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ES&H Self-Assessment and Improvement Program

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Karen Higgins, John Campisi, Brian M. Kelly

Prepared by
Sandia National Laboratories
Albuquerque, New Mexico 87185 and Livermore, California 94550

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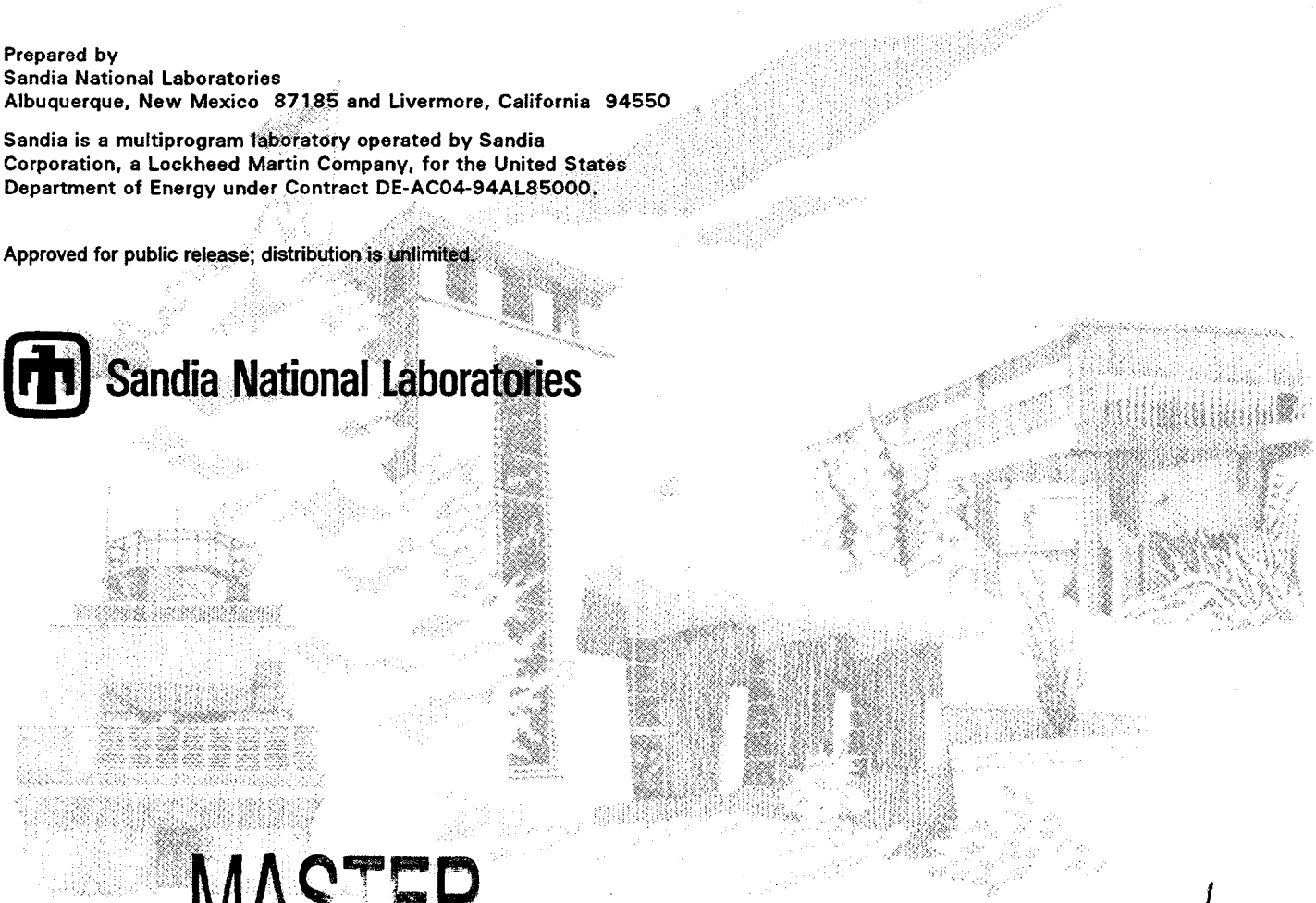

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ES&H Self-Assessment and Improvement Program

