

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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

Annular Core Research Reactor (ACRR) – Safety Rod #1: During the month of January, ACRR staff members continued their efforts to remove Safety Rod #1 from the ACRR and evaluate the integrity of Safety Rod #3 as its replacement (See SNL Monthly Report for December 2019). On January 22, 2020, Safety Rod #1 was successfully disassembled and removed from the ACRR pool. ACRR staff placed the rod in a storage location in a shielded floor vault adjacent to the ACRR. Sandia staff retrieved Safety Rod #3 from corporate storage and transported it to Technical Area III for non-destructive examination (NDE). The NDE completed on Safety Rod #3 included radiographic examination of the welds, ultrasonic testing, and dye penetrant testing. In addition, Sandia staff members completed helium leak testing on Safety Rod #3. ACRR staff provided a briefing to the Sandia Field Office (SFO) on January 30, 2020, summarizing the results of the NDE and helium leak testing on Safety Rod #3. The ACRR remains safely shut down in the interim.

Corrective Action Plan for the Waste Isolation Pilot Plant (WIPP) Mobile Loading Unit (MLU) Contractor Readiness Assessment (CRA): On January 21, 2020, the Board's cognizant engineer for SNL received a copy of the corrective action plan for the WIPP MLU CRA (See SNL Monthly Reports for September 2019 and October 2019). The corrective action plan addressed the two Observations from the CRA report focusing on the roles and responsibilities of the person-in-charge (PIC) and the lack of detail and specificity in the pre-job checklist. The corrective action plan identified modifications to the Facility Work Plan (FWP) to define the sequencing of forklift transport of shielded containers to ensure that the PIC does not operate a forklift or perform other activity-level work during the loading process. In addition, the PIC and Project Manager will perform and document a detailed dry run of the drum transport activities using the shielded container that was procured for the shipment dunnage drum. The dry run, which has a target completion date of February 20, 2020, will be observed by Technical Area V Management and the Director of Radiation and Electrical Science, National Technology and Engineering Solutions of Sandia, LLC, who is the Start-Up Authorization Authority.

Technical Area V (TA-V) Nuclear Safety Culture Report: On January 27, 2020, the Sandia Field Office (SFO) provided a report entitled *Final Report – TA-V Nuclear Safety Culture* to the Board's cognizant engineer for SNL. The National Nuclear Security Administration (NNSA) conducted a federal readiness assessment (FRA) in September 2018 to verify the readiness to restart TA-V's Annular Core Research Reactor facility. As a result of the FRA, TA-V created a Continuous Improvement Plan (CIP). The CIP included the completion of a self-assessment of TA-V's nuclear safety culture. SNL staff and contractors conducted a safety culture survey of all TA-V staff. The final safety culture report noted that the survey, which was completed by 75% of the TA-V workforce, indicated generally positive results. The report also identified four areas that may need further consideration. These areas include: 1) Embed Human Performance Indicators into TA-V process, 2) Review Environment Safety & Health organization's role and involvement at TA-V, 3) Consider hazards and hazard identification perceptions moving forward, and 4) Continue to grow the trust that is currently a part of TA-V's culture. The report concluded that "the safety culture is strong throughout TA-V, and there is a genuine desire to continue to build on the current success."