



Environmental Management System

Handbook

515-4-H

Prepared by the Office of Administration, Office of Management Services, Environmental Management Branch

June 2016

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*U.S. Geological Survey Manual***Department of the Interior****U.S. Geological Survey****Environmental Management System Handbook 515-4-H****Date:****Office of Primary Responsibility: Office of Administration/Office of Management Services/Environmental Management Branch****FOREWORD**

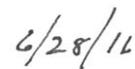
Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*, directs the heads of each principle agency, to continue implementing formal Environmental Management Systems (EMS) where those systems have proven effective and deploy new EMSs where appropriate. EMS is the USGS primary management tool that enables the USGS to comply with applicable laws and regulations, protect the environment, reduce environmental impacts, manage our activities and operations to be sustainable and efficient, and strive for continual improvement.

The USGS EMS facilitates the implementation of the USGS environmental policy. This Handbook expands on Survey Manual Chapter 515.4, Environmental Management System, the cornerstone of the USGS EMS, and outlines the processes that enable the EMS to operate efficiently and effectively. Additionally, this Handbook defines and outlines the scope of the USGS EMS, its components and requirements, including the roles and responsibilities of the offices and groups involved in managing it, the processes by which the program operates, and includes means to maintain historical data, informational Web sites, and other resources.

It is our duty as employees of the U.S. Geological Survey (USGS) to conduct our business and operations in a manner that protects our environment. We strive to make decisions to reduce our environmental impact, which will afford future generations the opportunity to live in harmony with the environment.



Jose R. Aragon
Associate Director for Administration



Date

CHANGE SUMMARY

Created a Table of Contents.

Clarification on the performance indicators and performance actions in Eco-Action Plans were provided.

The acronym EAP was written in full to Eco-Action Plan or Plan.

Chapter 10 provided a reference to Chapter 15 Control of Records (Element 14).

Removed references to the *General Guidance for Organizing USGS Products* pending the Instructional Memorandum (IM) developed by the [Office of Information and Investment Management](#).

CHAPTER 1. INTRODUCTION

The USGS has implemented the EMS in accordance with the Department of the Interior (DOI) [515 DM 4: Environmental Management](#); and the International Organization for Standardization (ISO) 14001:2004 standard for EMS. The Executive Order (E.O.) 13693 encourages the use of EMS for the management of environmental programs.

The USGS has a vertically integrated, organizational EMS that provides for management of environmental responsibilities at all organizational levels within USGS.

The Office of Administration, Office of Management Services (OMS), aligns environmental policies with USGS and DOI goals. The OMS develops procedural guidance to implement EMS.

The [Cross Functional Team](#) (CFT) is a multi-disciplinary group that meets regularly to determine significant aspects and impacts and develop objectives and targets in consideration of USGS activities, and legal and other requirements. The team consists of the Deputy Chief - OMS Operations (i.e., the CFT Chair), a National Program Representative, Science Center Directors (also referred to as Center Directors in this document), Administrative Officers, Regional/Senior Management Officers, Regional Safety Officers, and field personnel, such as Collateral Duty Environmental Program Coordinators (CDEPCs), Collateral Duty Safety Program Officers, Facility Managers, and Environmental Protection Specialists (EPSs), who serve as advising, nonvoting members.

For a detailed list of the roles at each EMS level, see Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority.

The EMS is the primary management tool at the USGS to address environmental impacts occurring from operations and activities. The USGS uses the EMS to implement policies and set goals to address legal requirements and those significant aspects and impacts determined by the CFT. The USGS uses the EMS to manage [sustainability performance requirements](#). The USGS routinely updates the EMS to reflect changes in organization, reporting, performance measures, and (or) other areas as necessary.

CHAPTER 2. SCOPE OF EMS (ELEMENT 1)

The scope of the USGS EMS includes all USGS offices, mission areas, regional offices, and field staff operations and activities, including programs operated under contracts and grants under the authority of the Director with a few exclusions. The exclusions include independent facility-level EMSs and activities involving radioactive or nuclear materials, and activities involving biohazardous materials.

The purpose of the USGS EMS is to achieve continual environmental improvement and manage operations to be sustainable, effective, and efficient by establishing objectives, identifying measurable targets, providing the tools necessary to mitigate environmental impacts, conserve energy, and preserve natural resources in accordance with E.O. 13693.

CHAPTER 3. ENVIRONMENTAL MANAGEMENT STATEMENT (ELEMENT 2)

The [USGS Environmental Policy](#), as stated by Suzette M. Kimball:

In Reply Refer To:
Mail Stop 101
GS12000535

April 24, 2012

Memorandum

To: U.S. Geological Survey Employees

From: Suzette M. Kimball (*signed*)
Deputy Director

Subject: Environmental Management: Your Commitment and Ideas Needed

Effective environmental management is critical to the U.S. Geological Survey (USGS) mission. We are committed to protecting the environment through complete compliance with environmental laws, regulations, and outstanding efficiency in the conduct of our operations. As part of our ongoing efforts, we will:

- Comply with and strive to surpass Federal, State, and local environmental laws and regulations.
- Implement and maintain the Environmental Management System as the primary management practice for USGS operations and activities.
- Seek to minimize the environmental impact of our operations through regular evaluation, restoration, and efficient use of natural resources.
- Implement sustainable environmental practices, including the acquisition of bio-based, environmentally friendly, energy-efficient, water-efficient, and recycled-content products.
- Conduct audits to measure environmental performance and establish accountability to correct deficiencies.
- Continually improve environmental performance through appropriate policies, procedures, training, and recognition of excellence.
- Prepare for emergencies in order to minimize environmental impacts.
- Emphasize pollution prevention, environmentally preferred products, and sustainable business practices with our building managers, contractors, and suppliers.
- Incorporate and enforce appropriate performance clause(s) in contracts with concessionaires and contractors that specify environmental protection and compliance.
- Serve as a role model and provide leadership for other organizations.

These tasks reflect the USGS's commitment to excellence in environmental management. All managers and employees should strive to carry them out.

To that end, I encourage you to submit ideas for improving our environmental practices to the USGS Idea Lab at <http://internal.usgs.gov/ideas>.

CHAPTER 4. ENVIRONMENTAL ASPECTS (ELEMENT 3)

1. Purpose.

Identify and document the environmental aspects and impacts of USGS activities, processes, and services within the defined scope of the EMS in order to determine those which may have a significant impact on the environment.

2. Procedure.

A. *Roles and Responsibilities.* Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities.

B. *Environmental Aspect and Impact Identification Process.* The current scope of the USGS environmental aspect and impact review is limited to the environmental elements of the activities, operations, and services (hereafter referred to as activities) performed and (or) controlled by the USGS within the scope of this EMS.

C. *Identification of Activities, Operations, and Services.* The CFT identifies the operational activities to include in the aspects and impacts questionnaire, data call, or survey (hereinafter referred to as assessment). The aspects and impacts assessment is provided to the Science Centers for their review and completion. They determine the degree to which their operational activities may impact the environment.

(1) The USGS documents and communicates the list of activities in the [aspects and impacts inventory](#), located on the EMS SharePoint Web site. The identified activities are intended to be “large enough for meaningful examination and small enough to be sufficiently understood,” as ISO 14001 guidance suggests.

(2) The scope of the EMS considers operational activities that the USGS can control or be expected to influence, which are within the boundaries of the land and property it occupies and (or) manages, which also include activities and operations in the field. Positive aspects and impacts may also be identified in the assessment. Positive aspects and impacts, for example, may increase the efficiency of a process or operation, promote the protection of the environment, or reduce another environmental aspect or impact. The following functional areas are considered when identifying activities:

- (a) *Mission Requirements.* Activities integral to the USGS accomplishing its mission.
- (b) *Support Services.* Activities supporting the USGS mission.
- (c) *Facilities Management.* Activities necessary to properly support the USGS infrastructure.
- (d) *Legacy Issues.* Existing environmental issues resulting from past operations.

