

Environmental Management System Description



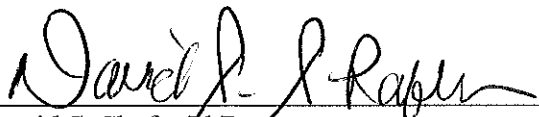
U.S. DEPARTMENT OF
ENERGY

Legacy
Management

Environmental Management System Description Document History

Version No./ Revision No.	Revised	Description of Changes
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.


Approved:



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5/15/2018

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Abbreviations

CATS	Corrective Action Tracking System
DOE	U.S. Department of Energy
EC	Environmental Compliance
EMS	Environmental Management System
EO	Executive Order
EP	Environmental Program
FRAM	<i>Functions, Responsibilities, and Authorities Manual</i>
GHG	greenhouse gas
ISMS	Integrated Safety Management System
ISO	International Organization for Standardization
IWCP	Integrated Work Control Process
LM	Office of Legacy Management
LMS	Legacy Management Support
NEPA	National Environmental Policy Act
S&H	Safety and Health
SSP	Site Sustainability Plan
SSPP	<i>Strategic Sustainability Performance Plan</i>

1.0 Introduction

This document describes the Environmental Management System (EMS) jointly administered by the U.S. Department of Energy (DOE) Office of Legacy Management (LM) and the Legacy Management Support contractor (LMS). EMS is part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources by which we accomplish our environmental policy. The EMS applies to all personnel who perform work related to the LM mission.

LM implemented the EMS in October 2005. It was established and implemented in accordance with the International Organization for Standardization (ISO) Standard 14001:2004, *Environmental Management Systems – Requirements for Guidance and Use* as required by a variety of agency-specific and federal directives, regulations, and policy statements. The EMS was updated to the latest revision, ISO 14001:2015, as required by the DOE Memorandum AU21-16-N1-0050, *Departmental Use of Environmental Management Systems*.

Implementation of EMS is integral to LM's mission and achieving excellence in environmental stewardship. We instill the values stated in the environmental, safety, and health policies throughout our activities in pursuing our mission.

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

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



Note

In this document, a reference to “LM” represents both LM and LMS unless specifically noted otherwise.

The purpose of this EMS Description is to provide a summary of the LM EMS and provide reference to pertinent documents. The EMS Description defines the elements of LM's EMS that support LM's work and describes the responsibilities of LM; planning to achieve goals and objectives; identification of significant environmental aspects; implementation and operations, performance evaluation, and continual improvement.

1.1 Systematic Approach

EMS incorporates a systematic process and approach for managing the environmental aspects of activities performed by LM and subcontractors in support of the LM mission. Utilization of this process avoids, reduces, or controls adverse environmental impacts and ensures fulfillment of environmental protection compliance obligations applicable to LM activities. The EMS continues to evolve with issuance and implementation of new directives and guidance documents by the federal government.

Through the EMS, LM identifies opportunities for improving work processes and performing work activities. LM also sets goals and establishes programs aimed at minimizing the waste

generated, reducing the quantity and toxicity of discharges to the environment, and identifying opportunities for improving energy efficiencies in day-to-day activities. With the EMS, LM integrates environmental protection, fulfillment of compliance obligations, and pollution prevention into work planning and execution throughout all work areas as a function of the Integrated Safety Management System (ISMS). The term EMS represents the integrated ISMS and EMS approach to all work activities in this document.

1.2 ISMS and EMS Commitment

The integration of EMS with ISMS provides a unified strategy for LM to manage resources, to control and attenuate risks, and to establish and achieve LM's environment, safety, and health goals. This integration applies to all work processes and activities performed under the referenced LMS contract and any other contracts or subcontracts that may be subsequently issued. Fundamental to the attainment of goals set forth in both EMS and ISMS are personal commitment and accountability, open communications, continual improvement, employee involvement, and 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, or risks to the environment and compliance infractions, and if necessary, to suspend work activities in order to prevent injuries, accidents, or harm to the environment. Personnel analyze and review work activities for potential safety and health risks and environmental impacts prior to their performance. The Workflow Process diagram located in the *Integrated Work Control Process* (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 LM to ensure its mission is 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:

- DOE Order 450.2 Chg 1, *Integrated Safety Management*
- DOE Policy 450.4A, *Integrated Safety Management Policy*
- LM Policy 436.1C, *Environmental Policy*
- LM Policy 450.4, *Safety and Health Policy*
- LMS/POL/S14226, *Navarro Safety and Environmental Policy*

2.0 Purpose and Scope

2.1 Purpose of the EMS Description

The purpose of this EMS Description is to provide a summary of the systems and processes used to implement the EMS and provide reference to pertinent documents. The EMS Description defines the elements of LM's EMS that support LM's work and describes the responsibilities of LM; planning to achieve goals and objectives; identification of significant environmental aspects; implementation and operations, performance evaluation, and continual improvement.

2.2 Context of the Organization (Applicability of the EMS)

The level of detail and complexity of the EMS varies depending on the context of the organization, the scope of its EMS, its compliance obligations, and the nature of its activities, products and services, including its environmental aspects and associated environmental impacts.

The ISO standard provides a framework for integrating environment, safety, and health protection into management and work practices and emphasizes use of a four-part continual cycle of Plan-Do-Check-Act. LM applies this framework (Figure 1) and has considered the context and scope of LM in defining our EMS.

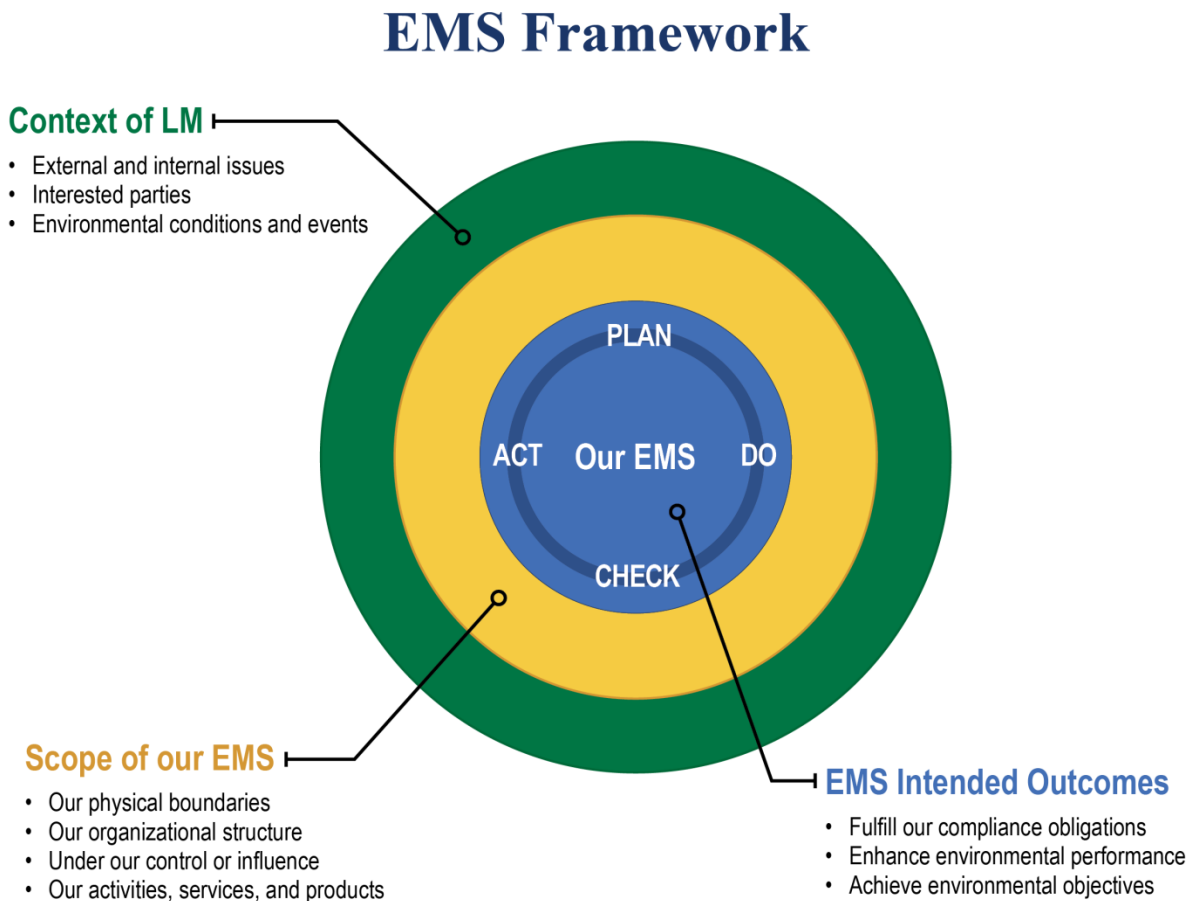


Figure 1. EMS Framework

2.2.1 Internal and External Issues

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

2.2.2 Needs and Expectations of Interested Parties

LM determined the interested parties that are relevant to LM, what the interested parties' needs and expectations are, and which needs and expectations LM considers part of its compliance obligations.

LM identified the following parties that have an interest and expectations in LM sites:

- 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.

2.3 Scope of the Environmental Management System

2.3.1 Physical Boundaries

LM embodies excellence in environmental stewardship while performing its primary mission of managing DOE post-closure legacy sites. Overall, LM manages, maintains, or has interest in more than 89,000 acres at 92 sites in 28 states and in Puerto Rico. The histories of the legacy sites vary, as do the regulatory regimes under which the sites are managed. Examples of the regulatory frameworks include the Comprehensive Environmental Response, Compensation, and Liability Act; DOE Defense Decontamination and Decommissioning Program; Formerly Utilized Sites Remedial Action Program; Resource Conservation and Recovery Act; and Uranium Mill Tailings Radiation Control Act. Additionally, LM manages five radiometric calibration models; administers the Defense-Related Uranium Mine Program to verify and validate the condition of abandoned uranium mines, primarily on federal public land managed by the U.S. Bureau of Land Management and the U.S. Forest Service; administers the Uranium Leasing Program; retains records at the Legacy Management Business Center in Morgantown, West Virginia; and conducts office work at multiple locations.

