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Environmental Management System/Energy Management System Description

March 2023

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Environmental Management System/ Energy Management System Description Document History

Version No./ Revision No.	Revised	Description of Changes
6.0	March 2023	Revised to reflect revocation of Executive Order (EO) 13834, *Efficient Federal Operations*. Incorporated the requirements of EO 14008, *Tackling the Climate Crisis at Home and Abroad,* and EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*. Revised document and title to include the Energy Management System. Performed a comprehensive review as required by the LMS contractor's controlled document procedure.
5.1	March 2021	Made changes to incorporate a new LMS information management system. Made revisions to reflect partial revocation of Executive Order (EO) 13834, *Efficient Federal Operations.* Incorporated the requirements of the new EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*. Changed citations from SharePoint webpages to LM Portal webpages. Added "Forms Referenced in this Manual" page.
5.0	May 2020	Incorporated requirements of the following Interim Process (IP) Directives: IP-19-05, "*Training Program Description* retired"; IP-19-10-01, "Executive Order (EO) 13693, *Planning for Federal Sustainability in the Next Decade,* was rescinded by EO 13834, *Efficient Federal Operations*"; IP-20-02, "*Quality Assurance Program Description* retired"; and IP-20-08, "Operating Experience (OpEx) Procedure (Lessons Learned) reference and terminology changes." Performed a comprehensive review as required by contractor controlled-document procedure.
4.0	May 2018	Revisions include changes to address Executive Order (EO) 13693, "International Organization for Standardization Standard 14001:2015," IP Directive IP-17-07, "Terminology change for Legacy Management Support (LMS) contractor management," and DOE Orders; remove EOs 13423, 13514, and 13653; address corrective actions, and additional changes based on results of complete comprehensive review. Performed a comprehensive review as required by contractor-controlled document procedure.
3.1	March 2015	Revisions made to update LM Environmental Policy and LMS Program Manager.
3.0	August 2014	Revisions made to shorten and update manual to reflect current practices and remove detailed descriptions of processes covered in other manuals. More detail provided on environmental compliance activities. Performed a comprehensive review as required by contractor-controlled document procedure.
2.1	August 2012	Changes made to revise frequency of EMS awareness training and remove FedCenter reference to lessons learned.
2.0	January 2012	Updated to include new DOE Orders 436.1 and 430.1B, remove DOE Orders 450.1A and 430.2B and DOE P 430.1.
1.0	May 2009	Revision resulting from external and internal audit findings.
0.0	July 2008	Initial issue under the Legacy Management Support contract.

Environmental Management System/
Energy Management System Description
Document History (continued)

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Abbreviations

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOE	U.S. Department of Energy
DRUM	Defense-Related Uranium Mines
EC	Environmental Compliance
ECHO	Education, Communications, History and Outreach
ECM	efficiency and conservation measure
EHSS	Office of Environment, Health, Safety, and Security
EMS	Environmental Management System
EnMS	Energy Management System
EO	Executive Order
EPM	Environmental Program Management
ISMS	Integrated Safety Management System
LM	Office of Legacy Management
LMS	Legacy Management Support
NEPA	National Environmental Policy Act
QA	Quality Assurance
QMS	Quality Management System
SEU	significant energy use
S&H	Safety and Health
ULP	Uranium Leasing Program

Forms Referenced in This Manual

LMS forms are accessible on the **Document Management** homepage > **LMS Forms**.

Plan of the Day/Plan of the Week	LMS 2130
Project or Activity Evaluation (PAE)	LMS 1005

LM forms and templates are accessible at
LM Portal > **Services** > **Controlled Documents > LM-Federal Controlled Documents**.

Environmental Review Form	LM-Form-4-20.3-4.0

1.0 Introduction

This *Environmental Management System/Energy Management System Description,* referred to herein as the EMS/EnMS Description, describes the Environmental Management System (EMS) and the Energy Management System (EnMS) that are jointly administered by the U.S. Department of Energy (DOE) Office of Legacy Management (LM) and Legacy Management Support (LMS) contractor.


Note

In this document, a reference to "LM" represents both LM and the LMS contractor, and the abbreviation "EMS" refers to the joint LM/LMS EMS/EnMS, unless specifically noted otherwise.

Implementation of an LM/LMS EMS is required and is integral to LM's mission to achieve excellence in environmental and energy stewardship. It instills values stated in environmental, safety, and health policies throughout LM's activities in pursuing its mission.

The LM EMS is a systematic process for reducing environmental impacts and energy use that result from LM work activities and services, and for helping achieve the following intended outcomes:

- Fulfillment of compliance obligations
- Enhancement of environmental and energy performance
- Achievement of environmental and energy objectives

The EMS is part of an overall management system applicable to all LM employees. The overall management system includes organizational structure and planning, responsibilities, support resources, and operations by which LM and the LMS contractor accomplish the LM mission.

Through the EMS, LM identifies opportunities for improving processes and performing activities while integrating environmental protection. LM also sets goals and establishes programs aimed at the following:

- Minimizing waste generated
- Preventing pollution
- Reducing the quantity and toxicity of discharges to the environment
- Identifying opportunities to improve energy efficiency in daily activities

1.1 Purpose of the EMS/EnMS Description

The purpose of this EMS/EnMS Description is to provide a summary of systems and processes used to implement the EMS. The EMS/EnMS Description defines the elements of LM's EMS that support LM's work.

1.2 Background

LM established and implemented an EMS in October 2005 in accordance with *Environmental Management Systems—Requirements with Guidance for Use* (ISO 14001:2004) and in compliance with a variety of agency-specific and federal directives, regulations, and policy statements.

The EMS has since been aligned to the 2015 revision of *Environmental Management Systems—Requirements with Guidance for Use* (ISO 14001:2015), as required by DOE Memorandum AU21-16-N1-0050, *Departmental Use of Environmental Management Systems* (DOE 2016), and to the 2016 revision of *Environmental Management Systems—General Guidelines on Implementation* (ISO 14004:2016).

LM established and implemented the EnMS in October 2022 in accordance with *Energy Management Systems—Requirements with Guidance for Use* (ISO 50001:2018) and in compliance with a variety of agency-specific and federal directives, regulations, and policy statements.

1.3 Integrated Safety Management System (ISMS) and EMS Commitment

In accordance with the *Workforce Environment, Safety, and Health Posture* (LM and LMS 2021), LM and the LMS contractor are fully committed to the safety of their workers and the public, as well as protection of the environment. The agreement document states that the work will be implemented using management systems such as ISMS and EMS. Integration of EMS with ISMS provides a unified strategy to manage resources, control and attenuate risks, and establish and achieve environment, safety, and health goals. The following are fundamental to attainment of the goals set forth in both the EMS and ISMS:

- Personal commitment and accountability
- Open communications
- Continual improvement
- Employee involvement
- Management responsibilities for environment, safety, and health protection

All personnel are empowered and have a responsibility to identify and report to management any potential hazards, unsafe conditions, risks to the environment, and compliance infractions and, if necessary, to suspend work activities to prevent injuries, accidents, or harm to the environment. Personnel analyze and review work activities for potential safety and health risks and environmental impacts before their performance. The LMS Integrated Work Control Process diagram in the *Integrated Work Control Process Manual* (LMS/POL/S11763) provides a more detailed description of the work planning and hazard identification process.

LM and its contractors are committed to systematically integrating environmental protection, safety, and health into management and work practices at all levels. This allows the mission to be accomplished in a manner that protects workers, the public, and the environment. Under ISMS,

the term "safety" encompasses not just human health but also the environment, as described in the following policies or requirements:

- DOE Order 450.2 Chg 1 (MinChg), *Integrated Safety Management*
- DOE Policy 450.4A Chg 1, *Integrated Safety Management Policy*
- *Environmental and Energy Policy* (LM-Procedure-1-24-1.0)
- *LM Safety and Health Policy* (LM Policy 450.4B)
- *RSI Team Safety, Environmental, and Energy Policy* (LMS/POL/S14226)
- *Integrated Safety Management System Description for LMS in Support of DOE Legacy Management Sites* (LMS/POL/S14463)
- *LMS Safety and Health Program* (LMS/POL/S20043)

2.0 LM's EMS Framework

ISO 14001:2015 provides a framework with interacting elements for integrating environment, safety, and health protection into management and work practices. ISO 50001:2018 provides the same type of framework for integrating energy management elements into management and work practices. The frameworks are supported and improved by using a four-part continual cycle of Plan-Do-Check-Act. The Plan-Do-Check-Act model can be briefly described as follows:

- **Plan:** Establish environmental objectives and processes necessary to deliver results in accordance with the organizations environmental policy
- **Do:** Implement the processes as planned
- **Check:** Monitor and measure processes against the environmental policy, including its commitments, environmental objectives, and operating criteria, and report the results
- **Act:** Take actions to continually improve

In defining its EMS, LM applies this framework (Figure 1) by considering its organizational context and scope and having leadership commit to producing the intended outcomes.

The interacting elements for integrating environment, safety, and health protection into management and work practices is shown in Figure 2.