D. *Identification of Environmental Aspects.* The key steps of the aspect identification process include:

(1) After the assessment is completed by the Science Centers, the CFT members identify significant environmental aspects associated with the activities defined in the section above. The CFT may refer to the [EMS SharePoint site](#) during the identification process for reference of environmental programs in the USGS.

(2) The USGS groups environmental aspects as appropriate. Examples of environmental area groupings are:

- (a) Air Quality Management.
- (b) Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act.
- (c) Cultural Resource Management.
- (d) Electronic Stewardship.
- (e) Energy Conservation.
- (f) Fleet Management.
- (g) Green Procurement.
- (h) Greenhouse Gas Emissions
- (i) Hazardous Material and Hazardous Waste Management.
- (j) Natural Resource Management.
- (k) National Environmental Policy Act.
- (l) Oil Pollution – Spill Prevention, Control, and Countermeasures (SPCC).
- (m) Pest Management.
- (n) Pollution Prevention.
- (o) Solid Waste Management.
- (p) Storage Tank Management (above and underground tanks).
- (q) Stormwater Management.

- (r) Sustainable Buildings.
 - (s) Toxic Substance Management.
 - (t) Wastewater Management.
 - (u) Water Management.
- (3) USGS maintains records of this process according to Chapter 15, Element 14 Control of Records.

E. *Evaluation of Environmental Aspects and Impacts.* The USGS evaluates environmental aspects to determine actual and potential environmental impacts.

(1) Evaluations to determine aspects and impacts are administered according to the *Evaluation of Environmental Aspects and Impact Standard Operating Procedures*. These evaluations are conducted periodically, at the discretion of the CFT and (or) the Office of Management Services, Environmental Management Branch (EMB). Historical data from previous evaluations are located in the aspect and impact inventory, which is located on the EMS SharePoint Web site.

(2) Significant aspects and impacts, as well as existing and new legal requirements, are reviewed by the CFT annually to ensure adequacy and relevancy. The CFT may review this more often if there is a significant change to the USGS organization or mission activities.

Refer to Appendix A, *Evaluation of Environmental Aspects and Impacts Standard Operating Procedure*, for additional information on the evaluation process.

F. *Significance of Environmental Aspects and Impacts.* The OMS compiles and initially assesses the aspect and impact inventory to help determine the most prominent responses and (or) significance ratings. The most commonly occurring aspects and impacts, or those with high significance ratings, are collected and provided to the CFT for assessment.

(1) For the questionnaire, the CFT will specify the appropriate significance rating cutoff value to assign significance to environmental aspects and impacts. The significance cutoff value may be documented either in the aspects and impacts inventory, or in CFT meeting minutes. The aspects and impacts that yield a significance rating greater than or equal to the cutoff are considered to be “significant aspects and impacts.” Those that are less than the cutoff value are not considered “significant aspects and impacts.”

(2) The significance rating cut-off value is selected after careful consideration of, but not limited to, the following factors:

(a) Nature and extent of the activities, operations, services, and resulting environmental aspects and impacts.

(b) Relative score of each identified environmental aspect and impact.

- (c) Human and financial resources available to assist in the implementation of the EMS.
- (3) The USGS considers significant environmental aspects and impacts when developing objectives and targets and establishing, implementing, and maintaining the EMS.
- (4) For assessments administered by a survey, the CFT may determine significance based on the frequency of responses for each question.
- (5) Not all significant aspects and impacts may result in development of objectives and targets.
- (6) The results of aspect and impact assessments are reviewed and summarized as part of the Management Review process, in Chapter 17, Element 16 Management Review.

CHAPTER 5. LEGAL AND OTHER REQUIREMENTS (ELEMENT 4)

1. Purpose.

Ensure that the USGS identifies, evaluates, and tracks legal and other requirements that apply to the environmental aspects of its activities, processes, operations, and services. The USGS must comply with Federal, State, local, Tribal, and Department of Interior requirements, as applicable, in addition to USGS policies. The Office of Management Services, Environmental Operations Branch, provides assistance to Science Centers with these requirements.

2. Procedure.

A. *Roles and Responsibilities.* Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities.

B. *Access to Applicable Requirements.* To access applicable Federal laws and other requirements, see the following resources below:

- (1) [USGS Environmental Management and Compliance Requirements Handbook](#).
- (2) EMS SharePoint Web site, [Compliance Programs](#) page, as well as Web site links to laws and regulations, such as:
 - (a) [FedCenter](#). The OMS provides regular status updates regarding implementation of the USGS EMS.
 - (b) Environmental compliance program documentation in the DOI-level EMS Intranet Web site on the [DOI Portal](#).
 - (c) [DOI Office of Environmental Policy and Compliance Web site](#).
 - (d) [Government Printing Office, Electronic Code of Federal Regulations](#).
 - (e) [Federal Register](#).
 - (f) [USA.gov: Laws and Regulations](#).
 - (g) [TEAM Guide](#). For regulatory information, audit process development, and protocols/checklists for meeting regulations.
- (3) Science Centers, with the assistance of the EPSs, will comply with applicable State and local laws, based on their site operational and field activities.

3. Identification, Tracking, and Communication of Applicable Requirements.

A. The OMS identifies and evaluates applicable legal and other requirements for the USGS. The OMS collaborates with the DOI Office of Environmental Policy and Compliance, the Office of the Solicitor, and subject matter experts, as appropriate, to assist in evaluating, and communicating applicable legal and other requirements throughout the USGS. The OMS monitors the resources described above on a regular basis to ensure that new and emerging requirements are identified on a timely basis and incorporated into the management system.

B. The EPSs in OMS provide technical environmental assistance to the Science Centers and field offices.

CHAPTER 6. OBJECTIVES, TARGETS, AND ACTION PLANS (ELEMENT 5)

1. Purpose.

Establish and maintain objectives and targets, to properly plan the implementation of the EMS, to work towards the prevention of pollution, and to enable continual improvement by ensuring that established objectives and targets are met. Well-developed objectives and targets provide a framework of clearly-defined and action-oriented goals that result in minimizing the potential liability associated with significant environmental impacts from the USGS's activities, operations, processes, and services. Targets are assigned to each objective and establish measurable performance criteria used to evaluate whether or not the USGS is achieving its objectives.

2. Procedure.

A. *Roles and Responsibilities.* Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities.

B. *Establish Objectives and Targets.* The OMS identifies USGS EMS goals, which may assist the CFT in developing EMS objectives and targets. Objectives and targets are designed to sufficiently set the overall direction of the management system.

(1) USGS EMS goals are defined by:

- (a) Legal and E.O. requirements and regulations.
- (b) DOI Sustainability Council goals.
- (c) USGS priorities.
- (d) CFT priorities.
- (e) Continual improvement.
- (f) Other concerns, as identified.

(2) The CFT considers the following items when establishing objectives and targets:

- (a) EMS goals, as listed above.
- (b) Environmental policy.
- (c) Significant environmental aspects and impacts.
- (d) Technical feasibility.

