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# **Environmental Management System Description**

**March 2015**

Work performed under DOE contract number DE-LM0000415  
for the U.S. Department of Energy Office of Legacy 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  |
| FRAM | <i>Functions, Responsibilities, and Authorities Manual</i> |
| GHG  | greenhouse gas   |
| H&S  | Health and Safety  |
| ISMS | Integrated Safety Management System                        |
| ISO  | International Organization for Standardization             |
| LM   | Office of Legacy Management                                |
| LMS  | Legacy Management Support                                  |
| SSP  | Site Sustainability Plan                                   |
| SSPP | Strategic Sustainability Performance Plan                  |

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## 1.0 Introduction

This document describes the joint U.S. Department of Energy (DOE) Office of Legacy Management (LM) and the Legacy Management Support (LMS) Contractor Team Environmental Management System (EMS). LM implemented the program in October 2005 and it 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 involves (1) LM employees and (2) employees of the teaming support contractors that are collectively referred to as LMS. 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 LMS, Action Facilities Management Inc., a direct contractor to LM for specific security scope, 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 under the roles and responsibilities of all employees.



Note

*In this document, a reference to “LM” represents both LM and LMS for data, personnel, and so on unless specifically noted otherwise.*

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.

The EMS has two areas of focus: environmental compliance and environmental sustainability. 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); EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*; EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*; and EO 13653, *Preparing the United States for the Impacts of Climate Change*. LM strives to meet these goals through teams that use a systematic process to achieve mandatory efficiencies. These teams, 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 commits 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 and subcontractors in support of the LM mission. LM uses this

process to avoid, reduce, or control adverse environmental impacts and to ensure 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: (1) the applicability and scope of the EMS (Section 2.0); regulatory oversight and drivers (Section 3.0); how work processes are planned and evaluated for environmental interactions (Section 4.0); EMS implementation throughout the affected organizations (Section 5.0); the role of checking the attainment of goals (Section 6.0); and the annual EMS 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; Fernald, Ohio; Weldon Spring, Missouri; Westminster, Colorado; Grand Junction, Colorado; Tuba City, Arizona; and Monticello, Utah. A list of the legacy sites is available on 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 and local governments
- Private businesses
- Private landowners

The EMS applies to all LM 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 employees 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 regulator inspections, uranium leasing activities, and property owners' operations and maintenance activities where facilities are leased. All visitors to LM sites and offices would be indirect participants to our EMS during their visits. Extra efforts are made to educate visitors about EMS and sustainability at our Visitor and Interpretive Centers and through various outreach programs.

LMS does not require its subcontractors to develop a separate EMS, but subcontractors must participate in the EMS. LMS employs a graded approach 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 Structure

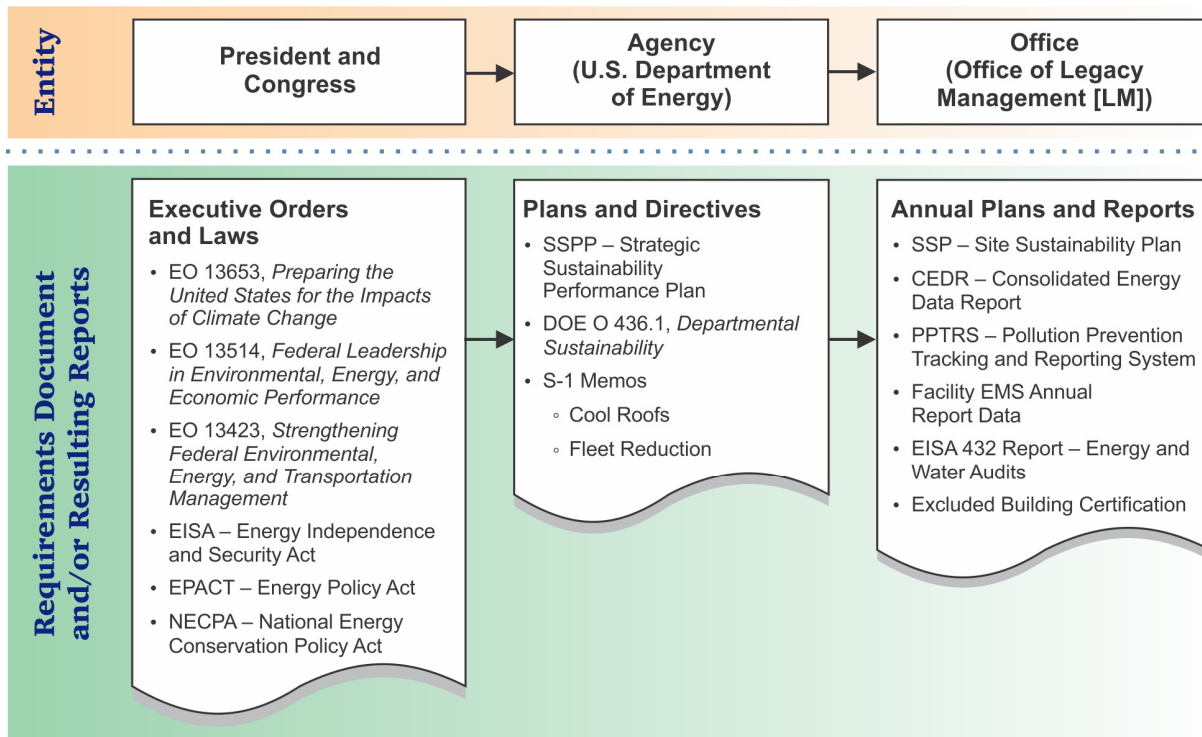
### 3.0 Regulatory Requirement and Reporting

LM developed the EMS in response to a variety of agency-specific and federal directives, regulations, and policy statements. LM prepared the EMS 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.

