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DOE STANDARD

THE DOE CORPORATE LESSONS LEARNED PROGRAM



**U.S. Department of Energy
Washington, D.C. 20585**

AREA MGMT

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FOREWORD

This Department of Energy Technical Standard is approved for use by all DOE Components and their contractors.

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may improve this document should be sent to W. E. Carnes, Office of Nuclear Safety Policy and Standards (EH-31), U.S. Department of Energy, Germantown, MD 20874, by letter or by using the self-addressed Document Improvement Proposal (DOE F 1300.3) appearing at the end of this document.

This Technical Standard was prepared with the assistance of the Department Standards Committee Lessons Learned Focus Group, the Safety Management Implementation Team, the Energy Facilities Contractors Group Lessons Learned Working Group, the Enhanced Work Planning Executive Committee, and the Society for Effective Lessons Learned Sharing Executive Committee.

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1 OVERVIEW

1.1 Introduction

This technical standard provides management expectations and a framework for the DOE Corporate Lessons Learned Program. The framework is intended to support development and implementation of a DOE-wide lessons learned infrastructure that supports and promotes the identification and communication of lessons learned by DOE and contractor personnel in the performance of DOE missions. This technical standard was prepared with the involvement and input of line managers, technical specialists and individuals involved with lessons learned programs from the Department of Energy (DOE or Department) and its contractor community. Many effective lessons learned activities are conducted across the DOE complex. The objective of this technical standard is to enhance lines of communication among these activities with minimal impact to the processes and methods that currently exist. The technical standard encourages the use of a common language and a common institutional framework to facilitate DOE-wide sharing of lessons learned information while enabling tailored local lessons learned based on the nature of work and organizational complexities. The standard is designed to promote improved sharing of lessons learned across programs, not to create additional, overlapping programs or impose new requirements.

This technical standard broadens the concept of lessons learned to include all areas of DOE business as practiced by both DOE and contractor personnel at all levels of management and work performance. It is intended to support identification and sharing of good practices as well as lessons learned from unintended outcomes.

The broad application of lessons learned is particularly important to the Department's commitment to maintain effective Integrated Safety Management Systems (ISMS). The Contractor and DOE are responsible for ensuring that approved ISMS descriptions are maintained under effective configuration control that reflects the current mission, program objectives, and budget direction from DOE. Information on ISMS performance such as: performance measures, performance indicators, self-assessment findings, independent assessment findings, and other relevant feedback should be factors in the ISMS configuration control process. Additionally, the Department of Energy Acquisition Requirements (DEAR) require contractors to review and update their ISMS,

for DOE approval, to reflect these ongoing activities and factors. The application of lessons learned will play a key role in maintaining Integrated Safety Management Systems and in improving DOE and contractor programs, processes and practices integral to ISMS.

DOE and contractor organizations should review the elements specified in this technical standard and tailor their lessons learned programs based on their individual operating needs consistent with the institutional framework for sharing department wide. This technical standard is provided to assist management, staff and line workers to share information, adopt successful practices, and avoid repeating mistakes.

1.2 Background

A hallmark of DOE's scientific excellence is the communication and peer review of scientific information. Sharing of operational information was more limited due to the diversity of DOE missions and historical operating practices. Over the past several years DOE has encouraged improved communication of operating experiences. A number of DOE rules and requirements require that lessons learned be identified, evaluated, shared, and incorporated into projects, programs, or operations. The references to lessons learned reflect the need to communicate acquired knowledge more effectively and to ensure that beneficial information is factored into planning, work processes, and activities. Existing requirements did not provide a comprehensive standard for a DOE-wide lessons learned program nor did they provide guidance on tailoring local DOE and contractor lessons learned programs. As a result of the lack of a DOE-wide vision for the role of lessons learned and historical practices, identification, sharing, and use of lessons learned were often insular and sporadic across the DOE complex. In 1994 a Process Improvement Team of DOE and contractor personnel was tasked to develop a technical standard to provide direction on how to develop Lessons Learned Programs. Subsequently a number of local Lessons Learned Programs were patterned after that standard.

Following the Department's commitment to implement Integrated Safety Management as the Department's approach to managing work, the Deputy Secretary and DOE Operations Managers tasked the Department Standards Committee to review the status of lessons learned programs. This review found that many formal and informal lessons learned activities are in place and being used. Many enhancements have been made since the issuance of the original lessons learned technical standard in 1995 through local initiative and work by the Society for Effective Lessons Learned Sharing (SELLS) established as a result of the Process Improvement Team efforts. However, the review respondents identified five key concerns about the DOE corporate lessons learned function. These concerns included:

- lessons learned focus principally on corrective actions for Environment, Safety and Health issues
- lessons learned focus principally on contractor activity work
- lessons learned seldom address work by DOE personnel
- lessons learned do not address management systems or institutional issues
- determining the relevance of lessons from other facilities, sites or external organizations is difficult

This Technical Standard has been revised to address these issues. It builds upon the programmatic information provided in earlier versions of the standard and expands on suggestions provided by DOE and DOE contractors. Lessons learned are described within the context of Integrated Safety Management. High-level guidance for tailoring local lessons learned programs are provided in the form of management expectations, and requirements for interfacing local programs with the DOE Corporate Lessons Learned program are provided.

1.3 Scope

1.3.1 Purpose

The Department of Energy expects all individuals performing DOE work to make decisions and execute their work based on the best available information. Managers at all levels of the agency and throughout the contractor community are expected to ensure that decision making is founded on the best professional and industrial practices currently available. All professional, technical and craft personnel are expected to plan and execute their work based on best available practices. Through their work experiences all personnel are expected to identify opportunities for improvement and best practices and share these with their local and professional colleagues, the broader DOE community, and other federal agencies and contractors. The purpose of lessons learned is to share and use knowledge derived from experience to: 1) promote the recurrence of desirable outcomes, or 2) preclude the recurrence of undesirable outcomes. This technical standard is designed to facilitate the sharing of information across the DOE complex -- among operations and area offices, field and headquarters elements, and Federal contractor and subcontractor entities. The standard establishes broad management expectations for developing, sharing and using lessons learned and a framework to facilitate implementing these expectations.

1.3.2 Applicability

This technical standard defines the expectations and framework for identifying, sharing and using lessons learned. When selected for use, this technical standard applies to all DOE Headquarters and field organizations, management and operating contractors, and laboratories (hereafter referred to collectively as "DOE organizations").

DOE expects each DOE element and each contractor to tailor lessons learned activities based on the work and organizational complexity at each local level. DOE expects that the programmatic aspects of identifying, sharing, and using lessons learned will be developed to support each local ISMS description and the specific work of the organization(s). Requirements in the Department of Energy Acquisition Regulations (DEAR 48 CFR 970.5204-2) for ISM Feedback and Improvement functions are the governing requirements for contractor lessons learned programs. Also the DEAR, 48 CFR 970.5204-2 (d) and (e), requires DOE and contractor actions to continuously

maintain the integrity of ISMS and to generate an annual report. DOE and the contractor are responsible for a number of efforts to maintain the effectiveness of the ISMS and to perform an annual review. The DEAR requirements state:

“(d) The system shall describe how the Contractor will establish, document, and implement safety performance objectives, performance measures, and commitments in response to DOE program and budget execution guidance while maintaining the integrity of the system. The system shall also describe how the Contractor will measure system effectiveness.”