- (e) Financial, operational, and mission requirements.
 - (f) Stakeholder views (includes employees and any interested parties).
 - (g) Other concerns, as identified.
- (3) Each objective and target should be effective, specific, measurable, achievable, realistic, and time-bound (eSMART). By using eSMART as a guideline, the objectives and targets will not only be clear and understandable, but will also demarcate both a measurable and feasible goal.
- (4) The objectives and targets developed by the CFT are reviewed annually as part of Chapter 17, Element 16, the Management Review, to determine congruency with the USGS environmental policy and USGS goals, and to ensure that the EMS is poised for continual environmental improvement.
- (5) An external stakeholder may be any party that may have a vested interest in the EMS or a component of it. For example, such a party could include the public or perhaps either State or local governments or organizations. External stakeholders can communicate suggestions or questions regarding USGS goals through various methods, as listed in Chapter 9, Element 8, Communication.
- (6) USGS [objectives and targets](#) are posted on the EMS SharePoint Web site. Objectives and targets are regularly reviewed at CFT meetings or management reviews or both.

3. Achieving Objectives and Targets at Science Centers.

A. The Science Center completes the Eco-Action Plan (Plan) for objectives and targets established by the CFT. Science Centers will create a Plan for each target of each objective on a frequency determined by either the OMS or the CFT. For example, when new objectives and targets are established, a new Plan shall be created. The Plan records that a Center has acknowledged the USGS objectives and targets. If a specific objective and target is not applicable to a Science Center, the Plan must still be filled out and the reason for exclusion must be listed. This creates a record for future inspections to demonstrate to auditors why the objective and target is not applicable.

B. The Plans are used as progress tracking and accountability mechanisms for achieving the objectives and targets. The [Plan Repository](#) stores all Plans. Each Plan contains selectable performance indicators and performance actions. Performance indicators measure metrics that can be used to track Center/field-level progress. Performance actions are actual practices, when implemented at the Center, which will help achieve the target. Note: Select “Add Document” at the bottom of the page to create a new Plan. Additionally, Center-level Plans are located on the [Science Center Pages](#). Plans may be updated and edited as necessary from either the [Repository](#) or the [Science Center pages](#).

C. The Plans are Science Center-specific, and it is the responsibility of the Center Director to ensure compliance (i.e., to ensure that the objective and target are being addressed). For locations that contain multiple Science Centers, it is the responsibility of the CDEPCs to coordinate or generate an Plan for each objective and target applicable to each Science Center within the location that the objective and target is applicable to, or if the case allows, one Plan for each objective and target for the location. For Centers or other organizational units that span multiple geographical locations, the CDEPC or other responsible official may list multiple locations on one Plan, provided that the target is applicable at all listed locations.

D. Performance is tracked by individuals appointed by the Center Director (e.g., the CDEPC). The Center Director and CDEPC establish schedules for achieving objectives and targets and revise Plans, as needed, based on measured performance. Additionally, EPSs, during site assist visits, phone conversations, and email correspondence will review a Center's progress towards achieving objectives and targets (e.g., Plans) for adequacy, and interview either the Science Center Director and (or) CDEPC or both to determine if progress is being made.

4. Coordination with the DOI Sustainability Council.

The OMS communicates progress on USGS objectives and targets to the DOI Sustainability Council through regular meetings and annual reporting requirements.

CHAPTER 7. RESOURCES, ROLES, RESPONSIBILITIES, AND AUTHORITY (ELEMENT 6)

1. Purpose.

Ensure that the organization defines, documents, and communicates relevant roles, responsibilities, and authority to affected personnel.

2. Procedure.

A. Roles and Responsibilities.

(1) Associate Director for the Office of Administration.

(a) Serves as the USGS Senior Sustainability Officer (SSO) responsible for the implementation of EMS, chairs the USGS Sustainability Council, and exercises executive oversight of the EMS.

(b) Annually reviews the EMS.

(i) Ensures that the EMS is developed, implemented, and fully operational.

(ii) Verifies the effectiveness of the EMS through a conformance review.

(iii) Ensures that the EMS reflects elements and framework referenced in the ISO 14001:2004 standard.

(iv) Ensures that the EMS has been established in accordance with E.O. 13693.

(2) Chief, Office of Management Services (OMS).

(a) Develops USGS plans for the EMS, sets goals, establishes environmental performance metrics, collects performance and other data, measures progress against established benchmarks, and prepares reports about the EMS as required by the DOI.

(b) Represents the USGS on matters regarding the EMS before DOI and other parties.

(c) Serves as a member of the USGS Sustainability Council.

(d) Seeks the advice of the USGS Sustainability Council and other parties about formulating plans to implement the EMS, gathering and sharing best management practices, and promoting EMS objectives and targets.

(e) Develops and distributes the aspect and impact questionnaire.

(f) Provides a summary of aspects and impacts to the CFT for further analysis.

- (g) Helps the CFT to develop objectives and targets based on the significant aspects and impacts and legal and other requirements.
- (h) Communicates the significant aspects and impacts and objectives and targets USGS.
- (i) Coordinates internal and external EMS audits in order to assure that the EMS conforms to prescribed DOI, USGS, and other standards.
- (j) Develops Corrective and Preventative Action Plans (CAPAs) based on the findings of internal and external audits, with Science Center personnel as appropriate, and distribute to all appropriate offices. Ensure that CAPAs are addressed to completion.
- (k) Issues procedures, templates, schedules, and other instructions that are necessary to implement the provisions of this chapter.
- (l) Develops mandatory EMS training, and establishes appropriate notifications and tracking to ensure that the training is accomplished.
- (m) Provides environmental technical assistance and guidance.
- (n) Provides program support for implementing the EMS and interprets USGS policies, plans, programs, directives, procedures, and rules with regard to EMS.
- (o) Ensures that new, updated, or phased-out legal and other requirements are communicated to the CFT, the Sustainability Council, and Science Centers, as appropriate.
- (p) Conducts site visits to assist Science Centers with meeting established operational controls, compliance with legal and other requirements, adherence to environmental emergency preparedness plans, and to ensure monitoring and measurement equipment are properly maintained.
- (q) Maintains the EMS SharePoint site as the clearinghouse for EMS information and data (e.g., significant aspects and impacts and objectives and targets).
- (r) Communicates the availability of EMS-related training, when appropriate.
- (s) Ensures that EMS policies and guidance documents following the [Instructional Memorandum](#) (IM) on organizing USGS information.
- (t) Develop template emergency preparedness and response plans, where appropriate.
- (u) Facilitate the Management Review, address actions items as a result of the Management Review, and share the results of the Management Review with the CFT, as appropriate.

(3) *Associate Directors and Regional Directors.*

- (a) Conduct mission operations and operate real and personal property assets in a manner that assures responsible stewardship of the environment and compliance with applicable Federal, State, local, and Tribal environmental laws and regulations.
- (b) Identify, manage, and improve environmental performance (including compliance with all applicable Federal, State, local, and Tribal environmental regulations and sustainable practices); prepare EMS; and, where warranted, develop a center-specific EMS (also defined as “EMS-Appropriate Facility”) in accordance with the instructions issued by the OMS.
- (c) Continually assess their mission’s program needs in order to reduce their environmental footprints.
- (d) Take proactive actions to reduce energy and water consumption, promote recycling, and adopt best management practices.
- (e) Ensure that national science program needs are integrated into the EMS.
- (f) Dedicate the necessary resources and requests appropriate personnel participation in the CFT.

(4) *Science Center Directors.*

- (a) Implement EMS at their respective facilities, following the process established by the OMS.
- (b) Address objectives and targets identified by the CFT.
- (c) Conduct mission operations in a manner consistent with the objectives and targets of the EMS.
- (d) Dedicate appropriate resources to implement the EMS at their centers.
- (e) Provide feedback on progress in accomplishing CFT objectives and targets.
- (f) Provide information on new aspects and impacts that may be deemed significant. Input may be received via the aspect and impact questionnaire.
- (g) Designate a CDEPC (or other field-level personnel) to act as an agent of the Science Center Director to assist with implementation of the EMS.
- (h) Maintain records of center-specific environmental aspects and impacts and objectives and targets, as appropriate.
- (i) Communicate to Science Center personnel the applicable legal and other requirements using the process described above.