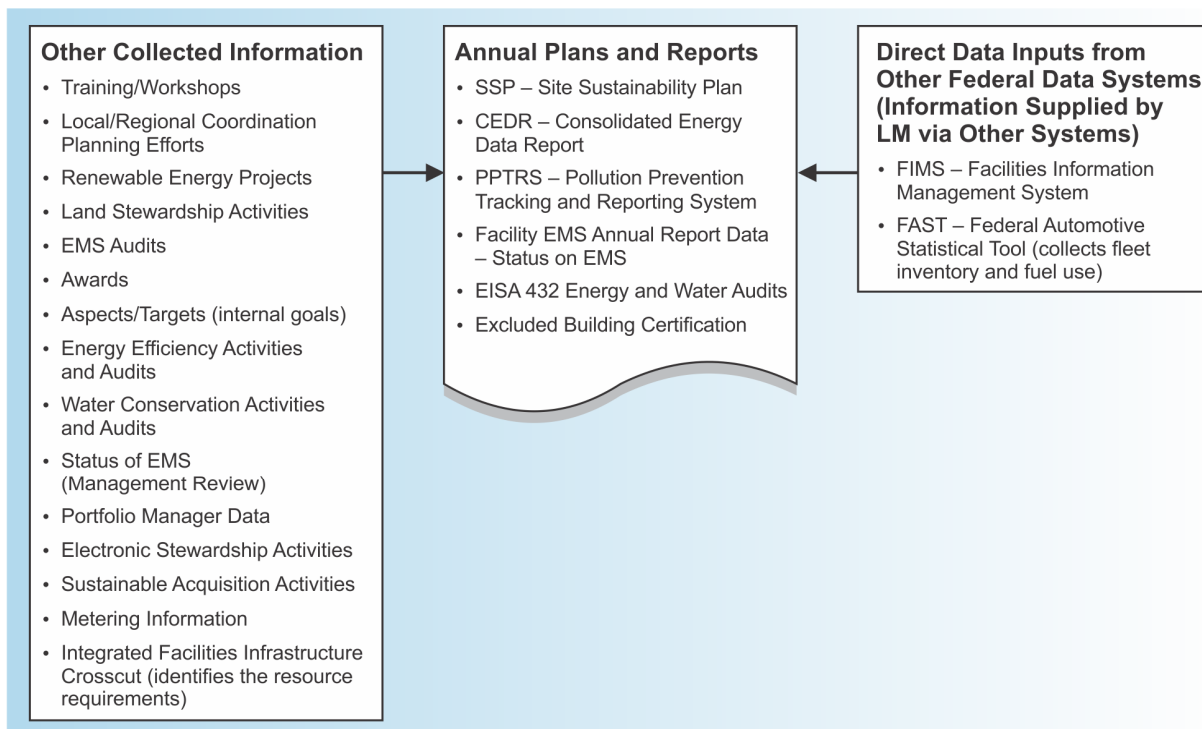
LM manages a wide range of activities at the sites. Legal requirements vary significantly across LM sites. LM considers applicable federal, state, local, and tribal regulations and requirements, agreements, and permits during planning, implementation, checking, and management of activities conducted by LM. LM coordinates with various agencies, states, or other governmental entities to ensure compliance with regulatory requirements during all phases of the EMS including annual reporting.

A graphical representation of the sustainability requirements and annual reporting is shown below:

## Requirements Behind EMS Sustainability Annual Reports



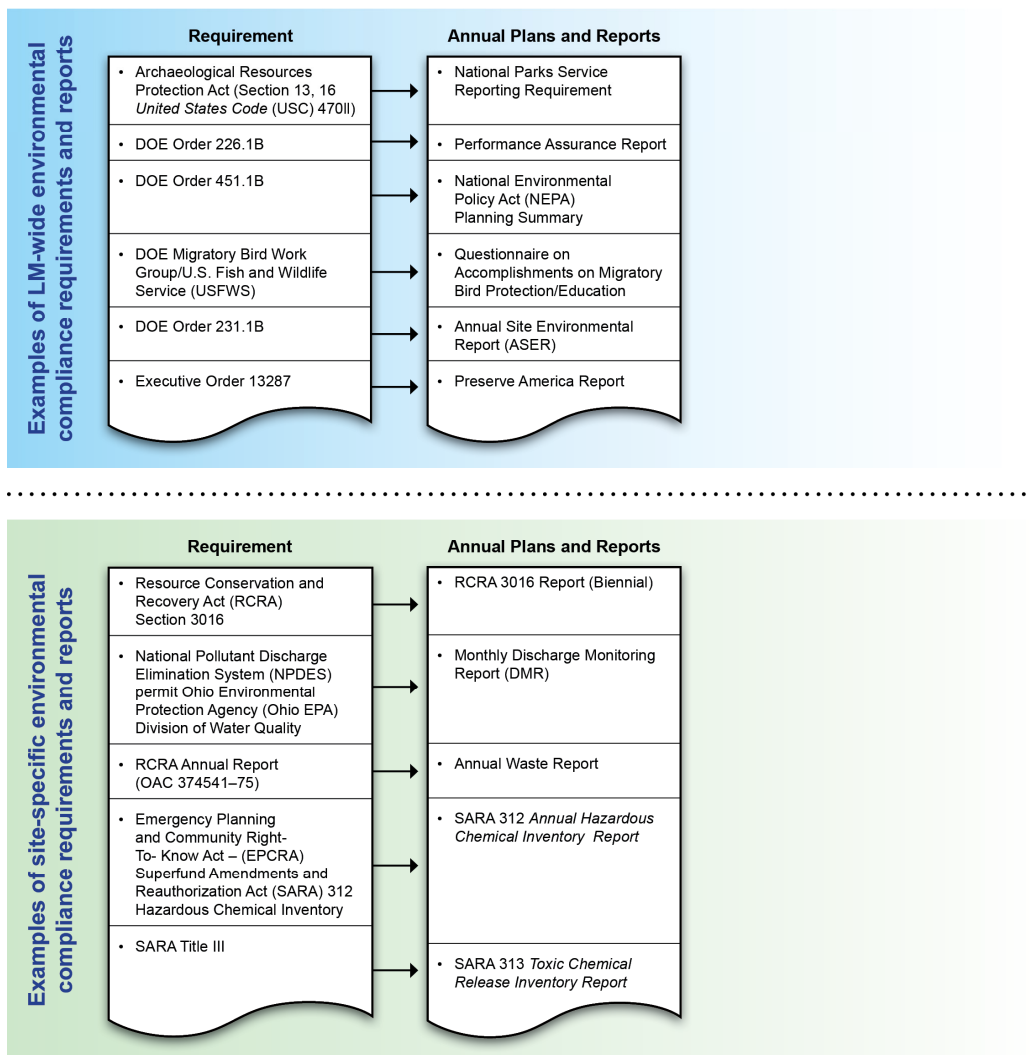
## Inputs to EMS Sustainability Annual Reports



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. LMS's Environmental Compliance (EC) group periodically evaluates this list for any necessary revisions. LMS EC 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 *LMS Environmental Instructions Manual* (LMS/POL/S04338). Regulation and guidance documents are reviewed on a scheduled basis, and LMS advises LM of changes in regulatory requirements that may affect LM-funded activities. The EC group tracks the schedules for regulation reviews. The list of LMS Directive and Regulation Responsibility/Implementation requirements is posted on the LM Intranet.

