

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 9, 2007

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending February 9, 2007

A. Wet Chemistry Spill. During a routine walk-down on Tuesday evening, BWXT operations personnel discovered several liters of solution had spilled from product storage tanks for the secondary extraction process. Response actions and cleanup were accomplished within a few hours following review and approval by nuclear criticality safety personnel. During the critique of the spill on Wednesday, BWXT personnel noted the following: the spill was from leakage of solution from flange gaskets in the upper glass portion of multiple tanks; the secondary extraction and other process systems connected to the storage tanks had not been run nor any transfers conducted in several days; certain glass section flanges had previously been known to leak and tank levels were purposely kept below the glass section of those tanks; and the storage tanks' levels were known to be below the known leakage locations up to Tuesday afternoon. BWXT has suspended operations involving these storage tanks and has started an investigation to determine the cause of the spill and to evaluate the handling of the prior tank leakage.

B. Conduct of Operations. Based on several recent events at the Enriched Uranium Operations Building, BWXT building management plans to provide reinforcement training next week to all operations personnel covering various aspects of Conduct of Operations. In particular, two criticality safety deficiencies were identified this week. A YSO engineer discovered storage of two containers on a facility rack that were not in accordance with criticality safety requirements. The storage rack was properly posted and did not allow storage of the container design placed in the rack. The second issue involved a piece of facility insulation that had degraded and dropped to the floor in a fissile material storage area. The area was isolated but not with consideration for the criticality safety implications in a large geometry exclusion area being addressed. Building management will emphasize expectations concerning adherence to facility requirements (e.g., procedures and postings) and other Conduct of Operations principles. BWXT efforts continue on actions under the site-wide Conduct of Operations improvement initiative.

C. Oak Ridge Radioactive Waste Management. The site rep. met with DOE-ORO and Bechtel Jacobs Company (BJC) personnel to discuss plans for addressing five Shielded Transfer Tanks that have been in storage at ORNL since the late 1960's and early 1970's. Four of the tanks contain contaminated resins that had been used to capture isotopes from PUREX supernatant at Hanford. The resins in these tanks had been eluted in the 1960's prior to storage. The fifth tank contains an undetermined amount of waste from Savannah River reactor operations that was used for isotope recovery in the early 1970's.

The tanks are in outdoor storage. Due to the potential for hydrogen buildup during storage, BJC has been revising the safety basis for the tanks. DOE-ORO and BJC personnel indicated that ultimate disposal will require sampling and characterization of tank contents and, as a result, venting of the tanks will be necessary. Preparations for venting the tanks are in progress with the venting operation and disposition activities planned in Fiscal Year 2008.