

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 6, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Austin R. Powers, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for August 2019

DNFSB Staff Activity: A. Powers was on site during the week of August 19th to conduct routine oversight. During the visit, A. Powers performed walk downs at the various defense nuclear facilities, discussed the status of safety basis changes and annual updates for each defense nuclear facility, and discussed the integrated nuclear criticality safety program at NNSS.

Y-12 National Security Complex (Y-12) Waste Shipments: As discussed in the NNSS Monthly Report for July 2019, Mission Support and Test Services, LLC (MSTS), declared a potential inadequacy of the safety analysis due to the Y-12 waste shipments that had been received at the Radioactive Waste Management Complex (RWMC) being non-compliant with the NNSS Waste Acceptance Criteria. MSTS implemented a timely order at the RWMC that restricts all activities, with the exception of performing inspection and maintenance activities, in the disposal cell where the Y-12 shipments are located. MSTS is currently developing an evaluation of the safety of the situation that would end the timely order and restrict waste retrieval activities in the disposal cell that contains the waste of concern.

National Criticality Experiments Research Center (NCERC) Work Pause: In late July, NCERC experienced two separate issues, while working to the same procedure. For the first issue, MSTS discovered an open door to a storage location containing fissionable material upon opening the vault door in a building at NCERC. The criticality safety evaluation document required that the doors of the storage locations containing fissionable material be closed and latched unless being accessed. Los Alamos National Laboratory (LANL) personnel at NCERC declared the event to be a criticality safety infraction. For the second issue, LANL personnel discovered that they had not entered the correct operational mode prior to moving containers with special nuclear material. The NCERC technical safety requirements (TSR) state that the facility operational mode must be "Hot Operations" for activities involving the movement of radioactive materials. LANL declared a TSR violation for this event.

These two issues caused LANL to pause hot operations at NCERC. During the pause, LANL identified and implemented seven compensatory actions, which included committing to perform a root cause analysis that analyzes both events, implementing a senior supervisory watch to observe NCERC operations, slowing down the tempo of operations at NCERC to one activity at a time, reviewing procedures, and providing training on conduct of operations, TSR definitions, and procedure use. With the compensatory actions completed and implemented, LANL lifted the pause on hot operations and resumed activities at NCERC in August.

Enhanced Capabilities for Subcritical Experiments (ECSE) Project: As discussed in the NNSS Monthly Report for June 2019, MSTS began mining activities associated with the ECSE project. During August, MSTS continued to make progress extending an existing drift and rerouting the chilled water lines and a ventilation duct.