

Environmental Management System Description

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Management

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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
EPEAT	Electronic Product Environmental Assessment Tool
ERKS	Electronic Recordkeeping System
FEC	Federal Electronics Challenge
FRAM	Functions, Responsibilities, and Authorities Manual
FY	fiscal year
GHG	greenhouse gas
H&S	Health and Safety
HQ	headquarters
ISMS	Integrated Safety Management System
ISO	International Organization for Standardization
JSA	Job Safety Analysis
LM	Office of Legacy Management
LMS	Legacy Management Support
NEPA	National Environmental Policy Act
P.L.	Public Law
PPOA	pollution prevention opportunity assessment
SSP	Site Sustainability Plan
SSPP	Strategic Sustainability Performance Plan

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1.0 Introduction

The purpose of this document is to provide a description of the joint U.S. Department of Energy (DOE) Office of Legacy Management (LM) and Legacy Management Support (LMS) contractor Environmental Management System (EMS). The EMS was formally implemented in October 2005 and continues to evolve as new directives and guidance documents are issued and implemented. The EMS is a systematic process for improving the environmental impacts that result from LM work activities, products, and services. This EMS is a joint system between the LM employees and employees of the teaming contractors that are collectively referred to as the LMS contractor. The EMS reflects values stated in the environmental, safety, and health policies and direction provided in various DOE regulations and Executive Orders (EOs). In addition to the prime LMS contractor (i.e., S.M. Stoller Corporation), Action Facilities Management, Inc., also falls under this Joint EMS. Although the scope of work for Action Facilities Management is specific to security operations, they too shall abide by the tenets of this EMS.

The EMS was prepared using the overall guidance and requirements for facility EMS procedures, requirements, and implementation described in the International Organization for Standardization (ISO) 14001 standard (ISO 2004). The ISO standard provides a systematic process and approach for integrating environmental protection, safety, and health into management and work practices and emphasizes use of a four-part continual cycle of Plan-Do-Check-Act.

The EMS has two areas of focus: environmental compliance and environmental sustainability. The environmental compliance area of the EMS consists of regulatory compliance and monitoring programs that implement federal, state, local, and tribal requirements, agreements, and permits under the LMS contract. The environmental sustainability aspect promotes and integrates sustainability initiatives such as energy and natural resource conservation, waste minimization, green construction, and use of eco-friendly products and services into all phases of work.

Specific national goals related to improving energy, water, and fuel efficiency and using environmentally preferable products and services are stated in DOE Order 436.1, *Departmental Sustainability*; the DOE *Strategic Sustainability Performance Plan* (SSPP), and EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*; EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. LM will strive to meet these stated national goals through individual programs developed to provide a systematic process to achieve mandatory efficiencies. These programs, along with compliance with environmental requirements, are an integral part of the LM EMS and apply to all LM activities within LM's purview (i.e., scope of the EMS).

LM and the LMS contractor are committed to systematically integrating environmental protection, safety, and health into management and work practices at all levels so that the LM mission is accomplished. The EMS incorporates a systematic process and approach for managing the environmental aspects of activities performed by LM, the LMS contractor, and subcontractors in support of the LM mission. Using the EMS process will assist LM and the LMS contractor in avoiding, reducing, or controlling adverse environmental impacts and ensuring compliance with environmental protection requirements applicable to program activities. Various types of training and the use of media and outreach reinforce EMS concepts.

This document describes the applicability and scope of the EMS (Section 2.0), the regulatory oversight and drivers (Section 3.0), how work processes are planned and evaluated for environmental interactions (Section 4.0), how the EMS is implemented throughout the affected organizations (Section 5.0), the role of checking the attainment of goals (Section 6.0), and the management review process (Section 7.0).

2.0 Applicability

As long-term stewards of legacy sites and records, LM activities range from fieldwork to office work at numerous sites across the United States and the U.S. territory of Puerto Rico. LM has established offices in Washington, D.C.; Morgantown, West Virginia; Largo, Florida; Miamisburg, Ohio; Fernald, Ohio; Weldon Spring, Missouri; Westminster, Colorado, near the Rocky Flats site; Grand Junction, Colorado; Las Vegas, Nevada; Tuba City, Arizona; and Monticello, Utah. A list of the legacy sites can be found at the LM public website.

The sites where LM performs activities can be under the control or ownership of various entities, such as:

- 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 governments
- Private businesses
- Private landowners

The EMS cannot be easily applied to locations that have a multitude of occupants and/or stakeholders. Accordingly, the EMS applies to all LM and LMS contractor personnel who perform work related to the LM mission. Thus, any activities that can affect the environment and are within the area of influence of the employee are considered inside the scope of the EMS. Activities by other entities having involvement with LM sites but not employed by LM or its contractors are considered outside the scope of the EMS. Examples include inspections performed by regulators, uranium leasing activities, and operations and maintenance activities conducted by property owners where facilities are leased.

LMS will not require its subcontractors to develop a separate EMS but will require subcontractor participation in the joint EMS program. A graded approach will be employed by LMS to determine the level of expected subcontractor participation.

Figure 1 illustrates the flow-down relationships that are covered under the EMS scope.



Figure 1. EMS Scope Diagram

3.0 Regulatory Requirement

The EMS is developed in response to a variety of agency-specific and federal directives, regulations, and policy statements. There is a wide range of activities at the sites managed by LM through the LMS contractor. Therefore, the legal requirements vary significantly across LM sites. Applicable federal, state, local, and tribal regulations and requirements, agreements, and permits are considered during planning, implementation, checking, and management of activities conducted by LM and the LMS contractor. Coordination with various agencies, states, or other governmental entities ensures compliance with regulatory requirements during all phases of the EMS.

The LMS 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 LMS Environmental Compliance (EC) group is responsible for review, analysis, and dissemination of information related to changes in environmental regulations and requirements applicable to LM activities and sites. The procedure for conducting this activity resides in the *Environmental Instructions Manual* (LMS/PRO/S04338). Regulation and guidance documents are reviewed on a scheduled basis, and the LMS contractor advises LM of changes in regulatory requirements that may affect LM-funded activities. The EC group tracks the schedules for regulation reviews.

3.1 Executive Order 13423

This order states the official federal government policy related to energy efficiencies and transportation management and establishes specific goals and attainment schedules. It directs all federal agencies and their contractors to implement sustainable practices in the following areas:

- Energy efficiency and reductions in greenhouse gas (GHG) emissions
- Use of renewable energy
- Reduction in water consumption intensity
- Acquisition of environmentally preferred products and services
- Pollution prevention, including reduction or elimination of the use of toxic and hazardous chemicals and materials
- Cost-effective waste prevention and recycling programs, and an increase in diversion of solid wastes
- Sustainable design/high-performance buildings
- Vehicle fleet management, including the use of alternative-fuel vehicles and plug-in hybrid vehicles for reduction of petroleum consumption
- Electronics stewardship, including the use of Energy Star features and recycling or responsible disposal of electronic equipment

3.2 Executive Order 13514

This order builds on and expands the energy reduction and environmental requirements of EO 13423 by making reductions of GHG emissions a priority of the federal government and by requiring agencies to develop integrated sustainability plans focused on cost-effective projects and programs. It also (1) requires all federal agencies to achieve the goals and support their respective missions by prioritizing actions based on a full accounting of both economic and social benefits and costs and (2) strives to continuous improvement by evaluating agencies' performance. Furthermore, the order expands the language towards having all federal agencies and their contactors (1) implement sustainable practices and (2) evaluate their climate change risks and vulnerabilities to manage the effects of climate change on the agency's mission and operations in both the short and long-term as part of the formal SSPP process. Finally, the order introduces the requirement to develop and implement a life-cycle sustainability plan inclusive of metrics.

