

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 5, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Sandia National Laboratories (SNL) Report for September 2018

Defense Nuclear Facilities Safety Board (Board) Staff Activity: The Board's staff provided two person-weeks of on-site safety oversight at SNL during September 2018. On September 10–14, 2018, Drs. D.J. Brown and D.B. Bullen were on site to evaluate the Federal Readiness Assessment (FRA) for the Annular Core Research Reactor (ACRR) Reactivity Control System Upgrade (RCSU) and to discuss quality assurance and software quality assurance aspects of the RCSU in preparation for their upcoming technical review of these items.

ACRR) Reactivity Control System Upgrade FRA: On September 10–14, 2018, the Board's staff team observed demonstrations, drills and interviews conducted as part of the FRA for the RCSU. The ACRR staff demonstrated pre-operation checklist procedures and control rod drive maintenance procedures. In addition, the ACRR staff appropriately responded to an operational drill during simulated steady state operations that included an unanticipated rod movement and a simulated valve failure with simulated reactor pool leakage. The FRA team conducted interviews that addressed configuration management, feedback and improvement, conduct of operations, quality assurance/software quality assurance, and the ACRR safety basis. The FRA report identified no pre-start findings, four post-start findings, and three issues “that, while not meeting the definition of a finding, nevertheless could negatively impact the success of long-term operations and warranted attention.” Technical Area V (TA-V) staff have developed a corrective action plan and submitted it to Sandia Field Office (SFO) for approval.

TA-V Fire Protection Program Compensatory Measures: The compensatory measures (including periodic fire watches and the requirement for all personnel to carry mobile telephones) continue at TA-V in response to the Fire Protection Program Technical Safety Requirement violation reported by SNL on August 2, 2018. While SNL has already completed the required upgrades to the fire panels and conducted all of the required testing, the compensatory measures continue until line management (through Associate Laboratories Director) determines that the fire protection program has improved to the point that it may be declared fully functional and sustainable.

Auxiliary Hot Cell Facility (AHCF) - Transuranic (TRU) Waste Campaign 19 Status: AHCF staff began the Campaign 19 TRU Repackaging Project in September 2018. Campaign 19 encompasses the transfer of remote-handled TRU waste into shielded containers for disposal as contact handled waste at the Waste Isolation Pilot Plant (WIPP). On September 27, 2018, AHCF staff completed loading the eighth of twelve shielded containers for this campaign. The final four shielded containers are scheduled to be loaded in early October 2019. Based on discussions with shipment scheduling personnel, SNL plans to ship the twelve containers from Campaign 19 and six additional contact-handled waste containers to WIPP in calendar year 2019.

Quarterly Performance Metric Review: On September 26, 2018, TA-V staff presented fourth quarter FY 2018 performance metrics to SFO. TA-V staff noted that specific metrics related to programmatic use rates of the ACRR facility and the number of TSR violations per quarter declined due to the RCSU shutdown and the fire alarm system issues discussed above.