A graphical representation of the compliance requirements and annual reporting is shown below:

### Environmental Compliance Requirements and Resulting Reports



**Notes:**

- DOE Order 226.1b, *Implementation of Department of Energy Oversight Policy*
- DOE Order 231.1b, *Environment, Safety and Health Reporting*
- DOE Order 451.1b, *National Environmental Policy Act Compliance Program*
- Executive Order 13287, *Preserve America*, March 3, 2003

## **3.1 Executive Orders**

### **3.1.1 Executive Order 13423 (2007)**

EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, 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

### **3.1.2 Executive Order 13514 (2009)**

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, 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 directs all federal agencies and their contractors to implement sustainable practices. Specifically, it:

- 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.
- Strives for continuous improvement by evaluating agencies' performance.
- Expands requirements for all federal agencies and their contractors to (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-term and long-term as part of the formal SSPP process.
- Introduces the requirement to develop and implement a life-cycle sustainability plan inclusive of metrics.

### 3.1.3 Executive Order 13653 (2013)

EO 13653, *Preparing the United States for the Impacts of Climate Change*, states the official federal government policy related to addressing the impacts of climate change and ways the U.S. can prepare to face these challenges. The Order outlines actions for preparedness and specific actions that federal agencies should implement. It directs all federal agencies and their contractors to take action in the following areas:

- Modernize federal programs to support climate-resilient investment, and to plan for and manage climate-change-related risks
- Manage lands and waters for climate preparedness and resilience
- Provide information, data, and tools for climate change preparedness and resilience data sharing
- Update each agency Climate Change Adaptation Plan to address five specific items relating to the identification of risks and impacts, proposed resiliency responses, and collaboration with other organizations
- Continue to report adaptation activities in the annual Site Sustainability Plan (SSP)/SSPPs
- Contribute to or support the Council on Climate Preparedness and Resilience, which replaced the Interagency Task Force on Climate Change
- Collaborate with the State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience

## 3.2 DOE Department-Level Documents

### 3.2.1 DOE Order 436.1

DOE Order 436.1, *Departmental Sustainability*, defines requirements and responsibilities for managing sustainability within DOE. It also does the following:

- Ensures that DOE carries out its missions in a sustainable manner that addresses national energy security and global environmental challenges, and that advances sustainable, efficient and reliable energy for the future
- Institutes wholesale cultural change to factor sustainability and GHG reductions into all DOE corporate management decisions
- Ensures that DOE achieves the sustainability goals established in its SSPP
- Complies with sustainability and reporting requirements

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

U.S. Department of Energy Order: DOE O 436.1, DEPARTMENTAL SUSTAINABILITY. This Order incorporates the sustainability requirements of EO 13423, EO 13514, DOE HQ SSPP and also requirements found in ISO 14001:2004 that relate to an organization's environmental management system program. Each EMS must have a formal audit by a qualified party outside the control or scope of the EMS every 3 years.

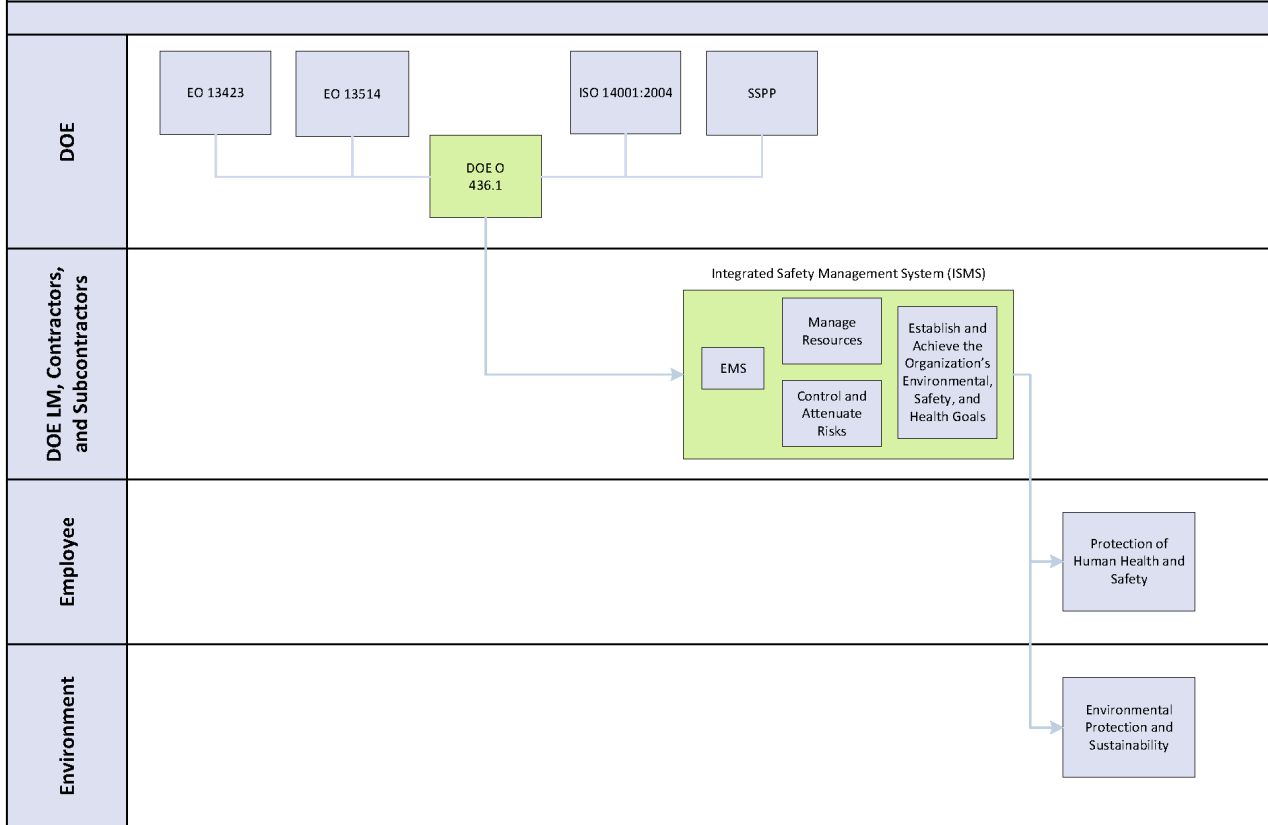


Figure 2. Scope of DOE Order 436.1

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

Change 2 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.

### 3.2.3 DOE Policy 450.4A, *Integrated Safety Management Policy*

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

### **3.2.4 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. 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.
- Purchasing sustainable products and services.
- Preventing pollution and eliminating waste.

In response to EO 13514, DOE issued a Climate Change Adaptation policy statement and formed an internal working group, with representatives from all major departmental elements, to assess vulnerabilities and to draft a climate adaptation plan for DOE. The DOE Climate Change Adaptation Plan is part of an ongoing effort to build resilience across DOE. The Adaptation Plan has been incorporated into DOE's planning, operational, and budget development processes through its integration with the SSPP. Future plans must account for advancement in scientific understanding and continued evaluation, made in accordance with EO 13653.