Karen Higgins
John Campisi
Brian M. Kelly

ES&H Assessment Department
Sandia National Laboratories
P.O. Box 5800
Albuquerque, New Mexico 87185-0346

Abstract

This document provides an overview of the environment , safety, and health (ES&H) self-assessment and improvement process at Sandia National Laboratories (SNL). It also suggests further developments for self-assessment and improvement. Section 1 explains the many purposes of the self-assessment and improvement program. Section 2 is a description of ES&H self-assessment and improvement and includes information on performance objectives and performance indicators, self-assessment of work areas and activities, reporting of self-assessment results, improvements and corrective actions, and records retention. The sub-section on self-assessment of work areas and activities includes detailed descriptions of organizational self-assessment, ES&H functional program self-assessments, internal independent ES&H assessment, Lockheed Martin Corporate ES&H assessments, and ES&H self-assessment information analysis and integration. Section 3 defines the roles and responsibilities of the ES&H Assessment Department, ES&H Center, SNL management, SNL employees, and contractors, SNL "Line" organizations, and ES&H functional program owners. Section 4 references associated manuals, policies, and companion documents. The appendix is a glossary of terms used in ES&H assessments.

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1. Introduction

This document provides an overview of the environment, safety, and health (ES&H) Self-Assessment and Improvement Process at Sandia National Laboratories (SNL). It also suggests further developments for self-assessment and improvement. Additional details are found in *Sandia Laboratories Policy (SLP) 2001*, in sections of the *ES&H Manual*, in the *SNL Integrated Safety Management System* document and in a companion guide which provides guidance for the different types of ES&H self-assessments and other activities described in this document. Appended to this document is a glossary of terms used in ES&H assessments.

2. Purpose of the ES&H Self-Assessment and Improvement Program

SNL's ES&H Self-Assessment and Improvement Program assures management at all levels, and DOE that SNL operations are performed safely and in accordance with agreed-upon performance expectations developed jointly by SNL and DOE.

The purposes of the ES&H Self-Assessment and Improvement Program are to:

- Assess systems and processes intended to provide safe and healthy work places while protecting the environment and assets.
- Provide the process(es) by which information on the status of ES&H at the laboratories is gathered, analyzed, and communicated to senior management.
- Identify where we are (status), where we want to be (performance objectives), and how to get there (corrective actions and improvements).

The ES&H self-assessment and improvement program is a key element of the SNL Integrated Safety Management System (ISMS). Self-assessment is an essential part of good management and includes the discovery, gathering, and sharing of information regarding ES&H issues, worker health, workplace safety, and environmental protection. Self-assessment observations and identified areas for improvement include evidence that identified problems are being addressed. It should be noted that ISMS is following a detailed implementation plan and schedule that is currently underway.

The ES&H self-assessment and improvement program provides SNL management and DOE with information on the status of agreed-upon ES&H performance objectives. ES&H self-assessment also allows SNL to provide DOE with consistent information in helping DOE with its oversight responsibilities.

The SNL ES&H self-assessment and improvement program satisfies Lockheed Martin Corporate (LMC) ES&H goals and objectives as well as the requirement for using self-assessment as a part of effective management of ES&H in work areas and activities.

2.1 Requirements

It is SNL policy to have an effective ES&H self-assessment program and to conduct ES&H self-assessments to support SNL's commitment to a safe and healthy work place, protecting the environment, using resources wisely, and managing risk in all activities. In addition, LMC policy (*ESH-01*), SNL contractual agreements (*DOE Order 5700.6C Quality Assurance*, and *5482.1B Environment, Safety, and Health Appraisal Program*), numerous laws, and regulations require various levels of self-assessment and reporting.

2.2 Scope

ES&H self assessment applies to all activities and operations at SNL sites and other locations where SNL-authorized work is performed by SNL employees or on-site contractors.

3. Description of ES&H Self-Assessment and Improvement

Self-assessments evaluate performance against corporate and organizational performance objectives and measures, corporate policies, regulations, and industrial/commercial standards. Effective self-assessment processes are consistent, auditable, and use written procedures for the planning, scheduling, coordination, conducting, reporting, and follow-up of self-assessment results. Self-assessments have a methodology for selecting scope and scheduling that considers hazards, risk, and requirements for operations and activities.

