

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 5, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Sonia G. Thangavelu, Cognizant Engineer
SUBJECT: Nevada National Security Site (NNSS) Report for March 2024

DNFSB Staff Activity: A DNFSB staff team participated in the criticality safety training course at the Device Assembly Facility. During the week of March 25, the Board's Chair, Vice Chair, and staff team attended a brief at the National Nuclear Security Administration (NNSA) headquarters regarding the subcritical experiment (SCE) program at NNSS.

Update for Pressure Relief Dampers at Principal Underground Laboratory for Subcritical Experimentation (PULSE). As discussed in the NNSS monthly report for January 2024, Mission Support and Test Services, LLC (MSTS) issued an operational restriction to prohibit insertion of special nuclear material at PULSE until the functional classification of the general service pressure relief damper is changed. In February, MSTS submitted the evaluation of the safety of the situation (ESS) to the Nevada Field Office (NFO) for approval. The ESS identified a compensatory measure to use the commercial grade dedication (CGD) process to reclassify the pressure relief damper as a safety significant component and to update the PULSE safety basis with this change. NFO approved the ESS and the change notice to the PULSE safety basis. NFO concluded that the CGD process verified the pressure relief dampers can be relied upon to perform their safety function, and the operational restriction at PULSE can be removed once the change notice is implemented.

SCE Proficiency Demonstrations at NNSS. In April 2023, MSTS and Joint Laboratory Office Nevada (JLON) submitted a SCE proficiency demonstration plan to NFO for approval. The plan was intended to address how MSTS and JLON would meet readiness requirements in an NFO directive. In response, NFO requested additional information about the methodology, including how MSTS and JLON would ensure the program work criteria in the directive would be met for SCE operations. This month, MSTS and JLON submitted a letter and report summarizing a holistic review of all proficiency demonstrations completed in calendar year 2023 for SCE operations. This report is intended to satisfy NFO's request.

SCE Execution at PULSE. Lawrence Livermore National Laboratory (LLNL) submitted a letter to NFO requesting authorization to execute a SCE in PULSE. LLNL stated requirements identified in an NFO directive for the SCE program are complete to perform the experiment.

Federal Integrated Project Team (IPT) for PULSE New Access Project (PNAP). PNAP is a capital asset project to provide additional underground access at PULSE to transport large experimental vessels and the additional staff needed to operate multiple testbeds and support the NNSA stockpile stewardship program. On March 5, the IPT for PNAP issued a charter that describes the mission, purpose, objectives, and responsibilities of the IPT members. The IPT will provide expertise, assistance, advice, and recommendations necessary to support the NNSA federal project director in acquisition, project design, construction, commissioning, and start-up operations of the PNAP. MSTS is currently developing the safety design strategy.