Activities range from fieldwork to office work. There are established offices in Washington, D.C.; Morgantown, West Virginia; Largo, Florida; Fernald, Ohio; Weldon Spring, Missouri; Westminster, Colorado; Grand Junction, Colorado; Tuba City, Arizona; Window Rock, Arizona; and Monticello, Utah. A list of the legacy sites is available on the LM public website.

2.3.2 Organizational Structure

EMS applies to all personnel who perform work related to the LM mission.

The level of an individual's involvement in the EMS depends on their various roles within LM:

- Federal staff or contractor staff:
 - For overall EMS implementation, LM and LMS work jointly.
 - For environmental compliance, LM provides oversight and direction, whereas LMS is responsible for implementation.
 - For sustainability implementation, LM and LMS 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.
 - Both business operations and site operations contribute to our sustainable activities and goals.
- Site-specific compliance or programmatic compliance
 - Environmental program managers are responsible for organizing and collating program-wide environmental compliance efforts.
 - LM site managers, LMS site leads, and Environmental Compliance (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.

Beyond the LM-wide, umbrella activities addressed by the EMS, LM has two areas of focus: environmental compliance and environmental sustainability. The LM-wide, umbrella EMS activities include: communications, training, assessments, records, and assessments or audits. The environmental compliance area consists of regulatory compliance and monitoring programs that implement federal, state, local, and tribal requirements, agreements, and permits. The environmental sustainability area promotes and integrates initiatives such as energy and natural resource conservation, waste minimization, green construction, and the use of sustainable products and services in all phases of work.

Specific national goals related to improving energy, water, and fuel efficiency and using sustainable products and services are stated mainly in DOE Order 436.1, *Departmental*

Sustainability, but also in the DOE *Strategic Sustainability Performance Plan (SSPP)* and EO 13693, *Planning for Federal Sustainability in the Next Decade*. LM strives to meet these goals through sustainability teams that use a systematic process to achieve mandatory efficiencies. 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.

Figure 2 illustrates the flow-down relationships covered under the EMS scope.

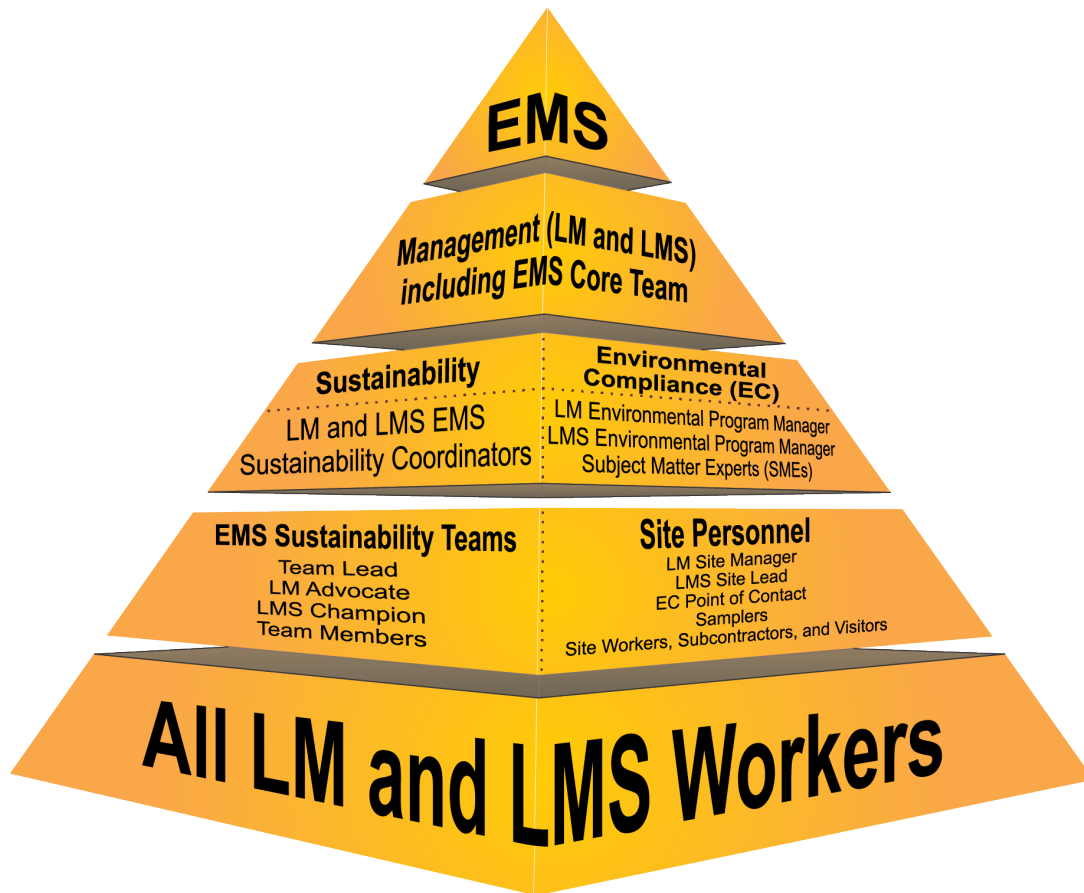


Figure 2. EMS Organizational Structure

2.3.3 Under LM Control or Influence

Any activities that can affect the environment and are within the area of influence of LM or LMS 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 are outside the scope of the EMS. Examples include regulator inspections, uranium-leasing activities, and property owners' operations and maintenance activities at leased facilities.

In determining the authority and ability of LM to exercise controls and influence, LM places the focus on visitors and subcontractors. All site and office visitors are indirect participants to our EMS during their visits. LM makes extra efforts to educate visitors about EMS and sustainability at our visitors and interpretive centers and through various outreach programs. LM does not

require its subcontractors to develop their own separate EMS, but subcontractors must participate in the LM EMS. LM employs a graded approach to determine the level of expected subcontractor participation.

2.3.4 Activities, Services, and Products

Under contract DE-LM0000421, 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 and surveillance, 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, Chenega Infinity, LLC, a contractor for site security at some LM sites, also falls under this EMS. Although the scope of work for Action Facilities Management 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.

3.0 Leadership

3.1 Environmental Policy

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. The LM and LMS environmental policies reinforce this philosophy and promote a workplace culture founded upon the core values of safety, compliance, integrity, and quality. These environmental policies are the foundation of LM's EMS.

LM's *Environmental Policy* (LM Policy 436.1C) declares our 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 EMS and ISMS, and fulfillment of compliance obligations. The LM policy is available on the LM Intranet and communicated to the public through the LM public website.

The *Navarro Safety and Environmental Policy* reaffirms that they remain committed to the safety of its workers and protection of the environment. This policy applies to Navarro Research and Engineering, Inc., and its teaming partners and subcontractors under the LMS contract. This environmental policy statement aligns with LM's core mission and includes a commitment to comply with the letter and spirit of applicable laws, to prevent pollution, and to work toward continual improvement with integrated systems and processes. In addition, it communicates LM's expectation for safety, including an ISMS, that 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 Intranet and currently resides in the LMS *Worker*

Safety and Health Program (Title 10 *Code of Federal Regulations* Section 851, “Implementation”) (LMS/POL/S14697).

LM communicates the 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.

3.2 Organizational Roles, Responsibilities, and Authorities

Since the LM EMS is a joint system, both LM and LMS employees participate and contribute to the success of the system. Respective implementation roles and responsibilities of the EMS are different as stated in Section 2.3.2. However, both commit to the Plan-Do-Check-Act model of continual improvement when conducting day-to-day business and 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 LMS *Functions, Responsibilities, and Authorities Manual (FRAM)* (LMS/POL/S04319) describes the mission, function, and products of the LMS contractor and authorities assigned to the LMS contractor for line support, oversight, business, and infrastructure management.

3.2.1 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, accounting for climate change in operations and facility activities, and promoting sustainable practices, which may be as simple as printing and copying documents double-sided or recycling plastic water bottles. 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 responsibility at all levels is essential for ongoing successful implementation of our EMS.

3.2.2 Senior Management

Senior management demonstrates leadership and commitment with respect to the EMS by:

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

Senior management assigns and communicates the responsibilities and authorities for relevant roles within the organization for these activities:

- Ensuring that the EMS conforms to the requirements of the current ISO 14001.
- Reporting on the performance of the EMS.

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

- Providing written communication to the responsible parties.
- Including details in responsible parties' performance plans.

Senior management responsibilities include:

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

3.2.3 Line Management

Line management is a chain composed of a number of line managers, beginning at the first level, directing work in the field, and flowing up through the hierarchy to the LM director and LMS program manager. 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 manager; task, subtask, and functional managers; and site and facility leads. Line management is responsible for implementing the EMS in accordance with applicable EOs, DOE policies, professional standards, and this manual. They are responsible for ensuring staff conduct work in an environmentally safe and compliant manner. Their responsibilities include:

- Integrating functional organizations (e.g., Environmental Compliance [EC], Quality and Performance Assurance, 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 in a timely manner.
- Ensuring that EMS support staff are assigned to activities in a timely manner.
- Ensuring 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.
- Reporting any threat to human health or the environment, mitigate impacts, and issuing a stop-work order if such a threat exists.
- Endorsing environmental excellence and promoting the continual improvement of the EMS and environmental performance.

3.2.4 Site, Program, and Office Managers and Leads

Other LM employees perform environmental-related activities, including:

- Ensuring personnel conduct environmental reviews prior to projects starting.
- Ensuring adequate resources are available to support anticipated EC site activities and are included in the appropriate task assignment.
- 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 National Environmental Policy Act (NEPA) reviews are completed before activities occur.
- Reviewing and approving environmental objectives and targets.
- Approving environmental reports issued to regulators and posted on external webpages.

3.2.5 Environmental Program Managers/EMS Coordinators

The LM Environmental Program (EP) manager oversees the scope, budget, and schedule of programmatic activities under the EMS. The LM EP manager and the LMS EP manager are the primary points of contact for the environmental compliance portion of the EMS and for requesting adequate funding to support anticipated EMS activities. The LM EP manager also serves as the LM EMS coordinator and the LM sustainability coordinator. The LM and LMS EMS coordinators establish or approve the level of operational and work control for environmental program activities.

The LMS EP manager is responsible for these activities:

- Ensuring that adequate resources are requested to support anticipated EMS activities and are included in the appropriate task assignment.
- Identifying and communicating applicable environmental requirements.
- Ensuring that the contractor's work activities are performed in compliance with environmental regulations.
- Integrating processes that ensure that EMS goals and targets are recognized and achieved and that progress is reported.

