

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Timothy Dwyer, Technical Director
FROM: Wayne Andrews, Donald Owen and David Kupferer, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending July 30, 2010

Mr. Owen was out of the office Tuesday, Wednesday and Friday. Staff members A. Gwal and J. Abrefah reviewed electrical systems in various Y-12 facilities.

Electrical Safety Review. This week, the Board's staff reviewed the electrical safety associated with many activities at Y-12. The review included the Uranium Processing Facility, Highly Enriched Uranium Materials Facility, Building 9212, and Building 9204-2E, as well as the overall Electrical Safety Program.

Reduction Operations/Criticality Safety. Four weeks ago, B&W declared a Potential Inadequacy in the Safety Analysis (PISA) related to the pickling hood in the furnace reduction area. B&W's basis for the PISA is that the Criticality Safety Evaluation (CSE) does not appear to adequately address interaction between fissile materials that could be collocated against the sheet metal that divides the two sides of the hood (see the 7/9/10 site rep. report). The criticality safety posting for the hood allows up to three loaded containers in each side of the hood. Subsequent to declaring the PISA, B&W performed calculations that show six pickling cans (three on each side of the hood) placed against the sheet metal would exceed the criticality safety limit. This week, B&W completed its Unreviewed Safety Question (USQ) Determination, which concluded that the USQ is negative because the nature of the process in the pickling hood precludes the possibility of three pickling cans being used in either side of the hood (e.g., operators use hospital cans to collect less reactive salvage during the process). Neither the CSE nor the posting are considered part of the safety basis (i.e., they are not approved by YSO). B&W plans to revise the CSE and posting to reflect the assumption that less than three pickling cans are present on either side of the hood at any one time.

Criticality Safety. In response to a 1/23/09 Board letter, B&W committed to review all active Criticality Safety Evaluations (CSEs) to ensure credible abnormal events are adequately analyzed (see the 3/19/10 site rep. report). B&W recently completed this year-long effort and is planning to issue a report next month that details aggregate observations, issues, and findings.

ORNL Tank W-1A. Last month, Bechtel Jacobs Company (BJC) finished taking soil samples along the primary waste piping to Tank W-1A (see the 5/21/10 and 12/31/09 site rep. reports). BJC expects that the radiological analysis of the samples will be completed next month. This week, BJC submitted its Documented Safety Analysis (DSA) for removing the soil around the tank to DOE-ORO. BJC developed the DSA to be in compliance with DOE Standard 1020, *Integration of Environment, Safety, and Health into Facility Disposition Activities*. DOE-ORO is planning to complete its review of the DSA by September to support BJC's schedule to begin removing soil in January 2011.

High Reliability Organization (HRO). YSO and B&W senior management recently signed a vision statement that commits the Y-12 to being an HRO. In this vision statement, Y-12 management attests that the following programs constitute the key elements of the Y-12 HRO infrastructure: Integrated Safety Management, Conduct of Operations, Quality Assurance, behavior-based safety, performance metrics, root cause analysis, continuous training, conservative decision making, and defense-in-depth.