3.3 DOE Department-Level Documents

3.3.1 DOE Order 436.1

DOE Order 436.1, *Departmental Sustainability*, defines requirements and responsibilities for managing sustainability within DOE. The order helps to: (1) ensure that the Department carries out its missions in a sustainable manner that addresses national energy security and global environmental challenges, and advances sustainable, efficient and reliable energy for the future; (2) institute wholesale cultural change to factor sustainability and GHG reductions into all DOE corporate management decisions; and (3) ensure that DOE achieves the sustainability goals established in its SSPP.

DOE Order 436.1 requires DOE to comply with the sustainability requirements contained in EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*; EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*; the National Energy Conservation Policy Act; the Energy Policy Acts of 1992 and 2005; and the Energy Independence and Security Act of 2007. It also requires that DOE continue to adhere to the inventory and reporting requirements of Sections 301 through 313 (including the implementing regulations) of the Emergency Planning and Community Right-to-Know Act, the Pollution Prevention Act of 1990 at DOE facilities, and related statutory and administrative requirements.

To ensure attainment of the stated goals, this order requires the development of and commitment to a Site Sustainability Plan (SSP) that identifies how the stated DOE-wide goals will be met. LM has no operating sites but interprets this order to apply to mandated goals specified in EO 13514 as well as in EO 13423. The mandated goals are listed in the DOE SSPP, which can be found at LM Intranet home page. Additionally, the order states that DOE sites must use an EMS as a platform for SSP implementation; DOE must also have objectives and measurable targets that contribute to DOE's meeting its sustainability goals. Procedures related to how LM will achieve the mandated goals and objectives stated in the EOs and in DOE Order 436.1 are contained in the *Environmental Management System Programs Manual* (LMS/POL/S04388) and in the SSP, which is revised annually. These documents are available on the LM Intranet.

The EMS must have a formal audit by a qualified party outside the control or scope of the EMS before the LM manager can declare that the EMS has been fully implemented. To maintain a fully implemented status, the EMS must be audited every 3 years by a qualified outside party to renew the compliance declaration.

Figure 2 shows a graphical representation of the scope of DOE Order 436.1.

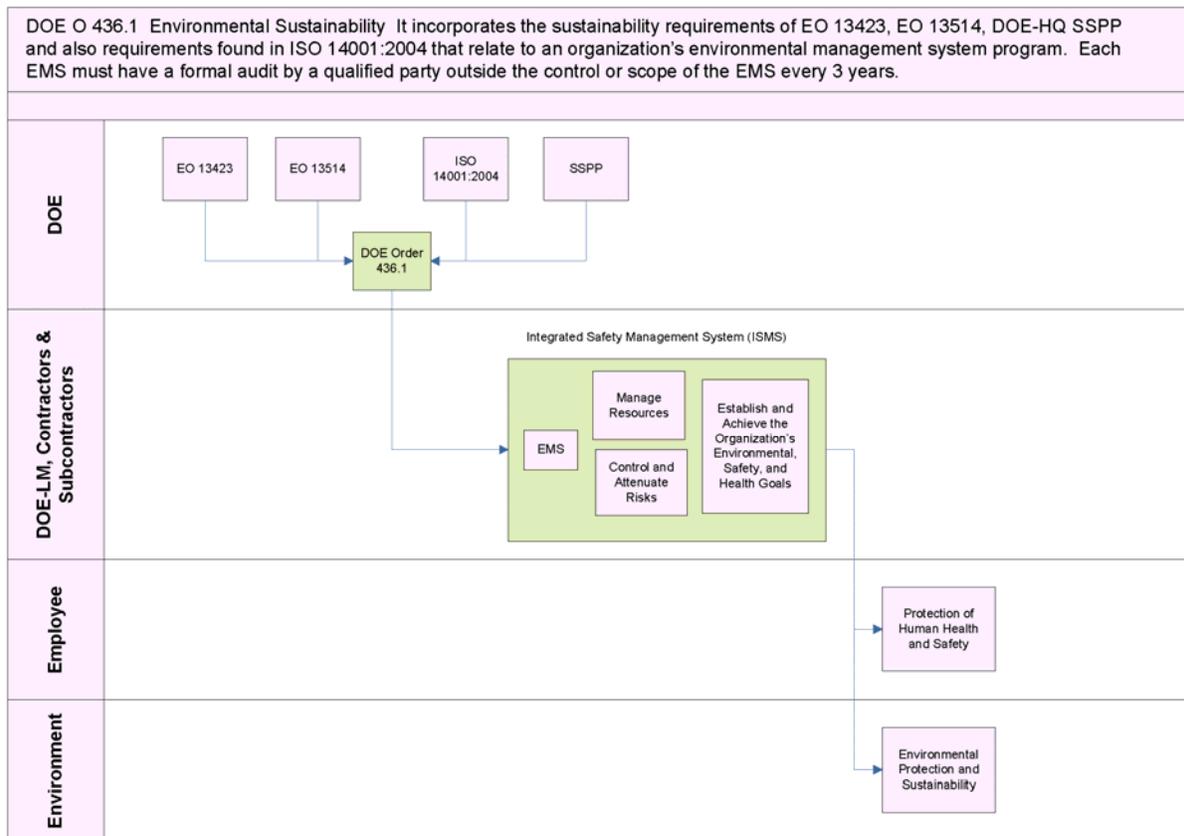


Figure 2. Graphical Representation of the Scope of DOE Order 436.1

3.3.2 DOE Order 430.1B, Change 2, *Real Property Asset Management*

This change to the order, issued in April 2011, states that DOE land and facilities are valuable national resources. It requires that land use planning and stewardship responsibilities will be implemented consistent with the principles of ecosystem management and sustainable development.

3.3.3 DOE Policy 450.4A, *Integrated Safety Management System Policy*

DOE Policy 450.4A, *Integrated Safety Management Policy*, establishes DOE's expectation for safety, including integrated safety management that will enable the Department's mission goals to be accomplished efficiently while ensuring safe operations at all departmental facilities and activities.

3.3.4 DOE Strategic Sustainability Performance Plan

DOE's SSPP includes a strategy for success for improving environmental, energy, and economic performance and achieving targeted reductions in GHG emissions (DOE 2011c). It includes

instituting wholesale cultural change to factor sustainability and GHG emission reductions into all DOE corporate management decisions; planning, executing, evaluating, and continually improving DOE operations to maximize sustainable use of energy and natural resources; developing cost-effective energy efficiency and renewable energy projects; improving the performance of existing DOE building stock; using low-GHG-emitting energy sources to replace existing grid energy; and preventing pollution and eliminating waste.

In response to EO 13514, DOE has formed an internal Climate Change Adaptation Planning Working Group, with representatives from all major departmental elements, to assess vulnerabilities and to draft a climate adaptation plan for DOE. The plan will be integrated into DOE's 2012 SSPP and will be incorporated into the appropriate LM guiding documents. For more information, see the *Climate Change Adaptation Policy Statement* signed by the Secretary of Energy in June 2011 (DOE 2011a).

