

FY 2023 Status of NNSA Nuclear Criticality Safety (NCS) Programs

April 10, 2024



Agenda

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- NA-ESH Overview
- Summary of Metrics
- LANL
- Y-12
- SRPPF
- Questions

NA-ESH Overview

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Current Report Format:	Site Health Grades:
NA-ESH is satisfied with the current report.	NA-ESH agrees with grades. No unsatisfactory performance ratings.

NA-ESH Trends Noted:
<ul style="list-style-type: none">➤ NCS Staffing Attrition at LANL and Y-12➤ M&O partners are self-identifying NCS-related issues, the causes, and implementing corrective actions to prevent recurrence.

NA-ESH Overview (cont.)

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Performance based on:	New Grading Methodology:	Grading Categories:
“Program Health” & “Operational Implementation”	<ul style="list-style-type: none">- Developed in collaboration with DOE Offices- Establishes a qualitative approach for grading- Uses NA-ESH Checkerboard grading philosophy	<ul style="list-style-type: none">- Excellent- Good- Marginal- Unacceptable

NA-ESH Overview (cont.)

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Los Alamos National Laboratory (LANL)	Y-12	Savannah River Plutonium Processing Facility (SRPPF)
NCS Program Health: Marginal	NCS Operational Implementation: Marginal	NCS Program Health: Marginal

Other NNSA Sites:

No issues or areas of concern identified with Pantex, Livermore, Sandia, and Nevada.

LANL Metrics Summary

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NCS Program Health: Marginal

The program elements meet most of the minimum requirements, with one or more significant associated elements identified below the minimum program requirements.

- Operational implementation remains good.
- Additional site visits/compensatory measures are not necessary.

NCS Program Improvements: CSSG Tasking 2022-01

- CSSG noted that LANL NCSP is fragile
- 21 recommendations extending across breadth of program:
 - NCS organizational alignment and funding; criticality safety analyst (CSA) staffing levels; need for Operations to team with the NCSD to drive consistent limits for similar operations.
 - Senior Qualification of 3 LANL CSAs and several subs
 - Establishing a Chief NCS Engineer position within the NCSD

No criticality safety infractions reported for LANL and NNSS operations.

Y12 Metrics Summary

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NCS Program Health: Good

The program elements meet minimum requirements, or any minor non-compliances are actively being corrected or improved.

NCS Operational Implementation:

- Justification for Continued Operations (JCO) and Evaluation of the Safety of the Situation (ESS) approved for disposition of the “Raschig Ring Drum”
- NA--NPO-CNS-Y12NSC-2023-0025
 - 3C2 ORPS event - A condition in which no documented controls are available to prevent a criticality accident. An accident has not occurred due to other, non-documented barriers or controls.
 - The ORPS highlighted the need for more aggressive action on this Management Concern.
 - CNS identified systemic issues with verbatim compliance to procedures; primarily procedures governing work planning and control for maintenance activities.

SRPPF Metrics Summary

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NCS Program Health: Marginal

- SRNS continues to plan for future staffing needs.
- Significant issues pertaining to classification of the Criticality Safety Program as a Specific Administrative Control as well as concerns regarding the lack of elevated controls in some instances have been identified.

Field Office Staffing

- Since January 2023, the Field Office has not had a TQP qualified Criticality Safety SME.
- Field Office is expected to gain a qualified Criticality Safety (CS) Specialist as the site transitions to NNSA.

Questions?