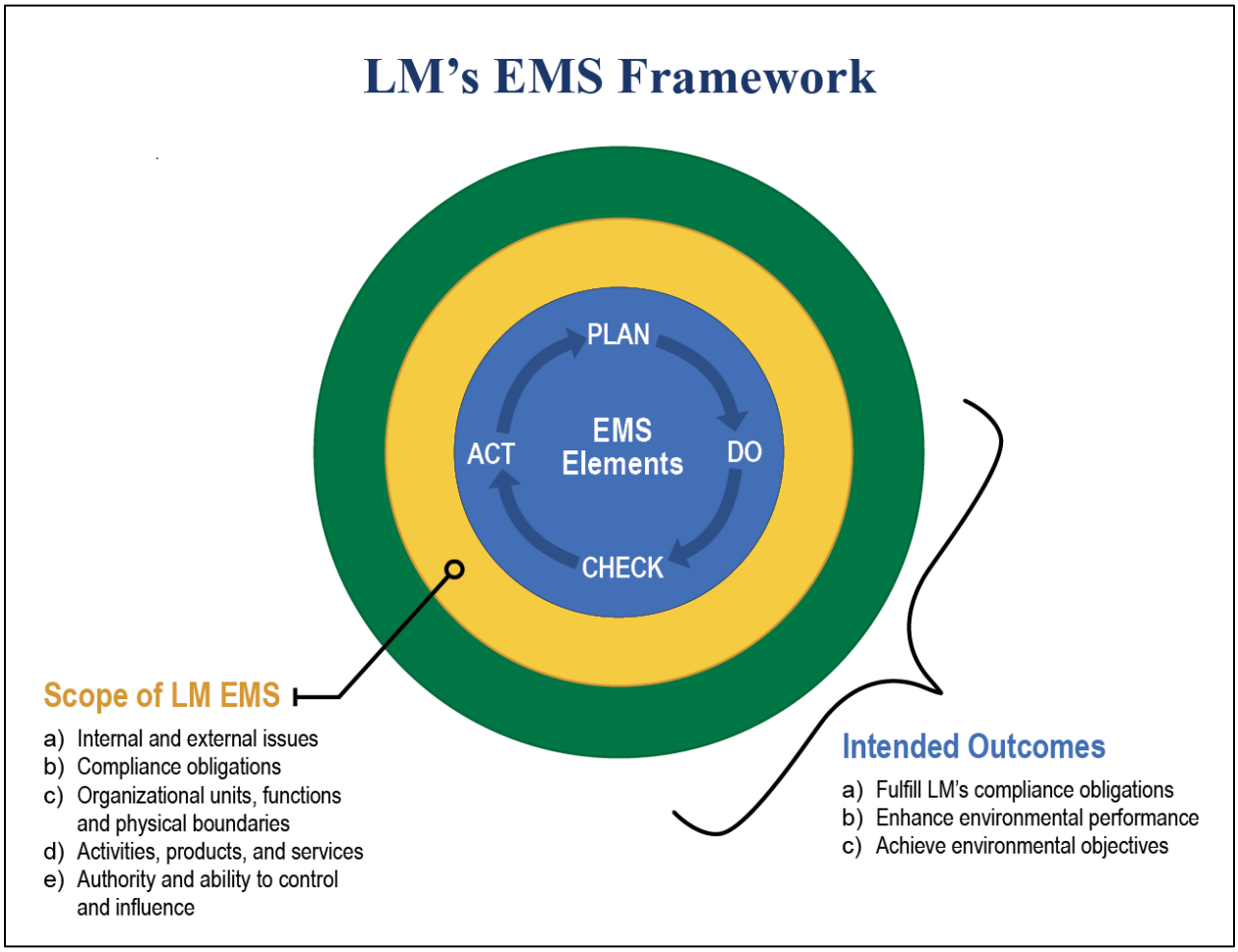


Figure 1. EMS Framework

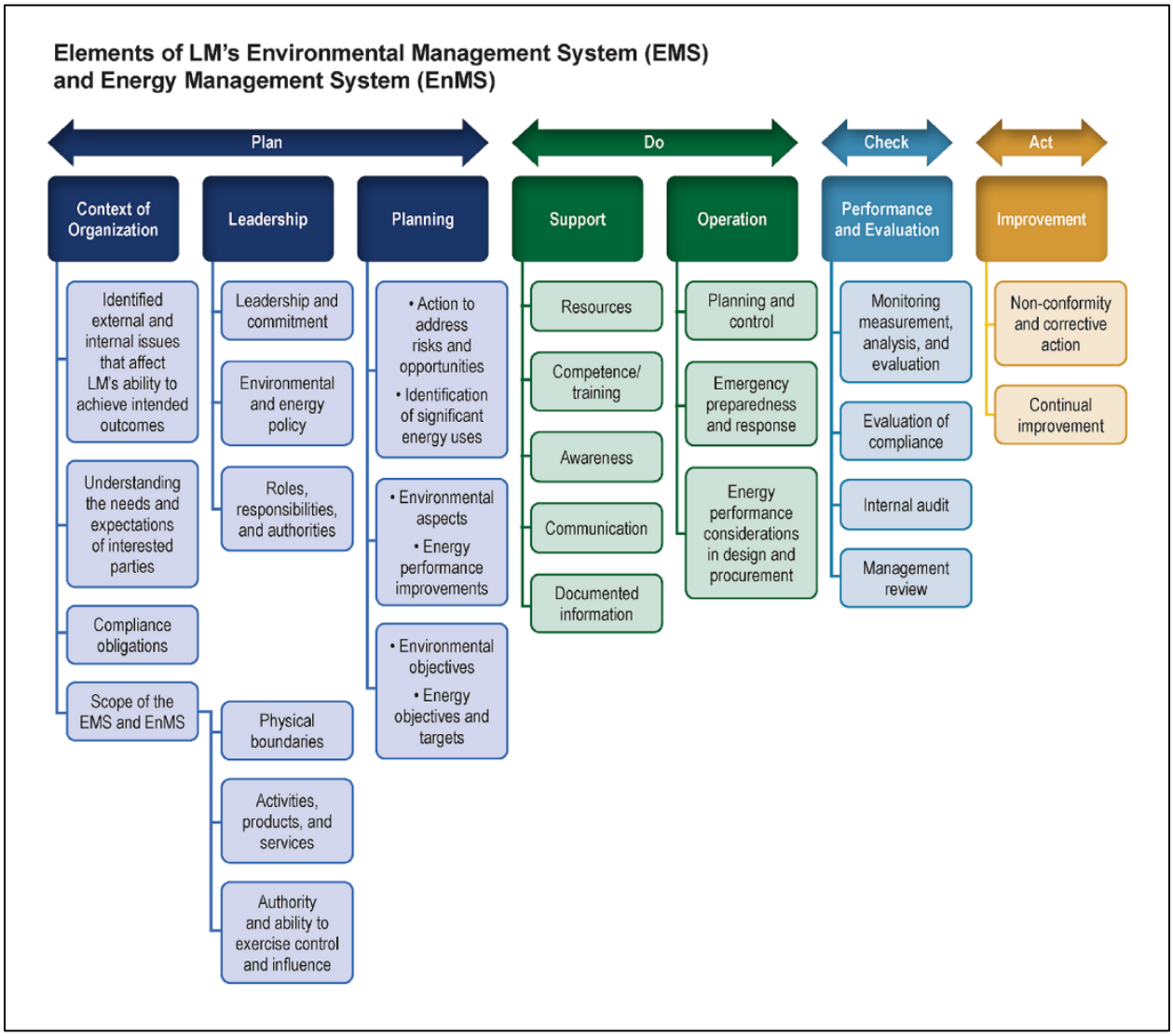


Figure 2. Elements of the EMS/EnMS

2.1 Context of the Organization (Applicability of the EMS)

Organizational context determines the level of detail and complexity of the EMS. The following information was considered in defining LM's organizational context and is periodically reviewed.

2.1.1 External and Internal Issues Including Environmental Conditions

LM determined external and internal issues that are relevant to its purpose and affect its ability to achieve intended outcomes of its EMS. Such concerns include environmental conditions affected by or capable of affecting LM and significant energy uses that could affect LM's goal of continuous energy performance improvement. Appendix A provides a list of identified issues that could affect LM's ability to achieve intended outcomes.

LM identified any known environmental condition or event that could occur at one of its many sites spread throughout the United States, including Puerto Rico, based on consideration of meteorological, geological, hydrological and ecological information, and historical disaster information.

An environmental condition that could affect the organization's activities, products, and services can include, for example, a drought that could prevent reestablishing vegetation in an area impacted by an erosion repair project.

An example of an environmental event is a tornado, which could affect how hazardous substances are stored to prevent pollution.

2.1.2 Needs and Expectations of Interested Parties

LM determined relevant interested parties, what interested parties' needs and expectations are, and which needs, and expectations should be considered part of its compliance obligations. Relevant needs and expectations will vary depending on the site or program and the regulatory drivers and the interested party.

The parties that have an interest and expectations in LM sites were identified as follows:

- DOE
- LM
- Other federal agencies (e.g., U.S. Bureau of Land Management, U.S. General Services Administration, U.S. Bureau of Indian Affairs)
- State, local, and tribal governments
- Private businesses and landowners
- Stakeholder and community interest groups

Needs and expectations of interested parties are captured as community concerns during the significant environmental aspects process.

2.1.3 Compliance Obligations

Legacy site histories vary, as do regulatory regimes under which sites are managed. Regulatory framework examples include: the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); DOE Defense Decontamination and Decommissioning (D&D) Program; Formerly Utilized Sites Remedial Action Program (FUSRAP); Resource Conservation and Recovery Act (RCRA); and Uranium Mill Tailings Radiation Control Act (UMTRCA).

Additionally, LM manages five radiometric calibration models; administers the Defense-Related Uranium Mines (DRUM) Program to verify and validate conditions at abandoned uranium mines on state, private, and federal land managed by the U.S. Bureau of Land Management and U.S. Forest Service. LM manages the Uranium Leasing Program (ULP) and administers 31 uranium mining lease tracts within the Uravan Mineral Belt in southwestern Colorado.

2.1.4 Scope of the EMS

2.1.4.1 Physical Boundaries

LM embodies excellence in environmental stewardship while performing its primary mission of managing DOE postclosure legacy sites. Overall, LM manages, maintains, or has interest in more than 89,000 acres and 102 sites in 30 states and Puerto Rico. LM also manages five radiometric calibration models, the DRUM Program, 25,000 acres in Colorado that encompass the ULP, records at the LM Business Center at Morgantown, West Virginia; and conducts office work at multiple locations.

For the EnMS, the physical boundaries primarily encompass DOE-owned facilities. However, DOE-leased facilities, working with the facility lessors, are to be considered for energy performance improvements.

2.1.4.2 Activities, Services, and Products

Under contract No. 89303020DLM000001, the LMS contractor conducts soil and groundwater assessments and remediation, radioactive and hazardous waste management, long-term surveillance and maintenance of DOE closure sites, environmental and ecological restoration, program management, environmental monitoring, regulatory compliance, and records and data management activities for LM. These activities have the potential to generate various kinds of waste; release effluents of regulated pollutants to the environment; and consume energy, water, fuels, and natural resources. LM provides oversight of LMS activities and conducts assessments.

In addition to the LMS contractor, employees from Chenega Infinity, LLC (the security contractor at the LM Field Support Center at Grand Junction, Colorado) and TI Verbatim Consulting Inc. fall under this EMS if they are working at LM locations. Although the scope of work is specific to security operations, they too are required to abide by the tenets of this EMS for the roles and responsibilities of all employees.

2.1.4.3 Organizational Structure

The organizational structure includes organizational units, functions, and physical boundaries (as defined in section 2.1.4.1). The EMS organizational structure is a top down structure that applies to all personnel who perform work related to LM's mission.

LM's leadership, including the EMS Core Team, function at the top to develop and approve the EMS system.

LM's EMS is implemented and managed by several focus and support groups. These groups include the following:

- EMS support and project teams
- Environmental Compliance (EC)
- EMS sustainability teams (includes EMS Energy Management team)

LM-wide "umbrella" EMS activities include:

- Conducting EMS management review
- Participating in EMS internal and external audits
- Developing EMS communications
- Developing EMS training
- Determining environmental aspects
- Participating in integrated work control planning
- Performing recordkeeping and information management
- Identifying continual improvements
- Identifying significant energy uses (SEUs)
- Identifying energy and water efficiency and conservation measures (ECMs)

Environmental compliance areas consist of regulatory compliance and monitoring programs that implement federal, state, local, and tribal requirements, agreements, and permits.

Environmental sustainability areas promote and integrate initiatives such as energy and natural resource conservation, waste minimization, green construction, and using sustainable products and services.

The level of an individual's involvement in the EMS depends on his or her role in LM:

- **Federal Staff or Contractor Staff:**
  - For overall EMS implementation, LM and the LMS contractor work jointly.
  - For environmental compliance, LM provides oversight and direction, whereas the LMS contractor is responsible for implementation.
  - For sustainability implementation, LM and the LMS contractor work jointly.
- **Site Operations or Business Operations Staff:**
  - Both business operations and site operations contribute to the overall effectiveness of the EMS.
  - Site operations staff are more heavily involved with environmental compliance, identification of SEUs, and application of ECMs.
  - Both business operations and site operations contribute to sustainable activities and goals.
- **Site-Specific Compliance or Programmatic Compliance:**
  - Environmental Program Management (EPM) managers are responsible for organizing and collating program-wide environmental compliance efforts.
  - LM site managers, LMS site leads, and EC points of contact are responsible for addressing site-specific environmental compliance.
  - Sustainability teams are responsible for identifying projects at sites and offices across LM and pursuing the best site options for programmatic performance.

Additional details on employee involvement are discussed in Section 3.3.

Figure 3 illustrates the flow-down relationships covered under the EMS scope.

