

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 14, 2017

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending April 14, 2017

M. Bradisse, T. Hunt, B. Quirk, and K. Sullivan were on site to perform a review of the Tank Farms' maintenance and cognizant system engineering programs.

Tank Farms. The contractor determined that a TSR violation occurred when they installed new flow instrumentation in the ventilation ducts connected to SY-103, a group A tank. This portion of the ducting is considered part of the tank headspace. However, the work was completed without the application of required ignition controls. As a result of this and several other recent events, the contractor has implemented several actions to increase engineering staff awareness of this issue and generally refocus the expectations for technical rigor in the performance of engineering functions. The contractor will perform a formal cause analysis for this event and will also perform a broader review of recent events that point toward a drift in technical rigor. The broader common cause review will be performed by an external subject matter expert.

The contractor completed draining hydraulic fluid from the highly contaminated AP-02A pump in preparation for disposal (see Activity Report 03/03/2017).

Waste Treatment Plant (WTP). The WTP Technical Issue Review Board met to provide advice to the Federal Project Director regarding whether electrical distribution equipment installations in the Low Activity Waste Facility meet National Electric Code requirements. The board determined that the installations are compliant.

ORP approved the contractor's High Level Waste Facility Completion Plan (see Activity Report 11/11/2016). ORP reiterated the need for a 60% design review and continuous improvement in engineering and nuclear safety.

Waste Encapsulation and Storage Facility. The contractor completed grouting activities to stabilize contamination in hot cells that no longer have a mission. The contractor is removing temporary systems that were installed to perform the grouting work.

Plutonium Finishing Plant. The contractor Hazard Review Board (HRB) met to evaluate the readiness of the team and work instructions for demolition of the 291-Z facility. Although the HRB determined that the work team was adequately prepared to support the activity, they also identified a number of weaknesses in the work package that resulted in a rejection.

T-Plant. The Resident Inspector and a member of the staff observed a drill at T-Plant. The scenario involved a bomb threat and subsequent explosion that resulted in a contamination spread and injury of one individual. The Resident Inspectors have noted that, although fire department response is routinely prompt, recent drills at multiple facilities across contractors indicate a lengthy delays in response by facility support personnel. Although a cautious approach is necessary to protect responders, support delays can jeopardize the health and welfare of injured personnel and may also increase the severity of the event.