## **3.3 Office-Level Documents**

### **3.3.1 LM's Environmental Policy**

An environmental policy statement is the basis for an agency's EMS. There are two separate policies that form the basis for this EMS. The first is the LM *Environmental Policy* (LM Policy 436.1a) which declares the LM commitment to the protection of the environment, through our environment, safety, health, and quality programs, and which serves as the foundation for this EMS. This 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 LM policy is available on the LM Intranet and also is communicated to the public through the LM public website.

The second policy, LMS's *Commitment to Safety and the Environment Policy*, reaffirms that LMS remains committed to the safety of its workers and protection of the environment. 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 anticipate and prevent potential accidents and pollution, and to work toward continual improvement in LM's integrated systems and processes. In addition, it communicates DOE's expectation (as outlined in DOE Policy 450.4A) for safety, including integrated safety management 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 resides in the LMS *Integrated Safety Management System Description*

with *Embedded Worker Safety and Health Program* (LMS/POL/S04328) and is also available on the LM Intranet at [https://lportal.lm.doe.gov/Contractor/Departments/Environmental\\_Management\\_System/Guiding\\_Documents\\_and\\_Links.aspx](https://lportal.lm.doe.gov/Contractor/Departments/Environmental_Management_System/Guiding_Documents_and_Links.aspx).

All employees are expected to be familiar with and to understand the respective policies. The policies are communicated to all employees through EMS general awareness training and various EMS-related publications (e.g., this document, brochures, posters). If requested, copies can be provided to external parties.

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.

### **3.3.2 LM's Site Sustainability Plan**

LM's SSP outlines the strategies for managing and implementing various sustainability and energy-related activities at LM. The plan is updated annually as required by DOE Order 436.1 and the DOE SSPP. This plan reflects progress made toward, and strategies in place for, accomplishing the goals and previously identified requirements.

LM's SSP is communicated to all employees through EMS general awareness training and various EMS-related publications (such as this document, *ECHOutlook*, and *E-News Weekly* articles), and it is available on the LM Intranet and the LM public website.

## **3.4 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.

### **3.4.1 ISO and EMS**

ISO Standard 14001:2004, *Environmental Management Systems—Requirements with Guidance for Use* (ISO 2004), refers to a family of standards and guidance documents that can help organizations address environmental issues. The ISO standards are developed through a consensus-based approach by member countries around the world. The standards can be applied to any organization. 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 guidance document 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
- Identifying 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 evaluating compliance with legal and other requirements
- Verifying that the EMS is effective and is achieving objectives and targets, and providing management review of the EMS, including a review of the following:
  - 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 audit program that identifies compliance needs and possible root causes of noncompliance

### **3.4.2 ISMS/EMS Commitment**

LM and its contractors are committed to systematically integrating environmental protection, safety, and health into management and work practices at all levels so that LM’s mission is accomplished in a manner that protects workers, the public, and the environment. The integration of an EMS with 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. The integration of this EMS with the ISMS applies to all work processes and activities performed under the referenced contract and any other contracts or subcontracts that may be subsequently assigned to these LM programs. Under ISMS, the term “safety” encompasses not just human health but also the environment, as described in LM Policy 436.1a, *Environmental Policy*, LM Policy 440.1, *LM Federal Employee Occupational Safety and Health Program*, DOE Policy 450.4A, *Integrated Safety Management Policy*, the *LMS Integrated Safety Management System Description with Embedded Worker Safety and Health Program*, and the *LMS 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.

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 and have a responsibility 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. All work activities are analyzed and reviewed for potential health and safety risks and environmental impacts prior to their performance. A more detailed

description of the work planning/hazard identification process is described in the Workflow Process diagram located in the *LMS Projects and Programs Manual* (LMS/POL/S05760).

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.

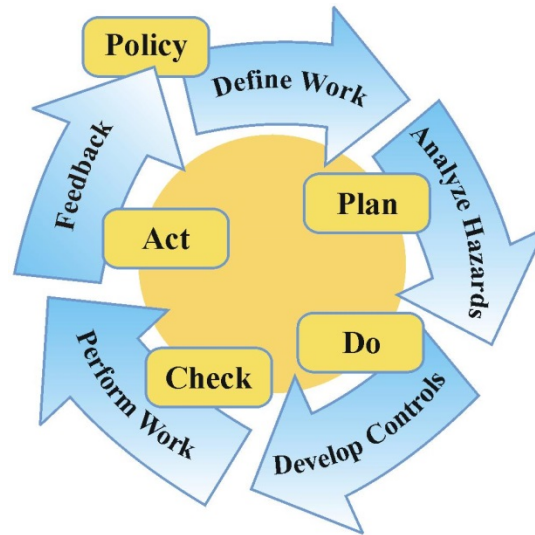


Figure 3. Overlap of ISMS Core Functions (Blue) and EMS Elements (Yellow)

### 3.4.3 LMS Manuals

LM has developed individual sustainability team plans to address and meet the sustainability goals under the EMS. The individual teams are summarized in Section 5.2.8 of this document and are fully described in the *LMS Environmental Management System Sustainability Teams Manual* (LMS/POL/S11374).

LMS maintains an environmental compliance manual, titled *Environmental Protection Manual* (LMS/POL/S04329), that provides summaries of commonly 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 desktop procedure for implementing compliance requirements, identifying significant environmental aspects, and conducting the annual EMS Management Review.

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

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

### **3.4.4 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**

### **PLAN**

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.

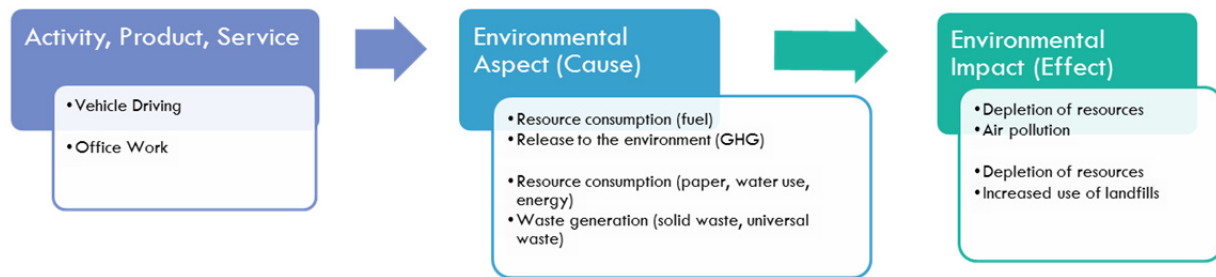
### **4.1 Task Assignment Process (Define and Fund Activities)**

The mechanism for LM to plan, approve, and fund a specific activity is called the task assignment. 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 Services Contract via task assignments. Proposals for task assignments are submitted to LM by the contractor, which are then evaluated and approved or revised/negotiated via the contractual process for award in accordance with DOE guidelines. The task assignment's EMS planning requires task funding, which is accomplished by following the process described in the *LMS Projects and Programs Manual*.

