

**Independent Oversight Review of the
Los Alamos Site Office
Safety System Oversight Program
Self-Assessment**



March 2012

**Office of Safety and Emergency Management Evaluations
Office of Enforcement and Oversight
Office of Health, Safety and Security
U.S. Department of Energy**

Table of Contents

1.0 Purpose.....	1
2.0 Background.....	1
3.0 Scope.....	1
4.0 Results	2
5.0 Conclusions	3
6.0 Items for Follow-up	3
Appendix A: Supplemental Information.....	4

Acronyms

CSE	Cognizant System Engineer
DOE	U.S. Department of Energy
HSS	Office of Health, Safety and Security
LANL	Los Alamos National Laboratory
LASO	Los Alamos Site Office
NNSA	National Nuclear Security Administration
SET	Safety Engineering Team
SSO	Safety System Oversight

Independent Oversight Review of the Los Alamos Site Office Safety System Oversight Program Self-Assessment

1.0 PURPOSE

The Office of Enforcement and Oversight (Independent Oversight), within the Office of Health, Safety and Security (HSS), conducted an independent review of the Los Alamos Site Office (LASO) safety system oversight (SSO) program in conjunction with a scheduled LASO self-assessment.

The purpose of the LASO self-assessment was to evaluate the SSO program's compliance with U.S. Department of Energy (DOE) orders and standards, and National Nuclear Security Administration (NNSA) and LASO directives and procedures. The self-assessment was conducted December 5-9, 2011.

LASO was the overall lead organization for the SSO program evaluation. An HSS subject matter expert participated to independently assess selected program areas and to evaluate the LASO self-assessment process. The HSS independent review scope was selected based on current HSS oversight priorities to focus on nuclear facilities, including the adequacy of DOE line management programs in monitoring implementation of nuclear facility safety basis requirements, and to follow up to prior Independent Oversight inspection results.

2.0 BACKGROUND

In 2007, as part of a Los Alamos National Laboratory (LANL)-wide integrated safety management inspection, Independent Oversight evaluated the effectiveness of LANL's processes for engineering design, safety basis, surveillance testing, operations, maintenance, procurement, and system engineering to determine whether the selected safety systems could perform their safety functions at several LANL facilities. The 2007 Independent Oversight inspection also focused on LANL and LASO feedback and improvement processes, including the LASO SSO program and the LANL cognizant system engineer (CSE) program as part of a review of essential system functionality. The 2007 inspection found that LASO had not established an effective SSO program, as required by DOE directives. Similar results were identified in a prior 2007 NNSA biennial review. At that time, the lack of an effective LASO SSO program took on greater significance because of known generic and facility-specific potential inadequacies in the safety basis, implementation deficiencies in technical safety requirements at LANL nuclear facilities, and immaturity in the LANL CSE program.

3.0 SCOPE

The LASO self-assessment evaluated four objectives: SSO program, training and qualification, oversight of the LANL CSE program, and oversight of LANL safety systems. LASO's self-evaluation of its SSO program was achieved primarily through document reviews and interviews, in accordance with a LASO issued SSO Program Assessment Plan based on the LASO SSO Program Implementation Assessment Criteria Review and Approach Document, Revision 0.

The Independent Oversight reviewer placed priority attention on examining LASO's evidence files documenting line management's actions to close the finding from the 2007 Independent Oversight inspection and LASO's progress in establishing an effective SSO program. The Independent Oversight reviewer also observed LASO SSO staff performance during concurrent HSS reviews.

4.0 RESULTS

The LASO SSO program self-assessment was performed by highly qualified and experienced personnel. Although the review was a site office self-assessment, the assessment team was made up of both internal and external oversight and peer organizations, providing a balanced and independent perspective on program effectiveness. The assessment plan reflected the criteria and approach for SSO program self-assessments, as found on the HSS SSO program website homepage, and was updated to reflect current DOE and NNSA directives. While the self-assessment was primarily limited to a mix of document/record reviews and interviews with the LASO Safety Engineering Team (SET) and key LASO managers, during fiscal years 2010 and 2011, Independent Oversight conducted five assessments in conjunction with an ongoing LASO SET assessment, which evaluated how well the assessment was performed, the assessment scope, assessment reporting, and assessor performance and knowledge. Since the 2007 Independent Oversight inspection, LASO has made significant progress in establishing a credible SSO program. Overall, Independent Oversight observed during the past two fiscal years that LASO SET assessments are performed by technically competent, well-prepared personnel and with sufficient rigor and depth, and that the assessments typically identify substantive findings requiring corrective action. Similar observations were also made by Defense Nuclear Facilities Safety Board site representatives in weekly staff reports. The final report accurately reflected the team's results.