The SNL ES&H Self-Assessment and Improvement Program includes the following primary activities:

- Self-assessing work areas and activities to assure compliance with the standards related to work performed (identify strengths, noteworthy practices, corrective actions, or improvements needed, and monitor those actions or improvements).
- Reporting achievement in reaching performance objectives.
- Preparing and retaining appropriate records.

ES&H self-assessment at SNL is accomplished through multiple avenues. Figure 1 (see page seven) depicts the current structure for SNL ES&H assessments and the types of assessments and activities currently in place (roles and responsibilities are described in section 4). The SNL ES&H self-assessment structure has three fundamental components;

- Organizational (Line) Self-Assessments
- ES&H Functional Program Self-Assessments
- Internal Independent ES&H Assessments.

Three additional components are the overall Performance Objectives and Performance Indicators Program, analysis and integration of ES&H assessment information, and interaction with Lockheed Martin/Corporate ES&H with respect to ES&H assessment.

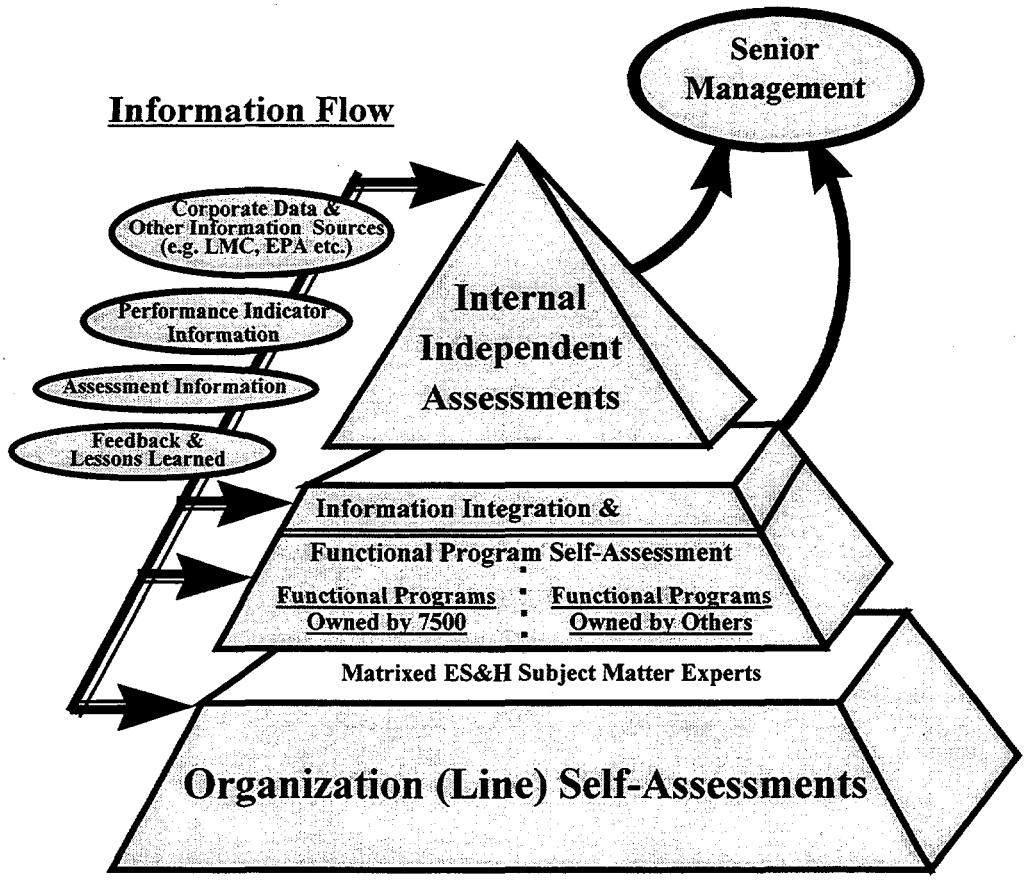

Figure 1. SNL ES&H Assessments

3.1 Performance Objectives (POs) and Performance Indicators (PIs)

SNL has established a set of corporate performance objectives and related performance indicators. The top-level objectives are:

- **protect the people**
- **protect the environment**
- **comply with regulations**
- **use good management practices**

Each SNL division may establish a set of performance objectives and performance indicators that are specific for that division. Other organizational levels such as centers and departments, may establish POs and PIs as appropriate. The division POs and PIs should be, at a minimum, related to and support achievement of the corporate POs and PIs. When center and department POs and PIs are established they should also, as a minimum, relate to the corporate and division POs and PIs. This performance data is used, along with information from other sources, to help measure, trend, and maintain the effectiveness of ES&H performance within SNL.