- (j) Establish center-specific roles and responsibilities.
 - (k) Maintain records of applicable legal and other requirements.
 - (l) Ensure that appropriate training is provided, in consideration of legal and other requirements.
 - (m) Maintain training records.
 - (n) Ensure that center-related documents follow the IM on organizing USGS information (e.g., environmental checklists).
 - (o) Establish operational controls to ensure science-related activities minimally impact the environment. Operational controls may stem from Federal, State, or local permits.
 - (p) Develop, implement, and document procedures in accordance with appropriate Federal, State, local, and Tribal regulations to prepare for and respond to emergency situations using the process described above.
 - (q) Conduct periodic reviews and updates of emergency response plans, as required.
 - (r) Establish appropriate monitoring and measurement activities to ensure processes are in compliance with required processes.
 - (s) Ensure that CAPAs relating to a Science Center are addressed through to completion.
 - (t) Maintain documents and records associated with CAPAs, as applicable.
 - (u) Ensure that operational records are maintained, as applicable.
 - (v) Provide information to the OMS in preparation of management reviews.
- (5) *Sustainability Council.*
- (a) Assists the Senior Sustainability Officer in promoting the implementation of the EMS and sustaining the EMS process.
 - (b) Establishes and appoints members to the CFT. The CFT will act as agent of the Sustainability Council to assist with implementation of the EMS and to help assess USGS progress.
 - (c) Provides advice about formulating implementation efforts, gathering and sharing best environmental practices, and promoting the realization of the EMS objectives.

(6) *Cross-Functional Team.*

- (a) Develops, prioritizes, and re-evaluates significant environmental aspects and impacts through the consideration of legal and other requirements, training, and resource needs.
- (b) Develops and revises objectives and targets through the consideration of significant environmental aspects and impacts, legal and other requirements, and other concerns, as identified (e.g., training and resource needs).
- (c) Assists OMS in the monitoring and reporting the EMS progress to the Sustainability Council.
- (d) Serves as operational subject-matter experts and environmental liaisons in their respective areas of the EMS.
- (e) Ensures that key operational activities are considered and included when setting objectives and targets.
- (f) Ensures that CAPAs are developed in consideration of Science Center concerns and constraints.
- (g) Participates in management reviews as requested by the OMS.

CHAPTER 8. COMPETENCE, TRAINING, AND AWARENESS (ELEMENT 7)

1. Purpose.

Describe how the USGS identifies training needs, provide relevant training to employees, and ensure that employees are competent to perform their assigned duties.

2. Procedure.

Roles and Responsibilities. Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities.

3. Overview of Training Program.

A. The USGS establishes and maintains an EMS awareness course designed to raise employee awareness of the following:

- (1) Environmental policy.
- (2) Significant environmental aspects and impacts of their work activities and the benefit of improved performance to reduce adverse impacts on the environment.
- (3) The USGS EMS objectives and targets.
- (4) Employee environmental roles and responsibilities, specifically, the roles and contact information of the CFT, EMB, EPSs, CDEPCs, and Science Center Directors.
- (5) Environmental compliance requirements related to various activities.

B. *Identifying and Communicating Training Needs.*

Responsible managers and supervisors at each organizational level maintain the environmental training plan specific to their organizational needs and responsibilities, as appropriate. Training needs are identified from various sources including applicable Federal, State, local, and Tribal regulations, guidance from the EPSs, managers, supervisors, and directly from employees. The records associated with these trainings are maintained at the individual Science Centers.

The OMS (the EMB and the EPSs) notifies Center Directors and (or) CDEPCs of new and emerging environmental requirements (e.g., changes to environmental regulations, executive orders, new objectives and targets) that may require training.

C. *Providing Training.*

Environmental training is provided at the frequency needed to ensure compliance with regulatory and other requirements and to maintain sufficient awareness of the EMS. Training may be

provided on-the-job, in a classroom, or in online settings. Training is provided primarily by internal resources; however, external resources (e.g., Environmental Protection Agency (EPA), contractors, etc.) may be used when specialized skills and knowledge are warranted.

Supervisors are responsible for notifying personnel in their areas of responsibility of environmental training requirements and ensuring that their personnel receive the required training. The EPSs provide environmental training support, as appropriate.

Personnel are responsible for participating in and understanding the content of training sessions.

Trainers document training provided to organization personnel according to Chapter 15, Element 14, Control of Records, and specific training program requirements. Supervisors maintain training records in appropriate staff personnel files.

4. EMS Awareness Training.

The OMS and CFT will provide a periodic EMS awareness through DOI Learn, memorandums, or other forms of official communication. Supervisors are responsible to ensure that personnel in their areas of responsibility receive the EMS awareness course upon the release of new versions of the training and for all newly hired employees. New versions of the EMS awareness course will be distributed on an as-needed basis (e.g., when new objectives and targets are developed).

5. Competency.

The Trainer, Program Manager, or Supervisor will determine competency, following environmental training activities, using one of the following methods:

- A. Written or verbal testing.
- B. Completion of the EMS awareness course.

Supervisors maintain training records in appropriate staff personnel files.

CHAPTER 9. COMMUNICATION (ELEMENT 8)

1. Purpose.

Ensure effective and timely communication of relevant EMS information with internal and external stakeholders and interested parties.

2. Procedure.

A. Roles and Responsibilities.

Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles and responsibilities.

B. Overview.

The USGS uses a variety of communication methods (e.g., Intranet, SharePoint, Internet, conferences, workshops, newsletters, bulletin boards, e-mail) to achieve the required level of internal and external EMS communication. Specific types of communication are selected based on the nature of the information being communicated and the intended audience.

3. Internal Communication.

A. The CFT, Sustainability Council, and the OMS are responsible for ensuring communication of EMS information throughout the organization, including:

- (1) Policies.
- (2) Significant aspects and impacts.
- (3) Objectives and targets.
- (4) Roles, responsibilities, and authority.
- (5) Operational controls.
- (6) Emergency response procedures.
- (7) Consequences of deviating from established procedures.

The primary internal communication method for the EMS is the EMS SharePoint Web site, which is available to all USGS computer network users. The OMS maintains documentation of the EMS (e.g., policies and procedures) at this location.

B. *Suppliers and Contractors.* USGS suppliers and contractors are included in communications related to the EMS, where appropriate, based on the nature of their work. Information related to

environmental policies and requirements may be communicated to suppliers and contractors within the terms of their contracts, or directly from USGS project managers in coordination with the contracting officer. In addition, suppliers and contractors support the EMS through work on various contracts and projects for the USGS. If suppliers and contractors require information regarding the EMS and do not have access to the Intranet and other communication tools, information is typically transmitted from project managers, contracting officers, or the OMS via e-mail, telephone, and (or) project meetings.

C. *Outreach and Feedback.* The USGS recognizes that its people are the source of its best ideas. The USGS actively communicates and solicits feedback from its employees and personnel via Intranet Web sites, memos, e-mail, and various conferences and meetings. Examples include the DOI Portal, USGS SharePoint Web site, and CFT meetings.

D. *Emergencies and Incidents.* USGS and contractors report environmental emergencies and incidents, in accordance with Chapter 12, Element 11, Emergency Preparedness and Response. The USGS follows the DOI Emergency Management Program, [900 DM 4](#).

The CFT evaluates the effectiveness of internal communication during the formal Management Review process, found in Chapter 17, Element 16, Management Review, and recommends changes if necessary.

