

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 2, 2022

**TO:** Katherine R. Herrera, Acting Technical Director  
**FROM:** B. Caleca, P. Fox, and P. Meyer, Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending December 2, 2022

**Facility Fire Protection:** A resident inspector performed an inspection of fire barriers at the Waste Receiving and Processing (WRAP) facility. The inspections focused on identification of rated fire barriers, the condition of penetration seals, fire door code compliance, and ductwork penetrations. The resident inspector identified several minor discrepancies, which were conveyed to facility management for resolution. A more significant observation at the WRAP facility is the apparent lack of automatic closing devices on fire-rated roll-up doors.

A resident inspector performed an inspection of fire barriers in the 242A evaporator facility, including penetrations and doors through rated fire barriers, and general housekeeping. They noted that the fire barrier credited in the facility's fire hazards analysis (FHA) had no observable deficiencies. Non-fire barrier walls in the aqueous makeup and condenser rooms were also inspected to determine conditions that might influence the need for controls to prevent fire spread that might affect safety related equipment. They noted some minor deficiencies around pipes that penetrated condenser room walls that might reduce their effectiveness in preventing fire spread. Although consistent with the FHA description, the resident inspector requested clarification on the language in the FHA for these non-rated penetrations from contractor fire protection personnel.

**324 Building:** A worker entered a contamination area without signing on to the associated radiological work permit or wearing the appropriate anti-contamination clothing. Subsequent surveys did not identify any contamination spread and the individual was not contaminated. Attendees at a subsequent critique noted that the individual was a new employee. Although the individual had received required site radiological training, they had not received facility specific radiological training and were unfamiliar with radiological conditions and postings in the area where the error occurred, which frequently change. The critique also uncovered weaknesses in the pre-job briefing and work assignment. The attendees proposed corrective actions for consideration by management, which address the direct causes of the event. However, the resident inspector notes that identifying and addressing the root causes for the event may require additional work. Considering recent high site employee turnover rates and the overall reduction in workforce experience, the causes may be applicable to other facilities and contractors, and related corrective actions may require broader application than solely at the facility level.

**Waste Treatment Plant:** After significant investigation and system modeling, BNI and WTCC, working with vendors and external subject matter experts, determined that the most likely cause of the startup heater power supply failures (see 10/14/2022 report) was incorrect design of the associated sine wave filters. WTCC has procured replacement filters, which are being installed. They will test the modified system using external load banks prior to using the power supplies to support melter heat up. Testing is expected to start next week. As part of an extent of condition review, BNI and WTCC are performing a similar analysis of the joule heating and discharge heater power supplies. If necessary, those power supplies will also be modified.