The EP managers will coordinate with each other on a regular basis.

3.2.6 LMS Environmental Compliance 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:

- 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.

3.2.7 EMS Sustainability Coordinators

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

- Overseeing the development and implementation of the EMS.
- Actively participating in the EMS Core Team.
- Reporting progress to management.
- Conducting management reviews and facilitating management involvement in EMS.
- Establishing or approving the level of operational and work control for sustainability activities.
- Performing quality control checks and data validation on annual reporting.

3.2.8 EMS Core Team

The EMS Core Team oversees the EMS teams and is management's EMS steering committee. It includes an LM senior management sponsor and an LMS senior management sponsor, LM and LMS EMS sustainability coordinators, LM team advocates, LMS team champions and team leads, and other representatives from applicable programs and projects and various levels of management and project support as needed. Their responsibilities include:

- Overseeing the development and implementation of the EMS.
- Approving EMS goals.
- Approving selected sustainability targets annually to report progress through the quarterly performance assurance report; the approval is conducted during the annual EMS Management Review.
- Functioning as the steering committee for management-level decisions.

3.2.9 EMS Sustainability Teams

To achieve the objectives and goals identified in EO 13693, DOE Order 430.1C, Chg 2, DOE Order 436.1, and the DOE SSPP, LM established individual sustainability teams. 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 these activities:

- Implementing, managing and promoting their 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 Environmental Program Management report found on the LM Intranet at **ESH&Q > Joint Environmental Management System > Goals, Progress, Reports, and Plans**.

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 assists in ensuring 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

Given the diverse nature of LM activities, a quantitative determination of risk for all activities is not practicable. Management uses a graded approach to evaluate risk, and considers the following factors in determining relative risk 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 the consequences of failure.
- Life-cycle stage of a facility or item.
- Particular 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 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:

- 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 *Environmental Management System Teams Manual* (LM-Manual-3-20-11.0-0.0, LMS/POL/S11374).
- Scope of the EMS and determination of the 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.

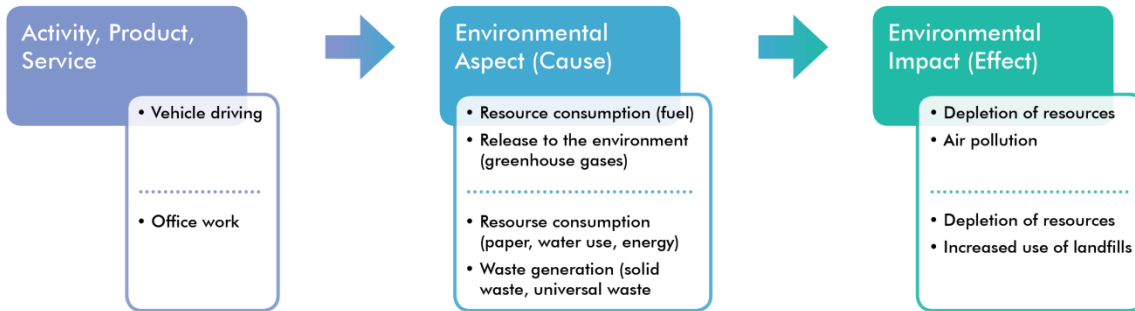
LM maintains documented information of any risks and opportunities that need addressed. The level of management and controls will vary as a function of the degree of confidence needed to achieve the desired quality of an item or activity.

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.

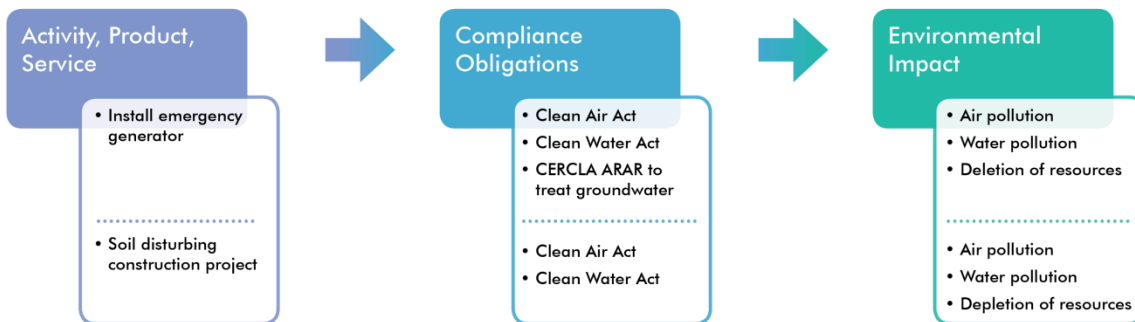
LM and LMS evaluate assigned work periodically to identify and update the environmental aspects of the LM Program and their impacts, their associated objectives, the associated targets and goals, compliance with legal obligations and other requirements, and the expectations and needs of interested parties. The identification of the environmental aspects includes evaluation of compliance obligations (legal and other requirements and the identification of environmental impacts). Figure 3 below shows two examples of LM activities and their associated environmental aspects and environmental impacts. Figure 4 below shows two examples of LM activities and their associated compliance obligations and environmental impacts. Compliance obligations are discussed further in the next section.

UNCONTROLLED IF PRINTED



Abbreviation:
GHG = greenhouse gas

Figure 3. Examples of LM Activities, Environmental Aspects and Environmental Impacts



Abbreviation:
ARARs = applicable or relevant and appropriate requirements

Figure 4. Examples of LM Activities, Compliance Obligations and their Environmental Impacts

4.1.3 Compliance Obligations

LM determines external issues that are relevant and could affect its ability to achieve the intended outcomes of LM's 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 assists in ensuring adherence with compliance obligations, including annual reporting.

LM implements and updates their 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 to determine which needs and expectations become LM's compliance obligations. As shown in Section 2.3.1 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 located under the Sites page on the LM public website provide information on these agreements. Figure 5 shows examples of types of LM compliance obligations.

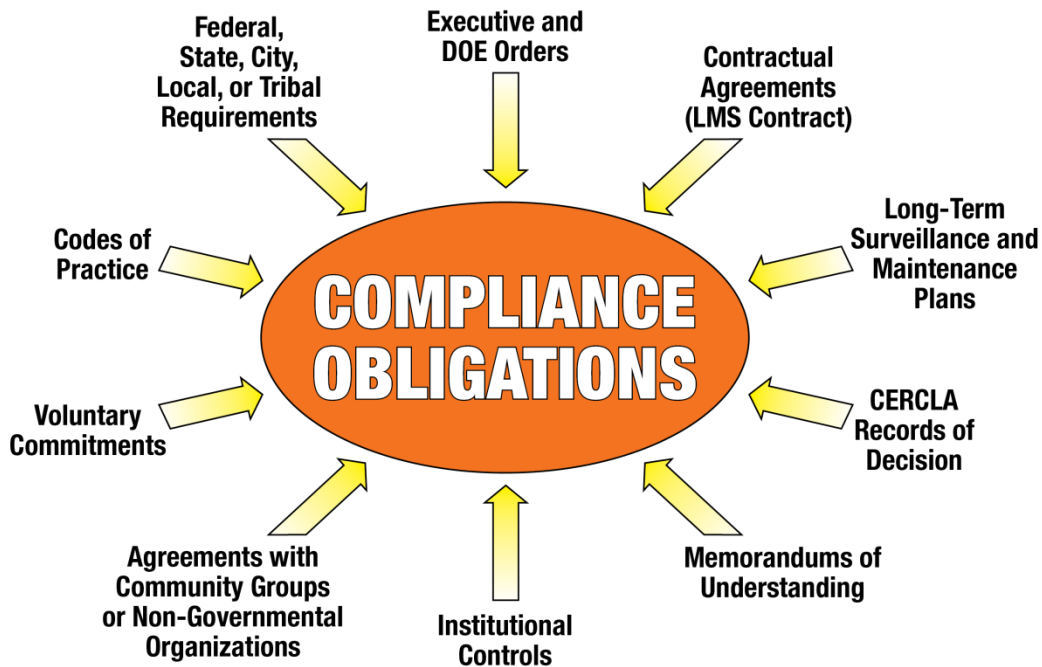


Figure 5. Examples of LM's Compliance Obligations

LMS EC is responsible for conducting regulatory reviews. The procedure for conducting this activity resides in the LMS *Environmental Instructions Manual* (LMS/POL/S04338). The list of LMS Directive and Regulation Responsibility/Implementation requirements is available on the LM Intranet at **Contractor Resources > Contractor > Contracts/Task Assignments > LMS Contract**. The LMS EC group periodically evaluates this list for any necessary revisions.

LMS's Quality and Performance Assurance group maintains a list of DOE directives, federal laws, policies, and regulations applicable to actions and management of LM sites. The Quality and Performance Assurance 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 the directives and regulations, and provides recommendations for contract changes to the LMS contract administrator to provide to the LM Contracting Officers Representative. Appendix B of this document provides a current list of EMS requirements at the time of this publication. Attachment K of the contract located on the LM Intranet provides a complete list of applicable statutory requirements. The LM Intranet contains a link to the applicable statutory requirements in the most current contract at **Contractor Resources > Contractor > LMS Contract**.

