

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 1, 2017

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

DNFSB Staff Activity: A. Powers was on site from November 13th to 16th 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 November, National Security Technologies, LLC (NSTec), continued to make improvements to the FSS in DAF. For the 21st building out of 25 buildings in which NSTec plans to make FSS improvements, NSTec completed making the necessary penetrations to the building and has begun to install the new FSS piping. NSTec plans to tie the FSS into the inside firewater loop during the month of December. Also, for the 16th building out of the 25 buildings to be addressed, NSTec plans to remove the temporary modification from the riser and address the FSS deficiencies on the first floor of this building during the month of December.

Lastly, as mentioned in the NNSS Monthly Ending October 2017, NSTec was developing a work package to resolve the issue with the faulty isolation valve, which allows water to feed the lead-in line from the outside firewater loop, for the 20th building out of 25 buildings to be addressed. NSTec has completed the work package and plans to remove the faulty isolation valve for this building and abandon the lead-in line in place. In order to achieve this, NSTec plans to close valves on both sides of the faulty isolation valve to the affected building for the main outside firewater loop, which will eliminate the source of water to the lead-in line. NSTec will then remove the faulty isolation valve for the building and install a safety class plug to the outside fire water loop where the isolation valve for the lead-in line used to connect to it. NSTec will also install a plug to where the isolation valve used to be connected to the lead-in line, making it completely abandoned. During the month of November, NSTec has begun digging potholes in order to get to the faulty isolation valve.

DAF Glovebox: Since the event that resulted in the glovebox window cracking in July 2016 (see NNSS Monthly Ending September 2016), NSTec has been making upgrades to the DAF glovebox to prevent this scenario from occurring again. As discussed in NNSS Monthly Ending October 2016, at the time of the event, NSTec was conducting a proof-of-operation activity, which had the glovebox continuously being purged while a separate team was also performing normal periodic maintenance functions on the systems that affect glovebox exhaust. The maintenance procedures required the normal glovebox exhaust path to be bypassed, but key valves in the alternate flow path did not automatically reposition. NSTec has since replaced the nitrogen lines for the glovebox with new lines with a larger diameter. The larger diameter lines increase the volume of nitrogen available to actuate the valves in the system. In addition to the nitrogen lines, NSTec replaced the oxygen analyzer given that the sensor inside could no longer be calibrated. NSTec purchased a new like-for-like unit and installed it. The new unit has already been successfully calibrated twice since its installation.