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

### **4.2 Environmental Aspects, Compliance with Legal and Other Requirements, Associated Objectives, Targets, and Goals**

LM and LMS must evaluate assigned work periodically. Primarily this is done to identify and update the environmental aspects, and to evaluate compliance with legal and other requirements. At the same time, the work evaluations serve to identify the significant environmental aspects, their associated objectives and targets, and the environmental goals on which to concentrate. The diagram below shows two examples of LM activities and some of the identified environmental aspects and impacts.



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 that 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.

EMS objectives describe the goals for environmental performance and should be measurable. Some are quantifiable, while others cannot be quantified but may still be measured.

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

Detailed steps on the identification of environmental aspects, compliance with legal and other requirements, and consideration of the technological options, objectives, targets, resources, and views of interested parties may be found in the LMS *Environmental Management System Sustainability Teams Manual*.

## 5.0 Implementation of the EMS

### DO

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.

The EMS is an established structure with senior management sponsorship, coordinators, sustainability team involvement, and the EC group. The EMS is led by two EMS coordinators. In addition, the EMS sustainability teams overall are led by two EMS sustainability coordinators. In each case, one of the two coordinators is from LM and the other is from the LMS contractor. The coordinators are the point-of-contact for the EMS.

The EMS sustainability coordinators, team leads, and advocates meet periodically (monthly or every other month, depending on activities) and provide a status update quarterly to senior management. LMS’s EC group meets weekly, provides monthly status reports, provides quarterly reports on changing requirements, and annually assembles the *Office of Legacy Management’s Summary of Annual Site Environmental Reports* (LM 2013). In addition, the annual EMS Management Review (see Section 7.0) 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. LM uses the SSP to annually report on the activities that are planned to meet sustainability goals.

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 sustainable program teams related to sustainability requirements; (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 advocate, 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 an EMS Sustainability Awareness training module (usually provided every 2 years to all employees). The EMS media 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. Related posters, contests, and activities sometimes accompany the articles.

The environmental compliance aspect of the EMS consists of regulatory compliance and monitoring programs that implement federal, state, local, and tribal requirements, agreements, and permits. The LMS EC group is integrated into program/project implementation from planning through completion to help ensure activities are performed so that safety of the public and protection of the environment is maintained. The LMS EC group has developed a number of internal tools to facilitate continued compliance, including the following:

- **Regulatory Review Report:** A quarterly report that is a compilation of reviews of new or revised environmental laws, regulations, and DOE directives as they are published. The reviews include analysis of applicability to LM and LMS and provide recommended changes to plans and procedures if changes are warranted. A copy is provided on the LM Intranet under the **Environmental Compliance** webpage.
- **LM Programmatic Environmental Reports/Activities:** A summary of programmatic reports. The table includes information such as a task, description of task, frequency, receivers, general due date, receiving entity and regulatory drivers. A copy is provided on the LM Intranet under the **Joint Environmental Management System (EMS) Goals/Progress** webpage.
- **Schedule of Federal/State Regulatory Reports, Permits, and Notifications:** 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/action, regulatory driver, responsible personnel, and due date. A copy is provided on the LM Intranet under the **Environmental Compliance** webpage.

Section 5.2 describes the basic roles and responsibilities of both LM and LMS personnel and the use of sustainability teams to achieve the required sustainability goals identified in EO 13423, EO 13514, DOE Order 430.1B, DOE Order 436.1, and the DOE SSPP. Additionally, Sections 5.3, 5.4, and 5.5 discuss (1) training requirements and responsibilities in implementing

the EMS, (2) how LM and LMS communicate relevant information to the work force and the public, and (3) the record and document control system.

## **5.1 LM and LMS Joint EMS Organization**

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

- LM provides oversight and direction for environmental compliance.
- LMS is responsible for environmental compliance implementation.

## **5.2 Roles and Responsibilities**

Both LM and LMS are committed to the Plan-Do-Check-Act cycle of continual environmental improvement when conducting day-to-day business. LM and LMS follow parallel paths with respect to implementing the elements of the EMS. LM and LMS staff are responsible for evaluating day-to-day activities to identify how their activities, products, and services interact with and impact the environment. The LMS *Functions, Responsibilities, and Authorities Manual (FRAM)* (LMS/POL/S04319) describes the mission, function, and products of the LMS contractor responsibilities, and authorities assigned to the LMS contractor for line, support, oversight, business, and infrastructure management.

### **5.2.1 All Employees**

All employees are responsible for 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 sustainability teams 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.

### **5.2.2 Senior Management**

Senior management is responsible for establishing and maintaining environmental policies, making their employees aware of the policy, participating in the annual EMS Management Review, endorsing environmental excellence in their organizations, and promoting the continual improvement of the EMS and environmental performance.

### **5.2.3 Project/Program Management, Site Leads, and Line Management**

LM program, office, and site managers are responsible for oversight of LMS program. They ensure that the EMS and health and safety requirements 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 project and program management, along with the subtask managers, site leads, and line managers, are responsible for implementing

the EMS by conducting work in an environmentally safe and compliant manner. Their responsibilities include:

- Integrating functional organizations, including the EC and Health and Safety (H&S) groups, into their work-planning and scoping process.
- Participating in defining and updating significant environmental aspects and measurable objectives and targets.
- Ensuring that operations are controlled by documented procedures.
- 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.
- Endorsing environmental excellence and promoting the continual improvement of the EMS and environmental performance.

#### ***5.2.3.1 Project Management: LM Program Managers, Site Managers, Office Managers, and LMS Task Assignment Managers***

LM program managers, site managers, office managers, and LMS task assignment managers are responsible for:

- Approving performance targets and objectives.
- Ensuring that approved, budgeted resources are available, and promulgating programmatic and technical direction in a timely manner.
- Ensuring that EMS support staff and equipment are assigned in a timely manner.

#### ***5.2.3.2 Line Management: Subtask Managers, Site Leads, and Office Leads***

LMS subtask managers, site leads, and office leads are responsible for implementing the EMS in accordance with applicable Executive Orders, DOE policy, professional standards, and this manual. Their responsibilities include:

- Integrating functional organizations, including the EC and H&S groups into their work plans.
- Defining and updating significant environmental aspects and measurable objectives and targets.
- Approving significant environmental aspects.
- Identifying and reporting threats to human health or the environment, mitigating environmental impacts, and issuing a stop-work order(s) for threat(s) they are unable to mitigate.
- Endorsing environmental excellence and promoting/improving EMS.