“(e) On an annual basis, the contractor shall review and update, for DOE approval, its safety performance objectives, performance measures, and commitments consistent with and in response to DOE’s programs and budget execution guidance and direction. Resources shall be identified and allocated to meet the safety objectives and performance commitments as well as maintain the integrity of the entire System. Accordingly, the System shall be integrated with the Contractor's business process for work planning, budgeting, authorization, execution, and change control.”

Additionally the DEAR, 48 CFR 970.5204-86, has a section which requires sustaining an effective ISMS in order to earn contract fees.

“(a) If the contractor fails to ...achieve the minimum performance requirements of the System during the evaluation period, DOE ...may reduce...fees...”

Responsibilities for DOE lessons learned activities are provided in the Functions, Responsibilities and Authorities Manuals (FRAM). Support for implementing and improving DOE and contractor lessons learned activities is available through the DOE Headquarters Lessons Learned Lead Office (Office of Environment, Safety and Health (EH)), the Society for Effective Lessons Learned Sharing (SELLS), the Energy Facilities Contracting Group (EFCOG) ISM Working Group, and the Enhanced Work Planning Executive Committee. The Headquarters Lead Office will monitor implementation of this Technical Standard and compile recommendations for any subsequent revision.

2 DEFINITIONS

Actions:	Specific activities taken as a result of a lesson learned. Actions may include: 1) Corrective Actions (actions taken as a result of the analysis of an actual experience); 2) Preventive Actions (actions taken to prevent a negative situation from occurring); or 3) Improvement Actions (actions taken to improve the efficiency of operations based on a good work practice or an innovative approach).
Causal Analysis:	A review of an activity to determine the root cause, to identify less than adequate contributing systemic factors, and to prevent further concerns.
DOE Corporate Lessons Learned Program:	The collection of DOE and contractor organizational lessons learned programs sharing information to improve performance.
Good Work Practice:	A positive lesson or action that has the potential to be the basis of significant improvements or cost savings.
Lesson Learned:	A "good work practice" or innovative approach that is captured and shared to promote repeat application. A lesson learned may also be an adverse work practice or experience that is captured and shared to avoid recurrence.
Organization:	The site, plant, facility, function, or location for which the lessons learned program is implemented.
Subject Matter Expert (SME):	An individual qualified, and experienced in performing a particular task. A Subject Matter Expert may also be an individual who, by education, training, and/or experience is a recognized expert on a particular subject, topic, or system.

3 PROGRAM DESCRIPTION

3.1 Overview

Use of lessons learned is a principal component of an organizational culture committed to continuous improvement. The methods used to instill lessons learned as part of the culture vary, as do the mechanisms for identifying, sharing and using lessons learned. The nature of the work and the complexity of the organization are prime determinants of cultural and infrastructure support for lessons learned. Cultural methods often include setting expectations, providing support and incentives, monitoring and feedback, and continuous improvement. Infrastructure mechanisms typically include clear definition of resources, processes, procedures by which personnel are supported to identify, share and use lessons learned. The infrastructure mechanisms are often referred to as Lessons Learned Programs. Lessons Learned Programs include two basic processes. The first is a development process that includes identification, documentation, validation, and dissemination of a lesson learned. The second is a utilization and incorporation process that includes identification of applicable lessons learned, distribution to appropriate personnel, identification of actions that will be taken as a result of the lesson learned, and follow-up to ensure that appropriate actions were taken. In addition to these elements, lessons learned programs contain processes to measure operational performance improvement and program effectiveness.

The DOE Corporate Lessons Learned Program consists of a number of locally tailored programs and a headquarters coordinating function referred to as the Lessons Learned Lead Office (EH). The local programs include those of DOE headquarters and field elements as well as those of DOE contractors. Due to the diverse nature of DOE work and contract types, the infrastructure mechanisms for lessons learned must be tailored at each local level. DOE organizations should tailor their own processes in accordance with local Functions, Responsibilities, and Authorities documents. For contractor organizations the local contractor mechanisms should be tailored through agreement with the locally responsible DOE organization and should consider interface agreements in cases where multiple contractors are performing work under the direction of the same local DOE organization. The function of the Lessons Learned Lead Office is to link the local programs together and facilitate sharing of lessons with all DOE and contractor organizations, other government agencies, industry and the public.

3.2 Program Elements

Properly implemented lessons learned should improve management decision making during every phase of Department activity including initial program and project conception, facility startup, mature conduct of operations, reengineering, and facility and site retirement. As a component of planning and execution, management should establish expectations, provide resources and monitor performance. The following DOE Corporate expectations are intended to provide high-level guidance for developing, communicating and using lessons learned:

3.2.1 Management Commitment

For DOE organizations, responsibilities for using lessons learned and supporting effective lessons learned programs are established through Functions, Responsibilities and Authorities documents. For DOE contractors, requirements for lessons learned are translated into contract level requirements through the DEAR. Managers at the appropriate DOE and contractor levels are expected to tailor lessons learned programs for their particular work and hazards. Management commitment should be expressed by demonstrating that lessons learned are developed and communicated at local levels, shared with the rest of the DOE and by demonstrating that lessons learned locally and from organizations with relevant work experience are factored into local management systems and mechanisms for improving work performance. Managers should also consider using awards, incentives, and recognition of individuals to promote creating and using lessons and to promote system improvement and motivation by feeding back improvement suggestions and success stories from using lessons.

At the local levels, contractor managers are expected to describe lessons learned programs as part of their Safety Management System Descriptions. These Descriptions should express the local management expectations for the development, communication and use of lessons learned. They should also describe, in whole or by reference, the infrastructure mechanisms that support development, sharing and use of lessons learned.

3.2.2 Program Scope

Lessons learned provide a powerful method of sharing good ideas for improving work processes, facility or equipment design and operation, quality, safety and cost effectiveness. While individual lessons may deal with narrow issues, the overall program should be broad in scope, with lessons from many facets of an organization— business, operations, management, and more. If an organization focuses only on failures or non-compliance issues, their overall lessons learned program's effectiveness will be reduced and they will miss opportunities to improve all their

processes. Lessons learned should draw on both positive experiences— good ideas that prevent accidents or save money, and negative experiences— lessons learned only after an undesirable outcome has already occurred. They should include the broad base of work effectiveness and not be limited solely to specific areas such as safety or safeguards. The relationships of lessons learned and other management information sources should be clear and understood. Lessons learned should communicate only lessons, and should not duplicate nor replace other management information functions like self assessment or event investigation and corrective action systems.

3.2.3 Program Administration

Administration of the lessons learned programs should be transparent to the user community. Performance measures should focus on how well a lessons learned program uses opportunities to develop lessons, the quality of the lessons the program creates, and how well business and operating practices integrate lessons into improvements. The lessons learned infrastructure should use existing networks (e.g., SELLS), existing databases, and existing delivery systems where possible. Lessons learned should be part of everyone's job but clearly defined ownership should be established for maintaining the infrastructure and support for lessons learned development, communication and use. Local sites should evaluate lessons they develop to determine if they appear applicable to the wider DOE community. If so, they should be distributed via the Corporate lessons learned system for consideration at other DOE sites. Lessons may also come from Headquarters analysis or from non-DOE organizations and sources. Local sites should evaluate outside lessons for local application and dissemination.

3.2.4 User Community

The user community for the DOE lessons learned program is DOE-HQ personnel, DOE field personnel and DOE contractor personnel at all levels of the organizations and inclusive of all types of work performed. Official DOE-wide lessons learned should be available to other government agencies, industry and the general public.