4. External Communication.

A. *Providing Information.* The [USGS external Web site](#) may be used to communicate EMS and other environmental information to external stakeholders at the Science Centers. The CFT determines the most appropriate method for external communication in collaboration with the Office of Communications and Publishing (OCaP). Additional external communication mechanisms include, but are not limited to public announcements, participation in public meetings, and bulletin board postings. Outstanding environmental accomplishments specific to Science Centers may be shared through individual Science Center Web sites, and may include media such as brochures, exhibits, and other educational materials.

B. *Regulatory Agencies.* Science Center personnel are the primary interface with representatives of regulatory agencies regarding environmental matters. The OMS coordinates USGS-level communication with regulatory agencies and provides support to Science Centers regarding correspondence with regulatory agencies.

C. *Outreach and Feedback.* The USGS may elect to solicit the views of external interested parties on its EMS, as the need arises. Situations that may trigger such an outreach include: work with federally recognized tribes; work with other government agencies; EMS performance reporting; application for, issuance of, or renewal of environmental permits; applications for awards; conferences; occurrence of an emergency situation; coverage in the media; etc. Requests for outreach to external interested parties regarding the EMS are managed by the OMS and coordinated with OCaP.

D. *External Inquiries.* Official external inquiries concerning EMS are managed by the OMS and coordinated with OCaP, in accordance with existing USGS public relations and FOIA processes. Inquiries received by other USGS offices or Science Centers, if not responded by the offices or Science Centers directly, are referred to the OMS for response.

In some cases, external inquiries will be handled by OCaP. Inquiries may be collected through the [FOIA](#) page on the USGS external Web site and distributed to the OMS for response. Inquiries received through <https://answers.usgs.gov/> or (888) ASK-USGS are first addressed by OCaP and then distributed to OMS, if necessary.

E. *Emergencies and Incidents.* The USGS, in conjunction with the DOI as appropriate, follows the direction of the Department of Homeland Security in coordinating communications of emergencies and incidents with affected external stakeholders and outside interested parties, including Federal responses to terrorist attacks, natural disasters, or other large-scale emergencies for the protection of its citizens, lands, critical infrastructure, and key resources.

The SSO, and (or) Sustainability Council, and the OMS evaluate the effectiveness of external communication during the formal EMS management review process and recommends changes as necessary.

CHAPTER 10. CONTROL OF DOCUMENTS (ELEMENT 9)

1. Purpose.

The primary focus of the EMS is on effective implementation of EMS and environmental performance. The organization recognizes the importance of controlling relevant EMS documents to ensure:

- A. Appropriate, current information is available to affected personnel when needed.
- B. Documents are periodically reviewed, revised, and approved, as appropriate.
- C. Obsolete documents are removed or identified as not useable.

2. Procedure.

A. *Roles and Responsibilities.* Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles and responsibilities.

B. EMS documents describe and define the policy, scope, and processes to ensure conformance with the ISO 14001:2004 standard. Such documents provide instruction or direction to organization personnel (e.g., procedures, operational instructions, plans, etc.). Document control reduces reliance on individual knowledge of program and operation history and provides for effective management and efficient environmental performance.

C. EMS documents typically include:

- (1) Statements of policies and procedures.
- (2) Manuals or plans required by the EMS.
- (3) Information on significant environmental aspects and impacts, objectives, and targets.
- (4) Other documents needed to ensure the effective planning, operation, and control of the EMS.
- (5) Administrative compliance tracking forms (e.g. Eco-Action Plans).

D. A variety of documentation is involved in managing environmental matters within USGS programs. Examples are:

- (1) EMS.
- (2) Best management practices.
- (3) Standard operating procedures.

- (4) Continuity of operations plans.
- (5) Corrective and preventive action plans.
- (6) Emergency response plans.
- (7) Asbestos management plans.

E. Document control procedures identify requirements mandated by law, regulation, policy, and security, as necessary, and conform to Federal Records Control standards.

F. A document must be distinguished from a Federal record. A record provides evidence of conformance with established processes or action taken. Records may include:

“... all books, papers, maps, photographs, machine readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of data in them.” ([44 USC Section 3301: Definition of Records.](#))

Refer to Chapter 15 Control of Records (Element 14) for additional information regarding Federal records.

3. Electronic Document Control.

A. The USGS maintains EMS documents within the EMS SharePoint Web site on the USGS Intranet Portal, which is available to all USGS computer network users. EMS documents are managed in SharePoint document libraries. The USGS utilizes applicable computer network security and SharePoint document control processes that include:

- (1) *Secure site access.* USGS employees and contractors login to the USGS computer network with individual user accounts. When network users access the SharePoint server, they are automatically authenticated based on their account and are provided access to the site with the appropriate level of permissions.
- (2) *Read-only access to EMS documentation.* All USGS personnel with valid network accounts are granted read-only access to view and print EMS documentation.
- (3) *Document owners/editors.* Designated USGS personnel are granted edit-level permissions for EMS documentation. Permissions may be assigned across the entire EMS SharePoint Web site, or limited to individual files, based on the user's role within the USGS's EMS.
- (4) *Document meta-data.* The SharePoint document control system automatically records the network user's name/network account, date, and time when documents are created or modified.

(5) *Document versioning.* The most current versions of EMS documents are posted on the EMS Insight SharePoint site. Dates of documents and reports are also listed on the Sharepoint site, such that the record history is clearly visible.

(6) *Tracking of changes.* Document editors provide comments/notes for new document versions to identify changes that were made.

(7) *Document approval.* Document updates/edits must be approved by document owners or portal site owners at the appropriate organizational level before the final revisions are viewable to general EMS SharePoint Web site users.

(8) *Notification of new or revised documents.* E-mail alerts may be sent to notify designated personnel when EMS documents are uploaded, edited, or deleted. Directors, Program Managers, the CFT, or EMS Coordinators can assign alerts to personnel based on their role or responsibilities within EMS.

(9) *Backup.* Electronic backups of the USGS's EMS are maintained in accordance with data management policies of the DOI Office of the Chief Information Officer.

B. *New Documents.* Any employee or contractor may identify the need for a new EMS document. The OMS reviews requests for new EMS documents and develops, approves, and issues new documents via the EMS SharePoint Web site.

C. *Existing Documents:* The OMS is responsible for reviewing and approving updates to EMS documents, with support provided by the CFT as needed.

D. *Printed EMS Documents.* Printed documents are for reference purposes and are uncontrolled, unless otherwise specified on the document.

E. *Documents of External Origin.* Documents of external origin are incorporated into the EMS SharePoint Web site by uploading the document to an internal SharePoint document library or hyper-linking directly to the source document. Document owners are responsible for maintaining access to current versions of documents of external origin.

F. *Obsolete Documents.* EMS documents that become obsolete are archived or removed from the EMS SharePoint Web site to prevent unintended use. Document owners are responsible for identifying obsolete documents and archiving or removing them from the EMS SharePoint Web site. If necessary, notifications may be distributed to personnel regarding the removal of obsolete documents and the adoption of their replacements. Previous versions of controlled documents are automatically maintained within the SharePoint document control system, and their access is restricted to document and site owners.

G. EMS documents that are considered Federal records if they support facts about the EMS program or are essential to the EMS program in that they document activities and decisions, need to be maintained in accordance with Federal laws governing records management. Refer to Chapter 15, Element 14 Control of Records, for more information.

4. Periodic Review of EMS Documents.

The OMS ensures that EMS documents are periodically reviewed. Document owners ensure that reviews are completed and establish the frequency of review. At a minimum, EMS procedures are reviewed annually.

