

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 1, 2019

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

Defense Nuclear Facilities Safety Board (Board) Staff Activity: The Board's staff provided one person-week of on-site safety oversight at SNL during February 2019. On February 21, 2019, Board Members Ms. Joyce Connery and Mr. Daniel Santos, accompanied by Mr. Christopher Roscetti (Technical Director), Mr. Joseph Gilman (Associate General Counsel), and Dr. Daniel Bullen (Cognizant Engineer), visited SNL to discuss mission and defense nuclear facility safety issues and to walk down defense nuclear facilities managed by SNL in Technical Area V (TA-V). The Board contingent met with SNL's Deputy Laboratories Director, Associate Laboratories Director for Mission Assurance, Director for Radiation and Electrical Science, Director for Environment, Safety and Health, and the Senior Manager for Nuclear Facilities and Applied Technology. The Board contingent also met with the Sandia Field Office (SFO) Deputy Manager and the SFO Nuclear Operations Lead. The Board contingent completed a walk down of the Annular Core Research Reactor (ACRR), the Sandia Pulsed Reactor Facility, the Auxiliary Hot Cell Facility (AHCF), and the Gamma Irradiation Facility. National Technology and Engineering Solutions of Sandia, LLC (NTESS) staff also provided a detailed summary of the recently completed Reactivity Control System Upgrade for the ACRR.

Startup Notification Report (SNR) for the Second Quarter of Fiscal Year 2019: On February 5, 2019, SFO responded to correspondence dated January 8, 2019, from NTESS which stated that "there are no new planned startup or restart activities at the TA-V nuclear facilities in the next twelve months." SFO reviewed and approved the SNR with the following exception:

- *"For the Waste Isolation Pilot Plant Mobile Loading Unit activity to be conducted at TA-V, provide this office an evaluation of the appropriate level of readiness activity within 30 days of the date of this letter. This evaluation was requested to be provided as part of the SNR."*

NTESS will provide an evaluation of the Mobile Loading Unit activity to SFO by March 7, 2019.

AHCF – Status of Waste Repackaging Campaign 16: The AHCF staff continues preparing waste generated by the Degraded Core Coolability (DCC) experiments for repackaging as part of Campaign 16. This campaign includes three DCC experimental assemblies each containing a mixture of UO_2 / Gd_2O_3 submerged in approximately 10 to 12 liters of water. The campaign activities include:

- Draining water associated with the fuel mixture from the experiment assemblies.
- Disassembling the experiment assemblies to remove the inner crucibles containing the fuel mixture.
- Repackaging the crucibles in stainless-steel canisters and placing the canisters into 110-gallon drums.
- Disposing of process-generated waste in accordance with SNL's waste disposal specifications.

AHCF staff currently are awaiting the results of tests on water samples removed from DCC-1.