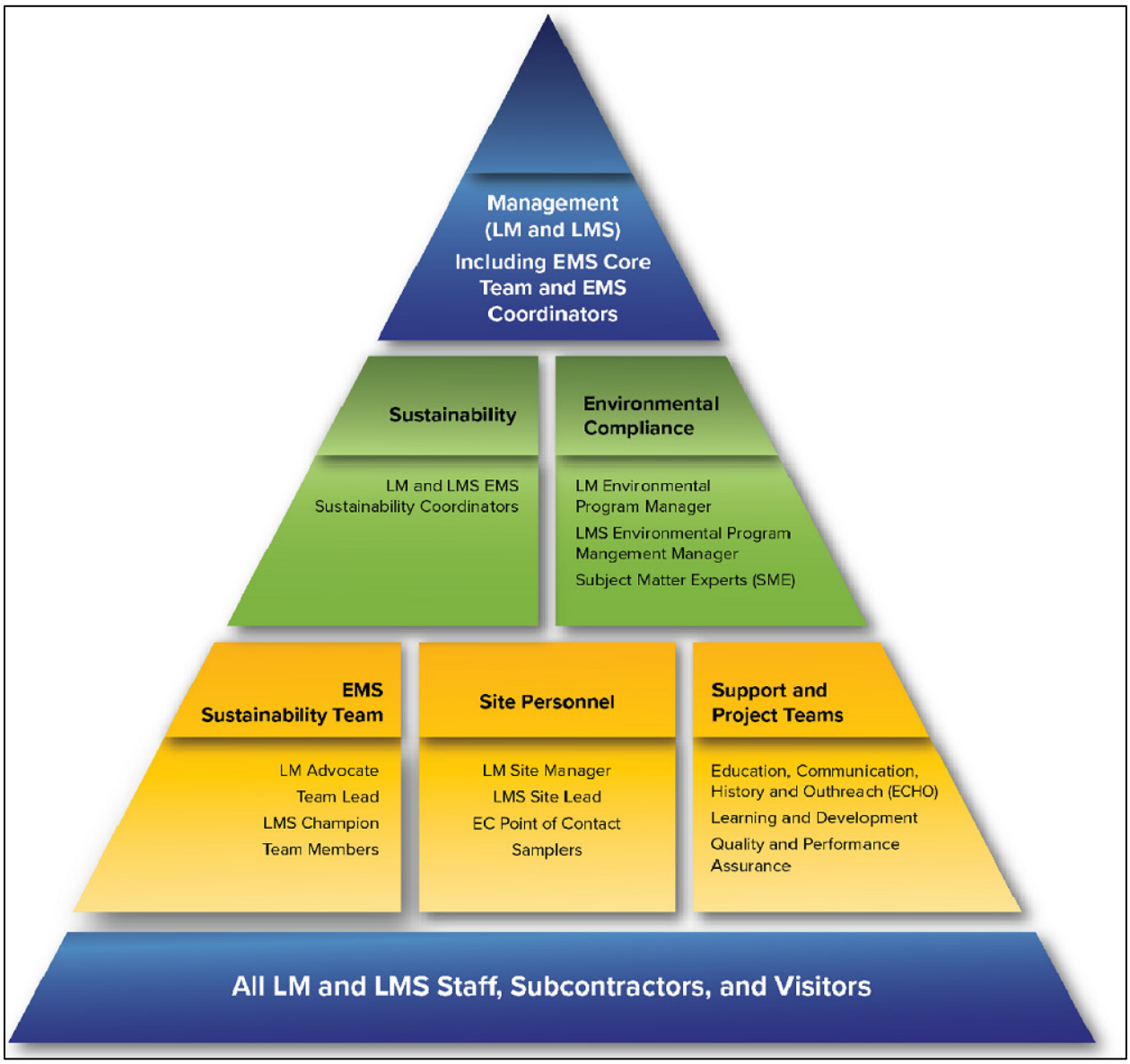


Figure 3. LM's EMS Organizational Structure

2.1.4.4 Under LM Control or Influence

Any activities that can affect the environment and energy or water use and are within the area of influence of LM employees are inside the scope of the EMS. Activities by other entities involved with LM sites but not employed or under the direct control of LM or its contractors (e.g., regulator inspections, uranium-leasing activities, and property owners' operations and maintenance activities at leased facilities) are outside the EMS scope.

In determining LM's authority and ability to exercise controls and influence, LM places the focus on visitors and subcontractors. All site and office visitors are indirect participants to the EMS during their visits. LM makes extra efforts to educate visitors about the EMS and sustainability at LM visitor and interpretive centers and through various outreach programs. Subcontractors are not required to develop their own separate EMS, but subcontractors must participate in the LM EMS. LM uses a graded approach to determine the level of expected subcontractor participation.

3.0 Leadership

LM commits to achieving the highest standards of environmental quality in performing its work and providing a safe and healthy workplace for all employees, including performing daily operations and activities in compliance with applicable requirements. Environmental policies reinforce this philosophy and promote a workplace culture founded upon core values of safety, compliance, integrity, and quality. These environmental policies are the foundation of LM's EMS.

3.1 Leadership and Commitment

LM management demonstrates leadership and commitment to the EMS by:

- Taking accountability for the effectiveness of the EMS and EnMS.
- Ensuring that environmental and energy performance policies and objectives are established and are compatible with the strategic direction and the context of the organization.
- Ensuring integration of requirements into organization business practices.
- Ensuring that the resources needed are available.
- Communicating the importance of effective environmental management, water conservation, and energy use performance improvement, and conformance to requirements.
- Ensuring that the EMS and EnMS achieves their intended outcomes.
- Promoting continual improvement.
- Directing and supporting staff to contribute to the effectiveness of the EMS and EnMS.
- Supporting other managers in demonstrating their leadership in their areas of responsibility.

3.2 Environmental Policy

LM's *Environmental and Energy Policy* declares LM's commitment to the protection of the environment and serves as the foundation for the EMS. This policy aligns with LM's core mission and includes a commitment to continual environmental improvement, pollution prevention, the integration of the EMS and ISMS, and fulfillment of compliance obligations. The LM policy is available on the LM Portal and communicated to the public through the LM public website.

The *RSI Team Safety, Environmental, and Energy Policy* reaffirms that the LMS contractor remains committed to the safety of its workers and protection of the environment. This policy

applies to RSI EnTech, LLC (RSI), and its teaming partners and subcontractors. This policy aligns with LM's core mission and includes a commitment to comply with the letter and spirit of applicable laws, to prevent pollution, to reduce energy, and to work toward continual improvement with integrated systems and processes. In addition, it communicates LM's expectation for safety, including an ISMS, which will enable DOE's mission goals to be accomplished efficiently while ensuring safe operations at all departmental facilities and in all activities. This policy is available on the LM Portal on the **LM-Federal Controlled Documents** webpage.

LM communicates policies to all employees through EMS orientation and general awareness training and various EMS-related publications (e.g., this document and posters). LM posts copies of the policies in all staffed locations and expects all employees to be familiar with and to understand the respective policies. LM will provide copies to external parties if requested.

3.3 Organizational Roles, Responsibilities, and Authorities

Because the LM EMS is a joint system, both LM and LMS employees participate and contribute to the success of the system. LM and the LMS contractor have different implementation roles and responsibilities in the EMS, but both commit to the Plan-Do-Check-Act model of continual improvement when conducting daily business and both follow parallel paths in implementing the elements of the EMS. Employees should consider and be aware of how their activities and services interact with the environment.

The LM *Functions and Responsibilities* plan (LM-Plan-2-20-1.2) describes the functions and responsibilities required of the LM, and the LM *Authorities, Delegations, and Concurrence* procedure (LM-Procedure-2-20-1.1) describes the authorities within LM. The LMS *Functions, Responsibilities, and Authorities Manual (FRAM)* (LMS/POL/S04319) describes the functions, responsibilities, and authorities required of the LMS contractor.

The *LMS Responsibility Assignment Matrix* (RAM) identifies functional representatives for LM sites and programs. Authorities are assigned to individuals in specific offices or positions within the LMS organizations. Delegations to individuals cannot be changed except by the responsible (delegating) manager. Positions and functions must be delegated in writing, which is typically performed by email notification to the affected employees, organizations, and clients.

3.3.1 All Employees

As identified in policy statements, all employees are responsible for protecting the environment, preventing pollution, complying with regulatory obligations protecting biodiversity and ecosystems, incorporating resilience into operations and facility activities, and promoting sustainable practices that may be as simple as printing and copying documents double-sided or recycling. It takes the commitment of the entire workforce to meet the responsibilities of enhancing environmental performance, fulfilling compliance obligations, and achieving environmental objectives. Sharing environmental and energy performance responsibility at all levels is essential for ongoing successful implementation of the EMS.

3.3.2 Senior Management

Senior management assigns and communicates the responsibilities and authorities to line management for relevant roles within the organization to:

- Ensure that the EMS conforms to the requirements of the current ISO 14001:2015.
- Ensure that the EnMS conforms to the requirements of the current ISO 50001:2018.
- Report on the performance of the EMS.

Senior management communicates these assignments, responsibilities, and authority by:

- Providing written communication to the responsible parties.
- Including details for LM performance plans for responsible parties.

Senior management responsibilities include:

- Building awareness related to the EMS and environmental performance.
- Building awareness related to the EnMS and energy use performance improvement.
- Establishing and maintaining environmental and energy performance policies.
- Participating in the annual EMS management review and assigning responsibilities for any identified action items.
- Approving annual targets.
- Reviewing and approving the EMS/EnMS Description.
- Endorsing environmental and energy use performance improvement excellence in their organizations.
- Promoting the continual improvement of the EMS and environmental performance.
- Promoting the continual improvement of the EnMS and energy use performance.
- Addressing findings or implementing corrective actions for areas under their purview.

The Emergency Management, Environmental Compliance, Safety and Health, and Quality Assurance (E2SH&Q) manager responsibilities include:

- Assisting LM with maintaining a joint EMS that is consistent with the applicable DOE directives.
- Integrating LMS processes and procedures to ensure that EMS targets and goals are recognized and achieved.
- Achieving sustainability goals established in applicable regulations and DOE directives, such as waste minimization, pollution prevention, source reduction, energy conservation, and environmentally preferred product purchases where applicable.

- Supporting the EMS sustainability teams, which includes identifying projects, performing reviews, tracking related data, and maintaining progress toward achieving the sustainability program goals.
- Supporting and providing oversight of the EMS program by participating in periodic management reviews.

3.3.3 Line Management

Line management is a chain composed of managers, beginning at the first level, with the person in charge who directs work in the field and flowing up through the hierarchy to the LMS program manager and LM director. This includes the following LM personnel: director; deputy and directors of site operations and business operations; team leaders; and site, program, and office managers. LMS personnel include the program managers; operation managers; department managers; managers; supervisors; task assignment, subtask, and functional managers; and site and facility leads.

Line management is responsible for implementing the EMS in accordance with applicable Executive Orders, DOE policies, professional standards, and this manual. They are responsible for ensuring that staff work in an environmentally safe and compliant manner. Their responsibilities include:

- Integrating functional organizations (e.g., Quality Assurance [QA], Education, Communications, History and Outreach [ECHO], and Safety and Health [S&H] groups) into their work planning and authorization processes.
- Participating in defining, updating, and approving significant environmental aspects and environmental objectives and targets.
- Ensuring that approved, budgeted resources are available and promulgating programmatic and technical direction.
- Ensuring that support staff are assigned to activities.
- Ensuring that documented procedures or written instructions control work.
- Identifying and reporting threats to human health or the environment, taking immediate actions to mitigate environmental impacts, and issuing stop-work orders for threats they are unable to mitigate.
- Endorsing environmental excellence and promoting the continual improvement of the EMS and environmental performance.
- Identifying opportunities to improve energy usage performance and water conservation.

3.3.4 Site, Program, and Office Managers and Leads

These LM employees perform environmental-related activities, which include the following:

- Ensuring adequate resources are available to support anticipated EC site activities and are included in the appropriate task assignment including:
  - — Ensuring that personnel conduct environmental reviews before starting projects
  - — Ensuring identification of cultural resources and protecting properties or items with historical significance

  - — Ensuring identification and protection of natural resources such as floodplains, wetlands, and endangered species along with their habitats
  - — Ensuring that National Environmental Policy Act (NEPA) Title 42 *United States Code* Section 4341 et seq. (42 USC 43421 et seq.) reviews are completed before activities occur
- Implementing and promoting the EMS
- Ensuring that adequate resources are available to support anticipated EnMS site activities and are included in the appropriate task assignment including the following:
  - — Identifying opportunities to improve energy usage performance
  - — Supporting energy conservation measure projects
  - — Providing energy performance data as needed to document effectiveness of energy conservation measures
- Reviewing and approving environmental objectives and targets
- Reviewing and approving energy performance improvement and water conservation objectives and targets
- Approving environmental reports issued to regulators and posted on LM public website

3.3.5 EPM Managers and EMS Coordinators

The LM EPM manager oversees the scope, budget, and schedule of programmatic activities under the EMS. The LM EPM manager and the LMS EPM manager are the primary points of contact for the environmental compliance portion of the EMS and for requesting adequate funding to support anticipated activities.

Part of the EPM managers role is to serve as the EMS coordinator. The EMS coordinators establish or approve the level of operational controls and integrated work controls for EPM and EMS programmatic activities.

The LMS EPM manager is responsible for the following:

- Ensuring that adequate resources are requested to support anticipated EMS activities and are included in the appropriate task assignment
- Identifying and communicating applicable environmental and energy performance requirements
- Ensuring that the contractor's work activities are performed in compliance with environmental regulations
- Integrating processes to ensure that EMS goals and targets are recognized and achieved and progress is reported
- Promoting the EMS program
- Reviewing and approving updates and recommended changes to EMS and EC documented information

The EPM managers will coordinate with each other regularly.