CHAPTER 11. OPERATIONAL CONTROL (ELEMENT 10)

1. Purpose.

Establish and maintain procedures necessary to control USGS operations and activities that are associated with its environmental aspects.

2. Procedure.

Roles and Responsibilities. Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information.

3. Operational Control Process.

A. The EMS helps the USGS control activities, operations, and services that could result in adverse environmental impacts. The EMS helps to ensure:

- (1) Compliance with environmental regulations, executive orders, and policies.
- (2) Objectives and targets are met.
- (3) Continual improvement of environmental performance and sustainability.

B. When developing and implementing operational controls, the USGS considers the activities that may result in significant environmental aspects. The USGS also considers the environmental policy, objectives and targets, and training requirements for affected personnel.

C. Documented plans and procedures (i.e., records) help USGS personnel to control operations and activities that may result in significant environmental aspects. These plans and procedures are available at each applicable Science Center and organizational level on the EMS SharePoint Web site. Documented plans and procedures may include:

- (1) Work instructions.
- (2) Standard operating procedures.
- (3) Permits (e.g., air permits, water permits).
- (4) Plans (e.g., SPCC).
- (5) Other documents.

D. Science Center Directors, Program Managers, EPSs, CDEPCs, and other designated personnel periodically review operations and activities through a variety of means to ensure that appropriate operational controls are in place. These means may include internal control reviews and environmental compliance audits. At a minimum, operational controls address

responsibilities and tasks applicable to various operating conditions. Science Center Directors or other supervisors provide training in relevant operational controls to affected personnel according to Chapter 8, Element 7, Competence, Training, and Awareness. Managers and designated personnel document operational controls according to Chapter 10, Element 9, Control of Documents.

Individuals managing contract activities and the appropriate contracting officer share the responsibility for ensuring that relevant operational controls are communicated to contractors and suppliers.

E. Chapter 9, Element 8, Communication, describes the communication of approved operational controls throughout the USGS.

CHAPTER 12. EMERGENCY PREPAREDNESS AND RESPONSE (ELEMENT 11)

1. Purpose.

Establish and maintain procedures to identify and respond to emergency situations to prevent or mitigate adverse environmental impacts.

2. Procedure.

Roles and Responsibilities. Refer to Chapter 7, Element 6 Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles and responsibilities.

3. Emergency Preparedness and Response Process.

A. Science Centers maintain procedures for planning and responding to accidents and emergency situations based on Science Center activities. Examples of these plans are:

- (a) Hazard communication plans.
- (b) Chemical inventories.
- (c) Spill prevention, control, and countermeasure plans.
- (d) Hazardous waste management plans.
- (e) Science Center specific emergency spill Plans.

These plans include specific roles, responsibilities, and procedures for the prevention of and response to significant accidents and emergency situations. The emergency procedures contained in the emergency response plans are periodically tested at the Science Centers, as described in the plans.

B. At a minimum, emergency plans are reviewed:

- (1) Following a significant accident or emergency situation.
- (2) If plans are deemed insufficient to respond to an emergency situation.
- (3) If significant changes in operations or personnel require modifying a plan.
- (4) As required based on regulatory requirements.

C. Distribution and control of emergency response plans is performed according to Element 9, Control of Documents.

CHAPTER 13. MONITORING, MEASUREMENT, AND EVALUATION OF COMPLIANCE (ELEMENT 12)

1. Purpose.

Monitoring and measurement of the management system is necessary to evaluate and improve environmental performance. In addition, monitoring and measurement allows the USGS to identify areas that require corrective action and to determine the root cause(s) of such problem areas. The USGS will establish that calibrated or verified monitoring and measurement equipment are used and maintained and that associated records are retained. In addition, the USGS will evaluate compliance consistent with its commitments, as well as with other requirements.

2. Procedure.

Roles and Responsibilities. Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles and responsibilities.

3. Overview of Monitoring, Measurement and Evaluation of Compliance.

A. The following mechanisms assist the USGS in monitoring and measuring environmental performance:

(1) *Summary of Objectives and Targets:* Summarizes the USGS's significant environmental aspects, objectives, and targets and operational control procedures.

(2) *Objectives and Targets Action Plans (Eco-Action Plans (Plans)):* Used to track the Science Center's performance to achieve the Objectives and Targets. The Plans include performance indicators that are specific to each objective and target. Examples of performance indicators are listed in the Plans to assist the Science Centers in measuring progress in meeting the Objectives and Targets.

(3) The USGS environmental compliance evaluation program.

(4) *Periodic Inspections:* The EPSs and CDEPCs perform periodic visual inspections of site operations to compare site operating conditions to applicable legal, DOI, USGS, and other requirements. All inspection findings, both positive and negative findings, are recorded in dynaQ, the USGS environmental auditing system. The EPSs and (or) CDEPCs will determine the following:

(a) Plans have been filled out correctly and interim milestone dates are met (e.g., entering baseline and end of fiscal year data).

(b) Measures and practices are being implemented and documented in the Plans.

(c) Compliance with the actual objectives and targets performance measures.

(5) *CAPA Plans*: Used to correct EMS audit findings.

B. Monitoring and Measuring Environmental Performance.

(1) The USGS Environmental Management and Compliance Requirements Handbook (Handbook) describes the internal performance and compliance assessment processes. The OMS reviews and updates the Handbook on an as-needed basis. Changes are reviewed and approved by the SSO.

(2) Managers at appropriate organizational levels, with support from OMS, are responsible for selecting the appropriate performance indicators and monitoring frequencies necessary to track environmental performance. When selecting performance indicators, managers seek to identify performance indicators that are:

(a) Objective, verifiable, and reproducible.

(b) Relevant to the organization's activities, processes, and services.

(c) Consistent with the USGS environmental policy, significant aspects/impacts, and objectives and targets.

(d) Practical, cost-effective, and technologically feasible.

(3) Managers select performance indicators and performance actions to provide a clear picture of how data will be tracked and progress will be measured; this will aide evaluation of past performance and identify future performance trends. Performance indicators and performance actions are documented in the Plans, which are developed according to Chapter 6, Element 5, Objectives, Targets, and Action Plans.

(4) The CFT performs routine reviews, at the appropriate organizational level, of the USGS progress with respect to established performance indicators in accordance with Chapter 17, Element 16, Management Review. Performance deficiencies identified during the monitoring and measurement process are handled according to Chapter 14, Element 13, Nonconformity, Corrective Action, and Preventive Action.

(5) Performance indicators and performance actions in Plans are periodically evaluated by the CFT to determine their effectiveness in measuring and monitoring the USGS's environmental performance. When necessary, modification to the performance indicators or actions must be approved by the CFT. The CFT updates and revises objectives and targets and notifies affected personnel in accordance with Chapter 9, Element 8, Communication.

C. Evaluating Compliance.

The USGS environmental compliance program promotes improved environmental performance at USGS facilities by conducting periodic, thorough, and objective assessments of operations; promoting education and awareness of environmental compliance, pollution prevention, and sustainable practices; and enhancing the implementation and maintenance of the EMS at the USGS.

The USGS environmental compliance program covers operations and activities carried out on USGS-owned facilities and USGS operations and activities in leased facilities. The OMS manages the compliance evaluation for USGS and is responsible for developing program policy, managing assessment data, and conducting internal control reviews of the assessment program.

The results of audits are reviewed as part of the Management Review process. Actual and (or) potential noncompliance items are managed in accordance with Chapter 14, Element 13, Nonconformity, Corrective Action, and Preventive Action.

Nonconformance and potential compliance issues may also be identified by management during periodic inspections by employees while performing day-to-day operations, or by regulatory agencies during environmental compliance inspections. USGS employees and supervisors must report all noncompliance issues and communication received regarding noncompliance with environmental requirements from any Federal, State, local, or Tribal regulatory agency to the OMS.

