

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 14, 2005

**TO:** J. Kent Fortenberry, Technical Director  
**FROM:** R. Todd Davis/Donald Owen, Oak Ridge Site Representatives  
**SUBJECT:** Activity Report for Week Ending January 14, 2005

Staff member Winters was at Oak Ridge this week reviewing radioactive waste management activities.

A. Oxide Conversion Facility. As reported on December 17<sup>th</sup>, BWXT completed their contractor Operational Readiness Review (ORR) for the startup of the Oxide Conversion Facility (OCF). BWXT is completing resolution of prestart findings and YSO line management verification of closure of the findings is nearing completion. Previously noted were two major open issues: (1) training and practice of test procedures (not the normal operating procedures) intended for initial system operation with hazardous materials had not been performed (see 11/19/04 site rep. report); and (2) emergency preparedness for a release of hydrogen fluoride (HF) had not been adequately demonstrated (see 12/10/04 site rep. report). BWXT has now performed training, practice (resulting in some procedure revisions) and an integrated run with the test procedures. In addition, drills and training for an HF release have been performed and an emergency preparedness demonstration is planned to be observed by NNSA ORR team members on January 21<sup>st</sup>. The formal start of the NNSA ORR is still expected on January 24<sup>th</sup>.

B. Oak Ridge Radioactive Waste Management. The staff and site reps. reviewed waste storage facilities, disposal facilities and decontamination and decommissioning project sites. DOE-ORO has placed high priority on offsite shipment of all legacy and recently generated waste. These operations are being performed by Bechtel Jacobs and its contractors. About 1.2 million cubic yards of legacy low-level waste remains to be shipped offsite by the end of FY 2005. Starting in FY 2006, the DOE Office of Science and NNSA are expected to assume responsibility for management of their newly generated waste.

Noted during the review was a potentially hazardous decontamination project pending at ORNL. The project involves the excavation and disposal of an empty radioactive waste tank W-1-A that supported Building 3019 operations and the surrounding highly contaminated soil. The contaminated soil apparently resulted from leakage from a damaged joint in feed piping for the tank. During a past attempt to excavate the tank, the radiation field of the surrounding soil was measured at levels as high as 20 R/hr. The site reps. and staff will follow the planning for excavation of the tank and contaminated soil.

C. Furnace Reduction Operations. In prior years, the staff raised questions concerning the use of reduction vessels that had not been designed to meet the ASME Boiler and Pressure Vessel Code. These vessels are subject to significant internal pressures and temperature gradients. In response, BWXT qualified two existing vessels for a service life of 100 hours each and began a series of test runs to develop appropriate parameters for design of a code compliant vessel. Based on the data collected in 26 test runs to date, a new vessel has been designed and 24 units are on order. As the new vessel has been designed to code requirements, BWXT expects that the authorization basis control that restricts personnel in the area during furnace operations will be eliminated. Authorization Basis changes and readiness activities are expected to be complete in April.