DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 7, 2017

TO: Steven A. Stokes, Technical Director
FROM: Austin R. Powers, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for June 2017

DNFSB Staff Activity: A. Powers was on site from June 5th to 8th 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.

Device Assembly Facility (DAF) Fire Suppression System (FSS) Improvement Project: During the month of June, National Security Technologies, LLC (NSTec), continued to make improvements to the FSS in DAF. NSTec has completed all construction activity regarding the lead-in line and sprinkler deficiencies for the 19th building out of the planned 25 buildings to be addressed by the end of fiscal year 2017. This building has since been turned over to the facility and NSTec is expected to return the building to operable status during the month of July. During the month of June, NSTec construction also addressed the sprinkler deficiencies on the second floor of the 16th building out of 25. During the month of July, NSTec plans to address the lead-in line for the 16th building out of 25 and its sprinkler deficiencies on the first floor. The 16th building out of 25 will have the lead-in line outside of the facility excavated and replaced, similar to the buildings addressed in the NNSS Monthly Report for February 2016. Lastly, NSTec construction plans to address the sprinkler deficiencies for two additional buildings (the 1st and 2nd buildings out of 25) during the month July. The 1st and 2nd buildings out of 25 have already had their lead-in lines addressed during fiscal year 2015. The NNSS cognizant engineer will continue to follow the progress of the improvements made to the DAF FSS.

DAF Linear Accelerator (LINAC) Replacement Project: During the month of June, NSTec completed all remaining construction activity regarding the LINAC replacement project. The construction activity included remodeling the control room, replacing air handlers for the high efficiency particulate air filter ventilation system, upgrading the power source, and replacing the old LINAC. The new LINAC has the capability to operate at potentials up to 15 MeV. The addition of this new LINAC was addressed in the DAF documented safety analysis (DSA) Change Notice 3, which was approved by the Nevada Field Office (NFO) with no conditions of approval. NSTec plans to start acceptance testing with the vendor and conduct the implementation verification review for DAF DSA Change Notice 3 during the month of July. However, it should be noted that NSTec personnel cannot operate the new LINAC until an evaluation has been performed to determine the new stand-off distance from the LINAC with high explosives present (due to the change in radio frequencies). NSTec also needs to install two new safety significant relays that will be compatible with the new LINAC. NSTec personnel performed the unreviewed safety question determination process for the new relays and found it to be negative. Both NSTec and NFO plan to have the new LINAC operational to support the Vega subcritical experiment (SCE). If the new LINAC is not operational for the SCE, a contingency plan is in place to use a portable x-ray machine from one of the national laboratories. After the Vegas SCE is complete, NSTec plans to install a saddle for the cables leading up to the LINAC to reduce the strain on the cables and table leg holders for the new LINAC machine (critical for computerized tomography operations).