

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 1, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: Sonia G. Thangavelu, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for November 2023

DNFSB Staff Activity: During the week of November 13, the Board's staff participated in discussions with Nevada Field Office (NFO), Mission Support and Test Services, LLC (MSTS), and Joint Laboratory Operations Nevada personnel for virtual staff reviews of seismic faults at the Principal Underground Laboratory for Subcritical Experiments (formerly known as U1a Complex) and the lithium-ion battery uninterruptible power supply at the Device Assembly Facility (DAF). The Board's staff performed walkdowns at DAF and the Z-Pinch Experimental Underground System Broad Research Array Facility. As part of routine oversight, the Board's staff received updates from MSTS and the NFO leadership team on emerging topics and safety basis deliverables at NNSS defense facilities.

Update to Justification for Continued Operations (JCO) for Fire Suppression System (FSS) Water Tank at DAF. As discussed in the NNSS monthly report for June 2023, MSTS submitted the JCO for the credited FSS tank to NFO for approval. In August, NFO approved the JCO with five conditions of approval to address prior to implementing the JCO. MSTS revised the JCO to address NFO's concerns, and NFO approved the JCO in October 2023. MSTS updated two surveillance requirements to maintain a higher water level in both the credited tank and general service tanks (increased from 138 inches to 145 inches) because of a revised water flow calculation and to verify the valve alignment of the general service tanks to ensure an open water flow path. MSTS is currently developing a statement of work with its subcontractor to repair the credited tank. The JCO states that MSTS will rely on the two general service tanks to provide fire suppression water to DAF during the tank repairs. MSTS verified minimal corrosion of the general service tanks based on inspections performed in August 2023 per National Fire Protection Association standards and installed an instrument to measure the tank water level in lieu of the DAF building riser to provide a more accurate measurement. The inspection reports recommended considering a cathodic protection system to prevent further corrosion for both general service tanks. On October 26, MSTS implemented the JCO and plans to terminate the JCO once the credited tank is repaired. The credited tank will remain seismically vulnerable. Procurement of a new seismically qualified firewater tank awaits availability of funding.

Enhanced Staging Project (ESP) Update at DAF. As discussed in the NNSS monthly report for December 2022, NFO approved a change notice for the ESP to install and construct a multi-tiered staging rack system to stage materials in a building. MSTS completed this activity in August. In September, NFO approved a change notice for the project to locate the material handling area that will support the ESP in a different building. This includes the description of the material handling area and its associated activities, specifications of the overhead free-standing bridge crane system, and a specific administrative control to tie containers to the multi-tiered staging rack system. MSTS will perform readiness activities to support ESP next year.