3.3.6 EMS Sustainability Coordinators

The EMS sustainability coordinators are the primary points of contact for the EMS programmatic and sustainability areas. Responsibilities include the following:

- Overseeing the development and implementation of the EMS
- Actively participating in the EMS Core Team
- Reporting progress to management and external DOE program offices
- Conducting management reviews and facilitating management involvement in EMS
- Establishing or approving the level of operational controls and integrated work controls for sustainability activities
- Performing quality control checks and data validation on annual reporting
- Identifying opportunities to improve energy usage performance and water conservation, in coordination with site leads, asset management personnel, project management personnel, and engineering

3.3.7 LMS EC Group

EC is a cross-functional support group with the mission of providing compliance oversight support across all LM programs and projects. Specific EC responsibilities include the following:

- Identifying, tracking, and communicating environmental requirements to project management for implementation
- Providing qualified technical resources to support implementation of environmental requirements by programs and facilities
- Assisting in the initial identification of environmental aspects and scoring for significance
- Ensuring the consistent application of environmental requirements

3.3.8 EMS Core Team

The EMS Core Team oversees the EMS teams and is management's EMS steering committee. It includes the following:

- Both an LM and LMS senior management sponsor
- LM and LMS EPM managers
- LMS EMS sustainability coordinators
- LM sustainability team advocates
- LMS sustainability team champions
- Sustainability team leads
- Other representatives from applicable programs and projects and various levels of management and project support as needed

Their responsibilities include the following:

- Overseeing the ongoing implementation and continual improvement of the EMS
- Functioning as the steering committee for management-level decisions

3.3.9 EMS Sustainability Teams

LM has nine individual sustainability teams. These teams are an integral part of the LM EMS and are involved in all LM activities that fall under the scope of the EMS. EMS sustainability teams consist of a team lead, an LM advocate and LMS management champion, and several other knowledgeable employees. Each sustainability team is responsible for the following:

- Implementing, managing, and promoting its individual sustainability area
- Identifying a specific achievable mission, along with metrics to assist in evaluating progress toward the required objectives
- Reporting progress in the quarterly EPM report available on the LM Portal
- Coordinating energy and water conservation measures in support of the EMS

4.0 EMS Planning: The "Plan" Step of Plan-Do-Check-Act

Project and program planning is a fundamental part of the EMS. Planning includes identification of new work or activities, assembly of planning teams, and development of the specific details and evaluation methods based on factors such as engineering feasibility, environmental requirements, schedule considerations, and site needs. Planning occurs with staff at all levels of the organization and includes consideration of technological options and financial, operational, and business requirements. Planning ensures achievement of the EMS's intended outcomes, prevents or reduces undesired risks, and identifies opportunities for continual improvement.

4.1 Actions to Address Risks and Opportunities

Both LM and the LMS contractor have developed high-level environmental risk registries associated with LM activities. Additional information on LMS risk management can be found in the LMS *Risk Management Plan* (LMS/POL/S27671). Information on LM risk management can be found in the LM standard operating procedure *LM Programmatic Risk Assessment and Site Screening* (LM-SOP-4-24-1.0).

Management uses a graded approach to evaluate environmental risks and considers the following factors in determining relative risks and the application of controls:

- Importance of an item or activity with respect to the safety and protection of workers, the public, and the environment
- Importance of the data to be generated
- Need to demonstrate compliance with specific regulatory requirements
- Magnitude of a hazard or consequences of failure
- Life-cycle stage of a facility or item

- Characteristics of a facility, item, or activity (e.g., complexity, uniqueness, history, or the necessity for special controls or processes)
- Stakeholder and community concerns, needs, and expectations
- Technological options and feasibility

4.1.1 General

Planning is critical in determining and taking actions to ensure that the EMS can achieve its intended outcomes. LM establishes, implements, maintains, and improves processes based on changing circumstances and inputs and outputs of EMS. Planning helps identify and focus resources on areas that are most important for protecting the environment. In addition, planning helps LM fulfill compliance obligations and achieve environmental objectives. As part of the planning process, LM considers the following:

- Context of LM and its mission, and environmental compliance obligations
- Needs and expectations of interested parties captured as community concerns in the significant environmental aspect identification process detailed in the *EMS Support and Project Teams Manual* (LM-Manual-3-20-5.0, LMS/POL/S28895)
- Scope of the EMS and determination of risks and opportunities related to its environmental aspects, compliance obligations, and other issues or requirements that need to be addressed to:
  - Ensure that the EMS can achieve its intended outcomes.
  - Reduce or prevent undesired effects, including the potential for external environmental conditions to affect LM.
  - Determine potential emergency situations that could have an environmental impact.
  - Achieve continual improvement.

LM maintains documented information of any risks and opportunities that need to be addressed. The level of management and controls will vary as a function of the degree of confidence needed to achieve the desired quality of an item or activity.

4.1.2 Environmental Aspects, Compliance with Legal and Other Requirements, and Associated Environmental Objectives, Targets, and Goals

Environmental aspects are the attributes of project and program activities, products, and services that interact with the environment. The environmental aspect of an activity is the part that creates a possibility for an environmental impact, either positive or negative. It is equivalent to the concept of "hazard" in safety, which is also defined as the possibility of a negative event. See the *EMS Support and Project Teams Manual* for more information on the environmental aspect process.

LM evaluates assigned work periodically to identify and update the environmental aspects of the LM program and their impacts, their associated objectives, the associated targets and goals, compliance with legal obligations and other requirements, and the expectations and needs of interested parties. The identification of the environmental aspects includes evaluation of

compliance obligations (legal and other requirements and the identification of environmental impacts). Figure 4 shows two examples of LM activities and their associated environmental aspects, their compliance obligations, impacts, objectives, and targets.

4.1.3 Compliance Obligations

LM determines external issues that are relevant and could affect its ability to achieve the intended outcomes of its EMS. This determination includes applicable federal, state, local, and tribal regulations and requirements, agreements, and permits during planning, implementation, checking, and management of activities. Coordination with various agencies, states, or other governmental entities helps ensure adherence with compliance obligations, including annual reporting.

LM implements and updates its EMS in response to this variety of agency-specific and federal directives, regulations, legal agreements, and policy statements. LM used the overall guidance and requirements for EMS procedures, requirements, and implementation described in ISO 14001:2015 and ISO 14004:2016 to determine which needs and expectations become LM's compliance obligations. Compliance obligations vary significantly across LM sites.

Several sites have site-specific agreements, permits, or both with multiple agencies. These agreements include Federal Facility Agreements, comprehensive legacy management and institutional control plans, and long-term surveillance and maintenance plans. The site-specific pages accessed from the **LM Sites** webpage on the LM public website provide information on these agreements. Figure 4 shows examples of types of LM compliance obligations.

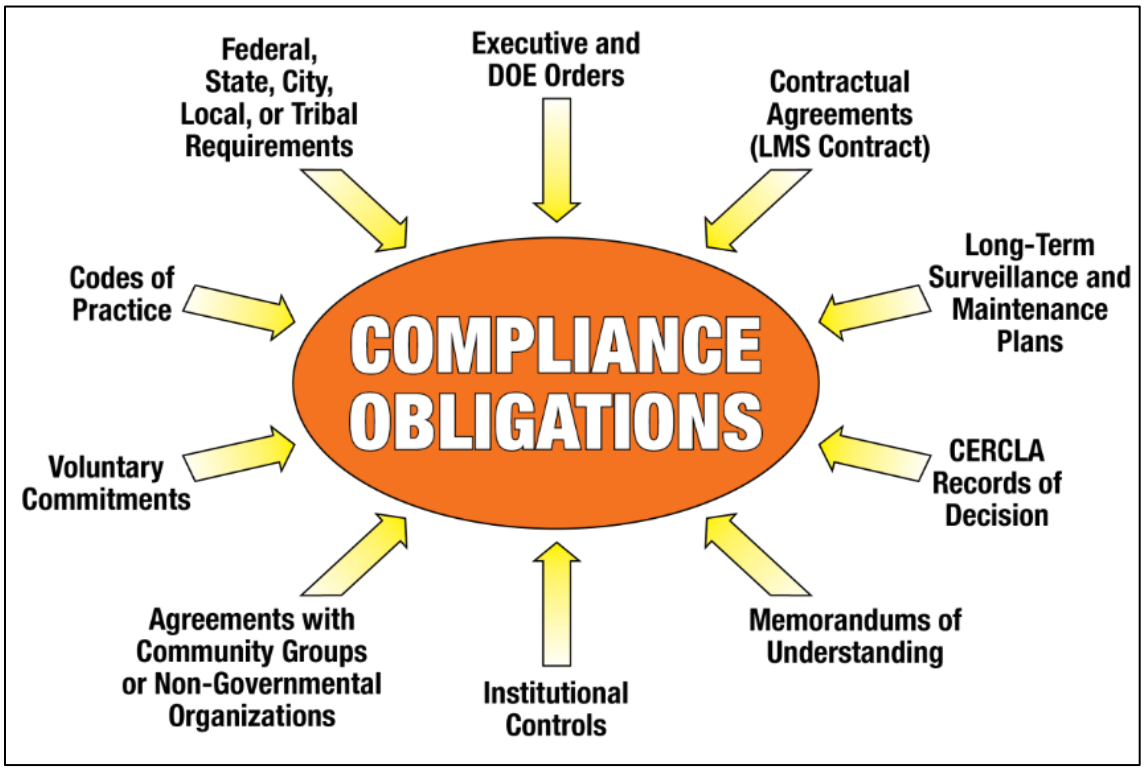


Figure 4. Examples of LM's Compliance Obligations

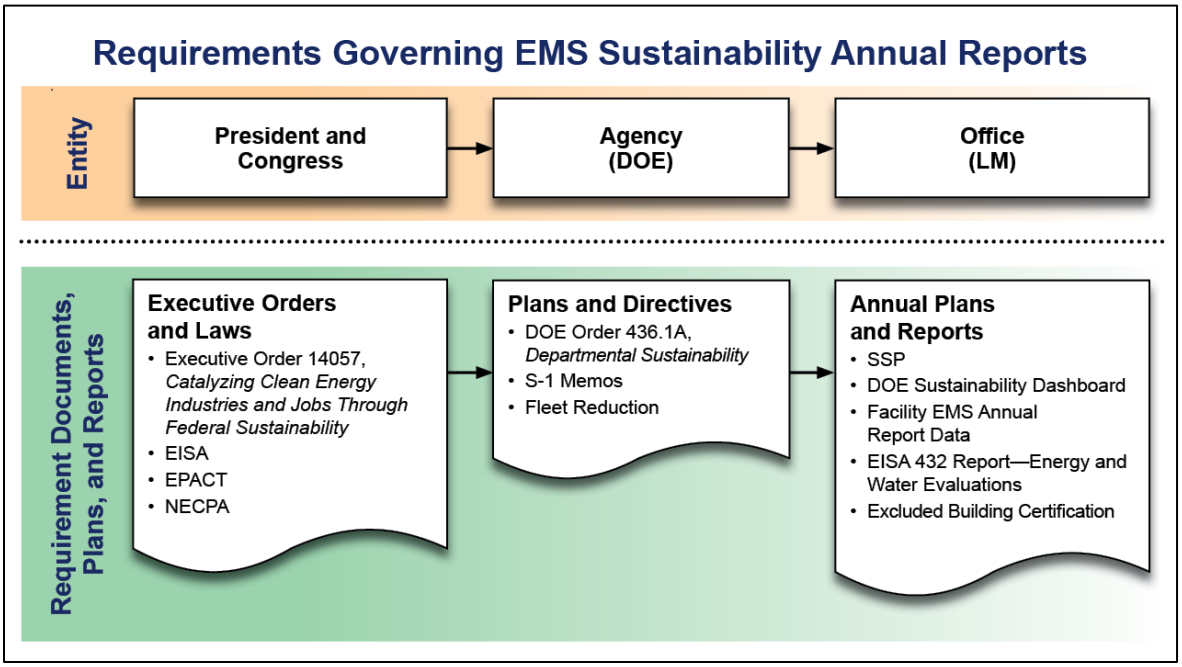
LMS EC is responsible for conducting regulatory reviews of environmental requirements. The procedure for conducting this activity resides in the LMS *Environmental Instructions Manual* (LMS/POL/S04338).

The LMS QA group maintains a list of DOE directives, federal laws, policies, and regulations applicable to actions and management of LM sites. The QA group screens DOE directive alerts and *Federal Register* notices for new or changed information that may affect the contract, coordinates and tracks subject matter expert review of directives and regulations, and provides recommendations for contract changes to the LMS contract administrator to provide to the LM contracting officer representative. The References section of this document provides a current list of DOE and other documents that describe the EMS requirements.

In addition to federal, state, local, and tribal regulations and DOE directives, the activities conducted for LM are also subject to any specific requirements of the contract. The LMS *Environmental Protection Manual* (LMS/POL/S04329) and the *Environmental Instructions Manual* describe processes that specifically outline how the LMS contractor complies with LM's environmental compliance obligations.

