

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 7, 2005

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending October 7, 2005

Mr. Davis was out of the office on Monday, Thursday and Friday.

A. Highly Enriched Uranium Materials Facility. As noted on September 23rd, staff and outside experts visited Y-12 to review construction of the Highly Enriched Uranium Materials Facility (HEUMF). The staff, outside experts and site reps. had observed construction progress for the mechanical equipment building and main storage area. The first concrete placement for the main storage area slab had been completed. The staff had inquired on overall implementation of construction Quality Assurance (QA) and oversight by BWXT and YSO. In a discussion with the staff and site reps. this week, BWXT management noted that BWXT has initiated a review of flowdown and implementation of QA requirements to the construction contractor and its subcontractors. BWXT management noted that QA requirements flowdown to the construction contractor is in place. BWXT management noted that formal BWXT assessment/oversight plans of on-going HEUMF construction have not been developed and no documented assessments of on-going construction activities have been conducted. BWXT management noted that action is being taken to develop such plans. YSO management also noted that YSO formal assessment plans for HEUMF construction oversight have not been developed and that action would be taken to develop such plans.

B. Furnace Reduction Operations. Last week, BWXT completed an Implementation Validation Review (IVR) of authorization basis changes and a Readiness Assessment (RA) to confirm readiness for reduction operations with a redesigned reactor vessel (see 9/9/05 site rep. report). No pre-start findings were identified by the IVR or RA teams. Late last week, BWXT completed initial reduction runs with the new vessel. Following knockout operations, the metal was determined to be of acceptable quality.

C. New Enriched Uranium Operations Glovebox. Blending of enriched uranium materials have been conducted as part of special processing operations in the Enriched Uranium Operations building. Installation activities for a new glovebox to perform blending of enriched uranium materials have been in progress for many months and are nearing completion. A new safety-significant sprinkler system is provided for fire protection. The glovebox will add additional capability and not require the use of respirators as with current operations. The new glovebox is to be turned over to building operations personnel in the near future to complete preparations for startup, now projected by early next year. YSO has approved a BWXT RA to confirm readiness for these operations.

BWXT criticality safety engineering personnel recently observed that the planned approach to load the blending vessel was not consistent with other such blenders. BWXT criticality safety engineering personnel identified that it could not be assured that a criticality would be prevented in the unlikely event of water intrusion filling the entire vessel during loading. As a result, BWXT project and engineering personnel are working to address the issue. BWXT engineering management personnel noted to the site rep. that prior engineering and design review of the blending equipment and glovebox will be investigated.