

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 7, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: Sonia G. Thangavelu, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for June 2023

DNFSB Staff Activity: The Board's staff conducted no onsite activities in June.

U1a Complex Fire Protection Strategy. In June, the National Nuclear Security Administration (NNSA) completed an evaluation of the hybrid (water and inert) fire extinguishing system design to support the U1a Complex Enhancement Project and Z-Pinch Experimental Underground System (ZEUS) testbed project at the U1a Complex. NNSA relied on an independent ad hoc panel to review design and safety concerns for the proposed hybrid system identified by Mission Support and Test Services, LLC (MSTS). The ad hoc panel developed a report and identified three concerns. The report states the proposed hybrid system introduces an asphyxiation hazard, the preferred hierarchy of controls methodology may not be implemented appropriately, and the proposed system may not meet applicable requirements from Title 10 Code of Federal Regulations 851, *Worker Health and Safety Program*. The ad hoc panel provided two recommendations in the report. The report recommends reevaluating the selection of the hybrid system, including a study of alternatives such as a water mist fire system, and preparing a comprehensive fire system/program integration plan for the entire U1a Complex. Based on the evaluation and ad hoc report findings, the NNSA federal project manager directed MSTS to suspend work associated with design and procurement of the hybrid fire extinguishing system and submit a plan of action to address the ad hoc panel's recommendations. MSTS will submit the plan of action in July.

Start-up Notification Report. MSTS submitted the fourth quarter start-up notification report, as required by Department of Energy Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*, to the Nevada Field Office (NFO). MSTS has delayed the contractor readiness assessment for the coordinate measuring machine (CMM) at the Device Assembly Facility (DAF) because the CMM instrument was declared inoperable, causing a delay in developing procedures and personnel qualification until repairs are complete. The report further states NFO requested NNSA to designate the NFO safety basis approval authority as the Startup Authorization Authority for readiness activities associated with the small-scale dynamic vessel experiments at DAF and the ZEUS testbed project at the U1a Complex. NNSA approved the change to align with DOE Order 425.1D requirements. The enhanced staging project readiness activities have been delayed due to resource availability.

Status update for DAF Firewater Tank Repair. As discussed in the NNSS Monthly Report for May 2023, MSTS submitted the Justification for Continued Operations for the DAF firewater tank to NFO for approval. In June, MSTS issued a request for proposal letter to offerors to submit a proposal package, including statement of work, design drawings, and costs to repair the existing DAF firewater tank. MSTS will evaluate the bids received and select a vendor.