

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 2, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Daniel B. Bullen, Ph.D., P.E., Cognizant Engineer
SUBJECT: Lawrence Livermore National Laboratory (LLNL) Report for July 2024

Fourth Quarter Fiscal Year (FY) 2024 Startup Notification Report (SNR): On July 8, 2024, Lawrence Livermore National Security, LLC (LLNS) submitted the fourth quarter FY 2024 SNR to the Livermore Field Office (LFO) as required by Department of Energy (DOE) Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*. LLNS noted that the only significant change in the SNR is an update to the Hazard Category 3 (HC-3) activities for Workstation 2111 (Building 332 - WS2111) Ion Exchange Column Restart Plan of Action (POA) submittal date, which is now scheduled for July 2024. Previously, LLNS noted that this readiness review will involve the restart of the HC-3 ion exchange equipment in WS2111 following a similar methodology used for the startup of the ion exchange equipment on the Recovery Glovebox Line, but on a much smaller scale. (See LLNL Monthly Report for April 2024). LLNS proposed a checklist readiness assessment to be completed by the contractor within the next six to twelve months.

National Nuclear Security Administration (NNSA) Master Asset Plan Deep Dive at LLNL: On July 16-18, 2024, NNSA conducted a deep dive at LLNL as part of its Master Asset Plan focused on planning, prioritization, and realization of National Security Enterprise mission and functional infrastructure capabilities. NNSA noted that the deep dive also introduced a multi-programmatic element examining integrated Design Agency – Production Agency (DA-PA) infrastructure capabilities emphasizing acceleration of production, and stockpile modernization. The LLNL deep dive was the last of five deep dives conducted by NNSA across the nuclear weapons complex. Over the course of the deep dives, speakers from NNSA headquarters, labs, plants, and sites focused on Defense Programs core capabilities, DA-PA manufacturing enclave initiatives, global security, science, technology and engineering capabilities, and mission-enabling infrastructure. The LLNL deep dive was conducted in a hybrid format, allowing for face-to-face interactions in addition to virtual presentations. The Board's staff will continue to follow NNSA's actions resulting from these deep dives.

Emergency Diesel Generator Replacement in the Super Block: Over the past few years, LLNS has begun replacing emergency diesel generators in the Super Block. In 2019, LLNS successfully completed seismic qualification shake-table tests at National Test Systems using Institute of Electrical and Electronic Engineers (IEEE) Standard 344, *Recommended Practice for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations* to demonstrate pre-qualification of a candidate generator for use as safety-class equipment in the Super Block. Using the seismically qualified generator, LLNS completed installation and startup of emergency diesel generator GDE04 for Building 332 in 2021. LLNS is currently in the process of replacing emergency diesel generators GDE07 for Building 332 and GDE01 for Building 331. In March 2024, LFO approved an LLNS request to remove generator GDE07 from service for up to 12 months for the purpose of replacing the generator. (See LLNL Monthly Report for March 2024). LLNS is currently coordinating with the installation subcontractor and Super Block management to finalize the installation schedule for generator GDE07. In addition, LLNS recently completed the 95% design review for emergency diesel generator GDE01, which is expected to ship from the manufacturer in December 2024.