

## 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 November 8, 2013

**Work Planning & Control (WP&C):** This week, NPO prompted B&W's construction organization to hold a fact-finding meeting for an event that occurred two weeks ago during activities to upgrade the Stack 110 ventilation system in Building 9212 (see 10/4/13 report). The work involved the removal of a large ventilation duct elbow, which required a critical lift package. The work also required close coverage by a radiological control technician (RCT) because high contamination levels of uranium oxide were anticipated. During the pre-job briefing for this activity, the rigging engineer and crafts personnel determined that metal cutting activities were not within the scope of work. As a result, the RCT determined that one layer of anti-contamination clothing would provide sufficient radiological protection. As the lift proceeded, interferences on the roof prevented the elbow from rotating and the rigging engineer, who was in charge of the lift, directed that metal stiffeners on the exterior of the elbow be trimmed to allow the required clearance. The RCT allowed the first two cuts; however, when the rigging engineer indicated that a third cut would be needed, the RCT called for work to be paused to allow the workers to sign in on a new radiological work permit and don a second layer of anti-contamination clothing. The rigging engineer proceeded without pausing because he believed that the safest course of action would be to finish the lift and secure the elbow as planned. The work was completed with no skin contamination or personnel injury. During the fact-finding meeting, B&W management recognized several weaknesses in WP&C during this event, including: a failure to recognize that the scope of work changed when cutting activities were initiated and a failure to effectively communicate and develop consensus between safety professionals regarding the path forward when the scope changed. B&W construction management is planning a briefing for the entire construction workforce to address the identified weaknesses, and plans to evaluate the event for other possible corrective actions.

**Criticality Safety:** Earlier this year, following a series of events that exposed legacy weaknesses in Y-12's processes for implementing criticality safety controls, B&W issued a plan to (1) comprehensively verify the implementation of existing criticality safety controls and (2) evaluate current processes for documenting and periodically verifying the implementation of criticality safety controls (see 4/5/13 report). The most significant achievements to date include:

- A field verification of the fissile material loading limits for all containers and associated arrays in Building 9204-2E. The review team identified five legacy non-compliances.
- A review of the degradation evaluations for all passive design features credited for criticality safety in Building 9204-2E. The review resulted in the identification of 19 new surveillances, which are scheduled to have initial baselines completed by the end of the month.
- A field verification of all criticality safety controls in Building 9204-2E. The team did not identify any significant issues in the field, but provided several recommendations to improve the clarity and specificity of associated implementation plans.

Procedure changes to institutionalize newly identified process requirements, such as improvements in the specificity of implementation plans, are scheduled to be completed in January. After incorporating lessons learned from the first phase of this review, the team plans to evaluate the implementation of criticality controls in select areas of Building 9212, and all of Buildings 9215 and 9720-5.