3.4 Office-Level Documents

3.4.1 LM's Environment, Safety, and Health Policy

An environmental policy statement is the basis for an agency's EMS. LM's policy statement is a declaration of the LM commitment to the protection of the environment, safety, and health, and it serves as the foundation for this EMS. All employees are expected to be familiar with and to understand the LM Environment, Safety, and Health policy. The policy aligns with LM's core mission and includes a commitment to continual environmental improvement, pollution prevention, the integration of Environmental Management and Integrated Safety Management Systems (ISMSs), and compliance with applicable requirements. The procedures and processes for implementing the commitments in this policy are described in this document and in the documents referenced herein. Conformance with the EMS is evaluated through ongoing self-assessments and internal auditing programs.

The LM *Environment, Safety, and Health Policy* (LM Policy 450.9) is communicated to all employees through EMS general awareness training and various EMS-related publications (such as this document, brochures, and posters), and it is available on the LM Intranet.

This policy also is communicated to the public through the LM public website.

The LMS contractor's *Commitment to Safety and Protecting the Environment Policy* is communicated to all employees through EMS general awareness training and various EMS-related publications (such as this document, brochures, and posters), and it is available on the LM Intranet. This policy reaffirms that the LMS contractor remains committed to the safety of its workers and protection of the environment. All employees are expected to be familiar with and to understand the LMS environmental policy statement. The policy statement aligns with LM's core mission and includes a commitment to comply with the letter and spirit of applicable laws, to anticipate and prevent potential accidents and pollution, and to work toward continual improvement in its integrated systems and processes.

This policy was initially communicated as an interim directive and now resides in both the *Integrated Safety Management System Description with Embedded Worker Safety and Health Program* (LMS/POL/S04328). The *LMS Commitment to Safety and Protecting the Environment*

Policy is communicated to all employees through EMS general awareness training and various EMS-related publications (e.g., this document, brochures, posters). In addition, it communicates DOE's expectation (as outlined in DOE Policy 450.4A) for safety, including integrated safety management that will enable the Department's mission goals to be accomplished efficiently while ensuring safe operations at all departmental facilities and activities.

If requested, copies can be provided to external parties.

3.4.2 LM's Site Sustainability Plan

LM's EMS is a joint program between LM and its prime contractor for the LMS contract. The EMS helps LM use its finite resources wisely, minimize wastes and adverse environmental impacts, and comply with the laws, regulations, DOE requirements, and other applicable requirements that protect the environment, public health, and resources. The 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.

LM's SSP outlines the strategies for managing and implementing various energy-related activities at LM. The plan is updated annually as required by DOE Order 346.1 and the DOE SSPP. This plan reflects progress made toward, and strategies in place for, accomplishing the goals and requirements established by:

- EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, October 5, 2009.
- EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 24, 2007.
- DOE Order 430.1B Chg. 2, *Real Property and Asset Management*, April 25, 2011.
- DOE Order 436.1, *Departmental Sustainability*, May 2, 2011.
- Energy Independence and Security Act of 2007, Section 432 (Title 42, *United States Code* [U.S.C.], Section 8253[f]).
- Energy Policy Act of 2005, Public Law (P.L.) 109-58.
- Energy Policy Act of 1992, P.L. 102-486.
- National Energy Conservation Policy Act of 1978, P.L. 95-619.
- DOE SSPP, October 2011.
- DOE SSPP, September 2010.
- Secretary of Energy Dr. Steven Chu, *Installation of Cool Roofs on Department of Energy Buildings, Memorandum for Heads of Departmental Elements*, June 1, 2010.
- Secretary of Energy Dr. Steven Chu, *Management of Fleet Inventory, Memorandum for Under Secretaries, Office of Management (Headquarters Fleet), PMAs, and Headquarters Fleet Managers, Sustainability Performance Office*, January 27, 2011.
- DOE Policy 450.4A, *Integrated Safety Management Policy*, April 25, 2011.
- LM Policy 450.9, *Environment, Safety, and Health Policy*, November 29, 2011.

LM's SSP is communicated to all employees through EMS general awareness training and various EMS-related publications (such as this document and e-news articles), and it is available on the LM Intranet.

3.5 Related Programs and Documents

In addition to specific DOE, LMS, and federal policies and orders, other guiding documents form the basis for the EMS. These are briefly described below.

3.5.1 ISO and EMS

ISO Standard 14001:2004 refers to a family of standards and guidance documents that can help organizations address environmental issues. The ISO standards are developed through a voluntary consensus-based approach by member countries around the world. The standards can be applied to any organization. Although following the ISO standard is voluntary, DOE Order 436.1 requires that DOE offices implement an EMS that reflects the elements and framework found in ISO 14001:2004. The intent of this standard is to provide organizations with the elements of an effective environmental management system that can be integrated with other management requirements and help organizations achieve environmental and economic goals. The standard specifies a number of requirements for an EMS, including the following:

- A statement of the organization's commitment to the environment.
- Identification of the environmental attributes of products, activities, and services; setting environmental goals for the organization; and planning actions to achieve the objectives and targets.
- Identification, planning, and management of the organization's operations and activities in line with the policy, objectives and targets, and significant aspects.
- Establishing roles and responsibilities within the organization, which includes developing processes for internal and external communication on environmental management issues.
- Maintaining information about the EMS and related documents.
- Developing procedures for preventing and responding to potential emergencies.
- Monitoring key activities and tracking performance, including periodic compliance evaluations, keeping adequate records of EMS performance, and identifying and correcting problems and preventing recurrences.
- Identifying and ensuring access to relevant laws and regulations and periodically evaluating compliance with legal and other requirements.
- Periodically verifying that the EMS is effective and is achieving objectives and targets; providing management review of the EMS.
- Site-specific goals and targets that contribute to the achievement of DOE Sustainable Environmental Stewardship goals and energy and transportation goals.
- Specified compliance management elements, including an environmental compliance audit program that identifies compliance needs and possible root causes of noncompliance.

3.5.2 ISMS/EMS Commitment

DOE and its contractors are committed to systematically integrating environmental protection, safety, and health into management and work practices at all levels so that DOE's mission is accomplished in a manner that protects workers, the public, and the environment. The integration of this EMS with the ISMS applies to all work processes and activities performed under the referenced contract and any other contracts that may be subsequently assigned to these DOE offices. Fundamental to the attainment of the goals set forth in both the ISMS and EMS are personal commitment and accountability, open communications, continual improvement, employee involvement, and project managers' responsibilities for safety and environmental protection. All personnel are empowered to identify and report to management any potential hazards, unsafe conditions, and environmental risks or infractions. If necessary, all personnel are also empowered to suspend work activities if warranted to prevent injuries, accidents, or environmental harm.

The integration of an EMS into the ISMS provides a unified strategy to manage resources, to control and attenuate risks, and to establish and achieve the organization's environmental, safety, and health goals. Under ISMS, the term "safety" also encompasses health and environment, as described in LM Policy 450.9, DOE Policy 450.4A, the *Integrated Safety Management System Description with Embedded Worker Safety and Health Program*, and the *Health and Safety Manual* (LMS/POL/S04321). Therefore, the guiding principles and core functions in ISMS are as applicable to the protection of the environment as they are to the protection of employee health and safety. All work activities are analyzed and reviewed for potential health and safety risks and environmental impacts prior to their performance. The evaluation of potential health and safety hazards and environmental impacts is completed in a Job Safety Analysis (JSA) form. A template of the JSA form (LMS 1748e) is available on the LM Intranet.