D. Calibration and Maintenance of Monitoring Equipment.

Where monitoring equipment is used, responsible supervisors and operations personnel calibrate and maintain equipment according to the manufacturer's recommended procedures and schedule as part of the Science Center preventive maintenance programs. Audits and assessments are used to verify records of environmental compliance, when monitoring equipment is used.

CHAPTER 14. NONCONFORMITY, CORRECTIVE ACTION, AND PREVENTIVE ACTION (ELEMENT 13)

1. Purpose.

Define the USGS process for developing and implementing corrective and preventive actions identified as a result of the operations and systems audits.

2. Procedure.

Roles and Responsibilities. Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities. Refer to the Chapter 16, Element 15, Internal Audit, for further clarification of audit procedures.

3. Definitions of EMS Audit Terminology.

A. *Conformance:* Fulfillment of an EMS requirement as established in the elements and framework of the ISO 14001:2004 standard; 515 DM 4, DOI EMS policy; SM 515.4, USGS EMS policy; and SM 515-4-H, the USGS EMS Handbook

B. *Audit Finding:* Results of the evaluation of the collected audit evidence against audit criteria (ISO 19011:2012). This finding indicates nonconformity with either the ISO 14001:2004 standard; 515 DM 4, DOI EMS policy; SM 515.4, USGS EMS policy; or the USGS EMS Handbook.

(1) *Nonconformity:* Nonfulfillment of an EMS requirement.

(a) *Minor Nonconformance:* An isolated lapse in an otherwise compliant EMS, which may be one or a single observed nonconformance to the ISO 14001:2004 standard, or EMS policy or procedure. This is neither considered a breakdown in the EMS, nor is it likely to result in a failure of the EMS.

(b) *Major Nonconformance:* A significant breakdown in the EMS, or one or more significant failures to address a requirement in the ISO 14001:2004 standard. This finding identifies a clear lack of implementation of an EMS process, and would likely result in the failure of the EMS, in the auditor's judgment. The breakdown materially reduces the ability of the EMS to assure controlled processes. Multiple, minor nonconformities may lead a reasonable auditor to determine that multiple requirements of the ISO 14001:2004 standard or EMS policy have not been implemented.

(2) *Observation:* An opportunity for improvement that, upon the auditor's discretion, may display a trend towards a future nonconformity; however, the finding does not suggest a nonconformity.

C. *Corrective Action:* An action to address the root cause of a nonconformity.

D. *Best Management Practice*: The identification of a positive audit result that indicates a business practice or technique, determined to be effective and practicable, that is used as a benchmark.

4. Overview of Nonconformance.

Nonconformance findings are typically identified through the EMS and (or) internal control review processes. Additionally, EPA, State, local, and Tribal inspectors may identify findings related to environmental compliance.

Nonconformance can be system-level (e.g., ineffective management system component across the USGS) or operations-level (e.g., improper storage of hazardous waste). The scope of corrective and preventive actions is appropriate to the nature of nonconformance.

A. *System-Level Nonconformance*.

A system-level nonconformance is a nonconformity related to the overall management system. When this type of nonconformity is identified during an EMS audit, the auditor or audit team lead is responsible for notifying the appropriate level (e.g., OMS or CFT). Audit teams document nonconformance results in formal audit reports, which are submitted to the OMS. The OMS maintains audit reports in the EMS SharePoint Web site (refer to Chapter 15, Element 14, Control of Records). The OMS reviews the audit findings and corrective actions, and ensures performance improvement. The OMS is responsible for taking timely and effective action to correct deficiencies identified during an audit.

Upon notification of a system-level nonconformance, the OMS, with support from the audit team, investigates the impact(s) and root cause(s) and develops a plan for necessary corrective and preventive actions. The OMS ensures that the CAPA is implemented and periodically reviewed.

The OMS reviews the status of CAPA in accordance with Element 16 and are responsible for resolving any deficiencies associated with implementing CAPA. As a result, the OMS may update and (or) revise applicable policies and (or) procedures to reflect changes that result from CAPA.

B. *Operations-Level Nonconformance*.

An operations-level nonconformance is a nonconformity related to, for example, a Science Center activity or operation such as field work. When this type of nonconformity is identified, the identifier is responsible for notifying the appropriate Science Center Director and EMS Coordinator. When an EMS auditor or audit team identifies a nonconformance, those findings are included in a formal audit report along with the identification of root causes and recommendations for corrective actions. A copy of the audit report is provided to the Science Center Director and EMS Coordinator at the audited facility and the OMS. Audit results are reviewed by appropriate personnel at the Science Center and the OMS.

Upon being notified of a nonconformance, the Science Center Director assures development of a plan for CAPA and implementation of the plan. The CAPA includes specific action items required to correct and prevent nonconformance issues and includes responsibilities and schedules. The Science Center Director and the OMS will use the CAPA to track the completion status of corrective actions.

The CAPA and the status of corrective actions are updated continually by the Science Center Director, or designee, and reviewed by the OMS in accordance with Chapter 17, Element 16, Management Review. The OMS reports the status of outstanding corrective actions and performance relative to resolving corrective actions to the Sustainability Council. The OMS is responsible for expeditiously resolving any deficiencies identified during these reviews.

5. Corrective and Preventive Action Plans (CAPAs).

Plans for CAPAs are developed by the appropriate Science Center Director, or designee, when a nonconformance is identified. The OMS is available to assist with developing CAPAs. The CAPA has instructions for completing assigned tasks and is generated to achieve a specific target. The CAPA may include a budget, assignment of responsibilities, materials needed, costs, work to be completed, and timelines for completion. The timeline for completion may be broken into phases, dependent upon the selected target. The CAPA is documented on the EMS SharePoint Web site.

CHAPTER 15. CONTROL OF RECORDS (ELEMENT 14)

1. Purpose.

Establish the process for the identification, storage, protection, retrieval, retention, and disposition of records through their life-cycle.

2. Procedure.

Roles and Responsibilities. Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities.

A. General.

(1) The process is designed to identify compliance with all Federal recordkeeping requirements mandated by law, regulation, policy, and security, as necessary. This includes compliance with the [USGS Records Management Program](#) and related policies.

(2) A record is a document that contains evidence showing how well activities were performed, the kind of results achieved, and supports facts about the work. It is differentiated from a controlled document. As defined in the Federal Records Act of 1950, as amended, records may include “all books, papers, maps, photographs, machine readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of data in them.” (44 USC Section 3301: Definition of Records.) If a document is still in use and controlled, it is not yet considered a record.

(3) Records created or received, in any media, need to be managed through their full life cycle of creation, maintenance, use, and disposition.

(4) A variety of records are involved in managing environmental matters within USGS programs, including:

- (a) Environmental compliance program audits.
- (b) Chemical inventories.
- (c) Training records.
- (d) Manifests/disposal and recycling records.
- (e) Spill reports.

(5) Responsible Managers at each originating office and for applicable programs, have overall responsibility for the identification, storage, protection, retrieval, retention, migration, and disposition of EMS records within their areas of responsibility. Certain types of records may be generated and managed by responsible personnel (i.e., assigned document owners) and may be stored in the appropriate page on the EMS SharePoint Web site.

(6) Records are generated and maintained in an electronic format, where possible. However, hard copy records may be generated and maintained where the maintenance of electronic records is ineffective or unfeasible, or when hard copy records are required by regulation or USGS requirement.

