

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 15, 2002

TO: J. Kent Fortenberry, Technical Director
FROM: Matt Forsbacka, Oak Ridge Site Representative
SUBJ: Activity Report for Week Ending March 15, 2002

A. Retech Furnace Readiness Preparations: On Tuesday, YAO and BWXT met to discuss readiness preparations for the BWXT Y-12 Building 9998, Depleted Uranium Operations, Retech Vacuum Arc Remelt (VAR) furnace. This furnace is part of the process for production of binary alloys. Another VAR furnace is currently in use in Building 9201-5 (Alpha-5), so successful startup of the Retech VAR furnace would be a significant milestone towards the footprint reduction of the plant and the eventual decommissioning of Alpha-5. The NNSA Operational Readiness Review (ORR) is anticipated to begin this June. Although the physical process for producing binary alloys with the Retech VAR furnace is nearly identical to that of the currently employed furnace, an extensive engineering evaluation process of the final product, potentially lasting for 12-15 months following the ORR, is expected to be conducted by the Design Agencies. During that time, both furnaces will be operated. (2-A)

B. Y-12 Enriched Uranium Reduction Vessel: YAO released a letter specifying the corrective measures in response to the Unreviewed Safety Question Determination that discrepancies in the maximum temperature of the reduction vessel may challenge the safety margin. Key among the Conditions for Approval were:

1. A preliminary analysis of the peak and secondary stresses must be completed by BWXT to quantify the effect on the safety margin while operating at high temperature.
2. Complete additional wall temperature measurements in order to verify temperature discrepancy limits and ensure secondary and peak stresses remain within acceptable limits.
3. Change the furnace interlock set points to the lower setting recommended in BWXT's revised Design and Analysis Calculations. (2-A)

C. Recommendation 2000-2 Phase II Assessments: The Phase II assessment for the Building 9215, Enriched Uranium Manufacturing, Stack 3 Exhaust Ventilation System commenced on Wednesday. The assessment team, comprised of YAO and BWXT personnel, will determine operational readiness and reliability, and review processes in place to prevent age-related degradation in accordance with guidance from DOE Headquarters. This assessment is planned to be conducted through mid-April. (1-C)

D. Highly Enriched Uranium Material Facility (HEUMF): The HEUMF project has been granted authority to proceed, albeit on a limited basis. The project may consider down-scoping various elements of the design, such as the International Atomic Energy Agency (IAEA) inspection facility and the surge capacity. One positive impact of down-scoping could be that the project will be solely focused on the storage of mission essential elements. (1-C)

cc: Board Members