DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Acting Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending June 7, 2013

Staff members R. Oberreuter and C. Shuffler visited Oak Ridge to observe an NNSA-chartered independent review of the Uranium Processing Facility Project.

Consolidated Edison Uranium Solidification Project (CEUSP): Isotek Systems, LLC, is preparing to ship CEUSP canisters (containing uranium oxide monoliths consisting of 10% U-233 and 75% U-235) to the Nevada National Security Site as part of the Uranium-233 Direct Disposition Campaign at ORNL (see 12/21/12 report). Late last month, a canister retrieval device failed to release during the relocation of a CEUSP canister. When canisters are relocated, they are raised and lowered into a shielded transfer carrier (STC) with this device, which has a remotely operated grapple on the end. When the grapple failed to release, workers placed the area in a safe and stable condition with the canister resting in the STC. The grapple device was designed to be manually actuated with an extended reach tool (roughly two feet long) in the event the motor-driven mechanism failed. Isotek wrote a specific work instruction for use of the manual tool, but workers were unable to successfully release the grapple using this work instruction. During these attempts, workers used lead blankets and extremity dosimetry and radiological personnel closely monitored exposure to minimize dose (including the use of stopwatches). The highest extremity dose readings were 14 mrem during operation of the manual release tool. Isotek engineers are analyzing the design of the grapple device and they are formulating a new plan to release the canister. This plan may require partial disassembly of the grapple assembly using additional extended reach tools to free the canister. Isotek's nuclear safety organization is conducting an unreviewed safety question determination of the current configuration of the canister.

System Health Validations: Following the July 2012 security incident, B&W recognized the need to improve its management assessment processes in three key respects: 1) the need to be more self-critical, looking for deviations from expectations rather than simply non-compliances with requirements, 2) an increase in the number of field-based observations, and 3) the need to focus more on the highest-risk areas of the plant. The extent-of-condition review following the security event utilized a methodology that addressed these issues. B&W has since been working to institutionalize this methodology through a new system health validation program. System health validations are conducted by eight-member multi-disciplinary teams with representation spanning various organizations. They take approximately six weeks to complete, and are specifically designed to look for "gaps" (deviations from expected conditions) by comparing documented expectations to the field execution of these expectations. B&W plans to perform approximately five validations annually, selecting systems that represent different types of hazards and operations in the highest-risk areas of the plant. B&W recently completed the first system health validation. It assessed the criticality accident alarm system (CAAS) in Building 9206. The validation team identified 34 gaps, resulting in two recommendations. Most notably, in response to some long-term component degradation concerns, the team recommended that an evaluation be conducted on the need to replace the CAAS in enduring facilities.

Conduct of Operations: B&W's Production Division recently issued a supplement to the sitewide Conduct of Operations Manual. The supplement is intended to expand on sitewide requirements by providing more detailed conduct of operations guidance for production operations. For example, the supplement identifies the "circle-slash" methodology as the approved placekeeping methodology and provides additional expectations for pre-job briefings.