3.2.5 Information Input

The mechanisms for identifying a potential lesson learned should be simple (in terms of volume, type of information, and input mechanisms). Lessons should be context driven (information defined in terms of environment in which learned and significance). The potential types of work or subject matter should be defined (in terms of information warranting inclusion). There should be no stigma or blame assigned for individuals identifying a lesson learned.

3.2.6 Information Access

All individuals in DOE should have ready access to lessons learned. Access mechanisms should include a variety of communication media. The lessons learned and access media should be responsive/customizable to match customer needs (types of information, level of detail, sorting mechanisms, presentation and display options). Both push and pull information technology should be utilized. Simple search strategies/mechanisms should be available. Automatic delivery should be available for some levels/thresholds of lessons learned. Lessons learned read capability should be essentially unlimited for the internal user communities and limited only by safeguards concerns for external communities.

3.2.7 Information Use

Lessons learned support, but do not direct, site/contract-level programs. There is local determination of relevance/significance of external lessons learned. User obligations are defined at the individual organization levels. Local lessons learned programs complement (encourage) other formal and informal peer and workgroup sharing. Incentives are established to promote development, communication and use of lessons learned.

3.2.8 Resources

It is expected that the development, communication and use of lessons learned should be a part of everyone's job. The degree of formality in the mechanisms established to facilitate the lessons learned program should be tailored based on the complexity of the work, hazards and organizational factors. DOE and contractor organizations should designate certain individuals with formal lessons learned roles. Even in organizations where lessons learned is designated a distributed function throughout the organization, there should be a designated contact for interface with the Corporate structure. At a minimum, a lessons learned management champion should be formally designated.

DOE Headquarters will establish and maintain the Headquarter's lessons learned infrastructure that supports DOE-wide lessons learned sharing. It is expected that local DOE and contractor management will work with the Headquarter's Lessons Learned Lead Office to ensure that local programs interface with the Headquarters program. Also it is expected that local management will work with the Headquarters officials to seek continuous improvement of local and Department-wide lessons learned programs.

3.3 Integration

The Department has established Integrated Safety Management as a Department-wide approach for managing and performing work safely. Integrated Safety Management defines five work cycle functions; identifying the work, analyzing the hazards, defining the controls, performing the work, and feedback and continuous improvement. It also describes three basic levels of work within which these functions are performed: the institutional, site and activity levels. It is expected that lessons learned will be identified, shared and used within each function, for inter-relationships among functions and within and among the three organizational levels of work planning and performance.

An effective lessons learned program is integrated throughout the management chain and across functional areas. This integration includes personnel at all levels and crosses organizational boundaries such as administration; financial systems; human resources; training; quality programs; operations; maintenance; engineering; environment, safety and health; and safeguards and security programs. Contractor's business processes for work planning, budgeting, authorization, execution, and change control are specified in the DEAR as processes that must be integrated, monitored and verified on an annual basis.

3.4 Effectiveness

Methods for evaluating and measuring the effectiveness of the organizational lessons learned program should be established such that the costs and benefits of lessons learned can be assessed on a periodic basis. The goal of effectiveness measurement is to assist local management in monitoring and improving the value that lessons learned provide to the organization. Appendix C contains a sample Lessons Learned Program Assessment Guide with assessment criteria for six major program elements at several levels of development, from first implementation through steady-state, established functioning. Managers may use the guide directly or use it as an example to develop their own criteria to evaluate the status of their lessons learned programs.

4 INFRASTRUCTURE ELEMENTS

4.1 Overview

The DOE Corporate Lessons Learned Process is illustrated in Appendix B. It is composed of a number of DOE and contractor local lessons learned programs supported by and coordinated through the Lessons Learned Lead Office. The operating concept begins at the local levels where individuals observe adverse outcomes, potential good work practices or applicable information gathered from external sources. These are contributed to the local lessons learned program that supports further review and analysis to verify that a lesson has been learned that has further local applicability. The contributors should be acknowledged for identifying the potential lesson. If a local lesson learned is developed, it is distributed to appropriate individuals through local practices. Actions are then taken at the local level for inclusion into management systems and work practices.

The next step is to determine if the lesson has potential DOE-wide implications. If broader DOE applicability is determined, then the local lesson learned is distributed to a select list of recipients through a subscription list server. At the various DOE local levels, determinations of local applicability will be made in accordance with local lessons learned processes. At the Headquarters level, the Lessons Learned Lead Office is available to assist the contributing organization to formulate a lessons learned appropriate for posting on the publicly accessible DOE Corporate Lessons Learned database. The Corporate database is accessible through an information portal which links all the local programs as well as providing links with external lessons learned information sources. Each local DOE and contractor organization should identify an infrastructure for supporting this operation.

4.2 Resources

The objective of the DOE Corporate Lessons Learned Programs is to provide a means of communicating experiences which can potentially reduce risk, improve efficiency, and enhance the cost effectiveness of DOE processes and operations. If additional funding is required (i.e., establishment of a new program), each DOE and contractor organization is responsible for planning its funding needs and requesting appropriate resources through their annual budget process.

4.3 Roles and Responsibilities

This section defines the primary roles and responsibilities of DOE and contractor organizations including managers and individuals who implement, use, and contribute to the DOE Lessons Learned Program. The DOE responsibilities for implementing and maintaining lessons learned programs are provided in the FRAM.

4.3.1 Headquarters Lead Office (EH)

- Support and coordinate the development, implementation, and maintenance of a DOE complex-wide Lessons Learned Program.
- Provide resources for the Headquarters element of the DOE Lessons Learned Program.

4.3.2 Cognizant Secretarial Officers (CSOs)

- Implement Departmental policy concerning lessons learned and this lesson learned technical standard for programs under their cognizance.
- Ensure that guidance to the field is consistent and compatible with that of other CSOs having responsibilities at the same sites.
- Provide resources for developing, implementing, and maintaining a tailored lessons learned program at the program level.

4.3.3 Heads of DOE Field and Contractor Organizations

- Ensure that guidance to the field both for Federal employees and contractor employees is consistent and compatible with that of other CSOs and contractor organizations at the same facilities.
- Implement Departmental policy concerning lessons learned in accordance with this technical standard.
- Provide resources for developing, implementing, and maintaining a tailored lessons learned program at their organizational level, and coordinating with the Headquarters Lessons Learned Lead Office, as defined in this technical standard.

- Identify and provide support to Lessons Learned Manager(s)/Coordinator(s) who facilitate implementation and operation of Lessons Learned Programs.

4.3.4 DOE and Contractor Organization Line Management

- Ensure that the lessons learned program is incorporated into organizational responsibilities.
- Assign and support personnel under their supervision to administer the lessons learned infrastructure mechanisms that the organization establishes.
- Ensure that actions planned or initiated to address lessons learned are implemented.
- Ensure that lessons learned information is included in the planning and execution of work within the scope of their responsibility.
- Evaluate effectiveness of lessons learned programs and report to senior management.

4.3.5 Lessons Learned Manager(s)/Coordinator(s) for DOE Field and Contractor Organizations

Promote and advance the organization's lessons learned program, including, but not limited to the following:

- Facilitate the development and maintenance of lessons learned programs including processes, procedures, communication methods and documentation.
- Coordinate the screening, dissemination, analysis, and action plan development of lessons learned information.
- Interface with functional organizations such as training, maintenance, engineering, etc. for incorporation of lessons learned information.
- Access information systems for identification of potential lessons learned.
- Identify Subject Matter Experts to facilitate lessons learned review and analysis.

