

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 2, 2006

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for the Week Ending June 2, 2006

A. Vacuum Pump Filter - Criticality Safety. BWXT continues activities to remediate the enriched uranium hold-up in a filter housing associated with the casting furnaces in the Enriched Uranium Operations Building. As noted last week, Non-Destructive Assay (NDA) field measurements were taken late last week following initial actions that confirmed no significant moderator remained in the housing. Quantitative results based on these surveys, using two different techniques, are consistent with previous hold-up estimates. This week, BWXT performed additional criticality evaluations and submitted a Justification for Continued Operations (JCO) to YSO. The JCO and supporting criticality safety documents provide the contractor technical basis for replacement of the filter and clean-out of material in the filter housing. This activity is expected to occur next week.

BWXT is also pursuing actions to isolate the West side vacuum systems, which include the filter discussed above, from the East side systems to allow resumption of casting operations. Blind flanges have been installed to ensure there is no system interaction. In addition, all vacuum pump filters on the East side have been replaced. BWXT is preparing a revised criticality safety evaluation that includes additional controls to help ensure that moderator (e.g., oil) does not build-up in the filter housings. Resumption of casting operations is expected to occur in mid-June.

Based on this filter hold-up issue, BWXT has also been reviewing other survey points that are a part of the Uranium Hold-up Survey Program. Last week, BWXT identified a vacuum producer that may have excessive material hold-up. Because of the complex internal geometry, NDA personnel have been unable to provide a reliable material hold-up estimate for this component. Criticality safety personnel are developing a technical basis to support clean-out or replacement of the vacuum producer. The BWXT investigation team's evaluation is on-going with preliminary feedback on their review expected next week.

B. Warehouse Shipment Activity. As a part of preparations to de-inventory the Warehouse, BWXT will be shipping the Tower Shield Facility - Systems for Nuclear Auxiliary Power (TSF-SNAP) reactor to ORNL for processing. In the early 1970's, the TSF-SNAP reactor was shutdown at ORNL, partially disassembled, placed in a stainless steel container and loaded into a shipping container. The reactor has been stored at the Warehouse since 1974. ORNL personnel plan to remove the fuel rods from the reactor and dispose of the reactor and associated shipping container. The fuel rods will be returned to Y-12 for storage. An Unreviewed Safety Question Determination has been completed for this activity that indicates no safety basis impact. BWXT is completing the final planning for this activity, which is expected to occur in mid to late-June.

C. Warehouse Characterization Activity. As noted on January 6th, BWXT plans to characterize a number of uranium items that may be contaminated with plutonium. Last week, the Readiness Assessment (RA) team completed field observations for this activity. The RA team identified five pre-start findings, one post-start finding and several observations. Facility personnel are in the process of addressing these issues and plan to begin this activity in mid-June.