

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 4, 2020

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** M. Bradisse, B. Caleca and P. Fox, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending December 4, 2020

**Emergency Preparedness:** The resident inspectors observed a full facility drill at the Waste Encapsulation and Storage Facility. The scenario was an airplane crash at the south wall of the building, resulting in a large fire and an injured worker. This was the central plateau contractor's first full facility drill since initiation of the COVID-19 partial stop work orders in March. During discussions after the drill, controllers noted several observations related to the facility response, particularly related to timely treatment of injured personnel, clarity and consistency of communication, information gathering follow-up actions, and command and control of emergency response activities in the field. Drill controllers further noted challenges related to drill conduct, including unexpected drill observers and confusion related to simulation of actions. The resident inspectors agree that this drill exposed a number of challenges that will need to be addressed going forward, but also note that this drill activity accomplished most objectives. It also provided a valuable opportunity to identify potential degradations in emergency response performance that may have resulted from reduced drill and exercise frequency because of the existing COVID-19 hazard control environment.

**Tank Farms:** DOE and contractor managers are working to evaluate the causes associated with a larger than expected chemical reaction that occurred while absorbing residual tank waste simulant in a tote that was being prepared for disposal (see 11/27/2020 report). They have confirmed that this was the first use of the absorbent product. Consequently, the product is not in any previously processed waste packages or drums. The work under this work package remains suspended.

**Aging Structures Stabilization:** Contractor personnel have resolved previous grout flow problems (see 11/6/2020 report) and added grout to the 216-Z-9 crib representing approximately 20% of the planned amount that will be used to stabilize the structure. They are also making progress toward resolving problems that were encountered during previous attempts to place grout into the 241-Z-361 settling tank (see 11/13/2020 report), and are making appropriate work instruction changes to support the remaining work on that structure.

**Pacific Northwest National Laboratory Radiochemical Processing Laboratory (RPL):** Contractor management held a critique to determine facts associated with a small fire that occurred while a lab researcher was cataloguing, segregating, and then combining non-radiological chemicals. Based on the container labels and the researcher's professional knowledge, the chemicals were expected to be compatible with each other. The critique attendees were not able to identify a reason for the unexpected reaction, but noted that there are significant quantities of laboratory chemicals contained in secondary containers (many over 20 years old) throughout the facility that should be addressed to limit future exposure to similar events. Based on the timeline developed during the critique, there may be a need to review initial response actions for fires with laboratory personnel; in particular with regard to the need for prompt notifications when a fire occurs.