### **5.2.4 Environmental Compliance Managers/EMS Coordinators**

The LM Environmental Program manager oversees the scope, budget, and schedule of programmatic environmental compliance and, for all purposes, is the LM EC manager. The LM Environmental Program manager also serves as the LM EMS sustainability coordinator. The LM Environmental Program manager and the LMS EC 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 LMS EC manager is responsible for:

- Ensuring that adequate resources are available 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 EC managers will coordinate with each other on a regular basis.

### **5.2.5 LMS Environmental Compliance**

EC is a cross-functional support group with the mission of providing compliance oversight support across all LM programs and projects. Maintaining compliance with all regulations and individual site requirements is inherent in the EMS process. LM has the role of compliance oversight. LMS has the role of compliance implementation. Specific EC responsibilities include:

- Identifying 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.
- Ensuring the consistent application of environmental requirements.

### **5.2.6 EMS Sustainability Coordinators**

The EMS sustainability coordinators are the primary points-of-contact for the EMS programmatic and sustainability areas. Responsibilities of the EMS sustainability coordinators 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 the EMS.
- Establishing or approving the level of operational/work control for sustainability activities.
- Performing quality control checks and data validation on annual reporting.

### **5.2.7 EMS Core Team**

The EMS Core Team oversees the EMS sustainability 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 and LMS team advocates 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.

### 5.2.8 EMS Environmental Sustainability Teams

To achieve the objectives and goals identified in EO 13423, EO 13514, DOE Order 430.1B, DOE Order 436.1, DOE Policy 450.4A, and the DOE SSPP, LM established individual sustainability teams. EMS sustainability teams consist of a team lead, an LM and LMS management advocate, and several other knowledgeable employees. Each sustainability team:

- Is responsible for managing and implementing their individual sustainability area.
- Has identified a specific achievable mission, along with metrics to assist in evaluating progress toward the required objectives.
- Reports its 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 sustainability team is for the team’s activities to become fully integrated at the functional level. A description of each team is listed below. The *Environmental Management System Sustainability Teams Manual*, which describes each team in detail, can be accessed on the LM Intranet on the **LMS Controlled Documents** webpage and on the **Joint Environmental Management System (EMS)** webpages.

| Sustainability Teams  | Description   |
|---|---|
| <b>Energy Efficiency and Greenhouse Gases (GHG) Scope 1 and 2</b> | This team 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.  |
| <b>Renewable Energy</b>   | This team evaluates, makes recommendations, and implements approved practices to increase renewable energy use at LM sites. The team 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.  |
| <b>Water Conservation</b>   | This team evaluates, makes recommendations, and implements approved practices to maintain and operate its building and facilities in a manner that beneficially reduces potable and industrial, landscaping, and agricultural non-potable water use, loss, and waste at LM sites. The team strives to reduce potable water use intensity annually. Water efficiency initiatives include using conservation technology and devices, using improved design and process implementation, and encouraging behavioral change. |

| Sustainability Teams   | Description  |
|--|--|
| <b>Sustainable Acquisition</b>                                     | This team uses a national approach to educate both the LM workforce and LMS staff on leveraging acquisitions to foster markets for sustainable technologies and environmentally preferable materials, products, and services while conducting the LM mission.  |
| <b>Waste Minimization and Pollution Prevention and Scope 3 GHG</b> | This team 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.   |
| <b>Sustainable Buildings</b>                                       | This team promotes the conservation of natural resources, energy and water efficiency, waste minimization, and the creation of healthy, productive work environments as part of the cost-effective design and construction of new buildings and the improvement of existing LM-owned and LM-leased buildings. The team 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. |
| <b>Vehicle and Fuel Use</b>  | This team conserves finite natural resources by promoting the reduction of petroleum fuel use, an increased use of alternative fuel, and the use of alternative-fuel and hybrid vehicles when available.   |
| <b>Electronic Stewardship</b>                                      | This team 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 LMS conserve energy and finite natural resources and reduce costs and pollution.  |
| <b>Climate Change Adaptation</b>                                   | This team affirms the overall DOE commitment to plan for and manage the short- and long-term effects of climate change on its mission, policies, programs, and operations. This team advocates an improved understanding of climate science as it relates to LM facilities and operations, helps assess vulnerabilities and opportunities to increase resiliency, strives to increase interagency collaboration, and encourages updates to applicable emergency response and facility/site plans.                      |
| <b>Media</b>   | The EMS media team works with the other sustainability teams to produce the awareness articles, which are published in the internal quarterly newsletter ( <i>ECHO</i> Outlook) at least once every 2 years. Related posters, contests, and activities sometimes accompany the articles to encourage behavioral changes.   |
| <b>Training</b>  | This team provides and update the EMS Sustainability Awareness training, ensuring that it is updated and provided within the 2-year refresher period.  |

### 5.3 Training

EMS orientation and training shall 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.

The LMS *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, and permits, and with LMS 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.

DOE Order 360.1C, *Federal Employee Training*, provides the training policy and procedures for LM.

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 LMS's Training group to identify training needs, sources of training, and training schedules.

Two types of training are used for this EMS: general EMS awareness training (e.g., EMS/Sustainability Awareness, and NEPA Awareness) and competence training (e.g., Radioactive Materials Transportation and Resource Conservation and Recovery Act). As part of the Federal Buildings Personnel Training Act (Public Law 111-308) ramp-up, various individuals throughout LM will be reviewing and updating their competencies in multiple areas including sustainability. More detailed information on the EMS training team can be found in the *LMS Environmental Management System Sustainability Teams Manual*.

LMS EMS training records are maintained in LMS Training group's Training Information Systems database. DOE maintains a separate tracking system—the Corporate Human Resource Information System—which is used by LM employees.

## 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 LMS 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 communicating 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 sustainability teams and mechanisms whereby LM communicates its EMS, environmental program activities, and community outreach initiatives to employees and external stakeholders. In addition, 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 2011) defines the communications that should be tracked and the systems to be used for documenting the communications.