- Determine applicability and significance of internal and external experiences identified as potential lessons learned with the help of Subject Matter Experts.
- Follow-up on significant actions to address lessons learned.
- Serve as lessons learned point-of-contact for the DOE Corporate Lessons Learned Program.
- Collect information to evaluate program effectiveness and report to management.

4.3.6 DOE and Contractor Personnel

- Identify experiences, activities, processes, and practices that should be shared in accordance with the definition of lessons learned (i.e., both positive and negative experiences).
- Contact line management and/or lessons learned staff to determine whether the identified experience qualifies as a lesson learned.
- Provide information for generation of a lessons learned document.
- Review lessons learned documents for applicability and/or implementation.
- Incorporate applicable lessons into work planning and execution.

4.4 Training and Qualification

Each local organization is responsible for making personnel aware of how to access and use the local lessons learned mechanisms to identify, share and use lessons learned. Personnel such as Lessons Learned Coordinators or Subject Matter Experts who manage, administer or otherwise have specific responsibilities for local Lessons Learned Programs should possess a broad knowledge of their local organization(s), certain specialized knowledge and skills and key personnel characteristics. Examples of the broad knowledge desirable include general technical knowledge of the work performed by the organization and hazards or vulnerabilities associated with that work, the overall organizational structure and management systems, and familiarity with their DOE or contractor counterpart organizations, general familiarity of the regulatory environment in which the work is performed and a general awareness of stakeholder interests in the work of the local organization(s). Examples of desirable prior work-related experience for lessons learned

personnel include evaluation or assessment, event analysis, accident investigation, operations, team leadership or facilitation, training, change control or similar experience that requires analysis and synthesis of information in order to determine and implement corrective or improvement actions. Through experience or other means, lessons learned personnel should have specialized knowledge of this technical standard, the DOE Corporate Lessons Learned Program and the local lessons learned program(s) including how to identify and research sources of lessons learned; how to develop, use, analyze, and disseminate lessons learned; how to identify trends based on lessons learned; and how to incorporate lessons learned into processes, operations, procedures, and training. Lessons learned personnel should also have a general knowledge of various computer software programs used to support local lessons learned activities and good writing skills. Organizations should identify and provide training as appropriate to individuals with lessons learned responsibilities to supplement and enhance individual skills and knowledge.

As a general principle, lessons learned personnel should possess those characteristics that enable them to perform their responsibilities as key team members of the broad organization with a goal of facilitating, not directing, the organization's continuous improvement. Desirable personnel characteristics include ability to communicate effectively with individuals from various technical and management disciplines, ability to form and lead teams, ability to communicate with and relate effectively to management, craft and technical specialists and to work in a cooperative, constructive manner within the broad DOE community.

4.5 Procedures and Documentation

Local processes and procedures shall be established consistent with local practices in order to define how the lessons learned program is implemented and administered.

Such processes or procedures may include:

- Roles and responsibilities
- Staff qualification and training
- Criteria and thresholds for lessons learned generation
- Timeliness requirements for generation and incorporation
- Validation and approval processes
- Dissemination methods
- Use of lessons learned information
- Documentation requirements
- Feedback systems
- Tracking of lessons learned actions

- Performance indicators and trend analysis
- Program performance assessment
- Process for researching potential lessons learned sources (e.g., Occurrence Reporting and Processing System, vendor information, Nuclear Regulatory Commission, International Atomic Energy Agency, Occupational Safety and Health Administration, Environmental Protection Agency, Department of Defense Government-Industry Data Exchange Program).
- Interface with the Headquarters Lessons Learned Lead Office

5 LESSONS LEARNED DEVELOPMENT AND DISSEMINATION

5.1 Identify and Review Sources of Potential Lessons Learned Information

Information used to generate lessons learned may come from any reliable source including local DOE and contractor organizations, other DOE site, facilities or offices, other government agencies, industry or professional organizations. Local organizations should establish local practices or protocols for determining when information from any of these type sources constitutes a lessons learned. Reviews of potential lessons learned typically are performed by designated Subject Matter Experts and/or Lessons Learned Coordinator(s) and should consider the applicability and significance of potential lessons learned, and whether similar lessons learned have been identified previously.

5.1.1 Internal Information Sources

Internal sources of information used to generate lessons learned may include, but are not limited to, the following:

- Personal experiences
- Field activities
- Occurrence reports
- Assessments, audits, and appraisals
- Safety meetings
- Quality council meetings
- Training evaluations
- Non-conformance reports
- Safety bulletins
- Operational Readiness Reviews
- Project planning and evaluation results
- Performance indicators
- Performance improvement initiatives
- Work planning
- Post job reviews
- Critiques, analyses, and investigations
- Process improvement initiatives

5.1.2 DOE-Wide Information Sources

Sources of lessons learned information from other DOE sites, facilities or offices may include, but are not limited to, the following:

- Audits
- Appraisals
- Assessments
- Safety Notices
- Price Anderson Amendment Act Noncompliance Tracking System
- Lessons Learned Information System
- Accident/Incident Investigation Reports
- Operating Experience Summaries
- Occurrence Reporting and Processing System
- Environment, Safety and Health Bulletins
- Technology Information Exchange (TIE) Quarterly

5.1.3 Federal and Industry Information Topics

Federal and industry information may include, but is not limited to, the following areas:

- Environmental
- Fire
- Hazardous Materials
- Nuclear
- Petroleum
- Chemical
- Failure Experiences
- Meteorology
- Safety
- Transportation
- Business and Financial
- Defense
- Industrial Risk Insurers
- Government-Industry Data Exchange Program (GIDEP)
- Federal Agencies

There are a large number of sources of such information. The DOE Corporate Lessons Learned Lead Office maintains a listing of frequently consulted sources, and these are provided for reference on the DOE Corporate Lessons Learned System. As valuable new information sources are identified, they should be forwarded to the Lead Office through the Lessons Learned List Server so they may be shared DOE wide.

DOE and contractor personnel are active members of numerous professional societies. Each local lessons learned program should establish mechanisms to encourage these individuals to share potential lessons learned information that they receive through their professional affiliations.

5.2 Prepare Lesson Learned Document

Lessons learned documents for local use may be tailored as appropriate for local needs. Lessons learned for Department-wide dissemination and dissemination external to DOE should provide certain essential information to reduce search time and enhance determination of relevancy. A template for documenting lessons learned information for complex-wide dissemination is included in Appendix A. The template data elements are used for entering lessons into the Corporate Lessons Learned database. Other formats are acceptable, but valuable lessons for future operations are more easily handled for archiving when the template elements are all included. The Headquarters Lessons Learned Lead Office is available to work with local lessons learned points of contact to structure local lessons learned for broader dissemination. The objective of a DOE-wide format is to provide an abstract of key information and points of contact for additional detail. The Template Categories are provided to assist users in accessing information relevant to their needs.

5.2.1 Content and Style

Local lessons learned programs should establish guidance on content and style for preparing lessons learned. A lesson learned written from locally-generated information should contain five basic elements:

- A clear statement of the lesson
- A background summary of how the lesson was learned
- Benefits of using the lesson and suggestion how the lesson may be used in the future
- Contact information for additional detail
- Key data fields to aid searchability

If the information is obtained from other DOE sources, the lessons learned preparer(s) at other locations should provide the lesson learned as reported by the original source and provide additional information about local applicability and use. If information is obtained from a non-DOE source, the local preparer(s) may reproduce the information in its entirety or abstract the key information. Typically the local preparer will need to generate the data fields based on the best judgment of the preparer.