Many EMS compliance obligations require periodic written reports. These reports might be programmatic or site-specific and can cover a variety of topics, including sustainability or environmental compliance. The *DOE Programmatic Reports Table*, on the LM Portal EMS **DOE-LM Programmatic Reports & Activities** webpage, provides an explanation of the reports, including report description, receiving entity, regulatory requirement or driver, and frequency of reporting. Separately, some site-specific reports are available on the individual site webpages on the LM public website.

Figure 5 shows some examples of the sustainability requirements and their mandated reports.



Abbreviations:
EISA = Energy Independence and Security Act; EPACT = Energy Policy Act; NECPA = National Energy Conservation Policy Act; S-1 = secretariat officer; SSP = Site Sustainability Plan

Figure 5. Requirements for EMS Sustainability Reports

Figure 6 shows examples of LM programmatic and site-specific environmental compliance requirements and compliance reports.

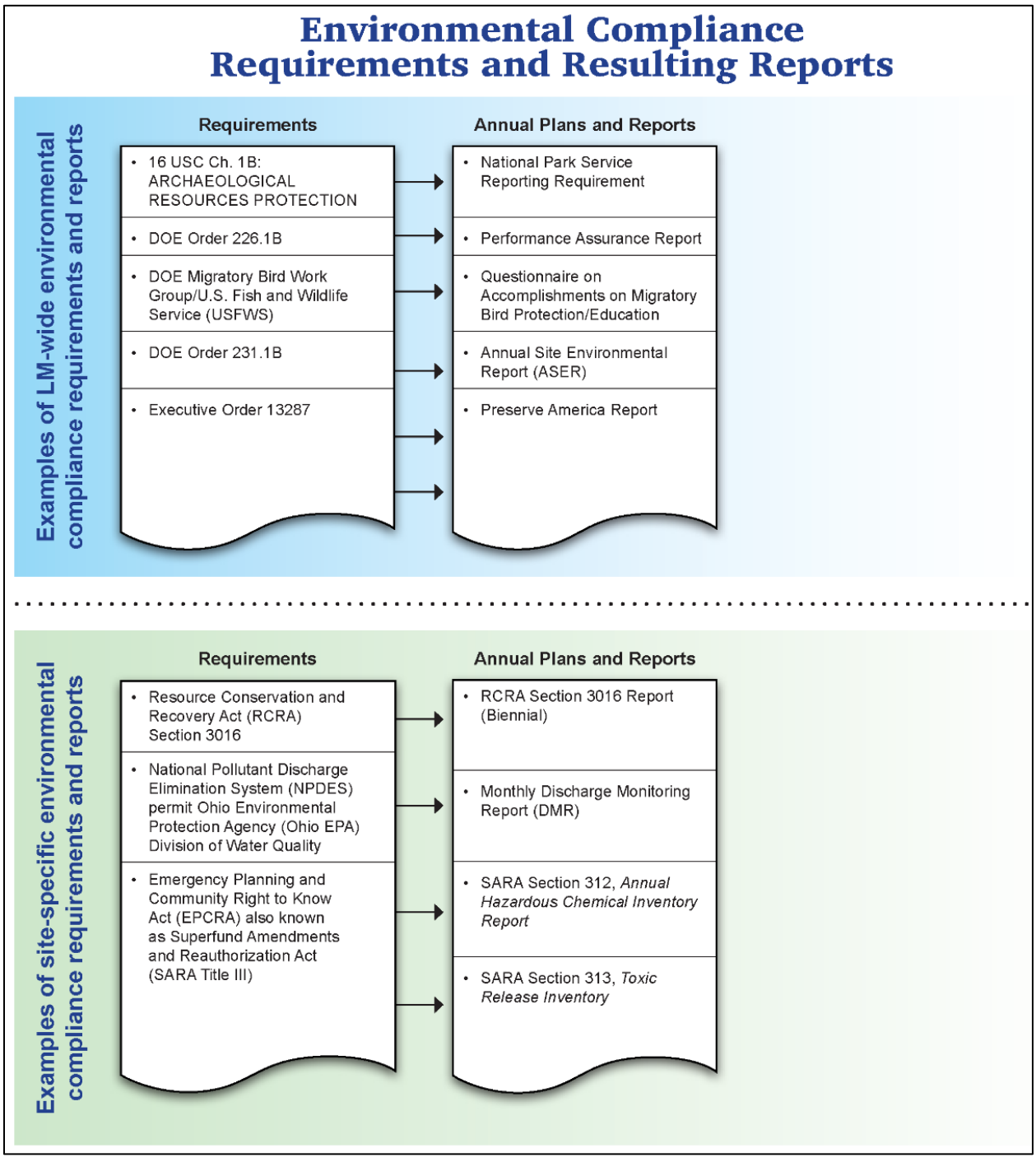


Figure 6. Examples of Environmental Compliance Programmatic and Site-Specific Requirements and Resulting Reports

4.1.4 Planning Actions

A task assignment is the mechanism LM uses to plan, approve, and fund a specific activity. A task assignment is an agreement between LM and the LMS contractor defining the specific scope of work and associated baseline and schedule. LM authorizes performance of work for the LMS contract via task assignments. The LMS contractor submits proposals for task assignments to LM, which evaluates and approves or revises and negotiates via the contractual process for award in accordance with contractual guidelines.

The LMS contractor is responsible for implementation of a project once the task assignment is approved. LM is responsible for monitoring the performance of the contractor against the Task Assignment Plan and the stipulated deliverables and milestones.

4.2 Environmental Objectives and Planning to Achieve Them

4.2.1 Environmental Objectives

Environmental objectives describe the goals for environmental performance. Environmental objectives will be consistent with the environmental policy and will be measurable, monitored, communicated, and updated as appropriate. Some are quantifiable, while others are qualitative.

Environmental targets are specific and measurable steps taken to obtain the environmental objectives.

4.2.2 Planning Actions to Achieve Environmental Objectives

LM evaluates assigned work periodically to identify and update associated environmental aspects and evaluate compliance obligations and the expectations or needs of interested parties. LM establishes environmental objectives while identifying environmental aspects. The *EMS Support and Project Teams Manual* provides detailed steps on the identification of environmental aspects and environmental impacts; development of environmental objectives, targets, and resources; compliance with legal and other requirements; consideration of the technological options; and concerns of interested parties.

During work planning, the guiding principles and core functions in the ISMS apply to protecting the environment and protecting employee and public safety and health. Thus, as part of work planning, the potential hazards and environmental reviews are documented on the appropriate work planning document (e.g., *Project or Activity Evaluation [PAE]* form [LMS 1005], LM *Environmental Review Form* [LM-Form-4-20.3-4.0]) as described in the *Integrated Work Control Process Manual*.

LM enlists individual sustainability teams to promote, address, and meet the sustainability goals under the EMS. The *EMS Sustainability Teams Manual* (LM-Manual-3-20.3-1.0, LMS/POL/S11374) describes the teams and includes their process descriptions and implementation plans.

For emergency management, LM maintains the *LM/LMS All Hazards Emergency Management Plan* (LMS/POL/S37643, LM-Procedure-3-20-17.0), which provides LM and the LMS

contractor with the framework for all emergency management activities, including emergency planning, preparedness, response, mitigation, readiness assurance, and recovery activities to ensure that LM and LMS personnel can respond effectively and efficiently to all operational emergencies.

For radiation protection, the LMS contractor maintains the *Environmental Radiation Protection Program Plan* (LMS/POL/S13339) manual, which provides guidance for the LMS work scope involving radiological hazards and ensures compliance with DOE Order 458.1 Admin Chg 4, *Radiation Protection of the Public and the Environment.*

These manuals, in addition to others referenced throughout this document, are available on the LM Portal on the **LM-Federal Controlled Documents** webpage.

4.2.3 Planning Actions to Achieve Energy Objectives

Planning activities can involve new or existing buildings, equipment, and processes. For new and existing projects, energy performance improvement opportunities should be considered in design and procurement activities.

5.0 Support: The "Do" Step of Plan-Do-Check-Act

5.1 Resources

LM determines and provides the resources needed for the establishment, implementation, maintenance, and continual improvement of EMS. The LMS contractor utilizes process described in the *Project Management Control Systems Manua*l (LMS/POL/S04330) to obtain budgets and funding for resources. Senior management is responsible for ensuring that adequate resources are available for EMS implementation. EMS helps LM use its finite resources wisely to minimize wastes and adverse environmental impacts and comply with compliance obligations (e.g., laws, regulations, DOE requirements, and other applicable requirements) that protect the environment and public health as well as improve energy use performance. EMS enables LM to implement sustainable environmental stewardship practices that enhance the protection of air, water, land, and other natural and cultural resources affected by LM operations.

5.2 Competence

Management determines the necessary competence of the people doing work under its control. LM's environmental performance and its ability to fulfill compliance obligations are assured through hiring staff with the appropriate education, training, or experience. LM identifies training needs specific to the EMS and, where applicable, takes additional actions to acquire the necessary competency.

LM and the LMS contractor utilize established training orders, policies, and procedures when determining, implementing, or developing training for its employees. LM follows DOE Order 360.1D *Federal Employee Training*, and *LM Federal Employee Training and Development* (LM-Procedure-2-4-2.1). The LMS contractor follows *Learning and Development Policies and Procedures Manual* (LMS/POL/S15034) and *Learning and Development*

Department Desktop Procedures (LMS/PRO/S08943). The LMS contractor maintains EMS training records in DOE's Learning Nucleus learning management system.

LM uses three types of training: new employee training, general awareness training, and functional training. LM provides training to ensure that all employees:

- Have the knowledge and skills necessary to perform their job functions safely and in an environmentally responsible manner.
- Comply with federal, state, tribal, and local environmental laws, regulations, and permits and with LMS contract requirements and policies.
- Increase their awareness of environmental protection practices and pollution prevention and waste minimization opportunities.
- Take appropriate actions in an emergency.
- Know the implications of not conforming to the EMS requirements, including not fulfilling compliance obligations.
- Know about the requirements, objectives, and targets of the EMS.

5.3 Awareness

Senior management is responsible for ensuring awareness related to EMS and environmental and energy performance. Building awareness enhances knowledge and promotes behavior that supports the environmental policies and core values of safety, compliance, integrity, and quality. EMS orientation and awareness training courses ensure that personnel performing work are aware of the following:

- Environmental and energy policies
- Significant environmental aspects and related actual or potential environmental impacts associated with their work
- The importance of their contribution to the effectiveness of the EMS, including the benefits of enhanced environmental and energy performance
- The importance of including EMS-related actions in task planning, budgeting, and implementation
- The implications of not conforming with the EMS requirements, including not fulfilling the organization's compliance obligations and energy goals

5.4 Communication

5.4.1 General

Integrated environmental and energy management requires effective internal communications to staff and open, clear lines of communication with external stakeholders. LM and the LMS contractor are committed to communicating and receiving input about environmental and energy performance information to their employees and to the public.

LM establishes, implements, and maintains the processes needed for internal and external communications relevant to the EMS, including the following:

- On what it will communicate
- When to communicate
- With whom to communicate
- How to communicate

The ECHO team is primarily responsible for internal and external communications. When communicating relevant environmental and energy management information the LMS contractor utilizes established policies and procedures. Figure 7 illustrates the EMS communication flow process.