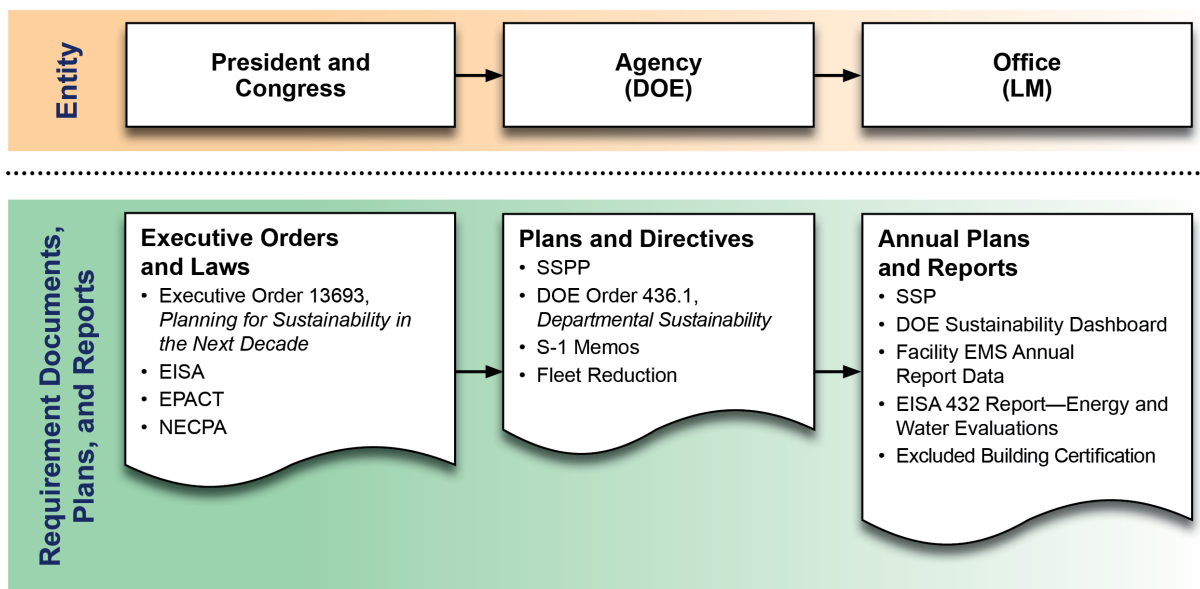
In addition to federal, state, local, and tribal regulations and DOE Directives, the activities conducted for LM are also subject to any specific requirements of the contract. The LMS *Environmental Protection Manual* (LMS/POL/S04329) and the *Environmental Instructions*

Manual describe processes that specifically outline how the LMS contractor complies with LM’s environmental compliance obligations.

In addition, the high degree of variation in environmental conditions and geographic settings from one location to another is a factor in the variations in application of requirements to a given site. For example, some sites are located in the arid southwest while others are located in mountainous or prairie-land areas with dense forest or grasslands. The wildland fire management plans, for example, vary dramatically between these types of sites.

Many EMS compliance obligations require periodic written reports. These reports might be programmatic or site-specific and can cover a variety of EMS topics including sustainability or environmental compliance. The *LM Programmatic Reports Table*, located on the LM Intranet at **ESH&Q > Joint Environmental Management System > Goals, Progress, Reports, and Plans**, provides an explanation of the reports, including report description, receiving entity, regulatory requirement or driver, and frequency of reporting. Some site-specific reports are located on the individual site webpages on the LM Internet.

Figure 6 below shows some examples of periodic sustainability reports and their requirements.



Abbreviation:
S-1 = Secretariat Officer

Figure 6. EMS Sustainability Reports

Figure 7 shows examples of LM-programmatic and site-specific environmental compliance reports and their requirements.

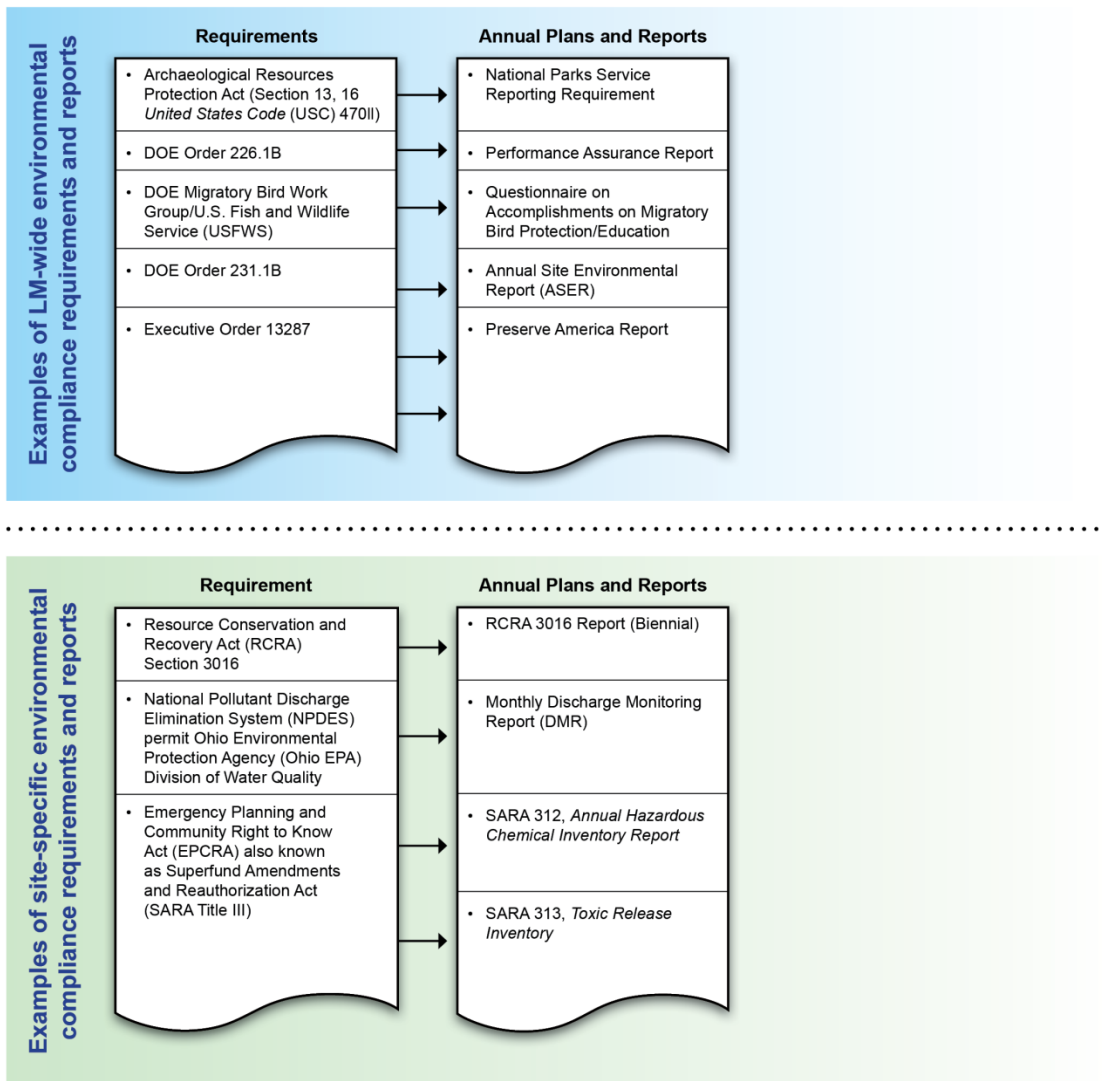


Figure 7. Examples of Environmental Compliance Programmatic and Site-Specific Requirements and Resulting Reports

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 LMS 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, who evaluates and approves or revises and negotiates via the contractual process for award in accordance with DOE guidelines.

LMS 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. Environmental goals should be included in the Task Assignments as appropriate, so that resources can be planned for achieving these goals.

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. Figure 8 below shows an example of several activities, their environmental objectives and targets.

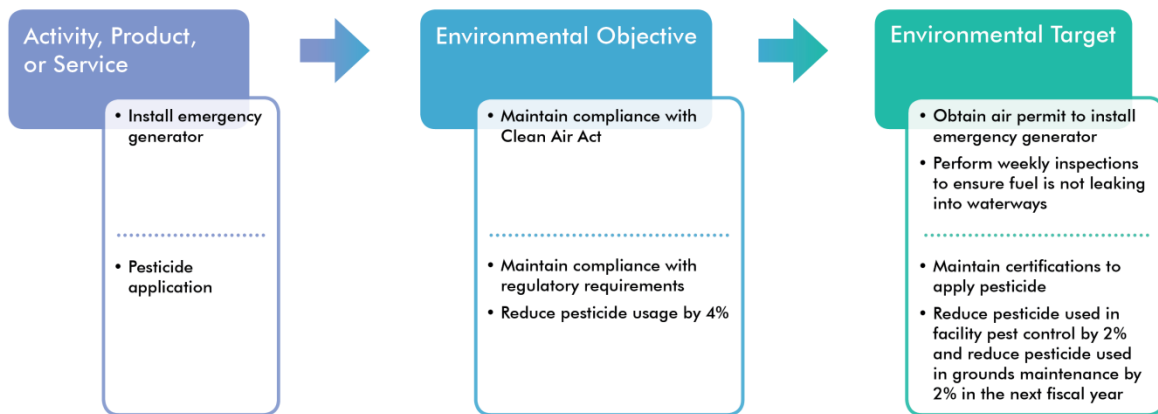


Figure 8. Activity Examples with Environmental Objectives and Targets

4.2.2 Planning Actions to Achieve Environmental Objectives

LM evaluates assigned work periodically to identify and update the environmental aspects and evaluate compliance obligations and the expectations or needs of interested parties. LM establishes environmental objectives during the process of identifying environmental aspects. The *LMS Environmental Management System 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 ISMS are applicable to both 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-4-2-.3-4.0-0.1]) as described in the *Integrated Work Control Process*.

LM enlists individual sustainability teams to promote, addressing and meeting the sustainability goals under the EMS. The *Environmental Management System Teams Manual* describes the teams and includes their process descriptions and implementation plans. It also describes support

teams and ad hoc project teams including process descriptions and instructions for identifying significant environmental aspects and conducting the annual EMS Management Review.

LMS maintains an environmental compliance manual, titled *Environmental Protection Manual*, that provides summaries of applicable federal acts, policies, and regulations that are considered during activity planning or assessment (e.g., Clean Water Act).

LMS maintains the *Environmental Instructions Manual* which is a procedure for implementing environmental compliance requirements.

For emergency management, LM maintains the *LM and LMS Emergency Management Program Description (EMPD)* (LM-Procedure-3-20.0-2.0-0.0, LMS/POL/S14748), which provides the framework for LM and the LMS contractor for all emergency management activities, including emergency planning, preparedness, response, mitigation, readiness assurance, and recovery activities to ensure LM and LMS can respond effectively and efficiently to all operational emergencies.

For radiation protection, LMS maintains the *Environmental Radiation Protection Program Plan (ERP3)* manual, which provides guidance for LMS work scope involving radiological hazards and ensures compliance with DOE Order 458.1, *Radiation Protection of the Public and the Environment*.

These manuals, in addition to others referenced throughout the rest of this document, are available on the LM Intranet at **Contractor > Controlled Documents**.

