

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 5, 2023

TO: Christopher J. Roscetti, Technical Director
FROM: Sonia G. Thangavelu, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for April 2023

DNFSB Staff Activity: During the week of April 17, R. Oberreuter, P. Foster, J. Heath, E. Tetteh, and S. Thangavelu participated in discussions with Nevada Field Office (NFO), Mission Support and Test Services, LLC (MSTS), and Joint Laboratory Operations Nevada personnel for the on-site staff review of the Documented Safety Analysis Rewrite Project (DDRP) for the Device Assembly Facility (DAF). A. Powers, C. Berg, and M. Dunlevy participated in the review virtually to discuss battery supply systems, electrical equipment used in explosive operations, and specific administrative controls for material movement operations. In addition, D. Minnema observed the National Nuclear Security Administration's assessment of the Los Alamos National Laboratory criticality safety program as implemented at the National Criticality Experiments Research Center (NCERC). During the weeks of April 3 and April 24, members of the Board's staff attended Department of Energy (DOE) training courses at the Nevada Support Facility.

Damage to Special Interlock Door Pin at DAF. In April, while exiting an out-of-service building, DAF personnel closed a clamshell door causing damage to the special interlock door pin. The pin sheared off, rendering the credited special door interlock system inoperable. The limiting condition of operation (LCO) states the special door interlock system shall be operable to ensure at least one special door remains closed with the associated latch pins engaged. The special door interlock system prevents opening both interlock doors at the same time. MSTS personnel did not enter the LCO because they determined it was not required since the building was out-of-service. MSTS maintenance personnel are currently performing repairs to the interlock door.

Schedule Update for Z-Pinch Experimental Underground System (ZEUS) Testbed Project at U1a Complex. The ZEUS testbed is a major modification project at the U1a Complex that will provide a capability to execute experiments using a neutron diagnostic instrument. The ZEUS testbed project anticipates a schedule delay as it transitions to a capital asset project governed by DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, requirements to design, construct, and commission the testbed infrastructure and develop safety basis deliverables. MSTS is drafting the preliminary documented safety analysis to submit to NFO for approval, with the goal of meeting the critical decision 2/3 milestone next fiscal year. Delay of the ZEUS testbed project will result in a corresponding delay for the subcritical experiments that will use the ZEUS testbed at the U1a Complex.

Schedule Update for DDRP for DAF. The DDRP is a new consolidated safety basis for DAF being developed to comply with DOE Standard 3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*, requirements and incorporate NCERC safety controls. In April, MSTS informed the Board's staff that the schedule to complete DDRP is delayed for an indeterminate time.