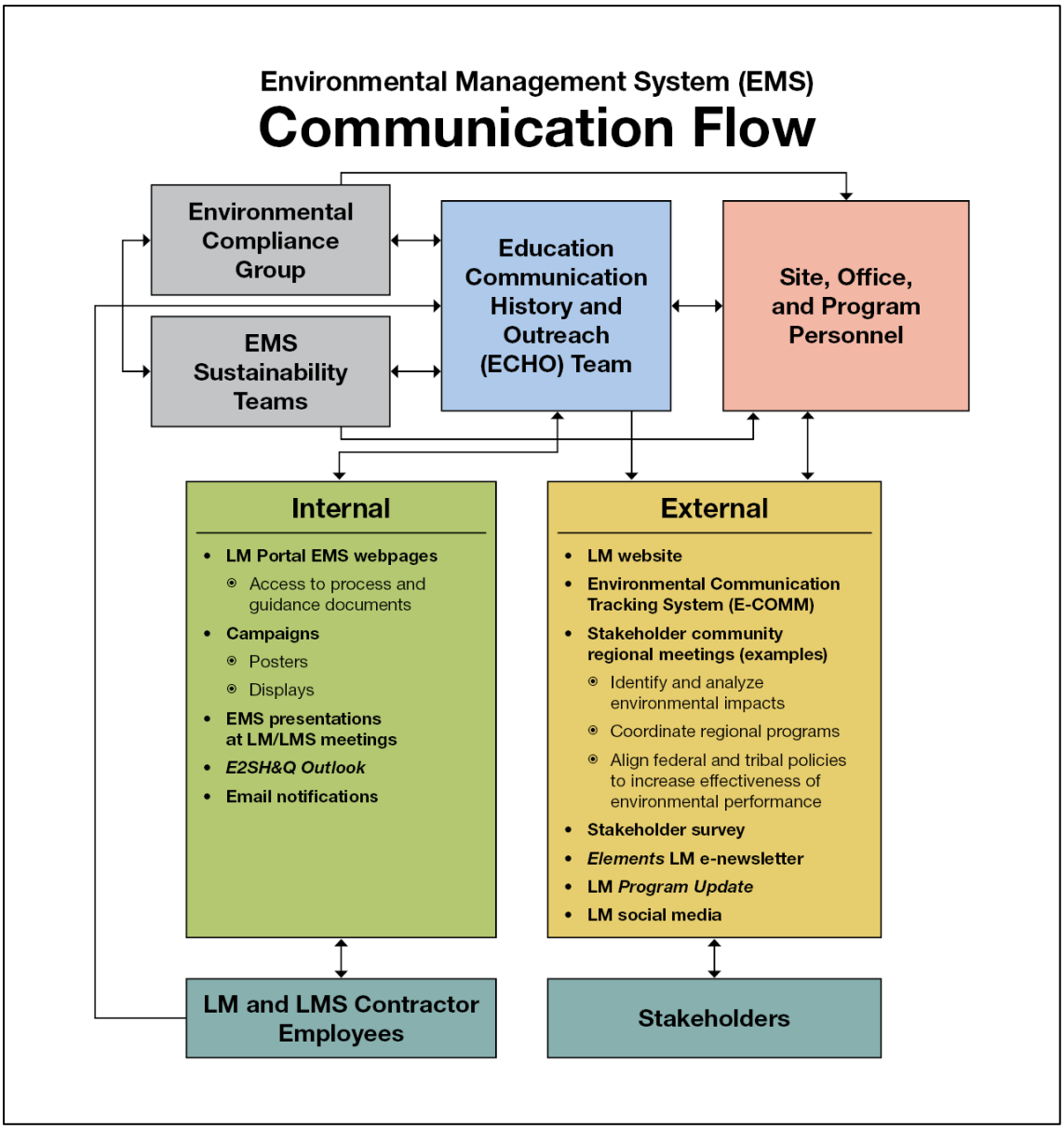


Figure 7. EMS Communication Flow

The ECHO team works with EMS teams, EMS coordinators, and respective EC points of contact to revise and update LM public EMS webpages as necessary, to publicize upcoming activities and achievements, and to promote sustainability awareness through the ECHO group.

LM prepares and issues internal and external communications using the following policies and procedures:

- *Internal Communications Manual* (LMS/POL/S07641)
- *Communication Products Manual* (LMS/POL/S18461
- *Communication Products Procedures* (LMS/PRO/S07153)
- *Public Dissemination of Information* (LM-Procedure-3-3-1.0)
- *Public Affairs Manual* (LMS/POL/S11690)
- *Media and Special Projects Manual* (LMS/POL/S38251)

5.4.2 Internal Communication

LM uses various forms of internal communications to maintain employee awareness of EMS initiatives, to communicate employee roles and responsibilities, and to motivate employees. Effective communication is a two-way process. Employees may report environmental issues or concerns through their immediate supervisor or contact their EMS management representative directly. LM and the LMS contractor are committed to receiving, evaluating, and responding to all comments, concerns, and recommendations.

5.4.3 External Communication

LM is committed to openly communicating with and soliciting feedback from the public, stakeholders, and other interested parties. LM communicates information relevant to the EMS to external parties as established by communication processes and as required by its compliance obligations.

The ECHO team is responsible for helping to develop and issue information for external audiences and updating the LM public webpage.

LM established the Environmental Communication (E-COMM) tracking system to track relevant environmental communications as required by ISO 14001:2015. LM's *Tracking and Analysis of Relevant Environmentally Related External Communication* (LM-Procedure-3-20-10.0) defines which communications to track and what systems to use to document the relevant communications.

5.5 Documented Information

5.5.1 General

LM's EMS includes documented information required by ISO 14001:2015, ISO 50001:2018, and any documented information determined by LM for the effectiveness of the EMS. Both LM and the LMS contractor maintain proper documentation to provide interested parties with information related to the EMS. This information enables parties such as employees, regulators,

potential customers, and stakeholders to understand the processes, operational controls, and integrated work controls LM uses to manage its work and mitigate environmental impacts.

The LMS contractor provides status reports on environmental performance routinely in the quarterly *Performance Assurance Measures* report and EPM quarterly report.

LM reviews and updates this EMS/EnMS Description document every 2 years or more frequently if necessary. Each review considers assessments, nonconformities, and associated corrective actions.

Figure 8 shows the variety of document types used to implement the EMS.

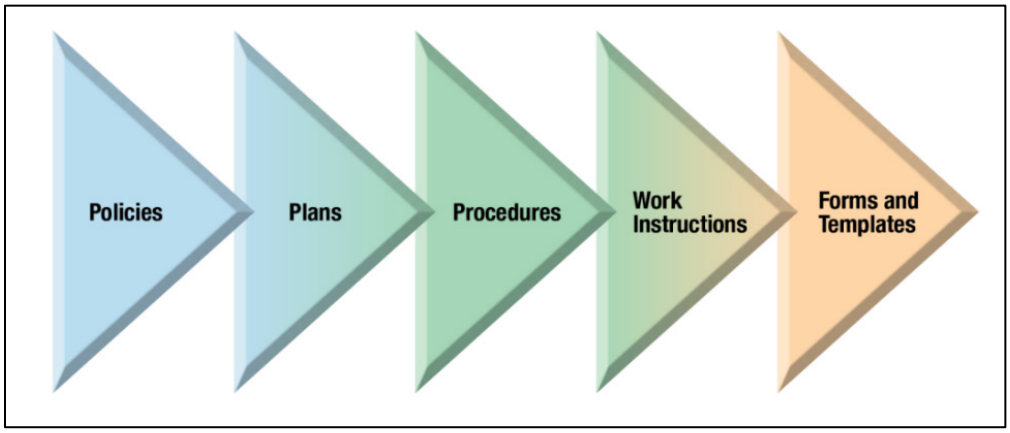


Figure 8. EMS Implementation Documents

5.5.2 Creating and Updating

Controlling the release, access, and revision of EMS documentation ensures that each employee has access to the current version of the documents. The LMS EC group, sustainability team leads, LMS EMS sustainability coordinators, and support and functional groups (e.g., S&H, ECHO, and QA) review and recommend changes to this document and changes to the following:

- LM *EMS Sustainability Teams Manual*
- *EMS Support and Project Teams Manual*
- LMS *Environmental Protection Manual*
- LMS *Environmental Instructions Manual*

Revisions reflect any changes in compliance obligations, sustainability goals, and incorporate lessons learned or continual improvements as necessary.

The following procedures include identifying, formatting, and review and approval of controlled documents:

- *LMS Document Types, Processes, and Responsibilities* (LMS/POL/S32426)
- *Document Management Services, Resources, and Procedures* (LMS/PRO/S32818)
- LM Quality Management System (QMS) *Control of Documents* procedure (LM-Procedure-2-20-4.1)

5.5.3 Control of Documented Information

LM's EMS relies on the QA Program's use of the QMS to ensure the control of documented information. This includes procedures, programs, plans forms, guides, and instructions. LM maintains control of all LM documents in accordance with the following:

- LM *Control of Documents* procedure
- *LMS Document Types, Processes, and Responsibilities*

The LMS Document Management group is the single point of contact for all LM controlled documents. This allows for consistent management of electronic files, hard copy documents, and display of documents on the LM Portal and the LM public website.

5.5.4 Records

EMS records include plans, procedures, and related documents; the results of management assessments; audits; environmental aspects, objectives, and targets identified targets; reports; responses to data calls; and the results of management reviews. EMS records show proof of conformance to associated requirements. All records are considered documented information and are traceable, legible, and retrievable. LM maintains EMS records in accordance with standard protocols defined in the LM policy *Records and Information Management* (LM-Policy-1-11-1.0).

6.0 Operation

6.1 Operational Planning and Control

LM establishes, implements, controls, and maintains processes needed to meet EMS requirements, including the following:

- Operating criteria for processes
- Operational controls
- Reviewed planned and unplanned changes
- Controlling or influencing outsourced processes

LM ensures that project planning includes established controls to ensure environmental requirements are addressed in the design and development of the project. Additionally, LM processes for procurement include environmental requirements when purchasing products or services.

Planning, work authorization, and efficient control of work activities is fundamental to safe, environmentally protective work execution and supports implementation of the EMS and ISMS. Work planning and controls use a graded approach consistent with the complexity of the activity, the work environment, and worker proficiency. Planning teams describe the activity to a level of detail commensurate with the complexity of the activity and the need to assure consistent and acceptable results. Personnel perform activities and services in accordance with documented instructions.

The following manuals and processes include detail on initiating, authorizing, performing, and conducting work within the scope of the LMS contract:

- *Project Management Control Systems Manual*
- *LMS Projects and Programs Manual* (LMS/POL/S05760)
- *Integrated Work Control Process Manual*
- LMS *Environmental Instructions Manual*
- LMS *Engineering Procedures Manual* (LMS/POL/S04340)
- LMS *Procurement Manual* (LMS/POL/S04334)


Note

A list of operational control documents that are used to implement the LM EMS are included in the References section.

The LM Portal **LMS Controlled Documents** webpage contains a complete list of LMS, joint, and LM manuals, policies, and procedures.

6.2 Emergency Preparedness and Response

LM establishes, implements, and maintains a process to prepare for and respond to potential emergency situations in accordance with DOE Order 151.1D Chg 1, *Comprehensive Emergency Management System*, and the *LM/LMS All Hazards Emergency Management Plan*.

The *LM/LMS All Hazards Emergency Management Plan* provides LM's framework for all emergency management activities, including emergency planning, preparedness, response, mitigation, readiness assurance, and recovery activities ensuring that LM and the LMS contractor can respond effectively and efficiently to all operational emergencies.

7.0 Performance Evaluation: The "Check" Step of Plan-Do-Check-Act

7.1 Monitoring, Measurement, Analysis, and Evaluation

7.1.1 General

LM monitors, measures, analyzes, and evaluates its environmental performance with a variety of methods. LM self-evaluations may be addressed within the identifying group or may be elevated to those with the responsibility and authority to initiate appropriate action.

LM determines:

- What needs to be monitored and measured.
- When monitoring and measuring occur.
- What methods to use for monitoring, measurement, analysis, and evaluation, as applicable, to ensure valid results.

- What criteria the organization will use to evaluate its environmental performance and appropriate indicators.
- When the results need to be reliable, reproducible, and traceable.
- When the results from monitoring and measurement will be analyzed and evaluated.

The following manuals and processes include detail on how LM verifies, evaluates, and monitors environmental performance, and the effectiveness of the EMS, QMS, ISMS, and other LM management systems:

- LMS *Contractor Assurance System Program Description* (LMS/POL/S13369)
- LMS *Quality Assurance Manual* (LMS/POL/S04320)
- *Quality Assurance Desk Instructions* (LMS/PRO/S04341)
- *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites* (LMS/PRO/S04351)
- *ESDM Environmental Data Management Team Work Procedures* (LMS/PRO/S13473)
- *Environmental Data Validation Procedure* (LMS/PRO/S15870)

7.1.2 Evaluation of Compliance

LM establishes, implements, and maintains the processes to evaluate fulfillment of its environmental compliance obligations. LM performs the following:

- Determines the frequency of the evaluations
- Evaluates compliance and acts as needed
- Maintains knowledge and understanding of its compliance status
- Documents evidence of the compliance evaluation results

These compliance evaluations are conducted by various members of LM and LMS staff as management assessments, self-assessments, independent internal assessments, and surveillances.

LM performs oversight assessments. The LMS contractor conducts these activities according to an oversight schedule maintained by LMS QA. The scope and purpose of each of these activities is determined in advance through consultation between project management and the organization performing the activity.