The LASO self-assessment team, in conjunction with Independent Oversight, identified no findings and six observations. Overall, it was concluded that the SSO program met all objectives and was implemented in a compliant and effective manner that rigorously evaluates safety systems' ability to perform their credited functions and the adequacy of the contractors' configuration management and CSE program implementation. The Independent Oversight reviewer, in conjunction with the LASO self-assessment team, identified one concern as particularly significant because it may impact other LASO programs in addition to the SSO program. LASO Management Procedure 06.02, *Safety System Oversight, Revision 4*, requires verification of closure of SSO-identified findings in accordance with LASO Work Instruction 00.03, *Issue, Verification, Validation, and Closeout*. Discussions with LASO revealed that the work instruction that defines overall site office management expectations for corrective action assessment was rescinded, and no new guidance has been issued. While there is evidence that LASO follows up on SSO findings, the process is not formalized, and current practices do not fully demonstrate that corrective actions are consistently assessed in accordance with LASO management expectations. The lack of guidance on the expectations and methodology for completing this requirement could lead to inappropriate prioritization or inadequate documentation of activities to verify corrective action closure.

Independent Oversight also reviewed evidence files for corrective actions taken by NNSA and LASO in response to the Independent Oversight inspection of environment, safety, and health programs at LANL in 2007. Finding E-13 from that inspection identified that neither NNSA nor LASO had established an effective SSO program. Since then, LASO has hired SSO staff; revised SSO procedures to address roles, responsibilities, and expectations for integrating SSO activities with LASO subject matter experts and Facility Representatives; conducted training; included SSO assessments in the LASO integrated assessment schedule; initiated quarterly reporting of SSO program status; and conducted an SSO self-assessment. Independent Oversight also reviewed the evidence files for corrective actions resulting from the December 2008 LASO self-assessment, as well as for the June 2009 NNSA Headquarters biennial review of LASO nuclear safety performance. With one exception, corrective actions in response to the 2007 Independent Oversight assessment, the 2008 LASO self-assessment, and the June 2009 NNSA biennial review were appropriately verified as closed and were effectively implemented. The exception is that although initial actions were completed to identify and formally assign roles and responsibilities for

oversight of credited safety management programs in the documented safety analysis, LASO has not maintained the list of assigned personnel. The SSO self-assessment report identifies this discrepancy as an observation.

The Independent Oversight reviewer and the LASO self-assessment team identified additional important observations that were documented in the formal LASO Safety System Oversight Report, issued in December 2011. Independent Oversight reviewed the February 2012 corrective action plan for the SSO program self-assessment and had no comments.

5.0 CONCLUSIONS

Overall, the LASO self-assessment was competently performed by knowledgeable, experienced personnel using appropriate criteria based on the LASO SSO Program Implementation Assessment Criteria Review and Approach Document, Revision 0, and the final report accurately reflects the results of the assessment.

LASO has made significant progress in establishing a credible SSO program. During the past year, Independent Oversight observed that LASO SET assessments were performed with technically competent, well-prepared personnel and with sufficient rigor and depth, and the assessments typically identified substantive findings requiring corrective action.

The Independent Oversight review, in conjunction with the LASO self-assessment, identified a number of observations that warrant LASO management attention. The lack of guidance for corrective action closure and verification is particularly significant because this may impact other LASO programs in addition to the SSO program. Independent Oversight concurs with the objectives and results of the LASO self-assessment.

6.0 ITEMS FOR FOLLOW-UP

The LASO self-assessment report was formally issued to the LASO Site Manager, and a corrective action plan has been developed to address the results. Based on the conclusions drawn in the report, Independent Oversight will monitor ongoing actions to define LASO management's expectations for issues management. Independent Oversight will continue to monitor LASO SET assessment performance in conjunction with ongoing site lead operational awareness activities.

**Appendix A
Supplemental Information**

Dates of Review

Onsite Review: December 5-9, 2011

Office of Health, Safety and Security Management

Glenn S. Podonsky, Chief Health, Safety and Security Officer
William A. Eckroade, Principal Deputy Chief for Mission Support Operations
John S. Boulden III, Director, Office of Enforcement and Oversight
Thomas R. Staker, Deputy Director for Oversight
William E. Miller, Deputy Director, Office of Safety and Emergency Management Evaluations

Quality Review Board

William Eckroade
John Boulden
Thomas Staker
Michael Kilpatrick
George Armstrong
Robert Nelson

Independent Oversight Site Lead for LANL

Robert Freeman

Independent Oversight Reviewer

Robert Freeman