

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending December 13, 2013

The Board conducted a public meeting and hearing in Knoxville this week to discuss activities at the Y-12 National Security Complex. Board members P. Winokur, J. Roberson, S. Sullivan, and K. Mossman received testimony from senior NNSA and B&W management. The hearing was divided into two sessions. The first session discussed the safety-related risks associated with continued operation of aging facilities and the early integration of safety into the design of the Uranium Processing Facility. The second session focused on emergency planning for severe events and Y-12's initiatives to improve conduct of operations and work planning and control.

Building 9212: The Building 9212 Operations Manager declared a technical safety requirement (TSR) violation due to a failure to perform a Limiting Condition of Operation (LCO) surveillance of transient combustible materials in an area without sprinkler coverage. The LCO restricts the volume of combustibles to less than 4 ft³ but allows this amount to be exceeded with documented approval from the Fire Protection Authority Having Jurisdiction (AHJ). Construction personnel had received approval from the B&W AHJ to have a specific amount of transient combustible materials in the plenum above a room without sprinklers. However, earlier this week, an NPO Facility Representative found amounts of combustible materials in the plenum that exceeded the amount approved by the AHJ. Further, a review by B&W management revealed that the plenum had not been included in the monthly surveillance requirement for this LCO. The Operations Manager directed entry into the LCO actions that included initiation of a four-hour fire patrol and removal of the transient combustibles. The Production Facilities Department manager subsequently issued a standing order defining the interim actions to be taken to resolve this issue.

The AHJ for these types of approvals has previously been an individual from the B&W Fire Protection Engineering (FPE) organization. The Y-12 Safety Analysis Report indicates that an NPO individual serves as the formal Fire Protection AHJ and the B&W FPE organization is responsible for oversight and implementation of the overall fire protection program. NPO was not involved in the AHJ approval related to these transient combustibles. Both NPO and B&W agree that further clarification is required on the designation of the AHJ for certain approvals.

Nuclear Criticality Safety (NCS): Enriched uranium chips from machining operations in Building 9215 are collected in dollies and shipped to Building 9212 where they are dried, pressed into metal briquettes, and stored for further processing. Last week, NCS engineers reviewed accountability data indicating that some briquettes were retaining a quantity of unknown hydrogenous material that had not been analyzed in the criticality safety evaluations (CSEs) for operations involving briquette handling and storage. Production management immediately suspended briquetting operations and established administrative standoff from all areas where briquettes are stored. NCS engineers must update several CSEs to account for this condition before the aforementioned operational restrictions can be removed. This process could take several weeks for some CSEs. Concurrently, NCS engineers are working with technology development and production personnel to identify the specific source of this unanalyzed material (currently believed to be residual machining coolant) and make process adjustments to minimize its carryover to downstream metal processing operations.