The EMS and ISMS strive for continual improvement through a Plan-Do-Check-Act cycle. This continual improvement cycle is a core tenet of the EMS and allows the system to adapt to the dynamic nature of the organization's operations. Figure 3 depicts how the EMS elements and ISMS core functions relate to each other.

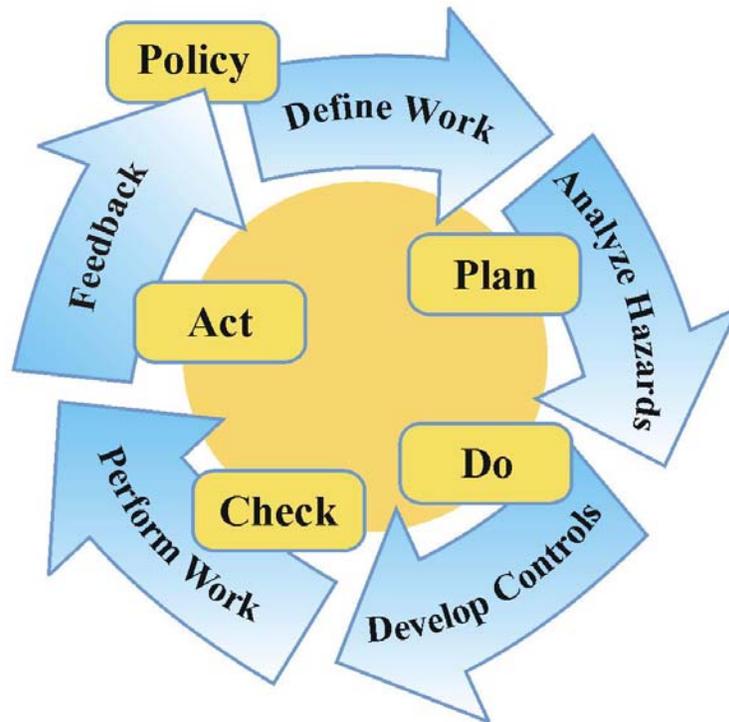


Figure 3. Overlap of ISMS Core Functions (Blue) and EMS Elements (Yellow)

3.5.3 LMS Contractor Manuals

LM has developed individual program plans to address and meet the sustainability goals under the EMS. The individual programs are summarized in Section 5.0 of this document and are fully described in the *Environmental Management System Programs Manual*.

The LMS contractor maintains an environmental compliance manual, titled *Environmental Protection Manual* (LMS/POL/S04329), which provides summaries of commonly applicable federal acts, policies, and regulations that are considered during activity planning or assessment (e.g., Clean Water Act).

For emergency management, the LMS contractor maintains the *Comprehensive Emergency Management System* (LMS/POL/S04326) manual, which provides guidance and a plan for daily activities and emergency responses.

The above manuals are available internally at on the LM Intranet on the **LMS Controlled Documents** webpage. If requested, copies can be provided to external parties.

3.5.4 Site-Specific Agreements

Several sites have site-specific agreements and/or permits that have been generated between multiple agencies. These agreements include Federal Facility Agreements, Comprehensive Legacy Management and Institutional Control Plans, and Long-Term Surveillance and Maintenance Plans. These agreements can be found on the site-specific web pages on the LM public website.

4.0 EMS Planning

Project and program planning is a fundamental part of the EMS. During this phase, new work or required actions are identified, teams are assembled, and the specific details are developed and evaluated based on factors such as engineering feasibility, environmental requirements, schedule considerations, and site needs. Planning occurs at all levels and involves staff appropriate to the project or program.

4.1 Task Order Process (Defines and Funds Activities)

The general planning process begins with a request from LM for the LMS contractor to perform specific work activities. The mechanism for LM to fund and approve a specific activity is called the task order. A task order is an agreement between LM and the LMS contractor that defines the specific scope of work and the associated funding and scheduling.

The LMS task manager associated with the task order will forward the request to the appropriate site lead, who will begin a planning process that incorporates input from EC, Health and Safety (H&S), Quality and Performance Assurance, Engineering, and other appropriate functional groups. The EMS Core Team ensures that a multidiscipline approach is established and maintained during the initial planning phase of the project. Once the project or program planning is under way, input from appropriate specialists is requested as needed. LM and the LMS contractor negotiate and finalize the Task Order Plan, which includes agreed-upon deliverables with measurable milestones. LM is responsible for monitoring the performance of the contractor against the Task Order Plan and the stipulated deliverables and milestones. Key personnel in this process are more fully described in *LMS Projects and Programs Manual* (LMS/POL/S05760).

The contractor is responsible for implementation of a project once the task order is negotiated and finalized. Senior LMS contractor managers administer the overall contract and establish priorities among the projects and programs. Task managers assemble the resources required to successfully complete the task order. Subtask managers/site leads are accountable for their assigned scope, budget, and schedule. LM task order managers, project managers, and site managers provide oversight of scope, budget, and schedule implementation.

4.2 Environmental Aspects, Compliance to Legal and Other Requirements, Associated Objectives, Targets, and Goals

LM and the LMS contractor must evaluate assigned work periodically to identify and update the environmental aspects, evaluate their compliance to legal and other requirements and then determine the more significant aspects, their associated objectives and targets, and finally the environmental goals on which to concentrate. Environmental aspects are the attributes of a project or program activities, products, and services that interact with the environment. The significance of the aspects is ranked according to several qualifiers such as regulatory requirements, alignment with the LM mission and goals, and stakeholder concerns. Once the most significant aspects have been identified, objectives are established to reduce or mitigate the potential for impacting these aspects. EMS objectives describe the goals for environmental performance and should be measurable. EMS targets are specific and measurable steps taken to obtain the objectives. Establishment of targets takes into account technological options; financial, programmatic, operational, and business requirements; and the views of interested

parties. The EMS Core Team sets targets annually based on the significant environmental aspects. Progress is tracked via schedules. Detailed steps on the identification of environmental aspects, compliance of legal and other requirements, objectives, targets, and goals may be found in found in the *Environmental Instructions Manual*.

As part of the Plan-Do-Check-Act continual improvement process, significant environmental aspects and their associated objectives and targets might be revised, omitted from further consideration, or modified during the year. These changes might be related to new information that was not available during the task order process, the addition of new sites, or changes in work scope or changes in work processes, procedures, or regulatory requirements. In addition, the resulting objectives and targets might be determined to be impractical, insufficient, cost prohibitive, or of little or no overall benefit to DOE.

5.0 Implementation of the EMS

This section describes the basic roles and responsibilities of both LM and LMS contractor personnel and the use of program teams to achieve the required sustainability goals identified in EO 13514, EO 13423, DOE Order 436.1, DOE Order 430.1B, and the DOE SSPP. Additionally, this section also discusses (1) training requirements and responsibilities in implementing the EMS, (2) how LM and the LMS contractor communicate relevant information to the workforce and the public, and (3) the record and document control system.

5.1 LM and LMS Contractor Joint EMS Organization

LM does not operate independently of the LMS contractor with respect to the EMS. Therefore, the LM EMS is a joint system; the employees of LM and the LMS contractor are expected to participate and contribute to the success of the system. Although LM and the LMS contractor operate jointly under the EMS, their respective roles and responsibilities with regard to implementation of the EMS are different as follows:

- The sustainable part of the EMS is a joint system between LM and the LMS contractor.
- LM provides oversight for environmental compliance.
- The LMS contractor is responsible for implementation.

