DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 5, 2019

TO: Christopher J. Roscetti, Technical Director

FROM: B. Caleca and P. Fox, Hanford Resident Inspectors

SUBJECT: Hanford Activity Report for the Week Ending April 5, 2019

Waste Encapsulation and Storage Facility: The Plant Review Committee declared a positive unreviewed safety question after determining that a new initiator for a heavy object drop into a pool cell (see March 29, 2019 report) increases the probability of an accident and existing controls do not prevent the event. They also determined that current compensatory actions are adequate pending completion of the evaluation of safety of the situation.

Hanford Site: DOE conducted a limited tabletop exercise to discuss and evaluate overall site processes and readiness for severe events. The exercise simulated a seismic event affecting multiple facilities as well as a loss of some infrastructure capabilities that support emergency communications, movement and use of emergency response assets, and access to mutual aid resources. The event started with briefings that provided information regarding site emergency response capabilities and communications, and then proceeded into the event simulation. The scenario descriptions were tailored based on functional representation and included questions to support discussions. The resident inspectors note that the event had value because it provided for a review of emergency response checklists, generated thought at a broader scope than most exercises, and helped build relationships that support effective emergency response. However, the limited time allowed made in-depth consideration of response functions and capabilities infeasible. Although higher level discussion is valuable, it does not reveal response difficulties, time factors, and capability limitations that might be apparent if time was allowed for detailed discussions. Conducting an exercise that allows detailed evaluation could uncover infrastructure or coordination improvements that might be needed to respond to more severe events.

Plutonium Finishing Plant (PFP): PFP management held a meeting with its workforce to discuss lessons learned during ongoing low risk demolition, followed by a second, more in-depth meeting between CHPRC and RL personnel. A resident inspector observed the second meeting, which reviewed employee feedback, condition reports, and other safety-related observations and findings. Positive points included improvements in the use of mockups, and existing plans to perform operational drills within the high contamination area (HCA). Areas cited as needing further improvement were personnel retention and redundancy, and change management.

A resident inspector observed a coached operational drill within the PFP HCA where a non-simulated loss of the demolition water supply was followed by a simulated rise in continuous airborne contamination readings. The drill scenario was well executed and the work crew response was timely and effective. The drill revealed a need to review management of radio communications, which were conducted on a single channel, and a weaknesses in three-way communication. Some participants noted that the use of a single channel for demolition and radiological control personnel was not a normal operating condition and suggested that the use of multiple channels would be more realistic. In general, while the scenario was relatively simple, the feedback gathered regarding communications and the conduct of HCA drills proved useful.