

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 4, 2019

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

DNFSB Staff Activity: A. Powers was on site during the week of December 10 to conduct routine oversight of NNSS as part of the quarterly cognizant engineer site visit. During the visit, the cognizant engineer conducted walk downs at the various NNSS defense nuclear facilities and discussed upcoming updates to safety basis documents for each NNSS defense nuclear facility.

U1a Complex Potential Inadequacy of the Safety Analysis (PISA): Mission Support and Test Services, LLC (MSTS), declared a PISA for the U1a Complex safety basis after discovering that the mass of high explosives used to determine the design pressure for the confinement vessel was smaller than the amount allowed in the U1a Complex safety basis. The U1a Complex technical safety requirements allow experiments with up to 3 kg of high explosives. However, the confinement vessel that will be used for the next experiment and other confinement vessels that have been procured were designed to withstand the pressure from an explosion containing only 2 kg of high explosives. The next experiment will contain less than 2 kg of high explosives. MSTS is developing an evaluation of the safety of the situation that includes an operational restriction requiring that the amount of high explosives introduced to the facility cannot exceed the design of the current confinement vessel. This operational restriction will allow MSTS and the national laboratories to use the procured confinement vessels for experiments.

Device Assembly Facility (DAF) Seismic Hazard Assessment: As mentioned in the NNSS Monthly Report for September 2018, MSTS awarded a subcontract for the conduct of the peer review for the DAF seismic hazard assessment. In December, the subcontractor completed the peer review. The subcontractor did not identify any errors in the assessment or sensitivity studies, but did provide recommendations for the soil-structure interaction analysis. In addition, the subcontractor agreed with the assessment's conclusion to not update the 2007 probabilistic seismic hazard analysis (PSHA). MSTS plans to finalize the seismic hazard reports, package them with the peer review report, and write a letter to the Nevada Field Office recommending to not update the 2007 PSHA. Lastly, MSTS plans to begin the process to advertise the subcontract for the DAF soil-structure interaction analysis.

Radiological Waste Management Complex (RWMC) – Area 3: MSTS re-opened Area 3 for waste disposal operations in October 2018. MSTS determined that readiness activities were not necessary given that the work at Area 3 is consistent to the ongoing Area 5 waste disposal activities (same processes and procedures). The RWMC safety basis already includes both Areas 3 and 5 and did not need to be updated. Area 3 is permitted to receive waste generated within Nevada. Area 3 is currently receiving waste generated at the Tonopah Test Range.