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. 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. 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 DOE operations. Implementing the EMS is integral to LM’s mission and to achieving excellence in environmental stewardship.

EMS is an established structure with senior management leadership, coordinators, EMS teams, and the EC group. Two coordinators lead EMS, and two coordinators lead the EMS Sustainability Teams. In each case, one of the coordinators is an LM employee and the other is an LMS contractor employee. The coordinators are the points of contact for the EMS.

The EMS sustainability coordinators, LMS team leads, LM advocates, and LMS champions meet periodically (monthly or every other month, depending on activities) and provide a quarterly

status update to senior management. LMS's EC group meets weekly, provides monthly and quarterly status reports, provides quarterly reports on changing requirements, and provides other reports periodically as required. In addition, the annual EMS Management Review allows LM's leaders to assess the strengths and weaknesses of EMS and provides them with information that helps them make decisions affecting the future of the program.

The EMS Core Team includes representatives from applicable programs and projects from LM and LMS contractor management. Their responsibilities include: (1) overseeing the development and implementation of the EMS Sustainability Teams, (2) approving EMS goals and targets, and (3) functioning as the steering committee for management-level decisions.

Each EMS Sustainability Team consists of a team lead, an LM advocate, an LMS contractor senior-management champion, and several other LM and LMS employees. Each team is responsible for managing and implementing its individual sustainability initiatives and coordinating with other teams on crosscutting goals. The EMS training team assists each sustainability team in updating their respective sections within EMS training courses. The EMS Communications team helps the Sustainability Teams update their team webpages as needed and provides awareness articles, which are published in an internal quarterly newsletter (*ECHOutlook*) at least once every 2 years for each team. Related posters, *eNews* announcements, contests, and activities sometimes accompany the articles.

The environmental compliance aspect of EMS consists of regulatory compliance and monitoring programs that implement federal, state, local, and tribal requirements, agreements, and permits. The LMS work planning and authorization processes describe integration of the LMS EC group into program and project implementation from planning through completion. This integration ensures that when activities are performed, steps are taken to protect both public safety and the environment.

5.2 Competence

Management determines the necessary competence of the people doing work under their control. LM's environmental performance and the ability to fulfill compliance obligations is assured through hiring staff with the appropriate education, training, or experience. EMS training will be commensurate with scope, complexity, importance of the activities, technical objectives, requirements of applicable codes and standards, and the education, experience, duties, and proficiency of employees. LM identifies training needs specific to EMS, and where applicable, takes additional actions to acquire the necessary competency. LM then evaluates the effectiveness of actions taken to acquire additional competency through either the performance appraisal process or the corrective action process if needed.

The *LMS Training Program Description* (LMS/POL/S04323) provides the training policy for work performed by LMS. The *LMS Training Department Desktop Procedures* (LMS/PRO/S08943) provides desktop procedures regarding training elements LMS uses to administer and maintain a comprehensive training program for LMS contractor employees, teaming partners, and subcontractors. The training elements include the design, development, implementation, maintenance, and control of the training program in support of the LMS contract.

DOE Order 360.1C, *Federal Employee Training* and *LM Federal Employee Training and Development* (LM-Procedure-3-10.4-1.0-0.0), provide the training policy and procedures for LM.

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 requirements and policies.
- Increase their awareness of environmental protection practices and pollution prevention and waste minimization opportunities.
- Take appropriate actions in the event of 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.

The EMS training team fosters the development of training to support the EMS. The LM training matrix identifies mandatory training, sources of training, and frequency. LMS training plans identify training needs, sources of training, and frequency.

LM training plans utilize three types of training: new employee, general awareness, and functional training.

EMS training will be commensurate with scope, complexity, importance of the activities, technical objectives, requirements of applicable codes and standards, and the education, experience, duties, and proficiency of the employee.

LMS maintains EMS training records in LMS Training Legacy Management Knowledge Center database. LM separately tracks training for their employees using the Corporate Human Resource Information System, which will be replaced by the Learning Nucleus.

The LMS *Environmental Management System Teams Manual* provides detailed information on the EMS training.

5.3 Awareness

Senior management is responsible for building awareness related to EMS and environmental 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:

- Environmental policies.
- Significant environmental aspects and related actual or potential environmental impacts associated with their work.

- Importance of their contribution to the effectiveness of the EMS, including the benefits of enhanced environmental performance.
- Importance of including EMS related actions in task planning, budgeting and implementation.
- Implications of not conforming with the EMS requirements, including not fulfilling the organization's compliance obligations.

5.4 Communication

5.4.1 General

Integrated environmental management requires effective communications to coordinate staff internally and open, clear lines of communication with external stakeholders. With respect to LM's mission and goals, LM and LMS are committed to communicating environmental information to their employees and to the public and to receiving input from employees and external stakeholders. This section describes how LM communicates its EMS, environmental program and sustainability team activities, and community outreach initiatives to employees and external stakeholders. In addition, to satisfying the ISO 14001:2015 requirements of tracking relevant environmental communication, the LM Environmental Communication Tracking System (or E-COMM) was established. LM's *Tracking and Analysis of Relevant Environmentally Related External Communication* (LM-Procedure-3-20-10.0-0.0) (DOE 2018) defines which communications to track and what systems to use for documenting the communications.

LM communicates relevant environmental performance information both internally and externally, as identified in its communication process and as required by its compliance obligations. The *Environmental Management System Teams Manual, Internal Communications Manual* (LMS/POL/S07641), *Public Affairs Manual* (LMS/POL/S11690), and *Outreach Products Manual* (LMS/POL/S18461) provide detailed instructions on internal and external communications.

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 they may contact their EMS management representative directly. LM and LMS 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, such as news media, regulatory agencies, and other government entities. LM communicates information relevant to the EMS to external parties as established by communication processes and as required by its compliance obligations. Figure 9 shows the internal and external communication process.

Environmental Management System (EMS) Communication Flow

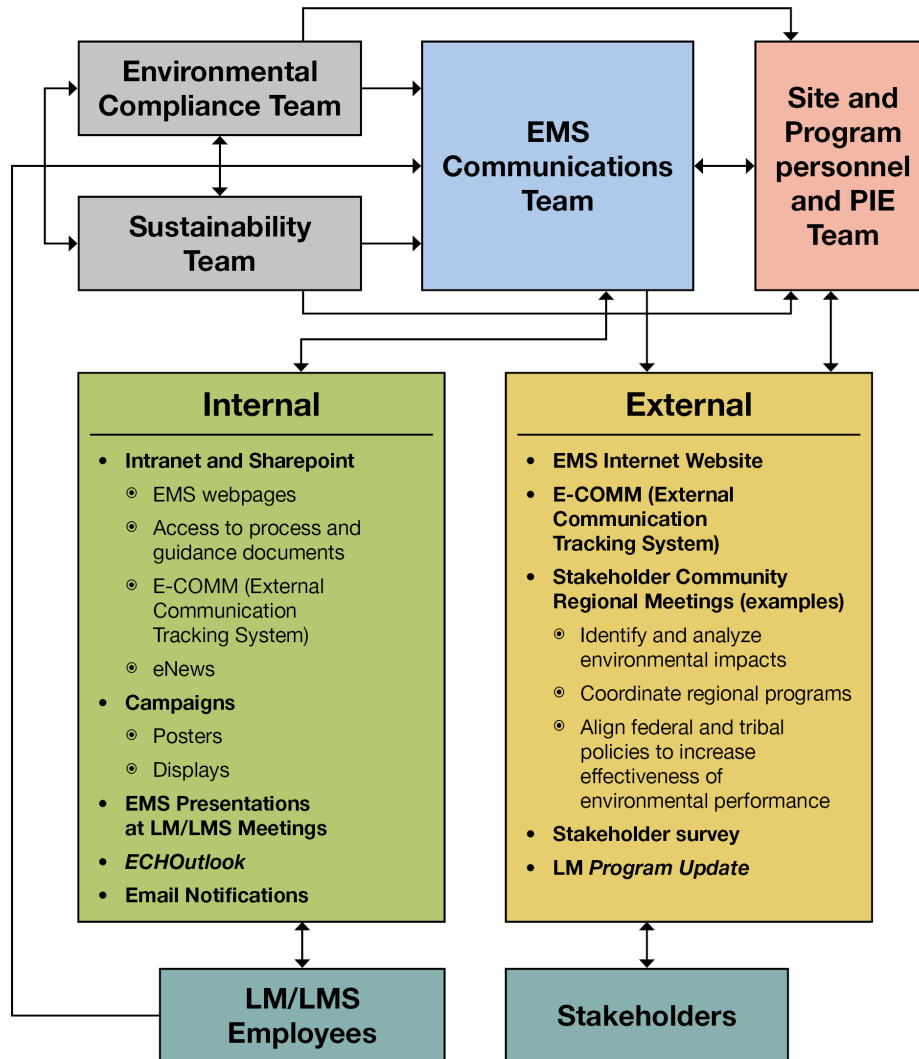


Figure 9. EMS Communication Flow

5.5 Documented Information

5.5.1 General

LM’s EMS includes documented information required by ISO 14001 and any documented information determined by LM as being necessary for the effectiveness of the EMS. Both LM and LMS 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 work controls LM uses to manage the work and mitigate environmental impacts.

LMS provides status on environmental performance routinely in an Environmental Program Management report, which is available on the LM Intranet at **Contractor Resources > Departments > Environmental Management System > Goals, Progress, Reports, and Plans.**

LM reviews and updates this EMS Description document every 2 years. Each review considers assessments, nonconformities, and associated corrective actions. If a more frequent revision to the EMS Description is necessary, LM makes revisions and notifies LM and LMS employees.

Figure 10 shows the variety of document types used to implement the EMS.

