

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 3, 2019

**TO:** Christopher J. Roscetti, Technical Director

**FROM:** Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer

**SUBJECT:** Sandia National Laboratories (SNL) Report for April 2019

**Defense Nuclear Facilities Safety Board (Board) Staff Activity:** The Board's staff provided three person-weeks of on-site safety oversight at SNL during April 2019. On April 15-19, 2019, Board's staff members D.J. Brown, M.V. Helfrich, and A.M. Hutain were on site at SNL to observe the 2019 Annual Emergency Response Full Scale Exercise.

**Radiation Protection Safety Management Program (SMP) Assessment at the Annular Core Research Reactor (ACRR) and Auxiliary Hot Cell Facility (AHCF):** On April 8, 2019, the Sandia Field Office (SFO) provided National Technology and Engineering Solutions of Sandia (NTESS) the results of an assessment of the Radiation Protection SMP at the ACRR and AHCF. The SFO assessment team found the ACRR and AHCF SMP met the requirements of 10 CFR 835 Occupational Radiation Protection except as noted in one finding and one observation. SFO identified one minor finding related to Sandia corporate posting requirements and one observation related to an ACRR sealed neutron source categorization. In addition SFO identified one strength related to the ACRR experiment lifecycle management program. SFO noted that no response was required for this assessment.

**SNL 2019 Annual Emergency Response Full Scale Exercise:** On April 17, 2019, SNL completed its annual emergency response full scale exercise in accordance with the Annual Emergency Exercise Design Package approved by SFO on April 5, 2019. The exercise scenario, which took place at Technical Area V (TA-V), was initiated by an experiment being conducted in the ACRR facility. The hypothetical incident occurred while moving the experiment to the floor storage area adjacent to the ACRR. The simulated event included a hypothetical explosion resulting in injuries to, and contamination of, members of the ACRR workforce, a release of radioactive material outside the ACRR, and the evacuation of potentially contaminated personnel from AHCF who had appropriately crashed out of a contamination area without frisking when the alarm sounded. The exercise included participation from the following organizations:

- TA-V Staff
- SNL Emergency Response Organization
- Sandia Field Office
- Department of Energy Headquarters Watch Office
- Kirtland Air Force Base Security Forces Squadron
- Kirtland Fire and Emergency Services
- University of New Mexico Hospital (Emergency Room)

The Board's emergency preparedness and response subject matter experts observed the exercise and noted a number of challenges with communications during the exercise, and issues associated with roles and responsibilities for some participating entities. NTESS will prepare an After-Action Report (AAR) assessing the effectiveness of the exercise. The Board's staff will review the AAR, when available.