

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 6, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Austin R. Powers, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for April 2022

DNFSB Staff Activity: The staff conducted no onsite activities at NNSS during April.

Nuclear Criticality Safety Program (NCSP) Review: In March, Los Alamos National Laboratory (LANL) personnel documented the results from their management assessment of the LANL National Criticality Experiments Research Center (NCERC) and the Subcritical Experiment (SCE) programs at NNSS. The review focused on whether the programs adequately adhered to the LANL NCSP's requirements and recommendations. This review meets the American National Standards Institute/American Nuclear Society 8.19-2014, *Administrative Practices for Nuclear Criticality Safety*, requirement for management to participate in auditing the overall effectiveness of the NCSP at least once every 3 years. For the assessment of the NCERC programs, the assessment team identified no findings, one opportunity for improvement, and four noteworthy practices. For the opportunity for improvement, the assessment team recommended that NCERC consider requesting and funding a criticality safety analyst to be deployed to NNSS in support of NCERC and participate in experiments and training classes. The assessment team concluded that this would significantly improve the communication and knowledge sharing between NCERC and criticality safety staff.

For the assessment of the SCE programs, the assessment team identified one finding, three opportunities for improvement, and three noteworthy practices. For the finding, the assessment team recommended revising a Nevada Field Office order so that it refers to DOE Order 420.1C, *Facility Safety*, for requirements regarding static criticality safety evaluation documents (CSED). For the opportunities for improvement, the assessment team recommended that criticality safety analysts personally observe relevant equipment, activities, and processes when performing static SCE CSEDs and that a hold point be added to the SCE procedure development process that requires a nuclear criticality safety review prior to approval of a new or revised procedure.

Device Assembly Facility (DAF) Downdraft Table Enclosure: As discussed in the NNSS Monthly Report for March 2022, Mission Support and Test Services, LLC (MSTS), personnel identified a cracked window on the credited primary confinement structure in the downdraft table building at DAF. MSTS has opened a nonconformance report related to the cracked window and is working to obtain replacement parts. MSTS expects that it will take several months to procure the parts.

Radioactive Waste Management Complex (RWMC) Radiography System: As discussed in the NNSS Monthly Report for March 2022, MSTS personnel identified a low voltage input into the radiography system at the RWMC. MSTS personnel addressed the issue by using an existing transformer that was already connected to the system to increase the incoming voltage. In April, MSTS personnel returned the system to an operable status and resumed radiography operations. MSTS personnel utilize radiography to verify that select low-level radioactive waste packages do not contain hazardous waste prior to disposition.