5.2 Roles and Responsibilities

Both LM and the LMS contractor are committed to the Plan-Do-Check-Act cycle of continual environmental improvement when conducting day-to-day business. LM and the LMS contractor follow parallel paths with respect to implementing the elements of the EMS. LM and LMS contractor staff are responsible for evaluating day-to-day activities to identify how their activities, products, and services interact with and impact the environment. The “continual improvement” objective of the Plan-Do-Check-Act cycle requires that LM and the LMS contractor conduct and manage their work activities in a manner that promotes energy efficiency, minimizes the generation of wastes and pollution, and protects the environment and natural resources.

5.2.1 All Employees

All employees have responsibilities to participate in protecting the environment, preventing pollution, complying with applicable requirements as identified in the policy statements, and promoting sustainable practices, which may be as simple as printing and copying documents double-sided or recycling plastic water bottles. The EMS programs have specific goals and objectives, but it takes the commitment of the entire staff to share the responsibilities in meeting the goals. It is inherent in the EMS that environmental responsibility is shared at all levels (see Appendix B).

5.2.2 LM and LMS Contractor Senior Management

LM and LMS contractor management are responsible for establishing and maintaining the environmental policies, for making their employees aware of the policy of participating in the annual EMS management review, for endorsing environmental excellence in their organizations, and for promoting the continual improvement of the EMS and environmental performance.

5.2.3 LM and LMS Contractor Project/Program Management, Site Leads, and Line Management

LM program and site managers are responsible for oversight of the LMS program and site leads. They should ensure that the EMS and health and safety are integrated into the work-planning and scoping process and into the review of and concurrence in the identified environmental aspects, targets and objectives, and required resources. LMS contractor project or program management, along with the site leads and line managers, are responsible for implementing the EMS by conducting work in an environmentally safe and compliant manner. Their responsibilities include (1) integrating the EC, and Quality and Performance Assurance organizations into their work-planning and scoping process and (2) participating in defining and updating significant environmental aspects and measurable objectives and targets. In addition, they are responsible for ensuring that operations controlled by documented procedures (e.g., water treatment plant operations, laboratory procedures) are conducted in accordance with the established methods.

The use of a Project/Activity Evaluation form (LMS 1005) provides a structured and documented approach for cross-disciplinary review of proposed projects. LMS contractor project or program management, along with the site leads and line managers, are responsible for ensuring that these applicable processes are implemented. In the event of a noncompliant condition, they are responsible for reporting and taking immediate actions to mitigate impacts to the environment and for issuing a stop-work order if a threat to human health or the environment is identified. They are also responsible for endorsing environmental excellence and promoting the continual improvement of the EMS and environmental performance. Detailed instructions for completing the Project/Activity Evaluation form are provided in the *LMS Projects and Programs Manual*. Additional instructions for completing the environmental portion of the Project/Activity Evaluation form are provided in the *Environmental Instructions Manual*. The Project/Activity Evaluation form is located on the LM Intranet.

5.2.4 LM and LMS Contractor EC Managers

The LMS contractor EC manager is responsible for (1) ensuring that adequate resources are available to support anticipated EMS activities and included in the appropriate task order, (2) identifying and communicating applicable environmental requirements, and (3) ensuring that LMS work activities are performed in compliance with environmental regulations. The LMS contractor EC manager is also responsible for integrating processes that ensure EMS goals are recognized and achieved and for reporting progress toward those goals in the quarterly performance assurance report.

The LM EC manager oversees the scope, budget, and schedule of environmental compliance. The EC managers will coordinate with each other on a regular basis. The LM EC manager also serves as the LM EMS Coordinator.

5.2.5 LMS Contractor Environmental Compliance Group

The EC organization is a cross-functional support group with the mission of providing compliance support oversight across all programs and projects. Maintaining compliance with all regulations and individual site requirements is inherent in the EMS process. LM and the LMS contractor are committed to achieving objectives and targets while complying with all applicable regulations. During planning phases for activities, including identification of aspects, an EC specialist will review the proposed actions with site leads and task managers to ensure compliance with applicable regulations. Specific EC responsibilities include (1) identifying and communicating environmental requirements to project management for implementation, (2) providing qualified technical resources to support implementation of environmental requirements by programs and facilities, and (3) ensuring the consistent application of environmental requirements.

5.2.6 LM and LMS Contractor EMS Coordinators

The LM and LMS contractor EMS coordinators are the points-of-contact for the EMS. Responsibilities of the EMS coordinators include overseeing the development and implementation of the joint LM and LMS contractor EMS, actively participating in the EMS Core Team, reporting progress to management, conducting management reviews, and facilitating management involvement in the EMS.

The LM EMS coordinator is responsible for requesting adequate funding is available to support anticipated EMS activities (as identified in the appropriate task orders). The LMS contractor EMS coordinator is responsible for reporting EMS performance in the quarterly performance assurance report and for coordinating EMS Core Team meetings.

5.2.7 EMS Core Team

The EMS Core Team contains representatives from applicable programs and projects and from LM and LMS contractor management. Their responsibilities include (1) overseeing the development and implementation of the EMS Sustainable Program teams related to EO 13514, EO 13423, DOE Order 436.1, DOE Order 430.1B, and the DOE SSPP; (2) approving EMS goals; and (3) functioning as the steering committee for management-level decisions.

The EMS Core Team proposes site-specific or programmatic objectives or targets that are developed in accordance with applicable orders and guidance.

5.2.8 EMS Sustainable Program Teams

To achieve the objectives and goals identified in EO 13514, EO 13423, DOE Order 436.1, DOE Order 430.1B, DOE 450.4A, and the DOE SSPP, LM established individual program teams. EMS program teams consist of a team lead, an LM and LMS contractor senior management sponsor, and several other knowledgeable employees. Each program team is responsible for managing and implementing their individual program. Each program has identified a specific achievable mission, along with metrics to assist in evaluating progress toward the required objectives. The program teams must report their progress on a quarterly basis. Progress is captured in the quarterly performance assurance report found on the LM Intranet on the **Joint Environmental Management System (EMS)** webpages.

The ultimate goal for each sustainable program team is for the team's activities to become fully integrated at the functional level. A description of each program is listed below. The *Environmental Management System Programs Manual*, which describes each program in detail, can be accessed on the LM Intranet on the **LMS Controlled Documents** webpage and on the **Joint Environmental Management System (EMS)** webpages.

- **Energy Efficiency and Greenhouse Gases—EMS Program # 1**

This program evaluates how to maintain and operate LM facilities in a resource-efficient, sustainable, and cost-effective manner. It establishes a systematic approach to improve energy efficiency and to decrease GHG generation at LM sites.

- **Renewable Energy—EMS Program #2**

This program evaluates, makes recommendations, and implements approved practices to increase renewable energy use at LM sites. The program evaluates (1) opportunities to install new cost-effective, renewable energy sources to replace existing power sources and (2) the expanded use of utility-provided renewable energy programs.

- **Water Conservation—EMS Program #3**

This program evaluates, makes recommendations, and implements approved practices to maintain and operate its building and facilities in a manner that beneficially reduces water use, loss, and waste at LM sites. The program strives to reduce water use intensity annually. Water efficiency initiatives include using conservation technology and devices, using improved design and process implementation, and encouraging behavioral change.