5.2.2 Technical Review

Appropriate Subject Matter Experts review and validate the information contained within the lessons learned document for accuracy and applicability to the site. Line Managers and Lessons Learned Manager(s)/Coordinator(s) may also be involved in coordinating and conducting reviews (depending upon the content of the lesson learned).

5.2.3 Security Classification and Control Review

Lessons learned prepared by DOE and contractor personnel should be releasable to the public, containing no classified, Unclassified Controlled Nuclear Information (UCNI), or proprietary information. In cases where organizations perform classified and/or UCNI work, lessons learned documents shall be reviewed for compliance with local organizational security requirements prior to approval and dissemination. For organizations not involved with classified or UCNI information a security review is not required. Organizations shall follow contractual agreements between DOE and the contracting organization regarding reviews for proprietary information.

5.3 Dissemination of Lessons Learned Information

Lessons learned should be disseminated with an assigned priority descriptor, which denotes the risk, immediacy, and urgency of the lessons learned content. Priority descriptors that define standardized categories of lessons learned (Red/Urgent, Yellow/Caution, Blue/Information and Green/Good Work Practice) are provided in Appendix A. The lessons learned priority descriptor is established by lessons learned originator. Recipients of the lesson learned may revise the priority descriptor for internal use based on the urgency and relevancy of the lesson to their organization.

Red/Urgent lessons require timely dissemination, review, documentation, and tracking of actions performed. As appropriate, organizations should document and track required response actions to ensure completion and closure in accordance with the organization's Corrective Action and Change Control processes.

5.3.1 Identify Document Recipients

Identify recipients who could potentially benefit from knowledge contained within the lessons learned document and ensure the appropriate dissemination. The method(s) of dissemination should be identified by individual organizational processes and practices (i.e., management, subject matter experts, or the Lessons Learned Coordinator).

5.3.2 Disseminate to Internal Organizations and Employees

Internal dissemination of lessons learned information should include organizations and employees who could benefit from such information. Dissemination may be conducted by electronic media, hard copy, or other methods.

Personnel responsible for training in each organization should receive lessons learned information and should incorporate applicable lessons learned information into the training programs. It is also important to provide lessons learned to individuals who plan and perform work at all relevant organizational levels. Timely lessons learned information is of particular importance to first line workers and individuals who support them in planning work where hazardous conditions could be encountered.

5.3.3 Disseminate to the DOE Complex

The DOE Lessons Learned Information System provides for electronic dissemination of lessons learned information throughout the DOE complex. Section 5.2 outlines the required elements for input into the information system and Appendix B contains the detailed template.

When a lesson from the DOE Corporate Lessons Learned System is distributed for use at a local level, the source of the information should be attributed to the DOE Corporate System. The lesson should not be distributed as a new local lesson learned.

Only material approved for release into the public domain shall be electronically released to the DOE complex. Material that has been determined to contain classified information or vulnerability information will not be placed on the Lessons Learned Information System or otherwise released to the public.

In addition to hard copy and electronic dissemination, organizations should consider using routine organizational methods such as safety meetings, tailgate briefings, or plan of the day, and special methods such as seminars and workshops, when appropriate, to share information.

6 UTILIZATION OF LESSONS LEARNED INFORMATION

6.1 Use of Lessons Learned Information

Lessons learned should be used to optimize management decision making; to interact with other management tools (e.g., management information systems, reviews and investigations, root-cause analyses, and prioritization); and to improve worker performance at all levels. Applicable lessons learned should be incorporated into DOE and contractor activities (e.g., strategic planning, program and project planning, and work processes). Changes identified as a result of lessons learned should be made in accordance with local change control processes and reviewed as part of the annual ISMS review.

Lessons learned information should be collected and stored in a manner that allows users to identify applicable lessons learned through information searches. Each lessons learned program should include a keyword and functional category search capability to facilitate information retrieval. Applicable lessons learned information should be identified and reviewed early in the planning phase of all projects and processes.

6.2 Ensure Program Effectiveness

6.2.1 Trend Lessons Learned Information

Analyze lessons learned information to evaluate improvements or to identify favorable or adverse programmatic trends. The results of this analysis should be used to focus improvement efforts and to reduce adverse trends.

6.2.2 Measure Program Effectiveness

Lessons learned programs should include methods to periodically measure program effectiveness. Results should be evaluated and means to improve the lessons learned program should be identified and implemented. Use of lessons learned information should be periodically assessed to determine if information is being disseminated and if past lessons learned are being identified and incorporated into project planning and ongoing processes.

6.3 Archive Lessons Learned Information

Stored lessons learned information should be periodically reviewed for usefulness. Information that is no longer pertinent to organizational activities should be eliminated or archived in accordance with organizational policies and procedures. However, organizations should have a deliberative process for making such determinations. That process should address the future value of the information at the local and DOE-wide levels. It is important to consider that information that no longer seems to have current operational value may have value for facility disposition or creation of historical records. Lessons learned information that may be considered for archiving or deletion includes:

- Experiences related to components or systems no longer used at a site or facility.
- Information that relates to a previous site or facility mission (e.g., operations rather than environmental cleanup).
- Experiences related to procedures or standards that are no longer used.
- Information that has been incorporated into DOE doctrine or has otherwise become a requirement through an existing order, code, standard, or regulation.

6.4 Feed Back

One of the best motivators for creating and using lessons learned is a success story where information in a lesson was instrumental in saving time or money, preventing a problem, or improving a design or process. Feed back from users can also help improve the quality, usability, or timeliness of the lessons learned process. Users should provide feed back to lesson originators to help improve the process, and share successes with both originators and the DOE Lessons Learned Lead Office (EH).

APPENDIX A

LESSONS LEARNED TEMPLATE

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DOE Lessons Learned Template

Title:_____

Date:_____

Identifier:_____

Lessons Learned Statement:_____

Discussion of Activities:_____

Analysis (May be incorporated into the Discussion):_____

Recommended Actions:_____

Estimated Savings/Cost Avoidance (if applicable):_____

Priority Descriptor:_____

Work / Function(s):_____

User-Defined Category:_____

Hazard(s):_____

ISM Core Function(s):_____

Originator:_____

Contact:_____

Authorized Derivative Classifier:_____

Reviewing Official:_____

Keywords:_____

References:_____

Lessons Learned Template - Field Descriptions

Title:	Title of the lesson learned.
Date:	Date the lesson learned was issued.
Identifier:	Unique identification number to assist in referencing a lesson learned that includes calendar year, operations office identifier, organization or field/area office/contractor identifier, and a sequential number (e.g., 1995-CH-BNL-0019; 1995-ID-LITCO-0118).
Lessons Learned Statement:	Statement that summarizes the lesson(s) that was learned from the activity.
Discussion of Activities:	Brief description of the facts which resulted in the initiation of the lesson learned.
Analysis:	Results of any analysis that was performed, if available.
Recommended Actions :	A brief description of management-approved actions which were taken, or will be taken, in association with the lesson learned.
Estimated Savings/Cost Avoidance:	If the lesson learned is implemented, an estimate of the savings from the application of a good work practice or the costs avoided from the prevention of a similar event.
Priority Descriptor:	A descriptive code that assigns a level of significance to the lesson. Options include Red/Urgent, Yellow/Caution, Blue/Information, Green/Good Work Practice.
Work/Function(s):	The work or function(s) to which the lesson applies. Enter all that apply. See listing.
User-Defined Category:	Space for organizations to include categories for internal use.
Hazard(s):	Hazards this lesson applies to or that were present in the original situation. See listing.
ISM Core Function(s):	ISM Core Functions this lesson applies. See listing.
Originator:	Name of the originating organization or contractor.

