

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 7, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for May 2019

Defense Nuclear Facilities Safety Board (Board) Staff Activity: The Board's staff provided two person-weeks of on-site safety oversight at SNL during May 2019. On May 20–24, 2019, Board's staff members D.J. Brown and M.V. Helfrich were on site to observe the 2019 Annual Emergency Response Full Scale Exercise.

Waste Isolation Pilot Plant Mobile Loading Unit (MLU) Readiness Assessment: The Sandia Field Office (SFO) approved the determination by National Technology and Engineering Solutions of Sandia, LLC (NTESS), that only a Contractor Readiness Assessment (CRA) is required for the MLU activity in Technical Area V. While the material at risk for all 11 items in the current shipping campaign is below the Hazard Category 3 (HC-3) threshold and does not invoke DOE Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*, future shipments will exceed HC-3 limits requiring a limited scope CRA. In prior correspondence with SFO, NTESS noted that their readiness assessment would be limited in scope and would focus on the interfaces between SNL personnel, the subcontractor crane operator, and the MLU personnel (see SNL Monthly Report for March 2019). SFO approved the Director of the NTESS Nuclear Facility Organization as the Startup Approval Authority.

Contractor Training and Qualification (CTQ) Program Assessment: On May 14, 2019, SFO provided NTESS the results of an assessment of the CTQ Program. This program is intended to ensure that contractor personnel who can impact safety of the three SNL Hazard Category 2 and 3 nuclear facilities are properly selected, trained, qualified, and certified. SFO shadowed NTESS staff from May to July 2018 during the triennial assessment required by DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*. The triennial assessment used the criteria from the eight sections in DOE-STD-1070-94 which provide requirements for a CTQ Program. The shadow assessment also evaluated the NTESS CRA for the Annular Core Research Reactor (ACRR) Reactivity Controls System Upgrade project, the results of which indicated weaknesses in the CTQ program. SFO determined the overall objectives were met for 31 of the 36 criteria. SFO identified one finding, which addressed the inability of SFO to observe any comprehensive oral review boards or walkthroughs during the review period, and two observations during this assessment. NTESS is required to respond to the finding within 60 days. SFO will assess the corrective actions for the five criteria that were not met in late fiscal year 2019.

SNL 2019 Annual Emergency Response Full Scale Exercise: On May 20, 2019, SNL repeated the annual emergency response full scale exercise that was originally conducted on April 17, 2019. The exercise scenario, which involved an explosion of a hypothetical experiment in the ACRR High Bay in Technical Area V, was unchanged from the previous scenario (see SNL Monthly Report for April 2019). NTESS repeated this exercise to ensure that senior laboratory leadership was included in the notification process, which was not the case in the previous exercise. Members of the Board's staff observed both exercises and noted a number of challenges in each. The Board's staff will review the After-Action Report assessing the effectiveness of the exercises when it is complete.