Performance indicators are a key part of the ES&H portion of the A*nnual DOE/SNL Laboratory Appraisal Agreement*. For this annual appraisal, SNL and DOE mutually agreed upon measures to be tracked and used as indicators of overall ES&H performance and improvement on an annual basis. Guidance on performance objectives and performance indicators is included in the *Environment, Safety, and Health (ES&H) Self-Assessment Guide*.

3.2 Self- Assessment of Work Areas and Activities

The three types of ES&H self-assessment in place at SNL are described below. Roles and responsibilities are described in Section 4.

3.2.1 Organizational Self-Assessments

Organizational self-assessments are conducted at the division level and below. They range from individual employees informally being mindful of their actions to more formal management surveillances and self-assessments. The rigor of line organization self-assessments depends upon the risk (programmatic and/or ES&H) associated with activities, and/or upon regulatory requirements. In addition, information from key ES&H performance indicators, occurrence reports, changes in operational activity, and the DOE Facility Representatives influence the rigor.

Effective organizational self-assessment depends upon all personnel knowing the hazards posed by their operations and activities, understanding the controls for mitigating those hazards, and assessing to ensure that the standards/requirements and performance objectives are being met.

Documentation of organization self-assessments may vary from informal memoranda-to-file by an employee to formal records of management surveillances and higher level self-assessments. Division-level self-assessment plans are developed and implemented for each division. Assessment results are reported to the ES&H Center to allow the generation of a lab-wide report to SNL senior management and the ES&H Assessment Department. Organizational self-assessments required by regulations or contractual orders must be formally documented.

Divisions develop and maintain self-assessment plans. Centers and departments **may** have self-assessment plans (dependent upon division requirements). The elements of a model Self-Assessment Plan are described in the *Environment, Safety, and Health (ES&H) Self-Assessment Guide* (SAND97-1392).

3.2.2 ES&H Functional Program Self-Assessments

ES&H functional program self-assessments focus primarily on the program elements of an ES&H functional area. The five primary functional program areas as defined in the *ES&H Manual, Attachment 1B-1* are Environmental Protection, Industrial Hygiene, Nuclear Safety and Criticality, Radiation Protection, and Safety Engineering. There are also fifteen crosscutting functions that can also be referenced in *ES&H Manual, Attachment 1B-1*.

These self-assessments are generally conducted by ES&H functional program owners to determine status of ES&H program performance with regard to the program owner responsibilities; however, when specific ES&H requirements or SNL priorities identify a need, a limited review of line implementation aspects are included. Scheduling and selection of functional self-assessments is dictated, in part, by regulation or DOE order. An example is the annual self-assessment of explosives handling operations by the program owner and subject matter experts (SMEs). SNL takes into consideration when scheduling ES&H functional program self-assessments: performance indicators, occurrence reports, and feedback from DOE Facility Representatives and/or matrixed DOE SMEs. The suggested elements of ES&H functional program self-assessments are included in the *Environment, Safety, and Health (ES&H) Self-assessment Guide* (SAND97-1392).

3.2.3 Internal Independent ES&H Assessment

Internal independent ES&H assessment activities are coordinated and conducted by the ES&H Assessment Department, who may, in some instances, partner with other departments in the Corporate Audit Center. These objective oversight evaluations include appraisal, surveying, and monitoring activities which are reported to senior management. The activities are conducted by SMEs and assessors who have no responsibility for the activities being assessed. Routine internal, independent ES&H appraisals (3-4 per year) are conducted to evaluate ES&H self-assessment processes and the effectiveness of laboratory ES&H management at SNL. Other internal independent appraisals are conducted as required by a regulation or DOE Order, or at the request of SNL management, an ES&H functional program owner, or a line manager. A list of conditions prompting internal independent ES&H appraisals as well as a description of the internal independent ES&H appraisal process is provided in the *SNL Internal, Independent ES&H Appraisal Procedure* (in draft).