Contact:	Name and phone number of individual to contact for additional information.
Authorized Derivative Classifier:	Name of individual who determined that the lesson learned does not contain classified information. (Not required for lessons submitted by unclassified facilities.)
Name of Reviewing Official:	Name of Reviewing Official who determined that the lesson learned did not contain Unclassified Controlled Nuclear Information (UCNI). (Not required for facilities which have no UCNI.)
Keywords:	Word(s) used to convey related concepts or topics stated in the lesson.
References:	References such as DOE Orders, Programs (e.g., Standards/ Requirements Identification Document program), Standards, Occurrence Report numbers, etc.

Lessons Learned Categories

These bins are intended to help lesson creators assign categories to their products so lesson users can find information focused on their needs. The three sets of bins (Work/Function, Hazard, and ISM Core Function) provide several avenues for zeroing in on applicable lessons. Some of these bins are narrow (Hoisting and Rigging, Mechanical Injury) and some are broader conceptual areas (Authorization Basis, Energy Conservation, Environmental Release). This division is meant to help work planners looking for specific items, to help foremen looking for training anecdotes, and to help managers looking for big-picture lessons. The Work/Function and Hazard bins were developed by the Lessons Learned Process Improvement Team and extended by SELLS after several years of experience, and are open for further improvement and extension.

Lessons Learned Hazards

Confined Space
Electrical/NEC
Elevated Work / Falling Objects
Environmental Release
Ergonomics / Lifting
Excavation and Trenching
Fire / Smoke / NFPA
Firearms and Explosives
Lasers
Natural Phenomena
Other
Personal Injury / Exposure
 Airborne Materials
 Ambient Temperature Extremes
 Asbestos
 Beryllium
 Hazardous Material (General)
 Infectious Agents
 Mechanical Injury (Striking/Crushing)
 Noise
 Other
 Radiation / Contamination
 Slips and Tripping
 Toxic Material
Plants/Animals/Insects
Power Tools
Pressurized Systems
Radiological Release
Traffic
Weather Related

Analyze Hazards

Develop/Implement Controls
Perform Work
Feedback and Improvement

ISM Core Functions

Define Work

Work/Function

Alternate Fuels	Laboratory Experimentation
Authorization Basis	Maintenance
Business and Support Services	Electrical
Conduct of Operations	Facility
General	HVAC
Configuration Management	Instrumentation and Control
Lockout/Tagout	Mechanical
Procedure Development	Power Distribution and Utilities
Procedure Adherence	Roads and Grounds
Work Planning	Structural
Work Control	Safety Systems
Construction	Heavy Equipment
Criticality	Vehicle
Decontamination and Decommissioning	Machining and Fabrication
Demolition	Management
Driving	Material
Emergency Management	Handling
Energy Conservation	Storage
Engineering and Design	Occupational Safety and Health
Nuclear	General
Non-Nuclear	Personnel Protective Equipment
Environmental Protection	Operations
General	Facility
Environmental Sampling	Heavy Equipment
Releases	Other
RCRA Management	Packaging and Transportation
Underground Storage Tanks	Quality
NEPA Management	Radiation Protection
TSCA Management	Research and Development
Environmental Restoration	Safeguards and Security
Excavation	Safety Design
Fire Protection	Training and Qualifications
Hoisting and Rigging	Waste Management
Human Factors	Waste Remediation
Human Resources	Welding, Burning, Hot work
Information Technology	Well Drilling
Inspection and Testing	

Priority Descriptors

These Priority Descriptors were developed by the Lessons Learned Process Improvement Team. The examples are intended to help lesson creators assign priority codes to their lessons. These are some, but not all possible categories of lessons. Writers should use their judgement and extend these examples to situations as they arise.

Red/Urgent: A lesson from an actual event with adverse consequences

Yellow/Caution: A lesson from a potential event or condition

Blue/Information: A fact or discovery of benefit to others

Green/Good Work Practice: A practice promoting or resulting in a positive outcome; A Success story

Table A-1 Priority Descriptors				
GENERAL SUBJECT AREA	RED/ URGENT	YELLOW/ CAUTION	BLUE/ INFORMATION	GREEN/ GOOD WORK PRACTICE
Public Safety	Event related to site operation that has affected public safety and health or threatened public safety and health	Potential event related to site operation which may have affected public safety and health	Information to protect public safety and health including, but not limited to, cumulative findings from trending	Action, activity, or practice which improves public safety and health
Worker Safety	Fatality, near fatality, serious injury, or permanent/ total disability	Conditions which resulted in: - injury - temporary/ partial disability or - significant loss of work time or productivity	Information to protect worker health and safety including, but not limited to, cumulative findings from trending	Action, activity, or practice which promotes: - safe work practices or - healthful work practices
Environmental Protection	Unconfined hazardous release beyond the site boundary. Significant unconfined on-site hazardous release requiring cleanup	Condition which may have resulted in an unconfined release to the environment or a moderate on-site hazardous release	Information to protect the environment including: - measurable, but minor, hazardous releases or - cumulative findings from trending	Action, activity, or practice which: - prevents on or off-site environmental degradation or - will limit or reduce on or off-site releases to the environment