In addition, the LMS EC group uses several internal tools to facilitate continued compliance, including the following:

- Create and maintain an EC assessment schedule on a 4-year cycle
- Conduct quarterly reviews of new or revised environmental laws, regulations, and DOE directives and document in the quarterly Regulator Review Report

7.2 Audits and Assessments

7.2.1 General

LM evaluates its EMS at planned intervals to ensure the following:

- Conformance with
  - LM's requirements for its EMS
  - ISO 14001:2015
  - ISO 50001:2018
- Effectively implemented and maintained

Any findings require cause analysis and corrective action determination. The LMS contractor tracks corrective actions in an electronic tracking system until completion. LM tracks corrective actions in the corrective action tool until the objective evidence of completion can be captured and documented.

The following manuals, policies and procedures are applicable:

- LMS *Quality Assurance Manual*
- LMS *Quality Assurance Desk Instructions*
- LM *Quality Assurance Program Plan* (LM-Procedure-1-24-1.0)
- LM *Corrective Action and Improvement* procedure (LM-Procedure-2-10-3.0)
- LM *Quality Assurance Policy* (LM Policy 414.1B)
- LM *Oversight* procedure (LM-Procedure-2-10-1.0)
- *EMS Support and Project Teams Manual*

7.2.1.1 Internal Audit

LM QA implements and maintains an internal audit program. The program includes frequency, methods, planning requirements, responsibilities, and reporting of its internal audits.

LM or the LMS contractor staff audits parts of the EMS annually when an external audit is not scheduled. Auditor qualification, knowledge of EMS requirements, and independence are required for all audit team members. The LMS contractor is responsible for coordinating or conducting internal independent and external audits in accordance with the LMS *Quality Assurance Manual*. A third-party subcontractor, another DOE group, RSI corporate, or others who have not been involved in the design of the EMS may be involved in performing audits to ensure independence. LM considers these types of audits "independent assessments."

LM defines the audit criteria and scope for each audit; selects qualified auditors and conducts audits to ensure objectivity and impartiality of the audit process; reports results to the relevant management; and retains documented information as evidence of implementation of the audit program and the audit results. The audits will consider the environmental importance of the processes concerned, changes affecting the organization, and the results of previous audits.

7.2.1.2 External Audit

The EMS must have a formal audit by a qualified party outside the control or scope of the EMS before LM management can declare full implementation of the EMS. LM chooses to use the self-declaration process outlined in DOE Order 436.1A *Departmental Sustainability* to maintain an EMS in accordance with ISO 14001:2015 and ISO 50001:2018. To maintain a fully implemented status and to declare self-conformance, a qualified independent outside party is required to conduct an audit every 3 years to verify conformance with the following:

- ISO 14001:2015
- ISO 50001:2018
- DOE Memorandum, *Departmental Use of Environmental Management Systems* (DOE 2016)

7.3 EMS Management Review

LM and the LMS contractor senior management review the EMS annually, and at periodic intervals, to ensure its continuing adequacy, effectiveness, and suitability.

The EMS management review considers the following:

- The status of action from previous management reviews
- Changes in:
  - External and internal issues that are relevant to the EMS.
  - The needs and expectations of interested parties.
  - Significant environmental aspects.
  - Risks and opportunities.
- The extent to which environmental objectives have been achieved
- Information and trends on LM's environmental performance including:
  - Nonconformities and corrective actions.
  - Results of monitoring and measurement.
  - Fulfillment of compliance obligations.
  - Audit results.
- Adequacy of resources
- Relevant communications from interested parties
- Opportunities for continual improvement

See the *EMS Support and Project Teams Manual* for more information on the EMS management review process including the expected outcomes.

8.0 Improvement: The "Act" Step of Plan-Do-Check-Act

8.1 General

LM determines opportunities for improvement and implements necessary actions to achieve the intended outcomes of EMS.

8.2 Nonconformity, Corrective Action, and Preventive Action

Personnel have the responsibility and authority to identify and correct potential nonconformances during their work. Identification of nonconformance situations allows proper analysis, resulting in mitigation of impacts and corrective action. Types of nonconformances affecting the environment include the following:

- Regulatory noncompliance
- Unexpected or changed conditions
- Failure to follow procedure
- Improper use of mitigation techniques
- Subcontractor failure to meet requirements
- Failure to meet energy use performance targets

When nonconformity occurs, management will do the following:

- React to the nonconformity and, if needed:
  - Act to control and correct it, including mitigating adverse environmental impacts.
  - Evaluate the need for action to eliminate the causes of the nonconformity so it does not reoccur elsewhere.
- Review the nonconformity to:
  - Determine its cause.
  - Determine if similar nonconformities exists or could potentially occur.
- Implement any action needed and:
  - Prevent recurring nonconformances.

The LMS QA group tracks until completion any corrective actions identified through assessment activities in an electronic tracking system. The LMS contractor's QA group routinely reports to management on the status of corrective actions. A senior management representative will review evidence of closure before approval of corrective action completion.

Applicable policies, procedures, and manuals are as follows:

- LM QMS *Corrective Action and Improvement* procedure
- LMS *Quality Assurance Manual*
- LMS *Issue Management* procedure (LMS/POL/S28504)

8.3 Continual Improvement

LM continually improves the suitability, adequacy, and effectiveness of the EMS to enhance environmental performance. LM uses DOE, LM, and LMS contractor lessons learned in planning new work and improving work processes; designing and operating facilities or equipment; and determining quality, safety, and cost-effectiveness for LM operations. Lessons learned are either positive or negative lessons to promote improvements and provide information to help with other unexpected conditions.

The LMS contractor uses an Operating Experience Repository to document lessons learned, best practices, success stories, project feedback, and other knowledge shares (collectively known as operating experiences) to produce better project outcomes and improve the efficiency and effectiveness of LMS processes.

LM posts lessons learned on the LM Portal on the **Operating Experience** webpage. The DOE Office of Environment, Health, Safety, and Security (EHSS) maintains DOE lessons learned in the Lessons Learned Database on the DOE EHSS webpage.

Applicable manuals, policies, and procedures are as follows:

- LMS *Operating Experience (OpEx) Procedure* (LMS/POL/S28783)
- LM *Quality Assurance Program Plan*
- LMS *Quality Assurance Manual*
- *RSI Team Safety, Environmental, and Energy Policy*
- LM *Environmental and Energy Policy*
- LMS *Quality Assurance Policy* (LMS/POL/41952)

9.0 Definitions

activities, products, and services. A phrase referring to all of the elements at a facility or organization that can interact with the environment.

audit. A systematic, independent, and documented process for obtaining evidence and evaluating it objectively to determine the extent to which the EMS criteria are fulfilled.

competence. The ability to apply knowledge and skills to achieve intended results.

compliance obligation. Legal or other requirement, such as applicable regulations and federal, state, local, and tribal laws; agreements; and permits. These obligations include contractual relationships, agreements with community groups or nongovernmental organizations, or voluntary commitments that an organization has to comply with and other requirements that an organization has to or chooses to comply with.

continual improvement. The process of enhancing the EMS to achieve improvements in overall environmental performance in accordance with the organization's environmental policy.

contractor. An organization or entity that is performing work for DOE according to the terms and conditions of a formal, binding contract.

controlled document. Any document for which distribution and status are to be kept current by the issuer to ensure that authorized holders and users of the document have the latest version.

corrective action. A measure taken to reduce or eliminate conditions adverse to quality and, where necessary, to prevent recurrence.

effectiveness. The extent to which planned activities are realized and planned results achieved.

electronic tracking system. A database used to maintain and track corrective actions resulting from surveillances, incidents, and assessments.

EMS audit. A systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organization's EMS conforms to the EMS audit criteria set by the organization, including communication of the results of this process to management.

energy baseline. Energy performance level that is determined before an energy conservation measure is implemented. Energy baselines are compared against energy performance indicators to evaluate the effectiveness of energy conservation measures.

energy conservation measure. A project chosen to improve the energy use performance of a significant energy user.

Energy Management System (EnMS). A management system defined in ISO 50001:2018 and DOE's 50001 Ready program.

energy performance indicator. A measurement chosen to compare to an energy baseline to evaluate the effectiveness of energy conservation measures.

environment. The surroundings in which an organization operates, including the physical environment (e.g., air, water, land, natural resources, and cultural resources) and the human environment and their interrelationships.

environmental aspect. Elements of an organization's activities, products, or services interacting with the environment. The environmental aspect of an activity is that part of it that creates a possibility for an environmental impact. It is equivalent to the concept of "hazard" in safety, which is also defined as the mere possibility of a negative event.

environmental condition. A state or characteristic of the environment as determined at a certain point in time.

environmental event. An unplanned occurrence either natural or accidental that impacts the environment.

environmental impact. A change to the environment, whether adverse or beneficial, resulting from an organization's activities, products, or services.

Environmental Management System (EMS). A systematic approach to managing an organization's environmental concerns. The expected outcome is continual improvement in environmental performance.

environmental monitoring. A systematic approach for measuring and monitoring an organization's environmental performance. This includes the collection, analysis and evaluation of samples or other direct measurements of environmental media.

environmental objective. An overall environmental goal, associated with the stated environmental policy.

environmental performance. Measurable results of the EMS, related to an organization's control of its environmental aspects, based on its environmental policy, objectives, and targets.

environmental policy. A statement by the organization of its intentions and principles in relation to its overall environmental performance. The policy provides a framework for action and for the setting of its environmental objectives and targets.

environmental target. A detailed performance requirement, quantified where practicable, that applies to the organization or parts of it; it arises from the environmental objectives and needs to be established and met to achieve those objectives.

finding. A statement of fact relating to compliance or noncompliance with previously agreed upon procedures, policies, plans, codes, standards, specifications, or other forms of contractual or legal obligation. Findings should be supported by specific examples.

independent assessment. An assessment performed by a qualified individual, group, or organization not directly responsible for the work being assessed. Independent assessment is synonymous with independent audit.

Integrated Safety Management System (ISMS). A management system providing a formal organized process whereby people plan, perform, assess, and improve the safe conduct of work efficiently and in a manner ensuring protection of workers, the public, and the environment. This management system systematically integrates safety into management and work practices at all levels to accomplish missions while protecting the public, workers, and the environment.

interested party. A person or organization that can affect, be affected by, or perceived itself* to be affected by a decision or activity. (*The party must make this perception known to LM.) An interested party is also known as a stakeholder.

ISO Standard 14001. Internationally recognized EMS standard providing organizations with the elements of an effective EMS that can be integrated with other management requirements to help organizations achieve environmental and economic goals.

ISO Standard 50001. Internationally recognized EnMS standard providing organizations with the elements of an effective EnMS that can be integrated with other management requirements to help organizations achieve continual energy use performance improvement.

life-cycle. Consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal.

line management. Line management is a chain of line managers; it begins at the first level, directing work in the field, and flows up through the hierarchy to the program manager. It includes the LM program manager, office and site managers, and team leaders. LMS contractor line management personnel include the program manager; task, subtask, and functional managers; and site and facility leads.

management assessment. An evaluation process used to identify organizational strengths and weaknesses through existing information.

Office of Legacy Management (LM). A DOE program office tasked with managing the agency's postclosure responsibilities for legacy land, structures, and facilities and ensuring the future protection of human health and the environment. LM consists of the Office of the Director (LM-1), the Office of Business Operations (LM-10), and the Office of Site Operations (LM-20).

operating experience (OpEx). The sharing and application of lessons learned, best practices, success stories, project feedback, and other knowledge shares to produce better project outcomes and improve the efficiency and effectiveness of LMS processes.

operational control. A control method that can take various forms, such as procedures, work instructions, physical controls, trained personnel, or any combination of these. The specific control method depends on a number of factors, such as the skills and experience of people carrying out the operation and the complexity and environmental significance of the operation itself. In addition to procedures, work instructions, and other control mechanisms, operational controls can include provisions for measurement and evaluation and for determining operating criteria status.

person in charge. The person responsible for oversight, implementation, or performance of a work activity as identified on the *Plan of the Day/Plan of the Week* form (LMS 2130) (e.g., construction site supervisor, project lead, operations lead, or designee).

