SENIOR MANAGERS' IMPLEMENTATION GUIDE
for Use with DOE O 450.1,
Environmental Protection Program

[This Guide describes suggested nonmandatory approaches for meeting requirements. Guides <u>are not</u> requirements documents and <u>are not</u> to be construed as requirements in any audit or appraisal for compliance with the parent Policy, Order, Notice, or Manual.]

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

FOREWORD

This Guide is one of a series issued to provide suggested approaches for meeting the requirements of DOE O 450.1, *Environmental Protection Program*, dated 1-15-03, which requires Department of Energy (DOE) organizations to establish environmental management systems (EMSs) that are an integral part of DOE's Integrated Safety Management System (ISMS), hereinafter referred to as an ISMS/EMS.

This Guide provides a summary description of EMSs for DOE senior managers, including their responsibilities as they apply to the successful implementation of an ISMS/EMS and the expected benefits to be derived from such implementation.

This Guide is approved for use by the DOE Office of Environment, Safety and Health and is available for use by all DOE elements, including the National Nuclear Security Administration, and their contractors. Suggestions for corrections or improvements to this Guide should be addressed to—

John (Larry) Stirling
EH-41
U.S. Department of Energy
Office of Air, Water and Radiation Protection Policy and Guidance
Facsimile: 202-586-0955
John.Stirling@eh.doe.gov

DOE Guides are part of the DOE Directives System and are issued to provide supplemental information regarding the Department's expectations of its requirements as contained in rules, Orders, Notices, and regulatory standards. Guides also provide acceptable methods for implementing these requirements; however, Guides do not establish or invoke any new requirements nor are they substitutes for requirements. Guides do not replace Technical Standards, which are used to describe established practices and procedures for implementing requirements.

CONTENTS

1. INTRODUCTION

1.1   PURPOSE

This document provides discretionary guidance for implementing the requirements of DOE
O 450.1, *Environmental Protection Program,* dated 1-15-03. DOE O 450.1 requires
implementation of sound stewardship practices that are protective of air, water, land, and cultural
and ecological resources impacted by Department of Energy (DOE) operations and by which
DOE meets or exceeds compliance with applicable environmental, public health, and resource
protection laws, regulations, and DOE requirements in a cost-effective way. This objective is to
be accomplished by implementing environmental management systems (EMSs) at DOE facilities
as part of existing Integrated Safety Management Systems (ISMSs) established pursuant to DOE
P 450.4, *Safety Management System Policy,* dated 10-15-96. This Guide provides suggested
approaches for meeting this objective.

1.2   APPLICABILITY

This Guide is for use by all DOE elements including the National Nuclear Security
Administration (NNSA), and DOE/NNSA contractors required to implement DOE O 450.1.

1.3   USE OF GUIDANCE

DOE Guides are not requirements documents and may not be considered as requirements in any
audit or assessment of compliance with the associated Policy, Order, Notice or Manual.

DOE O 450.1 requires DOE elements to establish EMSs that are integrated into DOE site
ISMSs. The integration of an EMS into an ISMS (hereinafter referred to as ISMS/EMS)
provides a unified strategy for the management of resources; the control and attenuation of risks;
and the establishment and achievement of the organization's environment, safety, and health
goals.

The guidance contained in this document is designed to provide senior managers[1] with an
understanding of DOE O 450.1 roles and responsibilities to ensure successful implementation of
ISMS/EMS and the benefits of implementing ISMS/EMS.

2. ENVIRONMENTAL MANAGEMENT SYSTEMS

An EMS is a systematic and structured approach for addressing the environmental consequences
of an organization's activities, products, and services. Executive Order (E.O.) 13148, *Greening
the Government Through Leadership in Environmental Management*, requires Federal agencies
to implement EMSs at all appropriate facilities by December 31, 2005. The Department's
progress in implementing the requirements of E.O. 13148 is reported to the White House Office
of the Federal Environmental Executive (OFEE) on an annual basis by the Assistant Secretary of

---

[1]The level of management that has the authority to make decisions for the site or facility.

Environment, Safety and Health, who also serves as the Agency Environmental Executive for the Department.

The OFEE prepares a scorecard each year to measure progress toward the goal of implementing EMS. The OFEE has identified several key metrics for Federal agencies to report. The Department has adopted these metrics to support DOE's reporting requirements. This information will also assist DOE leadership in assessing how the Department is implementing their responsibilities to ensure that sites under their purview have successfully implemented EMS by December 31, 2005.