- **Sustainable Acquisition—EMS Program #4**

This program is a national approach to educate both the LM workforce and LMS contractor staff on leveraging acquisitions to foster markets for sustainable technologies and environmentally preferable materials, products, and services while conducting the LM mission.

- **Waste Minimization and Pollution Prevention—EMS Program #5**

This program promotes a more sustainable workplace and implements waste minimization and pollution prevention as one of several strategies under the EMS for protecting the environment, conserving resources, and enhancing the LM mission nationwide.

- **Sustainable Buildings—EMS Program #6**

This program promotes the conservation of natural resources, energy efficiency, waste minimization, and the creation of healthy, productive work environments as part of the cost-effective construction and improvement of new and existing LM-owned and LM-leased buildings. The program also provides information on regional planning activities, including a process to consider whether new facilities and leases are near public transit and near existing or planned town centers.

- **Vehicle and Fuel Use—EMS Program # 7**

This program conserves finite natural resources by reducing the use of petroleum fuel, increasing the use of alternative fuel, and using alternative-fuel and hybrid vehicles when available.

- **Electronic Stewardship—EMS Program # 8**

This program fosters the use of beneficial environmental practices with respect to the entire life cycle of electronic equipment used to support the LM mission. Through such practices, LM and the LMS contractor conserve energy and finite natural resources and reduce costs and pollution.

- **Land Stewardship—EMS Program # 9**

This program advocates improving ecosystem health on LM properties in accordance with DOE Order 436.1, DOE Order 430.1B, and general federal regulations. The program provides a process to systematically evaluate and assess existing ecological site surface conditions and trends; identify and propose improvements that would be beneficial on a landscape ecosystem scale; and implement improvements with consideration of adjacent land users, landowners, and political entities.

5.3 Training

The *Training Manual* (LMS/POL/S04323) provides the training policy for work performed by LMS.

Training is provided to ensure that all employees:

- Have the knowledge and skills necessary to perform their jobs in an environmentally responsible manner
- Comply with federal, state, tribal, and local environmental laws, regulations, permits, and with LMS contractor requirements and policies

- Increase their awareness of environmental protection practices and pollution prevention/waste minimization opportunities
- Take appropriate actions in the event of an emergency

The EMS training team fosters the development of training to support the EMS. EMS training contributes to improving LM's environmental performance by making LM and LMS workers more aware of the environmental impacts of LM operations and informing workers about the requirements, objectives, and targets of the EMS and its various programs. Training plans are developed in consultation with the LMS Training department to identify training needs, sources of training, and training schedules.

Two types of training are used for this EMS: general EMS awareness training and competence training. A brief discussion is provided below. More detailed information on the EMS training team can be found in the *Environmental Management System Programs Manual*.

5.3.1 General EMS Awareness Training

EMS awareness training is required for all employees of LM, the LMS contractor, and other direct contractors. The training is developed and administered cooperatively through the LMS contractor Training department and the EMS training coordinators. EMS awareness training focuses on why an EMS is required, environmental policy, the role and responsibilities of each employee with respect to conducting work activities in compliance with this policy, and the potential consequences of failing to exercise sound environmental practices and stewardship. EMS awareness training will be updated. As warranted and refreshed at intervals not to exceed 2 years.

5.3.2 Competence Training

Competence training is provided to employees whose work activities interface with the EMS programs that require specialized knowledge. Examples of more-specialized training related to the EMS programs include pollution prevention (e.g., correct battery storage and disposal); identifying available environmentally preferred alternatives to chemicals; specifics related to use of hybrid vehicles or the need to locate specialized fuel stations for refueling; and specifics related to environmentally preferable purchases of electronic equipment (e.g., Energy Star, computer ratings within the Energy Star rating). Competence training can be in the form of webinars, online training, conferences, offsite course work, etc.

Competence training is also provided to employees whose work activities are directly related to environmental compliance. Examples of specialized training related to environmental compliance include U.S. Department of Transportation training required for personnel who package or ship hazardous materials, National Environmental Policy Act (NEPA) training required for personnel responsible for preparing a NEPA checklist, and Resource Conservation and Recovery Act training for personnel responsible for generating and managing hazardous waste.

5.4 Communication

Integrated environmental management requires effective communications to coordinate staff internally and to maintain open, clear lines of communication with external stakeholders. With

respect to LM's mission and goals, LM and the LMS contractor are committed to communicating environmental information to their employees and to the public and to receiving input from employees and external stakeholders. LM is also committed to fully disclosing environmental issues to applicable regulatory agencies and working with these agencies to remedy any deficient or noncompliant conditions that may arise. This section describes the programs and mechanisms whereby LM communicates its EMS, environmental program activities, and community outreach initiatives to employees and external stakeholders.

5.4.1 Internal LM and LMS Contractor Communications

Various forms of internal communications are used to maintain employee awareness of EMS initiatives, to communicate employee roles and responsibilities, and to motivate employees. The primary tools used for internal communications are the following:

- The Joint EMS Media Team, which conveys information to the workforce and the public about environmental sustainability through eco-friendly practices and purchases, energy and water efficiency, natural resource conservation, pollution prevention, and waste minimization.
- The **Joint Environmental Management System (EMS)** webpages, located on the LM Intranet. These webpages list EMS programs, associated team members, and the EMS Core Team members. These webpages also provide the EMS mission statement and other EMS information.
- The *ECHO* quarterly newsletter, located on the LM Intranet.
- An EMS communication campaign to maximize the exposure of the overall program to LM and LMS contractor staff.
- Posters, brochures, presentations, displays, and other visual communications.
- Implementation of an EMS training curriculum (both general awareness and competence training). The computer-based training required for all contractor employees is an effective and efficient tool for informing employees about EMS requirements.
- Special presentations conducted at all-hands meetings or through videoconferencing.
- Management focus to ensure that EMS goals and progress are continually communicated to LM and LMS contractor staff.

Effective communication is a two-way process. Employees may report environmental issues or concerns through their immediate supervisor or they may contact the EMS management representative directly. LM and the LMS contractor are committed to receiving, evaluating, and responding to all comments, concerns, and recommendations.

5.4.2 External Communications

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 uses the LM public website to facilitate two-way communication regarding the EMS, significant environmental aspects, and LM work activities. Relevant communication from external parties will be tracked via the "quick reference" and "contact us" links on the webpages. To satisfy the ISO Standard 14001:2004, which requires that relevant

environmental communication be tracked, the LM Environmental Communication (or E COMM) Tracking System has been established. LM's *Guidance on Tracking Environmental-Related External Communication* (DOE 2011b) defines the communications that should be tracked and the systems to be used for documenting the communications. As the EMS programs mature, LM and the LMS contractor expect to become involved in local events to educate the public and showcase the results of the EMS programs.

Documents that discuss site-specific activities are not provided on the **Joint Environmental Management System (EMS)** webpages located on the LM Intranet. However, a drop-down menu for access to each site is provided on the LM public website, or information can be requested. Annual site environmental reports, which discuss environmental management performance and communicate environmental monitoring and radiological exposure data to the public, are prepared and distributed for a few LM sites that maintain active permits under previous agreements.

