

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending April 29, 2011

Conduct of Operations. Staff members J. Anderson, D. Campbell, T. Hunt, and R. Verhaagen and outside expert D. Boyd visited Y-12 to review conduct of operations and technical procedures (see the 1/16/09 report). The staff and site representatives observed machining, casting, material management, assembly, and dismantlement operations. While observing dismantlement operations, the staff discussed the following observations with B&W management: (1) steps in a 'continuous use' procedure were performed out of sequence, (2) a procedure specified an incorrect set point for a low flow alarm associated with a differential pressure gauge, and (3) use of out-of-service postings that had not been approved.

ORNL Building 3019/Uranium-233 Disposition. Last November, DOE Headquarters directed DOE-ORO to perform an alternatives analysis with the objective of determining if there is a viable, cost-effective alternative to the existing baseline approach of the U-233 Downblending and Disposition Project (see the 12/3/10 and 11/19/10 reports). The alternatives analysis team led by DOE-ORO included representatives from across the complex (e.g., DOE Headquarters, Savannah River Site, Nevada National Security Site, Waste Isolation Pilot Plant, etc.). This week, consistent with the alternative analysis team's recommendations, DOE Headquarters issued formal direction to execute the following initiatives:

- Proceed with a direct disposition campaign that includes disposing of half of the U-233 inventory by (a) transferring material that can be used for programmatic missions (i.e., Zero Power Reactor plates and some high purity metals) to other DOE sites and (b) shipping Consolidated Edison Uranium Solidification Project canisters to the Nevada National Security Site for disposal.
- Continue the alternatives analysis effort and, by the end of this fiscal year, identify the preferred alternative for processing the remaining U-233.

Operational Drills. Last week, Production division management issued a formal plan that provides guidance for developing and conducting operational drills (see the 10/29/10 report). This guidance is intended to augment existing Y-12 requirements. Examples of this additional guidance include: (a) establishing a Production Drill Coordinator position to coordinate facility-specific activities, (b) requiring drills to be conducted at least every two years for certified positions, and (c) requiring drill reports to be issued that include identification of follow-up actions and lessons learned.

Nuclear Detector and Sensor Testing Center (NDSTC). The experiment of operating the NDSTC for the active interrogation of fissile material was reviewed under a Level I readiness assessment (RA) (see the 1/28/11 report). This RA reviewed the implementation of the experiment control process to ensure an adequate review and approval process exists for future experiments that make changes to the experiment configurations within established and approved bounding Documented Safety Analysis conditions. New criticality controls have been established, which resulted in changes to the operating procedure. Although the Y-12 procedure indicated a Level 0 RA, due to the new process being implemented to control experiments it was determined by the Operational Safety Board that a Level I RA should be conducted. The RA was executed this week and there was one pre-start finding, which was resolved and reviewed prior to the end of the RA, and three observations that were primarily administrative. The RA team recommended approval of NDSTC operations.