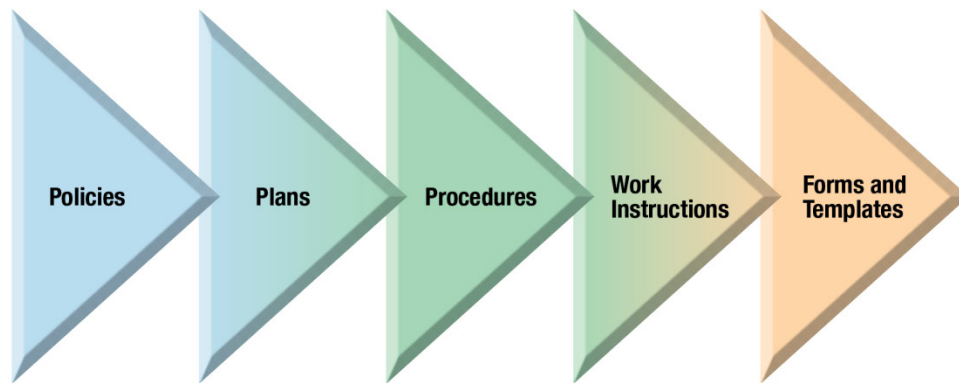


Figure 10. EMS Implementation Documents

Appendix C provides a complete list of EMS implementing procedures.

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 reviews recommendations for changes to the LMS *Environmental Management System Teams Manual*, *Environmental Protection Manual*, *Environmental Instructions Manual*, and this document. Both LM and LMS revise these documents as needed to reflect any changes in compliance obligations including DOE Orders or policies and to incorporate results of lessons-learned reports.

LMS-generated documents follow document hierarchy and review schedules described in the *LMS Functions, Responsibilities, and Authorities Manual (FRAM)*, procedure requirements in the *LMS Quality Assurance Manual (LMS/POL/S04320)*, and controlled document requirements in the *LMS Document Management Manual (LMS/POL/S09818)*. The *Document Management Manual* includes specific requirements for creating and updating LMS documents. The documents controlled by LMS include:

- Level 1, high-level contractor planning documents (including the FRAM).
- Level 2, contractor programmatic plans, procedures and policies.
- Level 3, contractor functional procedures and plans.
- Level 4, site-specific plans and procedures.

The LM *Quality Management System (QMS) Controlled Documents System* (LM-Procedure-2-10.0-4.1) establishes the required layout and process for publishing procedures, forms, guidebooks, templates, and various other types of documents. Initial release of procedures and procedures that require major changes must go through LM management for review with the positions designated in LM-Procedure-2-10.0-4.1.

In addition to QMS controlled documents, LM also has the Supplemental Directives Management System that is described in Supplemental Directive (PR-251-1E). Supplemental Directives are LM Policies and other documents that directly supplement a DOE directive (including policies, order, notices, and other directives).

Both LM- and LMS-controlled documents and LM supplemental directives are available on the LM Intranet.

5.5.3 Control of Documented Information

For QMS controlled documents, per LM-Procedure-2-10.0-4.1, the LM quality assurance manager can authorize minor changes on documents with concurrence from the documents subject matter expert. To perform a minor (or major change), LM-Form-4-10.0-4.1, QMS Controlled Document Review Form, is used.

In accordance with LM Procedure 251.1E, LM office directors can make and authorize minor changes to the policy on behalf of the director on supplemental directives. LM uses LM form 251.1E, *Directive Processing Form*, to issue new directives or revisions to existing directives.

In general, a controlled document encompasses procedures, programs, plans, forms, guides, and instructions that ensure that all employees perform safe, regulation-compliant, and high-quality work in an approved manner. LM maintains control of all LM documents in accordance with LM-Procedure-2-10.0-4.1-0.0, *Control of Documents*. In accordance with the *LMS Document Management Manual*, which addresses specific requirements for creating and updating documents, the LMS Document Management group is the single point of contact for all LMS-controlled documents and manages them to ensure consistency among documents and to allow control of electronic files, hard-copy documents, and documents displayed on the LM Intranet at **Library > LMS Controlled Documents**.

In accordance with the *LMS Outreach Products Manual*, which addresses specific procedures for creating and updating webpage requirements, the LMS Outreach Products group manages information posted on the LM internal and external webpages. LMS uses form LMS 1002, *Internet Posting Request*, to request new webpages or changes to current webpages.

5.5.4 Records

EMS records include plans, procedures, and related documents; the results of management assessments; annual audits; annual aspect, objective, and target identification; meeting minutes; reports; responses to data calls; and the results of management reviews. EMS records show proof of conformance to associated requirements. The records are traceable, legible, and retrievable. LM maintains EMS records in accordance with standard protocols defined in LM-Procedure-2-10.2-4.2-0.0, *Records Management Program*, and the *LMS Records Management Manual* (LMS/POL/S04327). Site-specific records are maintained in site-specific file plans.

An EMS records file plan ensures logical tracking of documents and documentation related to the EMS. The EMS records file plan resides in the LM Electronic Recordkeeping System.

File plan numbers are as follows:

LMP 100 Environmental Management System (EMS):

- LMP 0105.05, Environmental Compliance Programmatic Documents
- LMP 0105.10, EMS Sustainability Documents



Note

LM maintains site-specific compliance documents in site-specific file plans. Examples include Weldon Spring, Missouri, Site, Annual Site Environmental Report and Fernald Preserve, Ohio, Site, National Pollutant Discharge Elimination System monthly environmental discharge monitoring reports.

6.0 Operation

6.1 Operational Planning and Control

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. Personnel prescribe and perform activities and services in accordance with documented instructions, procedures, or drawings that include or reference appropriate quantitative or qualitative acceptance criteria for determining satisfactory accomplishment of the prescribed activities. 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. The complexity of the task, the significance of the item or activity, work environment, and worker proficiency and capability (education, training, experience) determine the need for, and level of detail in, written procedures or instructions. The EMS coordinators are responsible for establishing or approving the level of operational and work control for environmental programs.

The EMS sustainability coordinators are responsible for establishing or approving the level of operational and work control for sustainability team activities.

The LMS workflow process guides project and activity leads and ensures nationwide consistency in work planning and execution. The *LMS Projects and Programs Manual* (LMS/POL/S05760) describes the workflow process and the mechanisms for work controls. Key elements of the workflow process are work scope definition, work planning, hazard identification and mitigation, work authorization, performance of work, and project closeout, all of which are also components of DOE's ISMS and EMS. Hazard identification and mitigation includes identifying environmental impacts and environmental requirements and obtaining necessary permits or additional approvals. Work planning and controls utilize a graded approach consistent with the complexity of the activity, the work environment, and worker proficiency.

The *LMS Integrated Work Control Process* (IWCP) (LMS/POL/S14463) details the process for initiating, authorizing, performing, and conducting work within the scope of the contract. The IWCP defines LMS work categories, provides guidance for determining when each work category is applicable, and defines the work control requirements for each work category. The IWCP is applicable to all work activities managed and performed by the LMS contractor at LM sites and facilities. The IWCP is also applicable to all subcontractor work performed at LM sites and facilities, and the requirements flow down to subcontractors in accordance with subcontract terms and conditions.

Several other manuals, such as the *LMS Environmental Procedures Catalog* (LMS/POL/S04325), address specific instructions for performing operations such as data validation. In addition, site-specific procedures provide instructions for site activities. The LM Intranet contains a complete list of contractor and joint LM and LMS manuals at **Library > LMS Controlled Documents**. LM maintains their list of QMS Controlled Documents (i.e., procedures, plans, manuals, guides, templates, and forms) on the LM Intranet Library webpage under "LM Controlled Documents." LM Supplemental Directives (i.e., LM policies and other documents that directly supplement a DOE directive) are also on the LM Intranet >**Library** webpage under "LM Supplemental Directives."

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.D, *Comprehensive Emergency Management System*. The *LM and LMS Emergency Management Plan Description (EMPD)* (LM-Procedure-3-20.0-2.0-0.0, LMS/POL/S14748) provides the framework for LM and the LMS contractor for all emergency management activities, including emergency planning, preparedness, response, mitigation, readiness assurance, and recovery activities to ensure LM and LMS 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

The histories of the LM sites vary, as do their regulatory regimes and what is monitored and measured at each of them. Therefore, LM monitors, measures, analyzes, and evaluates its environmental performance with a variety of methods. LM self-evaluations may be addressed within the group that identified the issues 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 occurs.
- 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 *LMS Contractor Assurance System Program Description* (LMS/POL/S13369) brings together the processes LMS uses to monitor and evaluate the content and implementation of LMS activities regarding the environment; safety and health, including quality assurance and integrated safety management; safeguards and security; cyber security; and emergency management. The *LMS Contractor Assurance System Program Description* ensures the elements of these programs align with the DOE Policy 226.2, *Policy for Federal Oversight and Contractor Assurance Systems* (DOE 2016). In addition, it ensures the elements meet the regulatory and contractual requirements, as defined by Attachment 1, Contractor Requirements Document of DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*.

The *LMS Quality Assurance Program Description*, (LMS/POL/S13806), *Quality Assurance Manual*, *Quality Assurance Desk Instructions* (LMS/PRO/S04341), and *Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites* (LMS/PRO/S04351) provide more detailed information on the processes including calibrating equipment and data validation. Some sites have site-specific quality assurance plans and sampling and analysis plans that provide additional information on the methods for calibration and verification of monitoring and measurement equipment. The *Environmental Support Services Data Management Procedures* (LMS/PRO/S06690) provides additional information on data management. The *Environmental Procedures Catalog* provides information on field sampling activities.

LM may conduct environmental monitoring at any LM site and at locations surrounding a site. Federal, local, state, or tribal regulations or site-specific agreements may require general monitoring of environmental media such as air, surface water, and groundwater to identify the nature and extent of contamination, to demonstrate compliance with regulatory standards, or to demonstrate that existing contamination is acting as predicted. Offsite sampling may require site access agreements. The LMS *Real Property Management* manual (LMS/POL/S04335) provides information on obtaining access to offsite monitoring locations.

Required environmental monitoring includes both general and project-specific or permit-specific monitoring. Monitoring, measuring key characteristics, maintaining, and calibrating equipment are performed in accordance with site-specific laboratory and field procedures. Results of this environmental monitoring determine compliance strategies and ensure the integrity of remedial actions.

Monitoring and measuring targets, objectives, goals, and fulfillment of compliance obligations; performing internal assessments; participating in external audits; resolving nonconformances; and conducting preventive and corrective actions are all part of the “Check” and “Act” steps of the Plan-Do-Check-Act model of continual improvement.

