

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 13, 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 November 13, 2020

Hanford Site: The number of COVID-19 infections within the Hanford workforce has continued to rise across all facilities and contractors (see 11/6/2020 report). The resident inspectors noted that while TSR-related operations have not been impacted, planned work evolutions have been impaired by building disinfection protocols and reduced number of available staff, such as Building Emergency Directors and specialty crafts required to perform certain nuclear operations onsite. As a result, at least one field oversight opportunity planned by the resident inspectors was postponed.

T-Plant: Over the past few months, facility personnel have been performing annual weighing and water additions for the Sludge Transport and Storage Containers (STSCs) stored in the T-Plant cells. First, personnel perform a TSR-level surveillance (i.e., weighing) to confirm that there is adequate water to shield the sludge waste. The TSR states that no more than 800lbs of water may be lost from the base level (most such losses are due to evaporation). There is a further requirement to add water to STSCs if quantities of water greater than 100lbs are lost between annual weighings. Due to COVID-19, many of the STSCs were weighed during their TSR grace period, with the remaining STSCs needing their surveillance performed before the end of the year to avoid a TSR violation. Following the addition of water to several STSCs, operators noted that the confirmatory weights taken after adding a fixed amount of water were off by more than the expected precision of the calibrated load cell used to weigh the containers. Use of the backup load cell appeared to confirm that the first load cell was out of calibration despite having a valid calibration report. Work has been paused as facility personnel determine the cause of the inaccurate and imprecise readings and how many STSCs may have had their TSR surveillances performed with the out of calibration load cell. However, none of the weights taken nor the magnitude of the imprecision indicate a risk of any STSC losing a quantity of water that might challenge the TSR requirements on water content.

Aging Structures Stabilization: Contractor personnel have spent the past week improving the grout delivery systems to stabilize the three underground structures identified as potential collapse hazards (See 11/6/2020 report). In order to reduce the risk of the conveyance lines plugging during placement activities, they have reduced the number of 90-degree bends in the lines going to the Z-9 crib and reduced the length of the line by approximately 130 feet by using a more direct path. In addition, they are preparing a second grout pump location closer to the Z-361 tank that would remove two 90-degree bends and reduce the grout line length by approximately 600 feet. To improve turnaround times for grout deliveries, the project established a new vehicle travel path allowing multiple trucks to stage themselves close to the grout delivery pumps and loop around after completing their deliveries without the need for reversing. Depending on weather conditions, the project intends to begin grout placements in the Z-9 crib shortly. Project personnel are still working to determine whether the plugged diffuser in Z-361 tank and the obstruction in the Z-2 crib will need to be removed, or whether an alternative grout delivery method will be required.