

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 5, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for May 2020

COVID-19 Response: During May 2020, SNL continued operations at a number of facilities, including Technical Area V (TA-V), while a majority of Sandia Field Office (SFO) and National Technology and Engineering Solutions of Sandia, LLC (NTESS) staff continued to telework in response to the COVID-19 pandemic. A Facility Representative continues to provide oversight of activities at TA-V. Managers from SFO and NTESS continue to coordinate with National Nuclear Security Administration and Kirtland Air Force Base (KAFB) managers to finalize plans to restart operations at SNL. As part of this restart effort, KAFB issued its Pandemic CONPLAN 20 on May 14, 2020. This plan sets the criteria for access to KAFB for SNL, SFO, Air Force, and civilian personnel. Increment 1 of the KAFB Pandemic CONPLAN was initiated on May 15, 2020. The SNL and SFO return-to-work plan is still being finalized. This plan includes four Phases with Phase 1 beginning June 1, 2020.

Annular Core Research Reactor (ACRR): During May 2020, NTESS continued ACRR operations to complete a series of high-priority experiments in support of mission-critical programmatic work. The first six series of these experiments were completed on May 29, 2020. The seventh series of experiments will be completed by June 5, 2020, at which time the ACRR will be placed in maintenance mode. This maintenance period is scheduled to continue through August and will include inspection, assessment, and possible replacement of fuel elements and control elements exhibiting possible degradation of integrity (see SNL Monthly Reports for March 2020 and April 2020). NTESS is preparing to retrieve a number of spare ACRR fuel elements from storage. These elements will be inspected in the Auxiliary Hot Cell Facility prior to their use as replacements for any potentially compromised ACRR fuel elements. NTESS will also continue to develop a long-term plan to address sustainable inspections and maintenance at the ACRR. Following the maintenance period, the ACRR will resume operation in September 2020 with plans to complete the final three series of high-priority programmatic experiments by the end of October 2020.

Third Quarter Fiscal Year 2020 Startup Notification Report (SNR) Approval: On May 7, 2020, the SFO approved the Third Quarter Fiscal Year 2020 SNR that NTESS submitted on April 10, 2020. The NTESS submission identified five activities planned for the TA-V nuclear facilities in the next twelve months, and one additional activity beyond the next twelve months, all of which will require readiness activities. These activities included modifications to, and experiments in, the ACRR. The SFO disagreed with the NTESS assessment of the Readiness Level Determination for the Advanced Fuel Cladding Inspections at the ACRR. The SFO determined that since this activity involves operations that could affect the core of the ACRR, it should be categorized as Hazard Category 2, requiring a Federal Readiness Assessment (FRA). The SFO requested that NTESS submit a Plan of Action for SFO approval within 30 days to support the timeline for conducting this FRA. The remaining activities included: Portable X-Ray Activities at ACRR; Fielding Experiments with Fissionable Material at ACRR; Core Grid Extension Installation and Operation at ACRR; Reactor Operations Activities to Support Neutron Radiography; and Transient Rod Withdrawal Operations at ACRR. The SFO will be the Startup Authorization Authority for most of these activities. In its correspondence, the SFO recognized significant improvement in the readiness level determination process implemented with this SNR.