

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 6, 2016

**TO:** Steven A. Stokes, Technical Director  
**FROM:** Austin R. Powers, Cognizant Engineer  
**SUBJECT:** Nevada National Security Site (NNSS) Report for April 2016

**DNFSB Staff Activity:** A. Powers, D. Andersen, B. Caleca, E. Gibson, and R. Jackson were on site April 11<sup>th</sup> – 14<sup>th</sup> for the Device Assembly Facility (DAF) seismic review. On April 20, the review team conducted the close-out briefing with National Security Technologies, LLC (NSTec) and Nevada Field Office (NFO) personnel.

**DAF Fire Suppression System (FSS) Improvement Project:** During the month of April, NSTec personnel working the FSS Lead-in Replacement Project have been waiting for the controlled low-strength material (CLSM) concrete, which is designed to protect the lead-in lines from the surrounding soil, to cure. The CLSM concrete has cured properly for one out of the three buildings with newly replaced lead-in lines. The NSTec construction group has begun work to return this building back into service. This work includes configuration management (revising the as-built drawings) and ensuring that project costs have been collected. In addition to this, facility personnel need to flush the system and perform a surveillance of the system to ensure the FSS is truly operable in accordance with design specifications. The CLSM concrete for the two remaining buildings is expected to finish curing in May 2016.

NSTec also plans to increase its scope for the FSS improvement project in fiscal year 2016 by addressing lead-in lines and deficiencies for four additional buildings. The lead-in lines for these four buildings will be abandoned because the lead-in lines are not easily accessible. Instead, the FSS for these buildings will tap into the fire loop inside the DAF. This methodology has been used to address the lead-in lines for other buildings and the Board's staff has no safety concerns with this approach. A new hydraulic calculation was performed to account for the new lines being introduced to the fire loop and it ensures that the FSS will still provide adequate coverage. NFO had their fire protection engineer and the NA-50 fire protection engineer review and verify this calculation. The Board's staff plans to request this calculation to review and validate.

**DAF Coring Project:** During the month of April, NSTec has addressed the deficiencies that were identified from the Coring Project Federal Readiness Assessment (FRA) for the high efficiency particulate air (HEPA) filter ventilation system. NSTec has continued to make improvements to the ventilation system in order to close the pre-start findings from the FRA. Improvements include modifying the manifolds to have the proper distance between sample points, calibrating the Magnehelic gauges to ensure they read the correct differential pressure, patching holes found in the system, and replacing missing hardware. NSTec is planning to conduct tests for the second and tertiary HEPA filters in May 2016. These tests will ensure that the HEPA filters have the proper efficiency and the proper air flow rate for mixture. NSTec is scheduling startup for coring operations in June 2016.

**Joint Actinide Shock Physics Experiment Research (JASPER):** JASPER conducted Surrogate Shot 140 successfully, which returned 100% data. The experiment was the second of two pyrometer surrogate experiments. It was executed in a safe manner with no safety issues to report. The next scheduled Actinide Shot remains on hold (see March 2016 report).