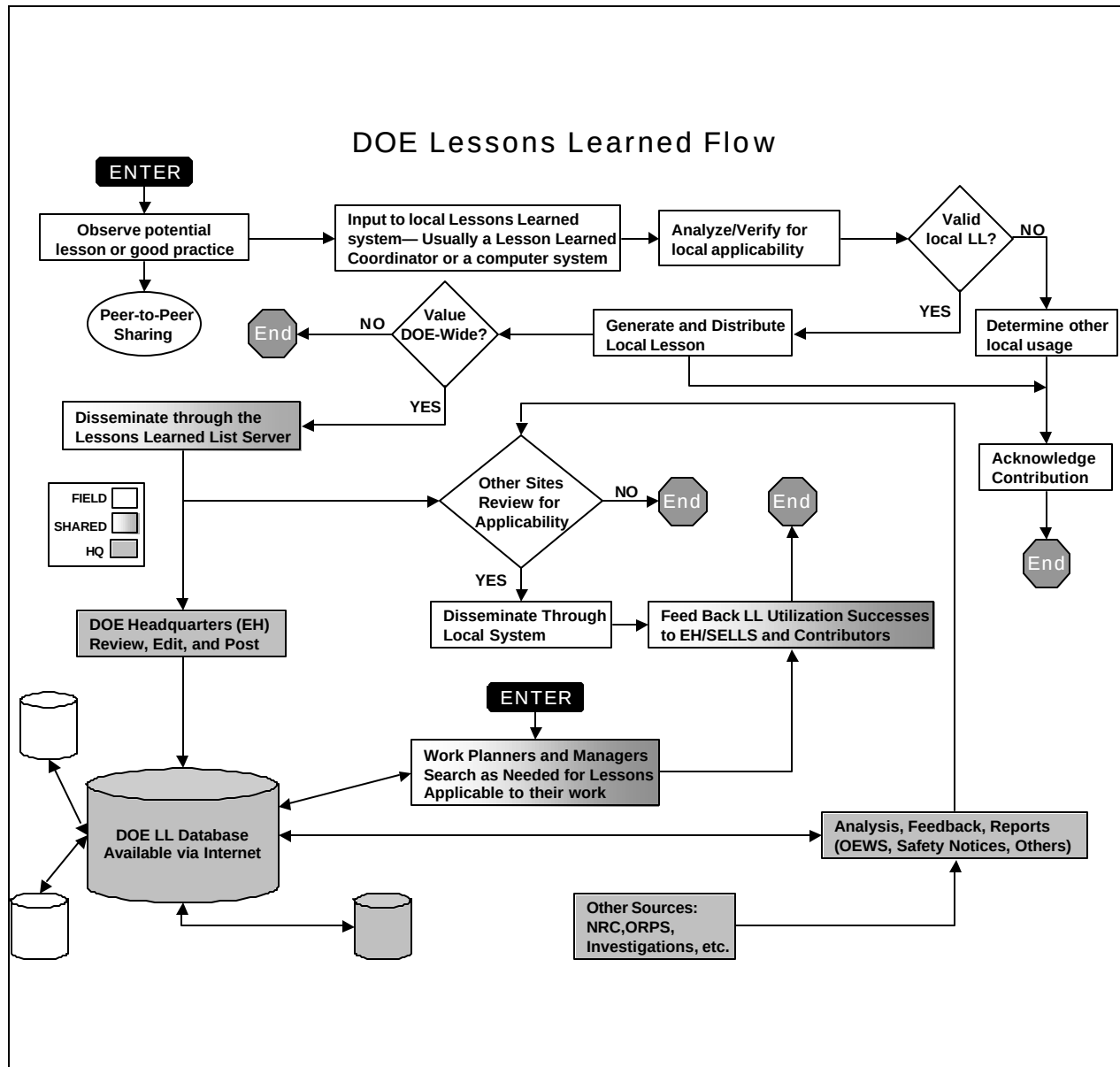
Table A-1 Priority Descriptors				
GENERAL SUBJECT AREA	RED/ URGENT	YELLOW/ CAUTION	BLUE/ INFORMATION	GREEN/ GOOD WORK PRACTICE
Compliance	Violations of Federal or State law with significant penalties	Violations of Federal or State law with minor penalties. Significant non-compliance with the technical requirements of DOE Orders or regulations	Information which may improve compliance performance	Action, activity, or practice which improves the compliance performance of the site
Management/ Administration	Significant management violations including fraud, abuse, and discrimination	Identified actions reflecting failure to operate within DOE management imperatives	Information which may improve DOE management performance	Action, activity, or practice which improves DOE management performance
Investment and Investment Protection	Significant loss or damage of major equipment, property or facility	Potential for major equipment, property or facility to become: - lost or damaged - degraded - unreliable	Information which may improve: - value - efficiency - cost	Action, activity, or practice which improves: - specifications - reliability - efficiency - credibility
Public Interest	On-site event that is perceived by the public to have: - an effect on public safety and health or - threatened public safety and health.	A potential site operations event which may have affected the public, excluding safety and health, had the event occurred	Information beneficial to public relations	Action, activity, or practice that promotes benefits to the public

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APPENDIX B

DOE CORPORATE LESSONS LEARNED SYSTEM DIAGRAM

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APPENDIX C
LESSONS LEARNED PROGRAM
ASSESSMENT GUIDE

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LESSONS LEARNED PROGRAM ASSESSMENT GUIDE

PROGRAM DEFINITION

Criteria	Stage 1	Stage 2	Stage 3
The lessons learned program is endorsed by senior management through written program policy.	Formal program policy documents are under development or in draft form.	Interviews determined that knowledge of program ranges from highly visible to nonexistent.	Program requirements are well known at the majority of facilities. Postings give clear direction for LL submittal.
Review Comments			
The lessons learned program purpose and objectives are defined.	LL purpose and objectives exist in some program documents.	LL objectives and purpose are clearly annotated in the majority of the program documents.	The majority of the applicable program documents contain LL objectives and purpose. Interviewees demonstrated an effective understanding of program purpose and objectives.
Review Comments			
Lessons learned program is clearly linked to Integrated Safety Management Program documents.	LL program is hinted or implied within the feedback functional area of ISM documents.	LL link to ISM is clearly annotated in the majority of the program documents.	Interviewees demonstrated an effective understanding for utilizing lessons learned to promote continuous improvements.
Review Comments			
The lessons learned program objectives are supportive of organizational mission, policies, and strategies.	Several LL program objectives are ambiguous or exist in only a few documents.	LL program objectives clearly reinforce organizational mission, policies, and strategies.	Interviewees demonstrated that an effective LL program creates a continuous improvement culture.
Review Comments			
Program meets the intent of the DOE Lessons Learned Standard, 7501-95, May 1995, Change Notice #1, Sept. 1997.	Lessons learned standard elements are not clearly employed or are under development.	Majority of the LL program documents demonstrates meeting the intent of the LL standard.	All elements of the LL standard are clearly articulated in the appropriate LL program documents.
Review Comments			

Stage 1: "developing; under development; seeking value-added enhancements"

Stage 2: "implemented and evolving; further development still desirable"

Stage 3: "well established; program is effectively implemented"

LESSONS LEARNED PROGRAM ASSESSMENT GUIDE

PROGRAM MANAGEMENT

Criteria	Stage 1	Stage 2	Stage 3
The site lessons learned program management & implementation tasks are defined.	Applicable Site Program documents are in draft and/or less than half of the facilities has approved program documents.	Applicable Site program documents are approved and the majority of the facilities have approved program documents.	Site & the majority of the facilities have approved program documents that clearly define task implementation.
Review Comments			
Personnel (by position or name) are assigned responsibilities for program tasks (screening, characterizing, summarizing, & dissemination).	Site-wide coordinator not assigned. Less than half of the facilities have the responsibility assigned.	Document reviews indicate Site-wide responsibility is assigned. More than half of the facilities have responsibility assigned.	An on-going dialog is maintained between the site & facilities by the assigned personnel. Interviews reflect a clear understanding of responsibilities.
Review Comments			
Important program interface requirements are defined. This includes defining interface/s with sub-tier contractors.	Site requirements are either drafted or in draft form. Less than half of the facilities have draft or approved interface requirements.	Site-wide interface requirements are defined. More than half of the facilities have documented interface requirements defined.	Site & facility interface requirements are defined. Interviews and doc. indicate an active program is working and that continuous improvement is being made to enhance interfacing of participants.
Review Comments			
Essential program implementation and continuous improvement milestones are defined and tracked.	Development of site-wide milestones is in progress. Less than half of the facilities have established milestones.	Milestones are established for site. More than half of the facilities have established milestones.	Site & the majority of the facility milestones are established. Improvement actions are routinely generated based on the achievement of the milestones.
Review Comments			
Resources are defined and provided by management to achieve program objectives.	Less than half of the site facilities have defined their requirements or provided the necessary resources.	Site & facilities have defined resources, but the majority of the positions have not been filled.	Resources are identified, filled, and future needs have been proposed.
Review Comments			

Stage 1: "developing; under development; seeking value-added enhancements"

Stage 2: "implemented and evolving; further development still desirable"