In furtherance of the goals of E.O. 13148, DOE issued DOE O 450.1 in January 2003. This Order requires DOE elements to integrate EMSs into site ISMSs (ISMS/EMS).

3. THE BENEFITS OF INTEGRATING AN ENVIRONMENTAL MANAGEMENT SYSTEM WITH AN INTEGRATED SAFETY MANAGEMENT SYSTEM

The expected benefits of implementing an EMS as part of an ISMS are as follows.

- Achieving mission goals in a timely manner, reducing costs, and improving business practices.

- Improving environmental compliance performance and reducing the generation of pollution.

- Addressing stewardship and legacy management issues systematically.

- Improving credibility with regulators and the local community.

3.1 ACHIEVING MISSION GOALS, REDUCING COSTS, AND IMPROVING BUSINESS PRACTICES

An ISMS/EMS can help ensure that mission goals are achieved in a timely manner by ensuring that environmental considerations are addressed as part of the strategic planning process and thereby become part of the critical path to achieving mission goals.

An ISMS/EMS can also help ensure that the management systems used to address these environmental considerations are built into the existing management system framework, and thereby become part of the way the organization conducts business. In addition, an ISMS/EMS can help ensure that an organization's programs and operations minimize the generation of pollution, which reduces subsequent costs associated attributed to managing waste.

Senior management can underscore to workers their commitment to improved environmental performance through the implementation of an ISMS/EMS. This can lead to improved employee awareness of the environmental impacts of their jobs and can help establish an organizational culture of environmental accountability and performance.

The inherent flexibility provided by management systems allows organizations to implement ISMS/EMS at facilities and organizations comprised of various sizes, complexities, and missions (e.g., offices, laboratories, facilities, programs). Moreover, ISMS/EMS will ensure a higher degree of consistency and reliability in the management processes, assessment activities, and the continuous improvement of environmental programs and controls.

An ISMS/EMS approach can improve business practices by involving top management. Increasing employee awareness and participation in the ISMS/EMS approach shifts the culture of the organization toward the establishment of an environmental protection ethic that strives toward continual improvement in waste reduction, pollution prevention and environmental protection by promoting the efficient and compliant accomplishment of mission goals.

3.2   IMPROVING ENVIRONMENTAL COMPLIANCE PERFORMANCE AND REDUCING POLLUTION

An ISMS/EMS can reveal opportunities for the: continued reduction of waste, pollution prevention, resource conservation and monetary savings.

Effective implementation of ISMS/EMS involves the entire staff, especially line management. Ownership of the ISMS/EMS should be placed primarily in the hands of line management, with the environmental staff providing expertise and assistance as appropriate. Use of EMSs will allow line managers to predict potential environmental protection problems early enough in the planning and design phases to minimize or avoid them. A thorough review of the site's/facility's mission, goals, objectives and activities can minimize redundancies and enhance communication across business lines, which will result in improved environmental performance and ensure accountability for achieving the desired environmental results. The ISMS/EMS can also ensure that continual environmental performance improvements will eventually become the accepted way of doing business.

3.3   ADDRESSING STEWARDSHIP AND LEGACY MANAGEMENT CHALLENGES SYSTEMATICALLY

DOE sites are and will continue to be faced with many stewardship and legacy management challenges. Many sites will close within the next 10 years, making a systematic approach to reconciling mission goals with acceptable methods, best practices and environmental requirements and stakeholder concerns necessary. By implementing ISMS/EMS, sites can proactively identify and address concerns to ensure the Department implements and maintains sound stewardship practices.

3.4   IMPROVING CREDIBILITY WITH REGULATORS AND LOCAL COMMUNITIES

Local communities recognize and appreciate a site/facility's open commitment to improved environmental performance. Regulatory agencies prefer integrated management systems for similar reasons. A properly functioning ISMS/EMS makes the management systems appear to be more "transparent" to the regulator, thereby making their job easier. This can result in an improved, more cooperative relationship with the regulators. Regulators may be able to provide

oversight relief from various administrative requirements if they are convinced there is a sound, effective EMS in place. Key environmental information that is well organized, comprehensive, and easy to obtain also helps lessen the chance of a noncompliant situation.

