

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 17, 2008

TO: Timothy Dwyer, Technical Director
FROM: Donald Owen and David Kupferer, Oak Ridge Site Representatives
SUBJECT: Activity Report for Week Ending October 17, 2008

Staff member R. Raabe visited Oak Ridge to discuss the Uranium-233 disposition project, ORNL Tank W-1A, and radiography vault design for the Uranium Processing Facility.

Criticality Safety: In August, B&W had acknowledged that the implementation of DOE Standard 3007-2007, *Guidelines for Preparing Criticality Safety Evaluations*, needed to be reworked given the findings of a recent federal review (see the 8/22/08 site rep. report). B&W had noted that several Y-12 fissile material processes are not compliant with the revised Double-Contingency Principle set forth in DOE Standard 3007-2007. The non-compliant processes rely on multiple controls on a single parameter (e.g., mass, concentration, geometry, etc.) rather than controlling two independent parameters. Late last week, B&W formally identified the non-compliant fissile material processes and requested that YSO approve continuing operations while a revised implementation plan for DOE Standard 3007-2007 is being developed, approved, and implemented. B&W committed to submit the revised implementation plan to YSO by December 31st. Regarding the Highly Enriched Uranium Materials Facility, the B&W submittal asserted that the current revisions of Criticality Safety Evaluations meet the Double-Contingency Principle but need to be revised to meet the Standard's format and content requirements.

Feedback and Improvement/Conduct of Operations: The Y-12 Conduct of Operations Manual requires that Standing Orders that implement a safety basis requirement be cancelled after 30 days and that the permanent implementing document be in place at that time. Earlier this year, a Standing Order that implements a safety basis inventory requirement in the Warehouse was allowed to repeatedly expire prior to issuance of any permanent implementing document (see the 6/6/08 site rep. report). The site reps. had suggested that a broader evaluation may be warranted to determine whether other Standing Orders are being properly generated, distributed, tracked and incorporated into procedures per the Y-12 requirements. No such extent-of-condition evaluation has been evident. In September, during a quarterly review of Standing Orders in the Assembly/Disassembly Building, personnel discovered two Standing Orders issued in April 2008 that implemented safety basis requirements but did not incorporate the 30-day expiration requirement (one had a 180-day expiration date and the other had no expiration date). The site reps. discussed the lack of an extent-of-condition review of this Standing Order issue with Y-12 management.

ORNL Tank W-1A: In the summer of 2006, Bechtel Jacobs Company (BJC) completed a campaign to retrieve soil samples from around underground tank W-1A to support eventual removal of contaminated soil and the tank (see the 7/14/06 site rep. report). This week, the site reps. and staff met with DOE-ORO and BJC personnel to discuss the results of the sampling campaign and future removal plans. The soil sampling results indicate that about 110 yd³ of the 350 yd³ of soil to be removed is sufficiently contaminated to require disposal as transuranic (TRU) waste. DOE-ORO personnel noted that detailed work planning for the soil/tank removal and TRU waste handling activity is now expected to start in early 2009. This planning would support removal operations in 2010. This path forward, however, is subject to pending priority and funding decisions by DOE.