revision crediting the fire suppression system in a room of Building 9206 where diluted solutions will be added to drums. YSO recently approved B&W's proposal to conduct a contractor Readiness Assessment (RA) to confirm readiness for this campaign. The RA is projected to start by early August.