LM evaluates its environmental performance and the effectiveness of the EMS utilizing management assessments and self-assessments, oversight assessments, internal and external audits, an independent triennial external audit, and the management review process. The LMS *Quality Assurance Manual* and *Quality Assurance Desk Instructions* provide detailed instructions on the various types of performance and effectiveness assessments. The LM *Quality Assurance Program Plan*, (LM-Procedure-1-10.0-1.-0.0), *Quality Assurance Program Plan*, the LM Corrective Action and Improvement procedure (LM-Procedure-2-10.0-3.0-0.0) and LM *Quality Assurance Policy* (LM Policy 414.1B) address the 10 quality assurance management, performance, and assessment criteria of DOE Order 414.1D Admin Chg 1, *Quality Assurance* (DOE 2013). In addition, DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*, provides guidance on conducting oversight assessments, where LM-Procedure-2-10.0-1.0, implements oversight requirements within LM.

In addition to techniques identified above, LM evaluates environmental aspects, identifies significant aspects, and selects targets to minimize environmental impacts and achieve environmental objectives. The *Environmental Management System Teams Manual* provides detailed information on the aspect evaluation process.

EC maintains a list of the current environmental objectives, targets, and goals; tracks the progress toward the goals; and reports the status to management periodically. The quarterly Environmental Program Management Report provides status on significant environmental aspect targets and Sustainability Team annual targets.

LM retains evidence of the monitoring, measurement, analysis, and evaluation results as formal records in accordance with the LM *Records Management Program* procedure and LMS *Records Management Manual*.

7.1.2 Evaluation of Compliance

LM establishes, implements, and maintains the processes to evaluate fulfillment of its environmental compliance obligations. LM determines the frequency of the evaluations, evaluates compliance and takes action as needed, maintains knowledge and understanding of its compliance status, and documents evidence of the compliance evaluation results. In addition, the LMS EC group utilizes a number of internal tools to facilitate continued compliance, including the following:

- **Regulatory Review Report:** This quarterly report is a compilation of reviews of new or revised environmental laws, regulations, and DOE directives. The reviews include analysis of applicability to LM and LMS and provide recommended changes to plans and procedures if warranted. Copies of the quarterly regulatory review reports are available on the LM Intranet at **Contractor Resources > Departments > Environmental Management System > Goals, Progress, Reports, and Plans**.
- **LM Programmatic Environmental Reports/Activities:** This table is a brief summary of environmental programmatic reports and includes information such as a task, description of task, frequency, receivers, general due date, receiving entity, and regulatory drivers. There is a link to the current LM programmatic reports table on the LM Intranet at **Contractor Resources > Departments > Environmental Management System > Goals, Progress, Reports, and Plans**.
- **Navarro Information Management Systems (NIMS):** This database identifies major environmental compliance reports and actions required for LM sites as well as programmatic deliverables. The schedule is used to track commitments monthly and provides a brief description of the report or action, regulatory driver, responsible personnel, and due date.

Management assessments, and self-assessments, independent internal assessments, and surveillances evaluate compliance with legal requirements applicable to the defined environmental aspects. LMS conducts these activities according to an oversight schedule maintained by the LMS Quality and Performance Assurance group. The scope and purpose of each of these activities is determined in advance through consultation between project management and the organization performing the activity. LM performs oversight assessments.

Assessment planning is flexible to allow for response to special requests, past performance, and changes in work scope, as well as to allow the monitoring activities to provide the most useful information to management and to ensure compliance with all requirements over some time.

7.2 Audits, Assessments, and Management Review

7.2.1 General

LM conducts audits at planned intervals to provide information as to whether the EMS: conforms to LM requirements, conforms to the requirements of ISO 14001, and is effectively implemented and maintained.

7.2.2 Internal Audit

LM established, implements, and maintains an internal audit program. The program includes frequency, methods, planning requirements, responsibilities, and reporting of its internal audits. LM or LMS 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. LMS is responsible for coordinating or conducting internal independent and external audits. A third-party subcontractor, another DOE group, Navarro corporate, or others who have not been involved in the design of the EMS may be involved in performing the audits to ensure independence. LM considers these types of audits as “independent assessments.” Any findings require cause analysis and corrective action determination. LMS tracks corrective actions in the Corrective Action Tracking System (CATS) until completion. LM tracks corrective actions in the corrective action tool until the objective evidence of completion can be captured and documented.

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 take into consideration the environmental importance of the processes concerned; changes affecting the organization; and the results of previous audits.

The LM *Quality Assurance Program Plan* (LM-Plan-1-10.0-1.0) describes the LM internal audit process. The LMS *Quality Assurance Manual* and *Quality Assurance Desk Instructions* describe the LMS internal audit procedures.

7.2.3 EMS 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 chose to use the self-declaration process outlined in DOE Order 436.1 to maintain an EMS in accordance with ISO 14001. To maintain a fully implemented status, a qualified independent outside party is required to conduct an audit every 3 years to verify conformance with ISO 14001 and for LM to declare self-conformance.

7.2.4 LM Oversight and Self-Assessments

LM conducts oversight in accordance with LM-Procedure-2-10.0-1.0, *Oversight*, which may include assessment methods to measure item and service quality, the adequacy of work performance, and to promote improvement in accordance with the LM Policy 414.1B, *Quality Assurance Policy*.

7.2.5 LMS Management Assessments

Management assessments are self-assessments performed by those responsible for the work. Qualified assessment personnel, who are independent of the work, perform independent assessments and surveillances. The LMS *Quality Assurance Program Description* defines the policy, qualifications, and procedures for assessments. Additional information on management

assessments is located in the LMS *Quality Assurance Manual* and LMS *Quality Assurance Desk Instructions*. The LMS Quality and Performance Assurance organization maintains a schedule for oversight assessments and communicates it to management. A copy of the Assessment Schedule is available on the LM Intranet.

7.3 EMS Management Review

LM and LMS senior management review the EMS annually and at planned intervals to ensure its continuing adequacy, effectiveness, and suitability and to determine if the EMS is achieving the desired level of environmental performance, to assess opportunities for improvement, to identify if any changes are necessary, and to give direction and resources for any actions necessary to make the changes. The involvement of LMS's senior management in the annual review enhances the acknowledgement that all employees are important to the success of the EMS in reducing environmental impacts related to project activities.

7.3.1 Management Review Process

EMS coordinators compile information on the status of EMS goals and initiatives, programs, and relevant changes to applicable orders and present the information to management for review. The management review team consists of LM and LMS top management and others as appropriate. They make recommendations, if needed, to ensure that the system achieves the desired level of environmental performance. The management assessment process documents the results of the review in the form of meeting notes with an action item list and as a LMS management assessment report. Specific steps for conducting the EMS management review are in LMS's *Environmental Management System Teams Manual*, including the required inputs and outputs.

In addition to the annual EMS Management Review, LM:

- Reports progress at EMS Core Team and managers meetings and at periodic LM Program Review meetings.
- Reports progress quarterly in the Environmental Program Management Report and Performance Assurance Measures report.
- Distributes periodic management review information packages throughout the year via email to minimize the amount of material for management to evaluate at one time.

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. Improvement is integral to an effective EMS.

8.2 Nonconformity, Corrective Action, and Preventive Action

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

- Regulatory noncompliance.
- Unexpected/changed conditions.
- Failure to follow procedure.
- Improper use of mitigation techniques.
- Subcontractor not meeting requirements.

When nonconformity occurs, management will:

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

LM compiles and tracks corrective actions through oversight reporting in the ePegasus application LM corrective action tracking tool in accordance with LM Procedure. LM assigns and tracks corrective actions via an LM tracking sheet in accordance with the LM *Corrective Action and Improvement Quality Assurance Program Manual* (DOE 2016) (LM-Procedure-2-10.0-3.0).

LMS reports nonconformances as specified in LMS's *Quality Assurance Manual* and the LMS *Quality Assurance Program Description*. LMS tracks any corrective actions identified through assessment activities in CATS until completion. LMS's Quality and Performance Assurance group routinely reports to management on the status of corrective actions. A senior management representative will review evidence of closure prior to approval of corrective action completion.

Lessons learned are either positive or negative lessons to promote improvements and provide information that can help with other, unexpected conditions. LM uses DOE, LM, and LMS lessons learned in planning new work and improving work processes, facility or equipment design and operation, and determining quality, safety, and cost-effectiveness for DOE operations. The LMS *Quality Assurance Manual* provides additional information on lessons learned and preventive actions. At the project level, lessons learned can be identified during

feedback and project closeout using the project activity evaluation form or if a formal lessons learned is required, then it should be documented on the LMS Lessons Learned Template once projects are complete.

LM posts lessons learned on the LM Intranet and SharePoint under the Lessons Learned repository. The DOE Office of Environment, Health, Safety and Security (EHSS) maintains DOE lessons learned in the Lessons Learned Database on the DOE EHSS webpage.

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 environmental management system criteria are fulfilled.

Compliance obligations: Legal and other requirements, such as applicable regulations and federal, state, local and tribal laws, agreements, and permits. Includes contractual relationships, agreements with community groups or non-governmental 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 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 available the most up-to-date version.

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

Corrective Action Tracking System (CATS): 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.

Environment: 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 that interact 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 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 and measurement: A systematic approach for measuring and monitoring its environmental performance. This includes the collection and analysis 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 is applicable to the organization or parts thereof, that arises from the environmental objectives, and that 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 that is not directly responsible for the work being assessed. Independent assessment is synonymous with independent audit.

Integrated Safety Management System (ISMS): A management system that provides a formal organized process whereby people plan, perform, assess, and improve the safe conduct of work efficiently and in a manner that ensures 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.

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

Line management: Line management is a chain of line managers, beginning at the first level directing work in the field and flowing up through the hierarchy to the program manager. This includes the following LM personnel: program manager; office and site managers; and team leaders. LMS 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 (1) managing the agency's post-closure responsibilities for legacy land, structures, and facilities and (2) 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).

Operational controls: Procedures that help an organization to implement and achieve its environmental policy, objectives, and targets.

Plan-Do-Check-Act: Based on the ISO 14001 EMS model, this 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 provide oversight of their respective programs and their respective sites. They have authority to make decisions and to direct staffing and funding for the site, the office or facility, or the project.

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

Senior management: The level of management that has authority to make decisions for the LM program.

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

Site Sustainability Plan (SSP): A plan required of DOE elements/offices by DOE Order 436.1 that identifies specific monitoring and checking requirements to ensure attainment of sustainability goals mandated by EO 13693 and the DOE SSPP.

