

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 5, 2018

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

DNFSB Staff Activity: A. Powers was on site from September 4 to 7 to conduct routine oversight of NNSS as part of the quarterly cognizant engineer site visit. During the visit, the cognizant engineer observed operations and improvements on safety systems at the various NNSS defense nuclear facilities and conducted an out-brief with the Nevada Field Office (NFO) and Mission Support and Test Services, LLC (MSTS), for the U1a Complex safety basis review. Lastly, D. Grover and A. Powers were on site during the week of September 10 to review the ventilation system for the Device Assembly Facility (DAF).

Safety Basis Documents: NFO recently approved the 2018 annual update for the U1a Complex safety basis and Change Notice 6 for the DAF safety basis. MSTS initiated both of these safety basis changes due to the next planned experiment that will be built at DAF and executed at the U1a Complex. As discussed in the NNSS Monthly Report for June 2018, MSTS identified a Potential Inadequacy in the Safety Analysis (PISA) in the U1a Complex safety basis related to the device shipping container providing thermal and electrical protection to an experimental package (i.e., special nuclear material co-located with high explosives). In the 2018 annual update, the U1a Complex safety basis now relies only on specific administrative controls (e.g., fire watch, combustible material control, limited concurrent activities) instead of the device shipping container to ensure the experimental packages are protected from thermal and electrical insults during transport activities. This PISA applies to DAF as well, given that the experiment is packaged into the device shipping container at DAF. In the 2018 annual update for the U1a Complex safety basis and Change Notice 6 for the DAF safety basis, MSTS included a commitment to evaluate an alternative shipping container. NFO expects that MSTS will complete the evaluation by the end of fiscal year 2019. MSTS is currently conducting the independent verification reviews for the new safety bases and anticipates completing them next month. Once the safety bases are implemented, the DAF and U1a Complex will be authorized to construct and execute the next planned experiment.

MSTS is also working to resolve an additional PISA regarding damage discovered to environmental seal cover plates in the U1a Complex Zero Room confinement barrier. MSTS has submitted an Evaluation of the Safety of the Situation to NFO and issued a timely order to prohibit special nuclear material from entering the facility until the issue is resolved.

DAF Seismic Hazard Assessment: As discussed in the NNSS Monthly Report for April 2018, MSTS plans to have the seismic hazard assessment and sensitivity tests peer reviewed prior to finalizing the white papers that document the results of these analyses. These analyses support the recommendation to not update the 2007 Probabilistic Seismic Hazard Analysis (PSHA). During September, MSTS awarded a subcontract for the conduct of the peer review. MSTS anticipates the peer review to take approximately two months. Once the peer review is complete, and if no new issues are identified, NFO will review the recommendation to not update the 2007 PSHA.