The Environmental Protection Agency (EPA) rewards federal agencies with effective EMS with the "Performance Track" designation. Performance Track recognizes facilities that consistently meet the legal requirements and have implemented high-quality EMSs.

4. INTEGRATING ENVIRONMENTAL MANAGEMENT SYSTEMS INTO INTEGRATED SAFETY MANAGEMENT SYSTEMS

DOE O 450.1 requires DOE elements to ensure that site ISMSs include an EMS. In those instances where an ISMS is not implemented, DOE elements must develop and implement an EMS. Otherwise, an EMS is that part of the site's ISMS which addresses the environmental consequences of an organization's products, services, and activities.

Several recognized EMS frameworks exist. ISO 14001 is the most popular. DOE O 450.1 does **not** require DOE organizations to use the ISO 14001 framework, but the Order does identify specific EMS elements that are required to be included in an ISMS/EMS. DOE elements may opt to use the ISO 14001 standard or any other model that meets the requirements of the Order. Senior managers should consult with the DOE Operations/Field/Site Office managers in deciding upon a particular framework. Regardless of the framework chosen, the EMS elements must still be compatible with and integrated into the site's ISMS. When a site does not have an ISMS, DOE elements must still ensure the implementation of an EMS.

The integration of an EMS into an ISMS provides a unified system for the management of resources; the control and attenuation of environmental risks; and the establishment and achievement of the organization's environment, safety, and health goals. ISMS/EMS should be viewed as an ISMS enhancement that adds those EMS elements not previously included in the ISMS. It is recognized that many sites have already implemented ISMSs and should therefore have most, if not all, of the elements of an EMS already in place.

Existing environmental programs provide an excellent starting point for developing an ISMS/EMS because some of the required ISMS/EMS elements may be in place. For example, existing site environmental information contained in Annual Site Environmental Reports, National Environmental Policy Act (NEPA) documents, permit applications, monitoring reports, etc., may be appropriate for inclusion to the ISMS/EMS.

Guidance documents DOE G 450.1-1, *Implementation Guide for Use with DOE O 450.1, Environmental Protection Program*, dated 2-18-04, and DOE G 450.1-2, *Implementation Guide for Integrating Environmental Management Systems into Integrated Safety Management Systems*, dated 8-20-04, provide information on the acceptable methods for meeting the requirements of DOE O 450.1. DOE G 450.1-1 provides an overview of the EMS process, while DOE G 450.1-2 provides detailed guidance relating to integrating EMSs into a site's ISMS. Additional documents that provide guidance on meeting the requirements of DOE O 450.1 can be found at http://www.eh.doe.gov/oepa.

5. IMPLEMENTATION OF INTEGRATED SAFETY MANAGEMENT SYSTEM/ENVIRONMENTAL MANAGEMENT SYSTEM AT CLOSURE SITES

Closure sites (i.e., sites that have ceased operations or have identified near-term closure activities and schedules) are required to implement ISMS/EMS. EH encourages using a graded approach to implementing EMS at closure sites. EMS should be tailored to the nature and magnitude of the environmental impacts at a site. It is reasonable to expect that a closure site would generally have fewer environmental impacts than a large, operational site, and the EMS would reflect this.

Closure sites that are conducting cleanup and closure activities pursuant to the regulatory requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or other legal agreements (such as Federal Facilities Compliance Agreements) with the Environmental Protection Agency (EPA) and/or State environmental agencies may have most of the elements of ISMS/EMS in place since their primary mission is cleanup. Site managers may wish to use the various procedures established pursuant to the above-mentioned laws as the basis for the site's ISMS/EMS. In some cases it may be sufficient to simply document the existing procedures and show how they cross-walk with the ISMS/EMS framework.

An ISMS/EMS can also be used as a framework to facilitate the transfer of a closure site from one organization to another and could address issues such as institutional controls and post-closure care.

6. SENIOR MANAGER ROLES AND RESPONSIBILITIES IN SUCCESSFUL INTEGRATED SAFETY MANAGEMENT SYSTEM/ENVIRONMENTAL MANAGEMENT SYSTEM IMPLEMENTATION

Specific responsibilities for senior managers[2] are found in DOE O 450.1, paragraph 5. Some of their key responsibilities are:

•   Ensure that by December 31, 2005, all sites under their purview have implemented the management system requirement of DOE O 450.1.

•   Request through the annual Departmental budgetary process, the funding and resources needed for implementing the requirements of DOE O 450.1.

