

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 2, 2018

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Austin R. Powers, Cognizant Engineer  
**SUBJECT:** Nevada National Security Site (NNSS) Report for October 2018

**DNFSB Staff Activity:** The Board's staff did not conduct any onsite activities at NNSS during October.

**Device Assembly Facility (DAF) Fire Suppression System (FSS) Improvement Project:** As discussed in the NNSS Monthly Report for August 2018, Mission Support and Test Services, LLC (MSTS) began construction activity to resolve the lead-in line for the last remaining building to have its lead-in line addressed. During October, MSTS completed all construction work. However, when MSTS recharged the FSS with water, the FSS piping on the second floor moved and contacted a service-air line. The service-air line also lifted which caused damage to its penetration seal. MSTS depressurized the line and stopped work in the building. MSTS resolved the issue by installing additional bracing that would prevent the FSS from lifting and repairing the damaged seal. After the repairs, MSTS recharged the FSS and experienced no lift. MSTS returned the building back to an operable status (three weeks ahead of schedule).

With the completion of this building, MSTS has completed the project that began in fiscal year 2015. MSTS plans to continue to improve the DAF FSS by addressing deficiencies for the DAF water tank and fire water main from the tank to the loop surrounding the building structure.

**U1a Complex Environmental Seals:** As discussed in the NNSS Monthly Report for September 2018, MSTS discovered damage to the environmental seal cover plates in the U1a Complex Zero Room confinement barrier, which resulted in a potential inadequacy in the safety analysis (PISA) and positive unreviewed safety question determination. After the damaged plates were discovered, MSTS verified that no special nuclear material was in the facility, issued a non-conformance report for the damaged plates, and issued a timely order that prohibited special nuclear material from entering the facility until the PISA is resolved. MSTS submitted an Evaluation of the Safety of the Situation (ESS) to the Nevada Field Office (NFO) in September. The ESS concluded that no changes to the safety basis are required. MSTS proposed dispositioning the non-conformance report and completing the Zero Room structure in-service inspection (i.e., pressure test of the Zero Room) as the appropriate steps to resolve the PISA. MSTS has already procured, fabricated, and installed replacement seal cover plates. In October, NFO agreed with the proposed path forward and approved the ESS. NFO also concurred with the recommendation in the ESS to consider including mode applicability for design features identified in the technical safety requirements in a future safety basis revision.