Stage 3: "well established; program is effectively implemented"

LESSONS LEARNED PROGRAM ASSESSMENT GUIDE

PROGRAM PROCESSES

Criteria	Stage 1	Stage 2	Stage 3
Sources of lessons learned information are defined, available, and frequently reviewed for relevance.	Sources of lessons learned are well known at some facilities but not the majority of the facilities. Reviews for relevance is not routine.	The majority of the site has identified information sources. Most of the facilities have staffed positions that usually perform routine reviews.	The site & the majority of the facilities have identified a vast inventory of information sources. Clear guidance dictates a graded approach to lessons learned reviews.
Review Comments			
Incoming information is properly analyzed, disseminated, implemented, and tracked through formal management systems. (LL are incorporated in work planning.)	Information, when analyzed, is effectively dispositioned. This function is a collateral task & not routinely accomplished.	Generally, information is properly handled & utilized. Occasional lapses occur in tracking action items.	Interviews & document reviews indicated an effective, formal system exists.
Review Comments			
Outgoing information is well characterized and properly summarized.	Less than half of outgoing information is thoroughly researched. Summaries reflect unsubstantiated facts.	The majority of the information is adequately characterized & dispositioned.	Review of outgoing information indicated proper characterization & summarization.
Review Comments			
Information that has relevance to other DOE or industry entities is properly cleared for distribution and made available to appropriate personnel.	Generally, information is cleared for distribution. Evidence indicates that relevant information was not always shared with appropriate personnel.	Rarely does an item receive an inadequate clearance. Appropriate personnel usually receive relevant information.	Document reviews indicated that the majority of the information was properly cleared for distribution & a formal distribution list was being utilized.
Review Comments			
Personnel are aware of their role in identifying lessons learned as they relate to their duties. (i.e., develop LL through feedback from job performance or employing experiences learned from others, and self assessment.	Interviews indicated that a few individuals had received clear formal direction.	The majority of individuals expressed a clear understanding of their duties related to lessons learned.	The majority of the interviewed personnel expressed a keen sense of their lessons learned roles and duties. (i.e., LL developed through feedback from job performance are clearly defined, documented, and effectively implemented.)
Review Comments			

Stage 1: "developing; under development; seeking value-added enhancements"

Stage 2: "implemented and evolving; further development still desirable"

Stage 3: "well established; program is effectively implemented"

LESSONS LEARNED PROGRAM ASSESSMENT GUIDE

PROGRAM PERFORMANCE MEASUREMENT

Criteria	Stage 1	Stage 2	Stage 3
An assessment plan for the lessons learned program is developed.	Site plan is in draft. Some facilities have approved plans, others have draft plans.	Most of the facilities and site have approved plans.	The majority of the facilities & site have approved plans.
Review Comments			
Performance measures are developed and well defined and establish a sound basis for program improvements.	Site is developing formal performance measures. Some facilities are using ad-hoc measures.	The majority of the site & facilities are using performance measures, but improvements are being generated in a casual, haphazard manner.	Formal measures are being utilized to promote continuous changes. Document reviews and interviews have verified responsiveness to corrective actions.
Review Comments			
Line management places importance on the lessons learned program and ensures adequate implementation.	"Spotty" management involvement depends on personal work ethics.	Most of the managers demonstrate involvement by their frequent attendance at critiques, pre-job briefings, post-job reviews, etc.	Interviews, observations & accompanied tours with managers has shown aggressive participation in the lessons learned program.
Review Comments			

Stage 1: "developing; under development; seeking value-added enhancements"

Stage 2: "implemented and evolving; further development still desirable"

Stage 3: "well established; program is effectively implemented"

LESSONS LEARNED PROGRAM ASSESSMENT GUIDE

TRAINING

Criteria	Stage 1	Stage 2	Stage 3
Training for personnel with responsibilities in the Site Lessons Learned Program is identified and available.	Formal training is being developed. Ad-hoc training material is available.	Formal training for the site & the majority of the facilities has been approved.	Observations indicate an active on-going Lessons Learned training program.
Review Comments			
Personnel with assigned responsibilities for program management & implementation are adequately trained and knowledgeable.	Managers provide guidance on program implementation based on their own experiences.	Interviews & document reviews indicate that the majority of LL personnel demonstrated adequate knowledge.	Interviews determined that LL personnel are knowledgeable and responsive to what is going on in the DOE complex and on site.
Review Comments			
Lessons learned are appropriately reviewed for training implications, and where warranted, training programs are modified.	Several lessons learned items did not get sent to training, some did not get adequately acted upon.	A high percentage of the LL receive appropriate action & subsequently modify training curriculum.	Record reviews & interviews revealed training programs are being modified in a timely manner.
Review Comments			
Continuing training programs utilize current lessons learned as examples where applicable.	Less than half of the training materials use current lessons learned.	More than half of the training materials use current lessons learned.	The majority of the continuing training materials reviewed exhibited current LL examples.
Review Comments			
Training, as a result of lessons learned, is presented in an effective and timely manner.	Training is presented in an effective manner, but not always timely.	Generally, the majority of the LL are presented in a timely and effective manner.	Record reviews determined that training based on LL is timely and effective.
Review Comments			
Personnel who have received lessons learned information are knowledgeable of the information and have appropriately applied the lessons learned in the performance of their duties.	Interviews indicate that less than half of the craft personnel remember any specific lessons learned changes implemented.	Interviews indicate that more than half of the craft personnel remember any specific lessons learned changes implemented.	Interviewees praised the timeliness of training materials. They also provided examples of how they applied the information.
Review Comments			

Stage 1: "developing; under development; seeking value-added enhancements"

Stage 2: "implemented and evolving; further development still desirable"

Stage 3: "well established; program is effectively implemented"

LESSONS LEARNED PROGRAM ASSESSMENT GUIDE

PROGRAM CORRECTIVE ACTION TRACKING

Criteria	Stage 1	Stage 2	Stage 3
Where corrective actions are identified, formal assignment of responsibilities and completion dates are established.	Assessment/accident findings routinely are entered in the tracking system. But less than half of LL requiring actions are entered. Some action items are missing responsibility & completion dates.	Record reviews & interviews indicated that the majority of the lessons learned that required corrective actions have responsibility assigned with reasonable completion dates.	Record reviews & interviews indicated that the majority, i.e., greater than 3/4 of the corrective actions have responsibility assigned with reasonable completion dates.
Review Comments			
Management periodically reviews status of corrective action management and ensures program actions are adequate.	Interviews & record reviews indicate that some managers perform few reviews, some never, or some may perform review and follow up on infrequent basis, i.e., less than once/six months.	The majority of the managers perform routine scheduled reviews. They accept verbal confirmation of completion; occasionally validate adequacy of corrective actions.	Record reviews & interviews indicated that the majority of the managers perform periodic reviews. They usually select a sampling to validate adequacy of corrective actions.
Review Comments			

Stage 1: "developing; under development; seeking value-added enhancements"

Stage 2: "implemented and evolving; further development still desirable"

Stage 3: "well established; program is effectively implemented"

CONCLUDING MATERIAL

Review Activity:

DOE

DP

EH

EM

FE

MA

NE

RW

NN

EE

GC

SC

Field Offices

AL

CH

ID

NV

OR

RL

OAK

SR

OH

Preparing Activity:

DOE-EH-33

Project Number:

MGMT-0001

Area Offices

Amarillo Area Office

FETC Area Office

Rocky Flats Area Office