DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 15, 2004

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJ: Activity Report for Week Ending October 15, 2004

Staff members Bamdad, Linzau, March, and Nichols were on-site this week to review the Highly Enriched Uranium Materials Facility (HEUMF) safety basis and site-wide fire protection.

A. Building 9212 - Seismic Analysis. As a part of the Documented Safety Analysis (DSA) submittal for Building 9212, BWXT committed to providing an upgrade plan to address seismic deficiencies (site rep. weekly 9/10/04). The seismic analyses indicated extensive seismic deficiencies with the building structure as well as facility systems and components. In the upgrade plan that was completed earlier this month, BWXT estimates that the total cost to address these deficiencies is $35M to $72M and will take more than 60 months to implement. BWXT concludes that it is not cost-beneficial to perform the seismic upgrades based on the total cost and schedule estimates and the expected remaining facility life (about 10 years). YSO is evaluating these studies and the risk implications as a part of their review of the recently submitted DSA.

B. Highly Enriched Uranium Materials Facility - Design Basis Fire. This week, BWXT responded to staff questions concerning the HEUMF design basis fire scenario in the preliminary DSA. Previously, BWXT had planned to credit the facility storage container as providing a safety class barrier during a facility fire. BWXT now concludes that the largest credible facility fire will not challenge off-site evaluation guidelines and, therefore, a safety class control is not required. While it appears that the current strategy may be defendable, the staff and site reps. encouraged BWXT to strengthen and document their technical basis. BWXT agreed to provide additional justification to support this safety strategy. This issue needs to be resolved in a timely manner to ensure there are not impacts on facility design.

C. Fire Protection System Testing - Update. As reported on August 6th, surveillance testing required to return a safety-significant fire suppression system to service in the assembly/disassembly facility was not performed following a facility modification. BWXT's investigation (i.e., final occurrence report) was completed late last week. Substantial issues were identified including lack of shift management knowledge and attention to detail in returning the fire system to service, and lack of precision in specifying the surveillance as well as use of improper work control documents. Numerous near-term and long-term corrective actions were identified including an overall review of site work control requirements in addressing efforts that cross multiple organizations (e.g., facility operations, fire department and construction groups).

D. ORNL Buried Transuranic Waste Retrieval. Following safety basis approval and Readiness Assessments, DOE-ORO recently authorized Bechtel Jacobs Company (BJC) to begin retrieval and overpacking of about 200 concrete casks (8 ft. by 4 ft. cylinders) and various other packages from a Solid Waste Storage Area at ORNL. The waste is largely hot-cell waste from isotope production operations and will be processed at the Melton Valley Waste Processing Facility. The site rep. observed initial soil excavation operations. Retrieval of the first cask is planned during the week of October 18th. In addition to a number of safety controls, worker respiratory protection is required for the retrieval operations; however, BJC management noted their intention to re-evaluate the need for worker respiratory protection for cask retrieval after a few weeks of operations.