Another form of external communication is regional planning. LM is committed to considering and attempting to conduct regional planning activities where it is possible. Activities that fall under regional planning include:

- Identifying and analyzing impacts from energy usage and alternatives in all Environmental Impact Statements and Environmental Assessments for proposed, new, or expanded facilities
- Coordinating with regional programs for all levels of ecosystem, watershed, and environmental management systems
- Participating in regional transportation planning and recognizing existing community infrastructures
- Aligning federal policies to increase the effectiveness of local planning for energy choices

5.5 EMS Documentation

By maintaining proper documentation of the EMS programs and processes, LM and the LMS contractor provide information to interested parties about how the EMS was designed and implemented. This information enables parties such as employees, regulators, potential customers, and stakeholders to understand the processes and operational controls LM uses to manage the work and mitigate environmental impacts. In addition, each EMS program has specific metrics that document performance toward the stated program goals. Program status is reported routinely in a performance assurance report, which is available on the LM Intranet on the **Joint Environmental Management System (EMS)** webpages.

The EMS Description will be reviewed annually and updated at a minimum of every 2 years. The annual review will consider assessments, nonconformities, and associated corrective actions. If revisions to the EMS are necessary, revisions will be made and LM and LMS contractor employees will be notified when the EMS is revised.

5.5.1 Documents

Controlling the release, access, and revision of EMS documentation ensures that each employee has access to the current version of the documents. Recommendations for changes to the

Environmental Management System Programs Manual, Environmental Protection Program Manual, Environmental Instructions Manual, and this document are made directly to EC, which is responsible for the four documents. The four documents will be revised as needed to reflect any changes in orders or policies and to incorporate results of lessons-learned reports.

EMS-generated documents are controlled by established procedures described in the *Functions, Responsibilities, and Authorities Manual (FRAM)* (LMS/POL/S04319) and in the *Quality Assurance Manual* (LMS/POL/S04320). The documents controlled by the LMS contractor include Level 1, High-Level LMS Planning Documents (including the FRAM); Level 2, LMS Programmatic Plans and Procedures; Level 3, LMS Functional Procedures and Plans; and Level 4, Site-Specific Plans and Procedures. The Document Production group maintains current lists of controlled documents and information about the documents (e.g., title, date, owner, location). LM documents are controlled by LM.

5.5.2 Records

EMS records will show proof of conformance to associated requirements. The records will be traceable, legible, and retrievable. EMS records will be maintained by the issuing organization in accordance with established protocols. Standard protocols are defined in the *Records Management Manual* (LMS/POL/S04327). EMS records include associated plans, procedures, and related documents; the results of management assessments; annual audits; annual aspect, objective, and target identification; and the results of management reviews. Records of operational controls and of site-specific activities will be maintained in the specific site file plans.

An EMS records file plan has been developed to ensure logical tracking of documents and documentation related to the EMS and to all programs. The EMS records file plan is a joint LM and contractor file plan maintained in the LM Electronic Recordkeeping System (ERKS). Most records will be generated and filed by the contractor in the EMS records file plan. Some records LM generates will be maintained in the LM administrative file plan, which is also maintained in the LM ERKS.

LMS contractor EMS training records are maintained in the LMS contractor Training department's Training Information Systems database. LM maintains a separate tracking system—the Corporate Human Resource Information System—for LM employees.

5.6 Document Control

In accordance with *Supplemental Directives Management System* (LM Procedure 251.1; DOE 2009), the director of LM delegated authority to the office directors over the policy subject to make and authorize minor changes on behalf of the director. The director will continue to sign original policies and policies that require major changes. Original procedures and procedures that require major changes will go through LM management for review. Minor changes will be signed by the responsible office director. This LM procedure establishes the required layout and process for publishing policies, procedures, and notices.

In accordance with the *Communication Programs Manual* (LMS/POL/S04846), all controlled documents are managed through the LMS Document Production group to ensure consistency

among documents and to allow control of electronic files, hard-copy documents, and documents displayed on the LM Intranet on the LMS Controlled Documents webpages. Document Production is the single point of contact for all controlled documents. A controlled document encompasses policies, programs, and procedures that ensure that safe, compliant, and high-quality work is performed in an approved manner. A controlled document:

- Is routinely updated
- Requires approval
- Is posted on the LM Intranet on the LM Procedures or LMS Controlled Documents webpages with an “UNCONTROLLED IF PRINTED” notation in the header

5.7 Operational Control

The LMS contractor workflow process described in the *LMS Projects and Programs Manual* guides project and activity leads and ensures that work is planned and executed consistently nationwide. Key elements of the workflow process are work scope definition, work planning, hazard identification and mitigation, environmental compliance planning, work authorization, performance of work, and project closeout, all of which are also components of DOE’s ISMS and EMS.

The LMS contractor Conduct of Operations program ensures that site and facility operations associated with LM are managed, organized, and conducted in a manner that results in a high level of performance and contributes to safe and reliable operations as stated in the *Conduct of Operations Manual* (LMS/POL/S04374).

In addition, there are several other manuals, such as the *Environmental Procedures Catalog* (LMS/PRO/S04325), that address specific instructions for performing operations such as calibration instructions, site inspection instruction, and data validation. A complete list of manuals is provided on the LM Intranet on the LMS Controlled Documents webpages.

5.8 Emergency Preparedness and Response

For the purpose of emergency management, the LM complex is considered to be a single entity and activity. Specific differences and emergency response actions for individual LM sites are addressed in the site-specific sections of the *Comprehensive Emergency Management System*.

6.0 Checking, Corrective Action, and Audits

Monitoring and measuring targets, objectives, goals, and compliance with environmental requirements; 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 cycle of continual improvement.

In more detail, the “conducting preventive and corrective actions” processes include the following:

- Monitoring and measurement:
 - Targets
 - Objectives
 - Goals
- Procedures for evaluation of compliance:
 - Internal Assessments
- Nonconformance, corrective action, and preventive action
- EMS audit (internal assessments and external audits)

Internal assessments can be conducted at any time and for any reason. If situations are identified that are not in conformance with regulatory or policy requirements, an analysis of the situation is conducted, and a lessons-learned report is completed and posted for internal dissemination. The assessment concludes with suggested or required preventive or corrective actions, which are then tracked until closure by the originating entity. These are also part of the “Check” and “Act” steps of the Plan-Do-Check-Act cycle of continual improvement.

Nonconformance reports, corrective action reports, internal independent assessments, surveillances, management assessments, and external assessments are tracked to closure. Nonconformance reports, corrective action reports, internal or external independent assessments, and management assessments are maintained in the EMS file plan.

6.1 Monitoring and Measurement

EC maintains a list of the current objectives, targets, and goals; tracks the progress toward the goals; and reports the status to LM and LMS contractor management periodically. The EMS Core Team will evaluate progress toward goal achievement on an as-needed and as-scheduled basis and annually during the management review.

The sustainability goals stated under EO 13514, EO 13423, DOE Order 436.1, DOE Order 430.1B, and the DOE SSPP have identified metrics that are tracked periodically by the EMS Core Team and annually during the management review. These metrics, the status of EMS annual goals, and the environmental compliance status are reported to management in the quarterly performance assurance report.

Environmental monitoring may be conducted at any LM site. Required environmental monitoring includes both general and project-specific or permit-specific monitoring. General monitoring of environmental media such as air, surface water, and groundwater may be required by federal, tribal, or state regulations to identify the nature and extent of contamination, to demonstrate compliance with regulatory standards, or to demonstrate that existing contamination is acting as predicted. Monitoring and measuring key characteristics and maintaining and calibrating equipment are performed in accordance with site-specific laboratory and field procedures.

