

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 22, 2011

Storage Operations. In a 2/4/11 letter, the Board requested for NNSA to provide a report that describes the rationale and safety considerations that led to B&W's decision to consolidate nuclear materials in Building 9720-5 (see the 2/18/11 and 12/17/10 reports). Last week, B&W issued its report in response to the Board's letter. B&W's report identifies the key qualitative factors that were considered in determining that Building 9720-5 is the most practical alternative for safe and secure storage of the subject nuclear materials for the foreseeable future. In its report, B&W states that it will (a) perform a documented programmatic and safety evaluation of continuing to store nuclear materials in Building 9720-5 five years after the material consolidation effort is completed and (b) overpack wooden crates used to store depleted uranium by FY2016 to reduce the combustible loading in Building 9720-5.

Criticality Safety. B&W recently completed an extent-of-condition (EOC) review to determine whether inadequacies exist in other Criticality Safety Evaluations (CSEs) similar to those identified in the CSE for pickling hood operations (see the 8/27/10 report). Specifically, B&W evaluated whether the subject CSEs (a) properly considered interaction between adjacent workstations and (b) include adequate analysis of fissile material quantities that bound the material quantities allowed by the applicable criticality safety postings and operating procedures. B&W's report concludes that, although several observations were identified during the review, none of the observations involved situations where existing controls or operational practices were deemed unsafe. The report noted that, in some instances, the level of detail in the CSEs was not sufficient to ascertain the basis for some assumptions and that engineering judgments were made in the CSEs without supporting discussion and analysis. B&W plans to incorporate the information gathered from this review into its CSE Upgrade Plan (see the 9/17/10 report).

Transuranic Waste Processing Center (TWPC). Wastren Advantage is the management and operating contractor for TWPC, but the Central Characterization Project (CCP) conducts characterization activities at TWPC prior to shipping waste containers to the Waste Isolation Pilot Plant (WIPP) for disposal. Last month, due to budget shortages, DOE announced that CCP is not expected to perform characterization activities at TWPC during FY2012 and FY2013. During CCP's absence, Wastren Advantage is planning to continue processing, packaging, and staging transuranic waste in anticipation of CCP's return in FY2014.

Solid Waste Storage Area (SWSA)-5. Last year, Bechtel Jacobs Company (BJC) removed 62 contact-handled and remote-handled transuranic waste containers from SWSA-5 storage areas. BJC is in the process of revising the safety basis for its transuranic waste storage facilities as part of preparations to retrieve and relocate 26 additional drums that contain plutonium metal and oxides. DOE is planning to install a perma-con unit and inert glovebox at TWPC to process the subject drums for final disposal at WIPP. These processing activities are expected to include the following: (1) overpack the primary material container (a stainless steel food-pack can) for 21 of the 26 containers, (2) repackage the contents of 3 containers (which exceed WIPP's 200 Pu-239 fissile gram equivalent limit), and (3) stabilize and repackage the contents of 2 containers using a tube furnace. DOE is currently scheduled to begin processing the subject drums at TWPC in FY2012; however, due to the aforementioned funding issues and the expected lack of CCP support, it is likely that this schedule will be delayed.