

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 3, 2006

TO: J. Kent Fortenberry, Technical Director
FROM: R. Todd Davis/Donald Owen, Oak Ridge Site Representatives
SUBJECT: Activity Report for the Week Ending March 3, 2006

Mr. Owen was out of the office from Monday thru Thursday.

A. New Y-12 Site Office Manager This week, Mr. Theodore Sherry was appointed as Y-12 Site Office Manager replacing Mr. William Brumley who is retiring from federal service.

B. Highly Enriched Uranium Materials Facility. On Monday, YSO formally communicated concerns to BWXT regarding construction Quality Assurance stemming from non-conforming conditions discovered with concrete placements (see site rep. reports since January 13th). YSO outlined expectations for resuming rebar installation and concrete placements including causal analyses of the non-conforming conditions, a peer-reviewed extent of condition assessment, comprehensive corrective actions, and a briefing to NNSA on those efforts. On Tuesday, the staff and site rep. discussed progress of the recovery efforts with YSO and BWXT personnel. BWXT is nearing the completion of their extent of condition assessment and is proceeding with obtaining outside expert review of the disposition of identified issues. YSO management expects to issue their own construction oversight plan in the next few weeks.

C. Uranium-233 Disposition at ORNL. Over the last few years, DOE-ORO had been pursuing a project to extract thorium for medical use from the uranium-233 (U-233) stored at Building 3019. The project also included down-blending of the U-233 inventory. This project was nearing completion of detailed design last summer. As noted on January 6th, Congress had directed DOE to discontinue the thorium extraction portion of the project and provide a report on future U-233 management. This report was completed in February and states that the project design will be modified to eliminate thorium extraction (if possible) and that the resulting down-blended material will be packaged for disposal as transuranic waste (i.e., disposal at the Waste Isolation Pilot Plant). The site reps. and staff recently discussed the path forward for this project with DOE-ORO and contractor (Isotek) personnel. Isotek believes that the design changes will be straightforward; however, without the extraction of thorium, operational radiation dose rates will increase and may require additional project design changes or other measures.

D. Oxide Conversion Facility. This week, BWXT initiated a second transfer of uranium oxide consistent with the startup test plan. While attempting to transfer the last of three oxide batches to the reduction fluid bed, there was no system indication that the material transferred (i.e., no transfer gas differential pressure indication). A subsequent attempt at oxide transfer resulted in dispersal of oxide in the uranium oxide glovebox. Surveys indicate there was no release of contamination outside the glovebox. BWXT is investigating the cause of this problem.

E. Purification Facility. On three separate occasions, lower explosive limit (LEL) alarms required evacuation of the Purification Facility this week. In each case, facility personnel responded appropriately with proper facility re-entry. These LEL alarms are required by the safety basis to monitor for acetonitrile (ACN). Based on the location of the alarm and facility activities, it appears that two of these alarms were not associated with ACN. While critiques were conducted for the first two events, a critique was not conducted for the third evacuation. The site reps. have inquired on the basis for not conducting a critique.