Results of this environmental monitoring are used to determine compliance strategies and to ensure the integrity of remedial actions. General monitoring may also be required by DOE orders; Comprehensive Environmental Response, Compensation, and Liability Act Records of Decisions; and long-term surveillance plans and is used where necessary to prepare annual site environmental reports. Additional information on environmental monitoring is provided in the *Environmental Protection Manual*.

Performance against the sustainability goals and environmental compliance requirements is reported in the quarterly performance assurance report and at the Annual EMS Management Review.

Another monitoring method is documenting lessons learned. Lessons learned are either positive or negative lessons to promote improvements and avoid repeating errors. LM and LMS lessons learned are to be used in planning new work and improving work processes, facility or equipment design and operation, quality, safety, and cost-effectiveness for DOE operations. At the project level, the LMS Project/Activity Evaluation form has a location to identify lessons learned once projects are complete.

6.2 Procedures for Evaluation of Compliance

Compliance with legal requirements applicable to the defined environmental aspects is integrated with other management assessments, independent internal assessments, and surveillances. These activities are conducted according to an annual schedule maintained by the group responsible for performing the activity. The scope and purpose of each of these activities is determined in advance through consultation between project management and the organization performing the activity. 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 period of time. Changes to the schedule are communicated to LMS senior management.

Management assessments are self-assessments and can be performed by those responsible for the work. Qualified assessment personnel, who are independent of the work, perform internal assessments and surveillances. The policy, qualifications, and procedures are defined in the *Quality Assurance Manual*.

Any corrective actions identified through assessment activities are tracked in the Corrective Action Tracking System (CATS) until completion. The Quality and Performance Assurance group routinely reports to management on the status of corrective actions. Corrective actions specific to LM are tracked via an LM tracking sheet in accordance with the LM *Quality Assurance Program Plan* (DOE 2008).

6.3 Nonconformance, Corrective Action, and Preventive Action

Identification of nonconformance, corrective action, or preventive action situations allows proper analysis, mitigation of impacts, correction of specific instances, and prevention of similar instances. Types of nonconformances that can affect the environment include:

- Audit findings
- Accidents

- Emergencies
- Regulatory noncompliance
- Negative performance trend
- Subcontractor not meeting requirements

Nonconformance reports and response to corrective actions will be conducted as specified in the LMS *Quality Assurance Manual* and the LM *Quality Assurance Program Plan*. Following completion of any identified corrective action, an independent evaluation will be performed prior to closure. Preventive action should be practiced in all elements of work activities. Personnel have the responsibility and authority to identify and correct potential nonconformances in the course of their work.

6.4 EMS Audit

In addition to the mandatory audit by an external unrelated party every three years, parts of the EMS will be audited annually by LM or LMS contractor staff. Auditor qualification, knowledge of EMS requirements, independence, and ethics are required for all audit team members. The LMS contractor is responsible for conducting or establishing the internal and external audits. Independence in performing audits may be accomplished by use of a third-party subcontractor, another DOE group, or others who have not been involved in the design of the EMS. These types of audits are considered “independent assessments” in the CATS. Any deficiencies from these activities will be entered into the CATS database, and corrective actions will be identified through audits. Independent assessment activities are tracked in CATS until completion. Audit procedures are described in the *Quality Assurance Manual* and the *Quality and Performance Assurance Desk Instructions* (LMS/PRO/S04341).

Conditions, including findings, conclusions, and recommendations identified as a result of assessments, are documented in a report, and the necessary corrective and preventive actions are identified. The report shall specify the responsibility and authority for addressing nonconformances found in the EMS and for implementing the actions to mitigate any adverse impacts. The reports will be shared with LM and the LMS contractor management. Findings identified in the reports and resulting corrective actions will be tracked to closure by the audit team. Audits will be approved and signed by LM and the LMS contractor senior management.

Additional periodic audits will be conducted to ensure that management systems are being maintained and implemented. Requirements of the EMS and implementation of the requirements will be evaluated during these audits. The audits are conducted according to established schedules and procedures.

7.0 Management Review

LM and LMS contractor's senior management review the EMS annually. The purpose of the review is to determine if the EMS is achieving the desired level of environmental performance, to assess opportunities for improvement and identify if any changes are necessary, and to give direction and resources for any actions necessary to make the changes. The annual involvement of LMS senior management in the review enhances the acknowledgement that all staff are important to the success of the EMS in reducing environmental impacts related to project activities. This activity falls under the "Act" step of the Plan-Do-Check-Act cycle.

7.1 Management Review Process

The EMS coordinators will compile information on the status of the EMS goals and initiatives, programs, and relevant changes to applicable orders. This information is presented annually to management for review. Information sources can include any of the following that are related to the EMS during the last fiscal year:

- Results of internal audits and evaluations of compliance with legal requirements and with other requirements to which the organization adheres
- Relevant communications from external interested parties, including complaints
- The environmental performance (including environmental compliance) incident reports from environmental incidents or exercises, and sustainability objectives and targets selected for significant environmental aspects
- The level of success toward achieving the objectives, targets, and goals
- Status of corrective and preventive actions
- Follow-up actions from previous management reviews
- Changing circumstances, including developments in legal and other requirements related to environmental aspects
- Need for policy changes
- Recommendations for improvement

The management review team consists of LM and LMS contractor top management and others as appropriate. They will make recommendations, if needed, to ensure that the system achieves the desired level of environmental performance. Management assessments must be documented and reported to the appropriate management. Management must take prompt documented actions in response to recommendations resulting from the management assessment process per the *Quality Assurance Manual*, Criterion 9. Specific steps for conducting a management review are in the *Environmental Instructions Manual*.

In addition to the annual management review, progress is reported periodically in the performance assurance report and at periodic LM Program Review meetings.

8.0 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: Synonymous with assessment.

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

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

Controlled document: A document containing policies, programs, and/or procedures that ensure that safe, compliant, and high-quality work is performed in an approved manner.

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, nonconformances, and assessments.

Deficiency: A deviation from a written requirement.

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, cultural resources), 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: 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 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.

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 DOE 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 is used to systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, workers, and the environment.

ISO 14001 Standard: Internationally recognized voluntary 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.

Management assessment: An evaluation process used to identify organizational strengths and weaknesses through existing information. For a management assessment to be successful, managers must involve themselves by personally leading (i.e., planning and performing) the assessment in order to influence the achievement of their organizational missions, objectives, and quality results directly.

Office of Legacy Management (LM): An element of DOE 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 Policy and Program Management, 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.

Project management: Any management level within the organization, including contractor management, that is responsible and accountable for directing and conducting work.

Senior management: The level of management that has authority to make decisions for the site/facility.

Site Sustainability Plan: A plan required by DOE Order 436.1 that identifies specific monitoring and checking requirements to ensure attainment of sustainability goals mandated by EO 13423, EO 13514, and the DOE SSPP.

Strategic Sustainability Performance Plan (SSPP): A plan required by EO 13514 that integrates sustainability planning into DOE's programming and budget development process; addresses policy, procedural and operational challenges that limit ability to reduce water, energy, and fuel use and waste; and leverages corporate culture to emphasize sound environmental stewardship over the long term.

Task order: An agreement between DOE and the contractor to perform a specific scope of work within a specific schedule and budget.

9.0 References

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