#### **5.4.1 Internal and External LMS Communications**

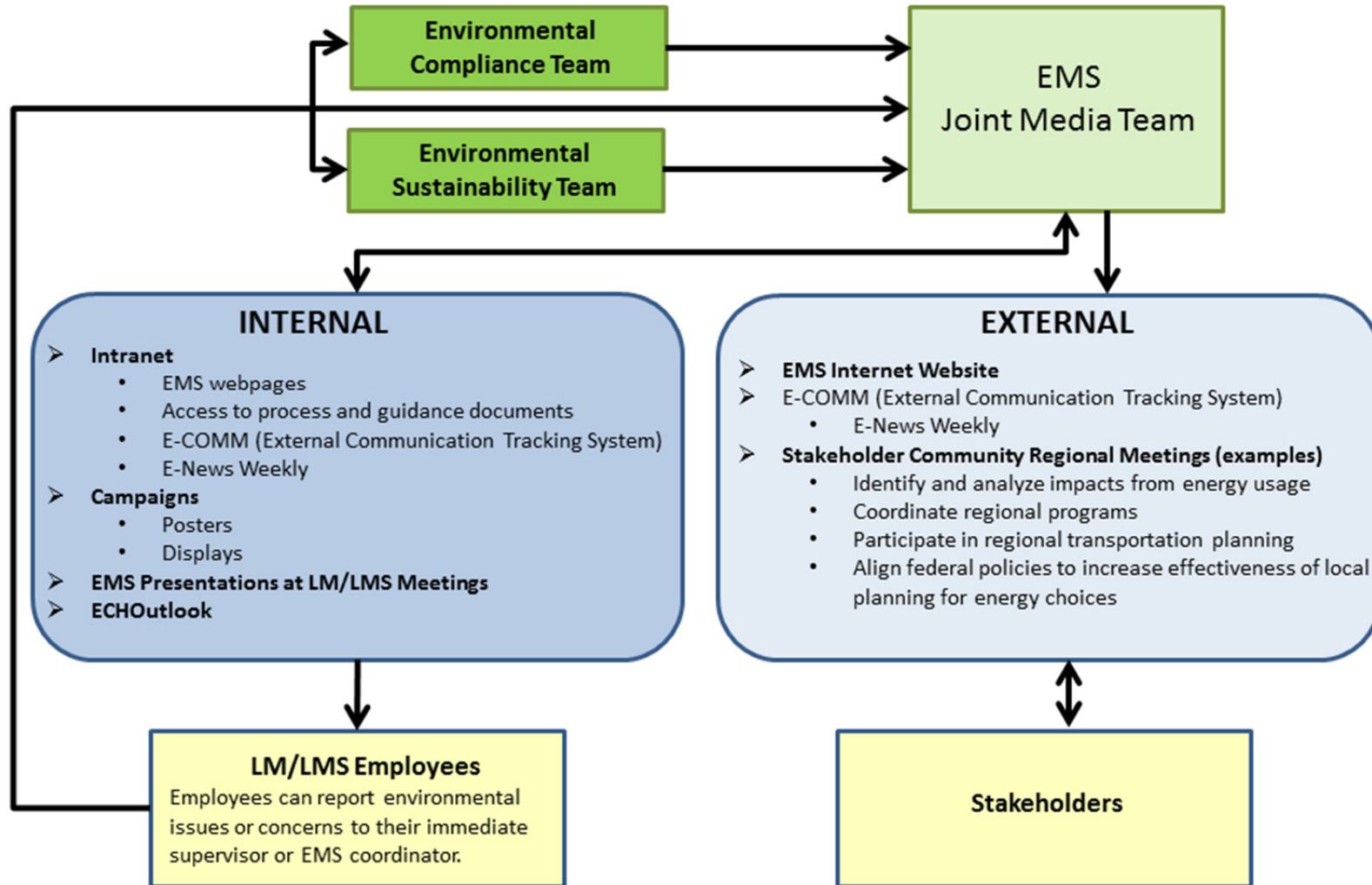
Various forms of internal communications are used to maintain employee awareness of EMS initiatives, to communicate employee roles and responsibilities, and to motivate employees. In addition, LM is committed to openly communicating with and soliciting feedback from the public, stakeholders, and other interested parties such as news media, regulatory agencies, and other government entities. 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. Figure 4 shows the internal and external communication process.

### **5.5 EMS Documentation**

By maintaining proper documentation of the EMS, LM and LMS 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/work controls LM uses to manage the work and mitigate environmental impacts. In addition, each EMS sustainability team has specific metrics that document performance toward the stated program goals. Sustainability teams report status routinely in a performance assurance report, which is available on the LM Intranet on the **Joint Environmental Management System (EMS)** webpages.

LM reviews and updates this EMS Description document at least every 2 years. Each review considers assessments, nonconformities, and associated corrective actions. If revisions to the EMS are necessary, revisions are made and LM/LMS employees are notified.

# ENVIRONMENTAL MANGEMENT SYSTEMS (EMS) COMMUNICATION FLOW



February 11, 2015

Figure 4. EMS Communications Diagram

### 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 *LMS Environmental Management System Sustainability Teams Manual*, the *LMS Environmental Protection Manual*, the *LMS Environmental Instructions Manual*, and this document are made directly to the EC group, 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 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 Production Manual (LMS/POL/S09818)*. The documents controlled by LMS include:

- Level 1, High-Level Contractor Planning Documents (including the FRAM)
- Level 2, Contractor Programmatic Plans and Procedures
- Level 3, Contractor Functional Procedures and Plans
- Level 4, Site-Specific Plans and Procedures

Controlled documents are available on the LM Intranet. LM documents are released and controlled by LM.

### 5.5.2 Document Control

In accordance with *Supplemental Directives Management System (LM Procedure 251.1e)*, the LM director delegated authority to the LM office directors to make and authorize minor changes to the policy on behalf of the director. The director continues to sign original policies and policies that require major changes. Original procedures and procedures that require major changes go through LM management for review. Minor changes are signed by the responsible office director. This LM procedure establishes the required layout and process for publishing policies, procedures, and notices. LM is currently collating their directives onto one webpage that will be available on the LM Intranet.

In accordance with the *LMS Document Production Manual*, LMS's Document Production group manages all controlled documents 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 LMS controlled documents. A controlled document encompasses policies, programs, plans, procedures, and instructions that ensure that safe, regulation-compliant, and high-quality work is performed in an approved manner. LM controls all LM documents. Controlled documents are available on the LM Intranet.

### 5.5.3 Records

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 200.4c, *Records Management*, and the *LMS 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 site-specific activities are 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 sustainability teams. The EMS records file plan is maintained in the LM Electronic Recordkeeping System.

## 5.6 Operational Control

Activities affecting quality and services shall be prescribed by and performed in accordance with documented instructions, procedures, or drawings that include or reference appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished. The activity shall be described to a level of detail commensurate with the complexity of the activity and the need to assure consistent and acceptable results. The need for, and level of detail in, written procedures or instructions shall be determined based upon complexity of the task, the significance of the item or activity, work environment, and worker proficiency and capability (education, training, experience). The EMS Sustainability Coordinators shall be responsible for establishing or approving level of operational/work control for EMS team sustainability activities.

The LMS workflow process guides project and activity leads and ensures that work is planned and executed consistently nationwide. The *LMS Projects and Programs Manual* 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, environmental compliance planning, work authorization, performance of work, and project closeout, all of which are also components of DOE's ISMS and EMS. Work is categorized, and work planning and controls are specified using a graded approach consistent with the complexity of the activity, the work environment, and worker proficiency.

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. A complete list of manuals is provided on the LM Intranet on **LMS Controlled Documents** webpages.

