DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 1, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Austin R. Powers, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for April 2020

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

COVID-19 Impact on NNSS: During April, the Nevada Field Office (NFO) and NNSS contractors' leadership continued to implement minimum safe operations staffing in NNSS facilities. NNSS site personnel continued to cease all programmatic nuclear operations in all NNSS facilities, except for maintenance activities and surveillances as specified in the approved safety basis. Mission Support and Test Services, LLC (MSTS), conducted limited non-nuclear operations at the Device Assembly Facility and U1a Complex for line-item projects. In order to perform these operations, MSTS issued facility-specific Timely Orders that provide guidelines to protect workers while performing required work at the facilities. The Timely Orders are updated to be current with Centers of Disease Control and Prevention guidance on COVID-19.

Radioactive Waste Management Complex (RWMC) Evaluation of the Safety of the Situation (ESS): As discussed in the NNSS Monthly Report for October 2019, MSTS declared a potential inadequacy of the safety analysis (PISA) at the RWMC due to potentially non-conservative legacy issues in the safety basis. The legacy issues include: the dispersion analysis has not been revised to reflect current guidance and methodologies; the accident analysis for transuranic (TRU) waste activities is not consistent with Department of Energy (DOE) Standard 5506-2007, *Preparation of Safety Basis Documents for Transuranic (TRU) Waste Facilities*; and the safety basis does not include a technical basis for the lung absorption type assumed in dose consequence calculations. In February, MSTS submitted an ESS to NFO. The ESS includes an operational restriction that limits the acceptance of TRU waste to spent Joint Actinide Shock Physics Experimental Research (JASPER) targets. Given that the current amount of TRU waste staged at the RWMC is significantly less than what is analyzed in the safety basis (and is expected to remain well below the limit), the robust packaging of spent JASPER targets (in the primary target chamber within a standard waste box), and the operational restriction, MSTS concludes that there is no adverse impact to the safety of the worker and public. MSTS plans to submit an annual update to the RWMC safety basis by the end of September that will address the issues discussed in the ESS. In March, NFO approved the ESS.

JASPER Annual Update: In March, NFO approved an annual update to the JASPER Facility safety basis. In the update, MSTS increased the amount of plutonium-equivalent material that can be used for a JASPER target and addressed issues that NFO identified in its review of the previous safety basis revision. One of the previously identified issues was that the safety basis identified safety significant controls for a number of hazard scenarios with low unmitigated risk for which credited safety controls were not necessary per DOE Standard 3009-94, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*. As a result, MSTS downgraded the facility structure safety classification from safety significant to defense-in-depth in the annual update. MSTS will continue to rely on the safety significant primary target chamber to protect the JASPER targets from mechanical and thermal insults.