DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 3, 2017

TO: Steven A. Stokes, Technical Director
FROM: Douglas J. Brown, Cognizant Engineer
SUBJECT: Sandia National Laboratories Report for October 2017

Staff Activity at Sandia National Laboratories (SNL). On October 17-19, 2017, the Defense Nuclear Facilities Safety Board's (Board) SNL Cognizant Engineer and a staff member attended the National Nuclear Security Administration (NNSA) Office of Safety, Infrastructure, and Operations (NA-50) Master Asset Plan Deep Dive for SNL. The visit included a tour of Technical Area V as well as interaction with SNL and Sandia Field Office (SFO) personnel.

Sandia Pulsed Reactor Facility (SPRF) Fire Suppression Update. As discussed in the February and September 2017 monthly reports, SNL and SFO have been working to select from among the alternatives for an SPRF Fire Suppression System. SFO Operations/Engineering held a second fire suppression meeting with the NNSA Office of Safety (NA-51) to recommend the SNL strategy for fire suppression at SPRF on October 3, 2017. SFO will next meet with SNL to discuss the recommended path forward that both SFO and NA-51 have agreed upon and will follow up with a letter from SFO Senior Management with the recommendation.

Annular Core Research Reactor (ACRR) Pulse Power Discrepancy. On October 5, 2017, ACRR operators noted a 30% difference between the two separate pulse power indications available during a max pulse. The Operations Manager was notified and a fact finding was conducted. The max pulse data for this calibration period showed an increase from 19% to 30% difference. Programmatic pulse power operations were suspended and an initial troubleshooting plan was developed to determine the operability of the channels and detectors. On October 12, 2017, two pulse operations were performed to observe channel performance in the pulse power range, which showed continued divergence. On October 16, 2017, ACRR entered a planned week-long shutdown, but SNL resumed investigations on October 23, 2017. Note: In May 2016, ACRR operators identified a 50% difference between channels, which ultimately led to a detector replacement.

Auxiliary Hot Cell Facility (AHCF) – Basis for Interim Operation (BIO) Update. On October 16-17, 2017, SFO led a two day meeting with the NNSA Office of Nuclear Materials Integration (NA-532) and SNL to complete a risk matrix to support the continued use of a BIO at the AHCF. A project plan will be developed and submitted to NA-532 for continued use of the AHCF under a BIO and the disposition of the 25 containers of Remote-Handled Transuranic waste. The project plan will be submitted to NA-532 to obtain funding for some of the disposition by November 30, 2017, to make the fiscal year 2018 budget.

Gamma Irradiation Facility (GIF) Low-Energy Gamma Irradiation Experiment. GIF is installing a new low-energy gamma radiation environment for long-term testing of materials important for stockpile stewardship. This project is part of the Los Alamos National Laboratory Enhanced Surveillance Program and required the installation of an Americium-241 source. Receipt inspections and leak checks for the new sealed source material were conducted during the week of October 16, 2017.