DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 26, 2018

TO: Steven Stokes, Technical Director
FROM: Jennifer Meszaros, Resident Inspector
SUBJECT: Oak Ridge Activity Report for Week Ending February 23, 2018

Z. Beauvais was at Y-12 to augment resident inspector activities.

Building 9212: This week, operators were loading enriched uranium briquettes into a crucible in preparation for casting operations when the batch of canned briquettes unexpectedly ignited and began to oxidize. Although operators attempted to respond to the event using an existing abnormal operating procedure, they were unable to do so because the briquettes were mechanically lodged in the can. In accordance with subsequent fire protection operations and nuclear criticality safety (NCS) guidance, operators allowed the briquettes to finish reacting and cool within the crucible loading hood. Enriched Uranium Operations (EUO) personnel and responsible engineers met to discuss recovery actions; later, operators successfully used NCS engineering guidance to remove remaining oxidized briquette material from the can and collect spilled oxide. The resident inspector discussed with EUO management and NCS engineers whether future recovery actions should be governed by a more formalized work control document that ensures input from various safety disciplines is integrated appropriately. She notes that draft procedural guidance for event recovery planning (see 10/27/17 report) has not yet been issued. EUO management has paused briquette casting operations that are part of the "briquette blitz" (see 1/8/18 report), pending revisions to the abnormal operating procedure.

Hoisting and Rigging: During a previous repair to a Building 9204-2E glovebox, maintenance personnel were using a crane to lift a mechanical seal when an installed swivel hoist ring came loose (see 8/11/17 report). The seal swung and contacted a worker's hand. In December, NPO issued a finding related to this event in accordance with their oversight process. The responsible NPO facility representative noted that this lift, which was classified as "ordinary", should have been designated as a "critical lift" and thus should have been the subject of more formalized work planning. The Y-12 procedure on hoisting and rigging suggests that a lift be designated as critical if the load item is unique and vital to a system, facility, or project operation.

In response, CNS maintenance personnel agreed that the lift could have been classified as a critical lift. They performed an event causal analysis and determined that representatives from organizations that would have identified the significance of the seal (i.e., production and system health) were inadvertently excluded from the work planning process. Maintenance personnel also held a fact finding last week to finalize corrective actions. They committed to revising the site procedures on maintenance work planning and hoisting and rigging in order to ensure that the proper individuals are included in the lift determination process. They also committed to sharing lessons learned related to the event.

Building 9204-2E: The visiting resident inspector accompanied an NPO facility representative to walkdown and perform process observations in Building 9204-2E. The engineers observed as assemblypersons performed operations in the dry room, observed and discussed recent modifications to a glovebox to install a Lexan viewing port (see 9/8/17 and 2/9/18 reports), and walked down toxic material storage areas. The Board's staff previously reviewed the storage strategy for this material (see 4/25/14 report). The engineers observed all material to be located under fire suppression and containerized in metallic drums, an improvement from 2014, but still observed combustibles staged adjacent to this material. The resident inspector provided this feedback to facility operations management.