

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 24, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: B. Caleca, P. Fox, N. Huntington, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending February 24, 2023

Hanford Site: High winds resulting from an approaching cold front caused numerous power outages on site due to downed power poles. This impacted operations at numerous facilities, including 200E tank farms, and resulted in a delayed work start at the site on Tuesday morning.

Waste Treatment Plant: A pressure excursion occurred in a Low-Activity Waste Facility secondary off gas system mercury adsorber unit while setting up for a test of the system. The excursion resulted in a release of carbon dust from the system, which was open for maintenance. Work was secured and the area isolated. There were no injuries. Review of system conditions following the event determined there were no temperature anomalies in the carbon bed and nitrogen oxide levels remained normal, which ruled out a chemical reaction in the adsorber beds as a potential cause. Based on current information, the most likely direct cause of the event is pressurization of an adsorber unit, which was being isolated to support the test, by air from the mercury monitoring system. Facility personnel are cleaning the area and developing work packages to determine if any system components were damaged by the event.

Tank Farms: In order to leak test waste transfer nozzle and jumper connections located in the AW farm and the 242-A evaporator facility, WRPS personnel developed a leak test procedure that involves supplying water from AP tank farm. The resident inspector observed portions of this work evolution from outside the farm and at the evaporator control room. They noted that, following the pre-job briefing, evaporator facility staff raised a concern that the procedure omitted a valve in the restoration step of the leak test procedure. To resolve the problem, a decision was made to use a different procedure after the completion of the leak test to restore the correct configuration. Additionally, the procedure did not account for an evaporator facility interlock for feed vessel vacuum loss. As a result, the interlock tripped during the test, closing an evaporator facility valve that was required to be open. The leak test was subsequently paused pending procedure revisions.

Waste Encapsulation and Storage Facility (WESF): A resident inspector observed an emergency preparedness drill conducted at WESF. The purpose of the drill was to evaluate several emergency response organization team members for proficiency. The emergency scenario involved a tornado near the facility which impacted a Roll On/Roll Off container containing contaminated crane parts, resulting in damage to the facility and several injured personnel. The resident inspector observed the field portion of the exercise which was simulated inside the facility. The drill was well conducted, with good implementation of appropriate protective actions, command and control of the event, and good communications with the Incident Command Post.

Hanford Site Fire Protection: HMIS management initiated a root cause analysis to determine corrective actions necessary to prevent future unplanned raw water outages to onsite facilities (see 2/3/2023 and 2/17/2023 reports).