3.2.4 LMC Corporate ES&H Assessments

TheLMC corporate ES&H (CESH) assessment process provides for the evaluation of ES&H performance by operating units and subsidiaries. LMC assessments are conducted periodically, dependent upon LMC requirements and provisions in the contract with DOE. The results of LMC assessments are provided to SNL management and the ES&H Assessment Department. SNL management may request LMC to perform ES&H assessments of SNL. Results of LMC/CESH assessments provide SNL with an external independent evaluation of ES&H performance.

3.2.5 ES&H Self-Assessment Information Analysis and Integration

The analysis and integration of ES&H self-assessment information is a function of the ES&H Center. Analysis and integration focuses on the processes used by the divisions and/or the functional area SMEs and the progress toward meeting the division or functional program POs. Integrated information from ES&H self-assessments, corporate PO and PI analyses, external assessments, results of LMC assessments, and any other pertinent information are combined and periodically reported to senior management and ES&H Assessment Department. Process guidance for the analysis and integration of ES&H self-assessment information is provided in the *Environment, Safety, and Health (ES&H) Self-assessment Guide* (SAND97-1392).

3.3 Reporting Self-Assessment Results

Assessment results are documented to facilitate communication of concerns as well as strengths, and to assist in developing work priorities. Information that is communicated varies according to the needs of the recipient. Generally, information from assessments is shared with those who can benefit. Typical beneficiaries are workers, first level managers who have responsibility for results, and higher management who participate in funding work or provide the work facilities, tools, and work environments that enable the work to be accomplished. Self-assessment results such as lessons learned and broader issues are shared within the assessing organization structure and across all divisions. The guidance document for organizational and functional assessments describes pathways for reporting assessment results. The ES&H Center sends an annual summary report from the results of all components of SNL self-assessment, plus related performance and external assessment information, to SNL senior management.

Recurrent reporting requirements for ES&H self-assessment information are as follows:

Organization (Divisions) and ES&H functional programs

- Self-assessment information is reported quarterly to the ES&H Center.

ES&H Center

- Annual report to SNL management by the ES&H Center includes at a minimum:
    - A status summary of whether the performance objectives established by SNL Divisions were met.
    - Issues identified through ES&H assessments at SNL that require management action.
    - A summary of the status of findings and corrective actions entered into the Corporate tracking and reporting system during the assessment period.
    - An evaluation of trends, and systemic and underlying factors that can lead to a determination of the possible root causes.
    - Recommendations of courses of action for consideration.
- Quarterly reports to the Laboratories Services Division Vice President.
- Quarterly reports to the SNL President and the Laboratories Services Division Vice President by the ES&H organization are required for citations, exceptions or an exceedance of permit or regulatory limits.
- Quarterly reports to ES&H Assessment Department.

The Vice President of the Laboratories Services Division (7000) provides periodic reports to SGC, SQLC, and LMC/CESH, and quarterly reports to the Sandia Corporation Board of Directors on the status of ES&H at SNL. All Division Vice Presidents make verbal reports to the Executive Vice President at a Laboratory Operations Council quarterly meeting devoted to ES&H topics.

3.4 Improvements and Corrective Actions

Performance indicators are a key part of the ES&H portion of the A*nnual DOE/SNL Laboratory Appraisal Agreement*. For this annual appraisal, SNL and DOE mutually agreed upon measures

to be tracked and used as indicators of overall ES&H performance and improvement on an annual basis. for tracking ES&H improvements to completion. Selected strengths and noteworthy practices incorporated into improvement processes are shared amongst the VPs at the quarterly Laboratory Operations Council (LOC) meetings. As practical and relevant, all systemic weaknesses, strengths, and noteworthy practices should be reported to the Lessons Learned Program for dissemination across SNL.

Deficiencies, findings, and issues regarding ES&H performance are identified through the internal independent ES&H assessments and the ES&H self-assessment information analysis and integration process. Findings are addressed and resolved through corrective action processes. Depending upon the severity and level of risk associated with a particular finding, a formal root cause analysis may need to be performed. The corrective action process includes development of a formal corrective action plan (based on an identification of findings), corrective action tracking, and "finding" follow-up/resolution.