Strategic Sustainability Performance Plan (SSPP): A plan required of all federal agencies by EO 13693 that integrates sustainability planning into DOE's programming and budget development process; addresses policy, procedural and operational challenges that limit the ability to reduce water, energy, and fuel use and waste; and leverages corporate culture to emphasize sound environmental stewardship over the long term.

Surveillance: The collection and analysis of samples, or direct measurements, of air, water, soil, biota, or other media from DOE sites for the purpose of 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 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.

DOE Memorandum AU21-16-N1-0050, *Departmental Use of Environmental Management Systems*, U.S. Department of Energy Office of Environment, Health, Safety and Security, October 24, 2016.

DOE Order 151.1D, *Comprehensive Emergency Management System*, U.S. Department of Energy, August 11, 2016.

DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*, U.S. Department of Energy, April 25, 2011.

DOE Order 360.1C, *Federal Employee Training*, U.S. Department of Energy, July 6, 2011.

DOE Order 414.1D Admin Chg 1, *Quality Assurance*, U.S. Department of Energy, May 8, 2013.

DOE Order 430.1C, Admin Chg 2, *Real Property Asset Management*, U.S. Department of Energy, August 19, 2016.

DOE Order 436.1, *Departmental Sustainability*, U.S. Department of Energy, May 2, 2011.

DOE Order 450.2, Chg 1, *Integrated Safety Management*, U.S. Department of Energy, January 17, 2017.

DOE Order 458.1, *Radiation Protection of the Public and the Environment*, U.S. Department of Energy, February 11, 2011.

DOE Policy 226.2, *Policy for Federal Oversight and Contractor Assurance Systems*, U.S. Department of Energy, August 9, 2016.

DOE Policy 450.4A, *Integrated Safety Management Policy*, U.S. Department of Energy, April 25, 2011.

DOE (U.S. Department of Energy), *Strategic Sustainability Performance Plan*, updated annually.

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EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, January 10, 2001.

EO 13693, *Planning for Federal Sustainability in the Next Decade*, March 19, 2015.

ISO, 2015. ISO 14001:2015E, *Environmental Management Systems—Requirements with Guidance for Use*, Second Edition, November 15.

ISO, 2016. ISO 14004:2016, *Environmental Management Systems -- General Guidelines on Implementation*, Third Edition, March 2016.

LM Documents

LM Policy 436.1C, *Environmental Policy*, Office of Legacy Management, February 22, 2017.

LM Policy 414.1B, *Quality Assurance Policy*, Office of Legacy Management, April 18, 2017.

LM Policy 450.4, *Safety and Health Policy*, Office of Legacy Management, May 16, 2017.

Quality Assurance Program Plan, LM-Procedure-1-10.0-1.-0.0, Office of Legacy Management, May 31, 2017.

Oversight, LM-Procedure-2-10.0-1.0, Office of Legacy Management, September 6, 2017.

Control of Documents, LM-Procedure-2-10.0-4.1-0.0, Office of Legacy Management, August 15, 2017.

Records Management Program, LM-Procedure-2-10.2-4.2-0.0, Office of Legacy Management, December 7, 2017.

LM Federal Employee Training and Development, LM-Procedure-3-10.4-1.0-0.0, October 2, 2017.

Supplemental Directives Management System, LM Procedure 251.1e, Office of Legacy Management, May 23, 2017.

Tracking and Analysis of Relevant Environmentally Related External Communication (LM-Procedure-3-20-10.0-0.0), April 11, 2018.

LM (Office of Legacy Management), 2017. *2018 Site Sustainability Plan*, LMS/S07725, December.

LM/LMS Documents

LM and LMS Emergency Management Program Description (EMPD), LM-Procedure-3-20.0-2.0-0.0, LMS/POL/S14748, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Management System Teams Manual, LM-Manual-3-20-11.0-0.0, LMS/POL/S11374, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Fleet Management Plan, LMS/POL/S11157, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

LMS Documents

Contractor Assurance System Program Description, LMS/POL/S13369, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Document Management Manual, LMS/POL/S09818, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Instructions Manual, LMS/POL/S04338, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Procedures Catalog, LMS/POL/S04325, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Protection Manual, LMS/POL/S04329, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Radiation Protection Program Plan, LMS/POL/S13339, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Support Services Data Management Procedures, LMS/PRO/S06690, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Facility Management Plan, LMS/POL/S05299, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

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Functions, Responsibilities, and Authorities Manual (FRAM), LMS/POL/S04319, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Outreach Products Manual, LMS/POL/S18461, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Integrated Safety Management System Description, LMS/POL/S14463, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Integrated Work Control Process, LMS/POL/S11763, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Internal Communications Manual, LMS/POL/S07641, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

LMS Projects and Programs Manual, LMS/POL/S05760, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

LMS Training Department Desktop Procedures, LMS/PRO/S08943, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Navarro Safety and Environmental Policy, LMS/POL/S14226, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Public Affairs Manual, LMS/POL/S11690, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Quality Assurance Desk Instructions, LMS/PRO/S04341, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Quality Assurance Manual, LMS/POL/S04320, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Quality Assurance Program Description, LMS/POL/S13806, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

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Real Property Management, LMS/POL/S04335, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Records Management Manual, LMS/POL/S04327, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Safety and Health Manual, LMS/POL/S04321, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites, LMS/PRO/S04351, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Training Program Description, LMS/POL/S04323, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Worker Safety and Health Program (10 Code of Federal Regulations 851 Implementation), (LMS/POL/S14697), continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Appendix A Potential Issues Relevant to Context of LM

Potential external issues relevant to LM’s scope that affect its ability to achieve the intended outcome of EMS.

External Issues		
Potential External Issues	Applicability	Decision
Competition from other organizations	LM is not in competition from 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	Several examples were identified where cultural issues impacted LM work: Riverton crayfish used in medicine and Amchitka food sources. These impacts would be site-specific and not LM-wide but could affect how LM conducts operations.	Yes
Economic, availability of utilities	Availability of utilities could affect LM operations: while there is a potential, it was determined not to be 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 its 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, that market or public demand could 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, and while there has been some site vandalism, it was determined that social issues would not be likely to 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 Tuba City site.	Yes
Technological: availability and access to technology relevant to LM	LM uses technology such as solar panels at the Tuba City site, but it was determined that this availability would not affect LM operations. Alternative power either in form of grid or from generators would be available if required. New technology: The use of drones for surveying and photography is changing the way LM does work at many sites.	Yes

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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 system, guidelines, and models, such as those for accounting quality and safety	It was determined that the strengths and weaknesses of existing systems, guidelines, and business models could affect how LM conducts operations.	Yes
Organization governance and structure, national and contractual governance frameworks, structure type (matrix, project-based)	It was determined that organization governance and structure, national and contractual governance frameworks, and organization structure type 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, strategies and any changes in them could affect how LM conducts operations.	Yes
Relationships with, values, and perception of internal people	Personal values, perceptions, and relationships with other personnel could affect how LM conducts operations.	Yes

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Environmental Conditions and Events		
Potential Environmental Conditions and Events	Applicability	Decision
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 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 related to LM's locations	Historical disaster information related to LM operations would be site-specific but could be applicable to LM operations. Examples included areas that tend to flood or that have a high risk of wildfires.	Yes
Meteorological, geological, hydrological, and ecological information	Changes to meteorological, geological, hydrological, and ecological conditions could affect LM operations. Example: the City of Miamisburg's act of dewatering an aquifer affected Mound site groundwater treatment operations.	Yes
Reports from previous assessments, audits, or reviews	Improvements or changes made based on information from previous assessments, audits, or reviews could change or affect how LM conducts operations.	Yes

Appendix B EMS Requirements



Note 1

EMS requirements listed in this appendix are current and applicable to LM at the time of publication. Requirements can change over time and may be added to the LM contract and to this EMS Description when it is next updated. The Contractor page of the LM Intranet contains a link to the requirements in the most current contract.



Note 2

There are requirements that have been imposed on LM as a government organization that may not be included in the LMS contract. Because this is a joint LM and LMS EMS, the EMS complies with the broader set of requirements.

DOE Memorandum AU21-16-N1-0050, *Departmental Use of Environmental Management Systems*, U.S. Department of Energy Office of Environment, Health, Safety and Security, October 24, 2016.

DOE Order 436.1, *Departmental Sustainability*, U.S. Department of Energy, May 2, 2011.

DOE (U.S. Department of Energy), *Strategic Sustainability Performance Plan*, updated annually.

EO 13693, *Planning for Federal Sustainability in the Next Decade*, March 19, 2015.

ISO 14001:2015E, *Environmental Management Systems—Requirements for Guidance for Use*, Second Edition, November 15, 2015.

LMS contract DE-LM0000421, U.S. Department of Energy Office of Legacy Management, issued October 1, 2015.

Appendix C

LM EMS Operational Control Documents

Policies

LM Policy 414.1B, *Quality Assurance Policy*, Office of Legacy Management, April 18, 2017.

LM Policy 436.1C, *Environmental Policy*, Office of Legacy Management, February 22, 2017.

Federal Employee Occupational Safety and Health (FEOSH) Program Plan for Department of Energy Office of Legacy Management, LM Policy 440.1b, Office of Legacy Management, May 31, 2016.

Navarro Safety and Environmental Policy, LMS/POL/S14226, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Manuals, Plans, and Procedures

Adding or Revising Content or Transferring Websites to the LM Public Website, LM Procedure 200.1-7, Office of Legacy Management, May 17, 2017.

Contractor Assurance System Program Description, LMS/POL/S13369, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Control of Documents, LM-Procedure-2-10.0-4.1-0.0, Office of Legacy Management, August 15, 2017.

Cultural Resource Management Plan, LM-Plan-3-PIE-1.0-0.0, Office of Legacy Management, August 15, 2017.

Document Management Manual, LMS/POL/S09818, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Instructions Manual, LMS/POL/S04338, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Management System Description, LMS/POL/S04346, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Management System Teams Manual, LM-Manual-3-13-1.0-0.0, LMS/POL/S11374, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

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Environmental Procedures Catalog, LMS/POL/S04325, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Protection Manual, LMS/POL/S04329, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

Environmental Support Services Data Management Procedures, LMS/PRO/S06690, continually updated, prepared by Navarro Research and Engineering, Inc., for the U.S. Department of Energy Office of Legacy Management.

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