DOE operations/field/site office manager responsibilities are found in DOE O 450.1, paragraph 5d. Some of their key responsibilities are:

•   Report by December 31, 2005, to the cognizant Secretarial Officer the status regarding whether the EMS requirements of DOE O 450.1 have been integrated into ISMSs by site contractors.

---

[2]Program Secretarial Officers, the Administrator of the National Nuclear Security Administration, Administrators for the power administrations.

- Ensure contractors with approved ISMS descriptions update the ISMS descriptions, as necessary, to include the EMS requirements of DOE O 450.1.

Additional requirements are found in their entirety in paragraph 5 of DOE O 450.1.

6.1   SUPPORT THE INTEGRATED SAFETY MANAGEMENT SYSTEM/ ENVIRONMENTAL MANAGEMENT SYSTEM

For the successful implementation of ISMS/EMS, the entire site should be involved and senior management must make it clear to everyone that they fully support the implementation of the ISMS/EMS. Senior manager sets the tone and priority for implementing ISMS/EMS. One way this can be done is through endorsing and communicating the site's environmental policy.

A strong, clear environmental policy statement emphasizing principles such as regulatory compliance, pollution prevention, and continual improvement is the first step to ensuring all employees know what is expected of them as they perform their jobs. Although organizations usually measure ISMS/EMS performance by assessing progress toward reducing identified environmental risks, it is the environmental policy that typically provides the ultimate benchmark of the system's performance.

Everyone at the site or facility should be aware of the policy and understand the senior manager's commitment to it. ISMS/EMS successful implementation can be enhanced by the senior manager's clearly communicating the system's benefits and maintaining the organization's focus during the implementation process.

Commitment of adequate resources, including personnel and funding, is another effective way of showing senior management commitment, and will also promote buy-in and support from other leaders and contractors.

6.2   PROVIDE OVERSIGHT AND GUIDANCE

Senior manager oversight, guidance, and encouragement are essential for maintaining momentum over the course of the implementation process. Periodically, senior managers should take the time to review how well the ISMS/EMS is being implemented. They should ask is the EMS working as planned. Is it getting the organization to where they want it to be? Are the number of environmental violations going down? Is it being cost-effectively implemented? If not, they should identify and implement corrective actions to put the ISMS/EMS back on track, and they should continually monitor the performance of the ISMS/EMS

When the senior manager maintains interest, members of the staff also stay focused. The senior manager must be personally involved in ISMS/EMS management reviews and issue specific direction as needed.

6.3   PROMOTE THE USE OF ENVIRONMENTAL MANAGEMENT SYSTEM TOOLS AND TRAINING

Senior management emphasis on continual improvement through the use of guidance documents and training are keys to successful implementation of ISMS/EMS. They may wish to consider

developing a number of courses which focus on the nature of the work done by different people at different levels in the organization. For example, ISMS/EMS training for workers on the floor would be different from training for middle level managers. Some DOE-specific guidance, training, and implementation tools are available to at http://www.eh.doe.gov/oepa/. EPA also has EMS information resources available to all Federal agencies at http://www.epa.gov/ems/, and OFEE has EMS templates and training modules available at http://www.ofee.gov/ems/resources/templates.html.

6.4   ENGAGE THE LOCAL COMMUNITY

Senior managers frequently interact with citizen advisory boards, local community leaders, and other stakeholders. Implementation of the ISMS/EMS initiative can provide these groups with a positive message regarding a site's commitment to environmental protection and stewardship. Communicating the ISMS/EMS process to the local community will help to enhance the Department's credibility and promote the visibility of DOE's commitment to the protection of the environment.

7. CONCLUSIONS

Implementing an ISMS/EMS shifts the environmental protection program focus to a management system that relies on line management accountability to ensure early detection of potential environmental problems so they can be avoided and/or mitigated. Managers can embed this proactive approach into the everyday business processes and mission activities. Environmental concerns then become part of the critical path to achieving mission goals and workers know they are held accountable for achieving environmental results.

In addition to accomplishing mission-related work ISMS/EMS is a valuable tool for achieving and maintaining environmental compliance, and minimizing regulated and non-regulated environmental impacts, thereby saving money.

Effective ISMS/EMSs also serve to increase environmental awareness and life-cycle accountability for everyone working at a DOE site and to integrate these values into all aspects of the Department's work.