Organization(s) and/or individual(s) originally responsible for the deficiency, occurrence, event, finding, or condition are not necessarily the only entity involved in implementing the corrective action. Therefore, all impacted parties should be involved in designing and implementing the corrective action.

3.5 Records Retention

Sufficient documentation of division ES&H self-assessment, ES&H functional program self-assessment, and Internal Independent ES&H assessment activities is maintained to substantiate the information and conclusions expressed in self-assessment reports. The division, ES&H functional program self-assessment, and internal independent ES&H assessment records are available for review to the Sandia Quality Leadership Council, the SGC, the ES&H Assessment Department, and duly authorized auditors - although they are not currently centrally maintained. These records are retained consistent with specific SNL record retention requirements.

4. Roles and Responsibilities

4.1 ES&H Assessment Department

The ES&H Assessment Department is the point-of-contact for DOE, SGC, LMC, and for ES&H external assessment activities. It has the following specific responsibilities:

- Monitoring the adequacy, effectiveness and performance of ES&H management systems.
- Identifying and evaluating lab-wide system issues as related to ES&H
- Evaluating SNL ES&H assessment processes
- Reporting results to Sandia senior management.

The ES&H Assessment Department resides in the Corporate Audit Center and has responsibility for examining ES&H administration adequacy and performance.

4.2 ES&H Center

The ES&H Center is the point-of-contact for DOE and SNL Corporate for ES&H self-assessment activities. The ES&H Center is responsible for integrating and analyzing organizational and functional program self-assessment information with internal and external assessment results, and other ES&H indicators to report the overall status to senior management. The ES&H Center is also responsible for developing and maintaining the ES&H performance section of the Annual Laboratory Appraisal Agreement.

4.3 SNL Management, Employees and Contractors

Overall ES&H roles and responsibilities for SNL management, employees, and on-site contractors are defined in the *SLP 2001 Environment Safety and Health*, the *ES&H Manual,* and the *SNL Integrated Safety Management System.*

4.4 SNL "Line" Organizations

The roles and responsibilities of the SNL "line" organizations are basically to plan and perform ES&H self-assessments, make improvements, and report results. More detailed descriptions are found in the *ES&H Manual*, *SNL Integrated Safety Management System*, and the *Environment, Safety, and Health (ES&H) Self-Assessment Guide*.

4.5 ES&H Functional Program Owners

The SNL ES&H functional program owners are basically to plan and perform ES&H self-assessments of their respective functional program areas, correct deficiencies, and report results. More detailed descriptions are found in the *ES&H Manual* and the *Environment, Safety, and Health (ES&H) Assessment Guide*.

5. References

MN471001, *SNL ES&H Manual*, Issue AE
SLP 2001, *Environment, Safety, and Health*, June 10, 1993
SNL Integrated Safety Management System, November, 1996

5.1 Companion Documents

Environment, Safety, and Health (ES&H) Self-Assessment Guide (SAND97-1392)
SNL Internal, Independent ES&H Appraisal Procedure (in draft)

APPENDIX A: Glossary

Areas for improvement	Processes, operations, or programs that assessments suggest need to be changed.
Assessment / Audit	A planned and documented activity using specified criteria to examine and evaluate the objective evidence to determine effectiveness of programs, processes and procedures.
Corrective Actions	The work and processes initiated to resolve findings found in assessments and audits
Deficiency	A condition not meeting requirements.
Evaluation	A comparison to specified criteria.
Finding	A factual statement of a condition that currently exists and must be corrected.
Issue	Deficiency that requires action beyond the assessing organization's ability to effect or with potential Lab-wide effects.
Noteworthy Practice	An outstanding process whose elements, when implemented and shared, will benefit other organizations in meeting their performance objectives.
Observation	A statement of fact made during a review and substantiated by verifiable evidence. (may be positive or offer an opportunity for improvement)
Performance Indicator	Variables that quantify the factors that predict, contribute to, or describe the accomplishment of performance objectives and allow monitoring of performance of work processes on an on-going basis.
Performance Measure	A quantitative or qualitative index for characterizing performance.
Performance Objective	Statements of desired outcomes for an organization or activity.
Standards and Requirements	The laws, regulations, orders, policies, procedures, management practices, and other authoritative directions governing work activities and processes.
Strength	An attribute contributing to exceptional performance.

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