

CSSG Tasking 2022-03R1

Date R1 Issued: August 16, 2022

Original Issue July 18, 2022

Task Title: LANL Request for NCS Assistance

Task Statement:

The CSSG is requested to review the Los Alamos National Laboratory (LANL) nuclear criticality safety (NCS) program as implemented at the Plutonium Facility (PF-4). The review should evaluate the NCS program's ability to efficiently and effectively support a ramp-up to 30 pit per year (ppy) production mission requirements and sustainment of those operations.

Since FY20, and continuing for the next several years at least, LANL has been/will be ramping up PF-4 nuclear facility safety and infrastructure enhancements to support the Los Alamos Plutonium Pit Production Project (LAP4) 30 ppy mission activities. Integral to this effort, LANL's NCS Program Improvement Plan (PIP) has developed several improvements to support this increased work, including Standardized Criticality Safety Requirement (SCSR) model evaluations, new decontamination and decommission (D&D) CSEDs and the implementation of a new DSA-approved approach to precluding firewater ingress into gloveboxes (i.e., the 100 kW combustible loading limit/inert atmosphere limitation in applicable gloveboxes).

Notwithstanding this progress, potential issues might remain to efficiently implement NCS requirements to support the 30 ppy project and program requirements, both within the NCS Division (NCSD) as well as on the operations floor. These concerns include timely implementation of new CSEDs, flexible limits and controls supporting operations, responsiveness to NCS potential process deviations (PPDs), both in developing recovery plans and NCS review of recovery plans, and the standardization of NCS controls to support continuous plutonium pit production – including 24-hour operation within PF-4. To ensure a smooth and efficient transition to the 30 ppy project, NA-LA requests CSSG assistance to identify opportunities for improvements (with potential solutions) to the LANL NCS Program with a focus on ensuring the safe, secure, and compliant execution of the 30 ppy mission.

The CSSG review should identify any issues that could have an impact on successful implementation of the 30 ppy mission and suggest actionable improvements to the NCS program for any issues that are found. The review will include a review of documents provided by LANL and NA-LA and a site visit by the review team. Areas of focus for the review include:

- maturing NCS limits at PF-4 to enhance operational flexibility, to include consideration of flexibility, conservatism, assumptions, and standard controls in CSEDs,
- PPD/infraction recovery (including timeliness),
- roles, responsibilities, authorities, and accountability associated with the NCS program, and
- adjudication of differing technical opinions.

Period of Performance:

The tasking should kick off the effort by July 18, 2022, with the final version for posting to the NCSP website by February 24, 2023. Assistance with briefings may continue to April 2023.

Document review and discussions: July 18-29, 2022

LANL site visit (proposed, to be confirmed): January 9-16, 2023

- Resources:** CSSG Task Team Members
- Jim Morman (Team Leader)
 - David Erickson
 - Dave Heinrichs
 - Calvin Hopper
 - Jerry McKamy
 - Kevin Reynolds

- Task Deliverables:**
- Report to the NCSP Manager on the results of the LANL review, including the evaluation criteria developed for the review, recommended corrective actions and opportunities for improvement.
 - Support management briefings as requested

Task Completion Date: February 24, 2023

Signed:

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