Plan-Do-Check-Act. An iterative four-step management method used for achieving continuous improvement. ISO 14001 is founded on this approach, which is a cycle of continual planning, implementing, evaluating, and improving work processes.

program management. LM program managers, LM team leads, and LMS task assignment managers who provide oversight of their respective programs and sites and have authority to make decisions and direct staffing and funding for the site, the office or facility, or the project.

relevant communication. Any two-way communication relating to LM's environmental performance that originates from an external interested party and results in a formal written response from DOE.

risk. A potential adverse effect (threat) and potential beneficial effect (opportunity).

senior management. The level of management with authority to make decisions for the LM program. Equivalent to the ISO definition of top management.

significant energy use (SEU). An item that consumes the most energy throughout LM is identified and then prioritized for application of energy conservation measures.

significant environmental aspect. An environmental aspect that has or can have one or more significant environmental impacts.

surveillance. The collection and analysis of samples or direct measurements of air, water, soil, biota, or other media from DOE sites for determining compliance with applicable standards and permit requirements, assessing radiation exposures of members of the public, and assessing the effects, if any, on the environment.

task assignment. An agreement between DOE and the LMS contractor to perform a specific scope of work within a specific schedule and budget.

10.0 References

Note

DOE directives and other references listed in this manual are current at the time of publication. However, after the manual is published, DOE directives might change, and those changes might not be reflected in this manual until the manual is revised in accordance with the controlled document policies.

Documents	Cited in This Manual	EMS Operational Control Documents
DOE Documents		
DOE (U.S. Department of Energy), 2016. *Departmental Use of Environmental Management Systems,* Memorandum AU21-16-N1-0050, October 24	X	
DOE Order 151.1D Chg 1, *Comprehensive Emergency Management System*, October 4, 2019	X	
DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*, archived August 9, 2016		
DOE Policy 226.2, *Policy for Federal Oversight and Contractor Assurance Systems*, DOE August 9, 2016		
DOE Order 360.1D, *Federal Employee Training*, December 9, 2022	X	
DOE Order 414.1D Chg 2, *Quality Assurance*, DOE September 15, 2020		
DOE Order 430.1C Chg 2, *Real Property Asset Management,* DOE September 17, 2020		
DOE Order 436.1, *Departmental Sustainability,* May 2, 2011	X	
DOE Order 450.2 Chg 1 (MinChg), *Integrated Safety Management*, January 17, 2017	X	
DOE Policy 450.4A, Chg 1, *Integrated Safety Management Policy,* January 18, 2018	X	
DOE Order 458.1 Admin Chg 4, *Radiation Protection of the Public and the Environment*, September 15, 2020	X	

Documents	Cited in This Manual	EMS Operational Control Documents
White House Documents		
EO (Executive Order) 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, December 8, 2021	X	
EO (Executive Order) 13287, *Preserve America*, March 3, 2003	X	
ISO Standards		
ISO 14001:2015. *Environmental Management Systems—Requirements with Guidance for Use,* International Organization for Standardization, September 2015	X	
ISO 14004:2016. *Environmental Management Systems—General Guidelines on Implementation,* International Organization for Standardization, March 2016	X	
ISO 50001:2018. *Energy Management Systems—Requirements with Guidance for Use*, International Organization for Standardization, August 2018	X	
LM Documents (continually updated, prepared by the U.S. Department of Energy Office of Legacy Management)		
Authorities, Delegations, and Concurrence, LM-Procedure-2-20-1.1	X	X
Control of Documents, LM-Procedure-2-20-4.1	X	X
Corrective Action and Improvement, LM-Procedure-2-10.0-3.0	X	X
Cultural Resource Management Plan, LM-Plan-3-3-1.0, LMS S07371		X
Environmental and Energy Policy LM-Procedure-1-24-1.0	X	X
Functions and Responsibilities, LM-Plan-2-20-1.2	X	X
LM (Office of Legacy Management) and LMS (Legacy Management Support), 2022. *Workforce Environment, Safety, and Health Posture,* joint statement by LM Director Carmelo Melendez and LMSP Program Manager Stephen Browning, October 12	X	X
LM Federal Employee Training and Development, LM-Procedure-2-4-2.1	X	X
LM Programmatic Risk Assessment and Site Screening LM-SOP-4-24-1.0	X	X
LM Oversight, LM-Procedure-2-10.0-1.0	X	X
Public Dissemination of Information, LM-Procedure-3-3-1.0	X	X
Quality Assurance Policy, LM Policy 414.1B	X	X
Quality Assurance Program Plan, LM-Plan-1-24-1.0	X	X
Records and Information Management, LM-Policy-1-11-1.0	X	X
Safety and Health Policy, LM Policy 450.4B	X	X
Tracking and Analysis of Relevant Environmentally Related External Communication, LM-Procedure-3-20-10.0	X	X

Documents	Cited in This Manual	EMS Operational Control Documents
LM/LMS Controlled Documents (continually updated, prepared by the LMS contractor for the U.S. Department of Energy Office of Legacy Management)		
EMS Support and Project Teams Manual, LM-Procedure-3-20-5.0, LMS/POL/S28895	X	X
EMS Sustainability Teams Manual, LM-Manual-3-20.3-1.0, LMS/POL/S11374	X	X
LM/LMS All Hazards Emergency Management Plan, LMS/POL/S37643, LM-Procedure-3-20-17.0	X	X
LM/LMS Fleet Management Manual, LMS/POL/S24625		X
Real Property Management, LM-Manual-3-13-3.0, LMS/POL/S04335	X	X
LMS Controlled Documents (continually updated, prepared by the LMS contractor for the U.S. Department of Energy Office of Legacy Management)		
Communication Products Manual, LMS/POL/S18461	X	X
Communication Products Procedures, LMS/PRO/S07153	X	X
Contractor Assurance System Program Description, LMS/POL/S13369	X	X
Document Management Services, Resources, and Procedures, LMS/PRO/S32818	X	X
Engineering Procedures Manual, LMS/POL/S04340	X	X
Environmental Data Validation Procedure, LMS/POL/S15870	X	X
Environmental Instructions Manual, LMS/POL/S04338	X	X
Environmental Protection Manual, LMS/POL/S04329	X	X
Environmental Radiation Protection Program Plan, LMS/POL/S13339	X	X
ESDM Environmental Data Management Team Work Procedures LMS/PRO/S13473	X	X
Functions, Responsibilities, and Authorities Manual (FRAM), LMS/POL/S04319	X	X
Integrated Safety Management System Description for LMS in Support of DOE Legacy Management Sites, LMS/POL/S14463	X	X
Integrated Work Control Process Manual, LMS/POL/S11763	X	X
Internal Communications Manual, LMS/POL/S07641	X	X
Issue Management, LMS/POL/S28504	X	X
Learning and Development Department Desktop Procedures, LMS/PRO/S08943	X	X
Learning and Development Policies and Procedures, LMS/POL/S15034	X	X
LMS Document Types, Processes, and Responsibilities, LMS/POL/S32426	X	X

Documents	Cited in This Manual	EMS Operational Control Documents
LMS Projects and Programs Manual, LMS/POL/S05760	X	X
LMS Safety and Health Program, LMS/POL/S20043	X	X
Media and Special Projects Manual, LMS/POL/S38251	X	X
Operating Experience (OpEx) Procedure, LMS/POL/S28783	X	X
Procurement Manual, LMS/POL/S04334	X	X
Project Management Control Systems Manual, LMS/POL/S04330	X	X
Public Affairs Manual, LMS/POL/S11690	X	X
Quality Assurance Desk Instructions, LMS/PRO/S04341	X	X
Quality Assurance Manual, LMS/POL/S04320	X	X
Quality Assurance Policy, LMS/POL/41952	X	X
Risk Management Plan, LMS/POL/S27671	X	X
RSI Team Safety, Environmental, and Energy Policy, *LMS/POL/S14226*	X	X
Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites, LMS/PRO/S04351	X	X
United States Code		
42 USC 4341 et seq. “National Environmental Policy Act,” *United States Code*	X	

Appendix A

Issues Potentially Relevant to Achieving EMS Outcomes

The following table describes external issues, internal issues, and environmental conditions that could affect LM's ability to achieve intended EMS outcomes.

External Issues		
Potential External Issues	**Applicability**	**Can Affect EMS Outcomes?**
Competition	LM is not in competition with any local organizations with similar purpose.	No
Cultural: Includes sacred sites, heritage properties, availability of specific resources such as medicinal plants, food used in cultural context for ceremonies, religious system, and aesthetic values	One example of how cultural issues impact LM work is that Riverton crayfish near the Amchitka, Alaska, Site are used in medicine and as food sources. The impacts of cultural issues often are site-specific and not LM-wide, but they could affect how LM conducts operations.	Yes
Economic: Availability of utilities	Availability of utilities could affect LM operations, but that potential was determined to be not significant, as any utility outage would most likely be short term.	No
Financial: System type and availability and access to resources	Availability and access to financial resources could affect LM operations and LM's ability to perform them.	Yes
Legislative: Statutory, regulatory, and other legal requirements	Change in administration could likely affect the framework within which LM operates.	Yes
Market and Public demand: Current and future market trends for products and services	LM purchases products but not in significant quantities, so market or public demand likely would not significantly affect operations.	No
Natural: Current and future climate conditions, biodiversity, rare or endangered species, ecosystems, and resource availability and physical conditions	Changes in natural conditions or the presence of rare or endangered species could affect LM operations.	Yes
Political: Type of system, level of interference in business development, and willingness to exercise power effectively	Change in the type of political system and how politicians exercise political power could affect LM operations.	Yes
Social: Ethnic values, gender, bribery, workforce availability, level of workforce education, criminal activity	LM has a large number of sites in different locations. While some site vandalism has occurred, it was determined that social issues are not likely to significantly affect LM operations.	No
Supply Chain	Supply chains could affect LM, but effects would be site specific, not LM-wide. Example: Acid deliveries for the Fernald Preserve, Ohio, Site.	Yes
Technological: Availability and access to technology relevant to LM	Existing technology: One example is that LM uses solar panels at the Tuba City, Arizona, Disposal Site. Alternative power from the grid or generators would be available if required, so it was determined that this availability would not affect LM operations. New technology: The use of unmanned aircraft systems for surveying and photography is changing the way LM does work at many sites.	Yes

Internal Issues		
Potential Internal Issues	**Applicability**	**Decision**
Capacity and Capability: Resources, workforce knowledge, and skills	It was determined that the capacity and capability of resources and workforce could affect how LM conducts operations.	Yes
Contracts: Content, form, and extent of contractual relations	It was determined that the content, form, and extent of contractual relations could affect how LM conducts operations.	Yes
Information Systems: Information flow and decision-making processes	It was determined that the flow of information and decision-making processes could affect how LM conducts operations.	Yes
Legal Compliance: Status and trends	It was determined that status and trends in legal compliance could affect how LM conducts operations.	Yes
Management Systems: Strengths and weaknesses of existing systems, guidelines, and models	It was determined that the strengths and weaknesses of existing systems, guidelines, and business models, such as those for accounting quality and safety, could affect how LM conducts operations.	Yes
Organization and Structure: Organization governance and structure, national and contractual governance frameworks, organization structure type	It was determined that organization governance and structure, national and contractual governance frameworks, and organization structure type (matrix, project-based) could affect how LM conducts operations.	Yes
Organizational Style and Culture: Management style, open- or closed-door policies, and decision-making processes	It was determined that changes to organization style or culture could affect how LM conducts operations.	Yes
Policies, Objectives, and Strategies	It was determined that policies, objectives, and strategies, and any changes in them, could affect how LM conducts operations.	Yes
Relationships: Relationships with, values of, and perception of internal people	Personal values, perceptions, and relationships with other personnel could affect how LM conducts operations.	Yes

Environmental Conditions and Events		
Potential Environmental Conditions and Events	**Applicability**	**Decision**
Emergencies: Emergency situation reports and incidents with environmental consequences	Emergencies with environmental consequences could affect LM operations. Examples cited include site closure due to rail car accident with phosphorus fire and a Hallam, Nebraska, Decommissioned Reactor Site earthquake.	Yes
Environmental Monitoring Data	Results from environmental monitoring data could change how LM conducts operations.	Yes
Environmental Permits	Changes to existing environmental permits or new permits could affect how LM conducts operations.	Yes
Historical Disaster Information	Historical disaster information related to LM operations would be site-specific but could be applicable to LM operations. Examples include areas that tend to flood or that have a high risk of wildfires.	Yes
Environmental Conditions: Meteorological, geological, hydrological, and ecological conditions	Changes to meteorological, geological, hydrological, and ecological conditions could affect LM operations. For example, the City of Miamisburg's act of dewatering an aquifer affected Mound, Ohio, Site groundwater treatment operations.	Yes