

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 4, 2020

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

COVID-19 Response: On August 17, 2020, the Sandia Field Office (SFO) and National Technology and Engineering Solutions of Sandia, LLC (NTESS) entered Phase 2 of their return-to-site plans. Phase 2 includes a majority of the SFO and SNL staff continuing to telework in response to the COVID-19 pandemic. The transition to Phase 3 of these plans is contingent on continued improvement of COVID-19 conditions in the counties surrounding SNL.

Annular Core Research Reactor Facility (ACRRF) Status: The ACRR remains in maintenance mode (see SNL Monthly Reports for March through July 2020). During August, ACRR staff removed the old central cavity and transported it to the Auxiliary Hot Cell Facility for size reduction in preparation for disposal as radioactive waste, completed control rod drive calibration, test-fit the new nickel plate between the ACRR core and the Fuel-Ringed External Cavity, and completed excess reactivity measurements with the new nickel plate in place. NTESS plans to resume ACRR operations in September to complete the final three series of high-priority programmatic experiments.

Approval of an Addendum to the Justification for Continued Operation (JCO) for the ACRRF: On July 31, 2020, SFO approved an Addendum to the JCO for steady state and pulse operations at the ACRRF. The SFO approval included four conditions of approval and five compensatory measures, which were provided in the Safety Evaluation Report addendum. The conditions of approval include: 1) Sandia will complete all surveillance requirements that do not require high power, physics testing, and activities identified in the Acceptance Test Plans for the Replacement Safety Control Rods prior to experiment testing activities; 2) Sandia will submit a revised ACRR Return to Operations Plan, including the results of monthly excess reactivity checks and the activities necessary to perform the remaining series of mission tests, for SFO concurrence prior to operating under the JCO; 3) Sandia will continue to provide monthly progress updates while the JCO is in effect and will provide SFO with an up-to-date activity schedule for SFO review; and 4) Sandia will define the qualifications, roles, and responsibilities of the Senior Supervisory Watch (SSW) identified in the compensatory measures. The SSW will be required for all approved tests listed in the JCO and for the excess reactivity checks. SFO stated that the JCO will terminate once the 10 listed experiments have been completed.

Approval of the NTESS Unreviewed Safety Question (USQ) Procedure: On August 14, 2020, SFO approved NTESS Procedure GN470080, *Implementing the Unreviewed Safety Question Process for Nuclear Facilities, Issue N*. This procedure implements the USQ process at SNL allowing NTESS to make physical and procedural changes to existing Hazard Category 2 and 3 nuclear facilities, and to conduct tests and experiments, without prior SFO approval if the proposed changes can be accommodated within the existing safety basis. The SFO review and approval of Procedure GN470080 was based in SFO's assessment of the adequacy of SNL's procedure in meeting the requirements specified in 10 CFR 830.203 *Unreviewed Safety Question Process*. SFO stated that the approved procedure should be implemented within 90 calendar days from the date of the approval letter.