## 5.7 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 and offices are addressed in the site-specific sections of the *LMS Comprehensive Emergency Management System* document.

## 6.0 Checking, Corrective Action, and Audits

### **CHECK**

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)

### **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 management periodically. The EMS Core Team evaluates progress toward goal achievement on an as-needed basis, an as-scheduled basis, and yearly during the annual EMS Management Review.

The sustainability goals stated under EO 13423, EO 13514, DOE Order 430.1B, DOE Order 436.1, and the DOE SSPP have identified metrics that are tracked periodically by the EMS Core Team and yearly during the annual EMS 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 and at the annual EMS Management Review.

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. In addition, general monitoring is used where necessary to prepare annual site environmental reports. Additional information on environmental monitoring is provided in the *LMS Environmental Protection Manual*.

## **6.2 Procedures for Evaluation of Compliance**

Compliance with legal requirements applicable to the defined environmental aspects is evaluated using management assessments, independent internal assessments, and surveillances. These activities are conducted according to an annual oversight schedule maintained by Quality and Performance Assurance. 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 posted monthly on the LM Intranet and communicated to 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 independent assessments and surveillances. The policy, qualifications, and procedures for assessments are defined in LMS's *Quality Assurance Manual*.

## **6.3 Nonconformance, 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, corrective action, and preventive action. Types of nonconformances that can affect the environment include:

- Regulatory noncompliance
- Failure to follow procedure
- Improper use of mitigation techniques
- Subcontractor not meeting requirements

Nonconformance will be reported as specified in LMS's *Quality Assurance Manual* and the LM Quality Assurance Program Plan (DOE 2008). Following completion of any identified corrective or preventive action, a senior management representative will review evidence of closure prior to approval of corrective action completion.

Any corrective actions identified through assessment activities are tracked in the Corrective Action Tracking System (CATS) until completion. LMS's 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).

Preventive actions are a proactive process to identify opportunities for improvement. Numerous mechanisms considered to be preventive measures have been established to facilitate quality improvement. All organizations must apply and support these mechanisms to prevent and detect problems and improve the quality of work. Preventive actions must be appropriate to the effects of the potential problems and will be shared through the lessons learned process when appropriate.

Lessons learned are either positive or negative lessons to promote improvements and avoid repeating errors. LM and LMS's 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. Lessons learned are posted on the LM Intranet and SharePoint under the Lessons Learned repository. At the project level, LMS's *Project/Activity Evaluation* form (LMS 1005) has a location to identify lessons learned once projects are complete.

## **6.4 EMS Audit**

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.

In addition to the mandatory audit by an external unrelated party every 3 years, parts of the EMS are audited annually by LM or LMS staff. Auditor qualification, knowledge of EMS requirements, independence, and ethics are required for all audit team members. LMS is responsible for coordinating or conducting internal independent 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." Any findings require cause analysis and corrective action determination. Corrective actions are tracked in CATS until completion.

Audit procedures are described in LMS's *Quality Assurance Manual* and the *LMS Quality and Performance Assurance Desk Instructions* (LMS/PRO/S04341).

## **7.0 Management Review**

### **ACT**

LM and LMS'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's 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 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 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 (in accordance with LMS's *Quality Assurance Manual*) can be used to document the results of the review. Specific steps for conducting a management review are in LMS's EMS Sustainability Teams Manual.

In addition to the annual EMS Management Review, progress is reported periodically in the performance assurance report, EMS Core Team meetings 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:** A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which the environmental management system criteria is fulfilled.

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

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

**Controlled document:** Any document for which distribution and status are to be kept current by the issuer to ensure that authorized holders and users of the document have 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, 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 and measurement:** A systematic approach for measuring and monitoring its environmental performance. Also 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 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 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.

**Management assessment:** An evaluation process used to identify organizational strengths and weaknesses through existing information.

**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 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.

**Preventive action:** Action taken to eliminate the cause of a potential nonconformity or other undesirable potential situation.

**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 (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 13423, EO 13514, and the DOE SSPP.

**Strategic Sustainability Performance Plan (SSPP):** A plan required of all Federal agencies by EO 13514 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.

## 9.0 References

DOE Order 360.1C, *Federal Employee Training*, July 6, 2011.

DOE Order 430.1B, Change 2, *Real Property Asset Management*, April 25, 2011.

DOE Order 436.1, *Departmental Sustainability*, May 2, 2011.

DOE Policy 450.4A, *Integrated Safety Management Policy*, April 25, 2011.

DOE (U.S. Department of Energy), 2008. *U.S. Department of Energy Office of Legacy Management Quality Assurance Program Plan*.

DOE (U.S. Department of Energy), 2011. *Guidance on Tracking Environmental-Related External Communication*.

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

Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, January 24, 2007.

Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, October 5, 2009.

Executive Order 13653, *Preparing the United States for the Impacts of Climate Change*, November 6, 2013.

ISO (International Organization for Standardization), 2004. ISO 14001:2004, *Environmental Management Systems—Requirements with Guidance for Use*, Second Edition, November 15.

LM Policy 436.1a, *Environmental Policy*, February 18, 2015.

LM Policy 440.1, *LM Federal Employee Occupational Safety and Health (FEOSH) Program Plan for Department of Energy Office of Legacy Management*, May 2015.

LM Procedure 200.4c, *Records Management*, July 26, 2012.

LM Procedure 251.1e, *Supplemental Directives Management System*, November 30, 2009.

LM (Office of Legacy Management), 2013. *Office of Legacy Management's Summary of Annual Site Environmental Reports*, September.

Public Law 111-308. Federal Buildings Personnel Training Act of 2010.

## **LMS Documents**

*Comprehensive Emergency Management System*, LMS/POL/S04326, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Document Production Manual*, (LMS/POL/S09818), continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Environmental Instructions Manual*, LMS/POL/S04338, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Environmental Management System Sustainability Teams Manual*, LMS/POL/S11374, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Environmental Procedures Catalog*, LMS/POL/S04325, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Environmental Protection Manual*, LMS/POL/S04329, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Functions, Responsibilities, and Authorities Manual (FRAM)*, LMS/POL/S04319, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Health and Safety Manual*, LMS/POL/S04321, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Integrated Safety Management System Description with Embedded Worker Safety and Health Program*, LMS/POL/S04328, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*LMS Projects and Programs Manual*, LMS/POL/S05760, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Quality and Performance Assurance Desk Instructions*, LMS/PRO/S04341, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Quality Assurance Manual*, LMS/POL/S04320, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Records Management Manual*, LMS/POL/S04327, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.

*Training Manual*, LMS/POL/S04323, continually updated, prepared by Stoller Newport News Nuclear, Inc., a wholly owned subsidiary of Huntington Ingalls Industries, Inc., for the U.S. Department of Energy Office of Legacy Management.