(7) The control of records procedures conform to USGS Federal Records Management standards. To apply the records disposition instructions found in the USGS General Records Disposition Schedule or applicable USGS science-based schedules, record owners must develop a USGS Files Maintenance and Disposition Plan (file plan) covering their records. The purpose of the file plan is to make filing and reference easier which facilitates the timely disposition of records in accordance with USGS records schedules. The file plan identifies the record owner(s), storage location, storage format (e.g., electronic or hard copy), and disposition guidelines for each required record series. It is maintained on the EMS SharePoint Web site and aligns with the provisions outlined in USGS records schedules.

3. Maintenance of Records.

A. General Requirements for all Records: This section describes the requirements that apply to maintenance of electronic and hard copy records.

(1) All documents shall include the following information:

- (a) Name of the document.
- (b) The date the document was created.

(2) Records must be maintained in a manner that ensures that they meet USGS records management guidelines and procedures and are:

- (a) Legible, identifiable, and traceable to the activity, product, or service involved.
- (b) Readily retrievable.
- (c) Secured and accessible only to authorized personnel who need access.
- (d) Protected against damage, deterioration, or loss.

(3) Records will be filed in a timely manner and maintained through their life cycle.

(4) The following information must be easily identifiable on each record:

- (a) A record title that identifies the type and (or) nature of the record.
- (b) The date the record was created.
- (c) If appropriate, the name of the person that created or completed the record, as required.
- (d) If appropriate, the name of the person who approved or signed off on the completed record.

B. *Hard Copy Records*: The following requirements are specific to the maintenance of hard copy records:

- (1) Record owners and (or) reviewers are responsible for ensuring that hand-written entries are legible during normal record processing. If illegible entries are identified, owners are responsible for corrections.
- (2) Responsible managers at each originating office, and for applicable programs, will approve areas where hard copy records are stored and maintained. Storage of records is provided in secure filing and (or) storage cabinets in an environment to prevent unauthorized access, damage, deterioration, or loss. Record storage areas will be free from reasonable environmental threats (e.g., water leaks, extreme temperatures, etc.).

C. *Electronic Records*: The following requirements are specific to the maintenance of electronic records.

- (1) Electronic records that are under the control of the EMS SharePoint Web site managers (e.g., those persons with read/write permission to update the EMS SharePoint Web site) are maintained within the file/folder structure of the EMS SharePoint Web site.
- (2) Electronic records that are under the control of persons that do not have read/write permissions to the EMS SharePoint Web site are maintained in a designated electronic storage location (e.g., the USGS's general file storage system).
- (3) Electronic records should be stored on the most current media to maintain integrity and accessibility. In addition, they should be backed up to protect against accidental loss.

4. Retention of Records.

Record retention requirements have been established in USGS records schedules by the USGS [Records Management Office](#), in conjunction with guidance from functional owners of the records. The record retention guidelines included on the Listing of Typical EMS Documents and Records represent the duration that each type of record must be maintained. The DOI Office of the Special Trustee performs periodic internal audits to ensure that applicable regulatory-required retention times are met. The USGS Records Management Office periodically assesses record retention requirements with functional owners and updates the records schedules accordingly.

5. Disposition of Records.

Appointed designees at each originating office are responsible for periodically assessing the disposition of records based on required retention times. Records that have been maintained in excess of applicable retention times as outlined in USGS records schedules are to be disposed of and will no longer be managed under the requirements of this element.

CHAPTER 16. INTERNAL AUDIT (ELEMENT 15)

1. Purpose.

Define the process for conducting periodic audits of the EMS to verify that the management system conforms to EMS policies and procedures and is properly implemented and maintained.

2. Procedure.

A. Roles and Responsibilities.

Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities.

The OMS provides guidance and oversight to USGS organizational levels to ensure that internal controls and internal audit procedures are established and maintained for all programs, organizations, and functions. Additionally, the OMS ensures that USGS organizations implement and comply with internal audit guidelines established by the DOI and OMB, to include developing an annual internal audit plan, conducting internal audits, and identifying and correcting program and operational deficiencies.

USGS managers monitor and improve the effectiveness of internal audits associated with their programs on a regular basis by coordinating with internal auditors. The OMS provides the internal audit team with formal audit responsibilities. The internal audit lead is responsible for the audit, conducting an analysis of the overall status of the EMS based on the audit findings, and the final audit report.

The following are responsibilities and (or) deliverables of the lead auditor:

- (1) Plan and prepare for the audit. This includes selection of the audit locations and preparing interview materials such as a checklist, which is distributed to interviewees.
- (2) Conduct the introduction brief.
- (3) Conduct interviews either by phone or in person, as appropriate. Interviews are held with representatives from all levels of a Science Center hierarchy, to collect a representative sample of the organization.
- (4) Provide a formal audit summary and report.
 - (a) Explanation of the review process.
 - (b) The purpose and scope of the review.
 - (c) How the review was conducted.

- (d) The review criteria, including all checklists and documents used.
 - (e) The list of locations audited.
 - (f) The definition(s) of findings.
 - (g) How the findings will be communicated.
 - (h) Methods for responding to the findings, including the response timeline.
- (5) Conduct the exit brief.

3. EMS Audit Approach.

A. *Internal Audit*: The SSO initiates an internal EMS audit, which includes a performance assessment of the EMS.

(1) *Audit Frequency*: At a minimum, each core element will be audited once every three years. The SSO responsible for initiating the internal audit determines the audit schedule. The scope and frequency of audits are determined based on consideration of:

- (a) Importance of activities.
- (b) Results of previous audits.
- (c) Results of management reviews.
- (d) Performance versus established objectives and targets.

(2) *Staffing of audit teams*: The USGS uses qualified internal auditors, as described in 515 DM 4. The USGS strives to develop audit teams that possess the overall expertise and skills needed to conduct EMS audits that provide sufficient benefit to the EMS. Qualified internal auditors possess the appropriate combination of knowledge, skills, and experience to perform audit responsibilities.

(a) The organization may elect to use internal or external resources, or a combination of both, to conduct internal management system audits. Audit teams may consist of one or more trained qualified auditors. A lead auditor is designated for all management system audits.

(3) *Audit Process*: EMS audit activities are performed in a three-stage process that includes: preparation, evaluation, and reporting. Each of the stages of the management system audit process is described below.

(4) *Audit preparation*: The lead auditor develops an audit plan prior to each management system audit. The audit plan establishes audit objectives, scope, criteria, staffing, reporting requirements, etc.

- (a) The lead auditor notifies personnel who will be affected by the audit (including audit team members and those being audited) within a reasonable time period prior to the audit.
 - (b) The lead auditor prepares the audit team, if applicable, to conduct the audit. This includes providing audit team members with the audit plan, audit assignments and relevant supporting documentation (e.g., protocols, checklists, procedures, previous audit reports, etc.).
 - (c) The lead auditor also consults with audit team members prior to the audit to verify that they have reviewed the necessary audit information and clearly understand their audit assignments, if applicable.
 - (d) Each auditor is responsible for reviewing the documentation that is provided to them by the lead auditor to develop an understanding of the objectives and scope of the audit and the nature of the organization's management system.
- (5) *Evaluation of the Management System:* The audit team evaluates the implementation and effectiveness of the management system against the ISO 14001:2004 standard. The following activities are performed during the evaluation phase of the audit:
- (a) *Opening meeting:* The audit team holds a brief opening meeting with the Science Center to review the scope, plan, and schedule for the audit.
 - (b) *Evaluation/audit activities:* Using their audit checklists as guides, the audit team gathers objective evidence (e.g., controlled documents, records, and confirmed statements) to verify conformance to management system requirements. Activities may include:
 - (i) Interviews with organization personnel.
 - (ii) Review of pertinent records.
 - (iii) Observation of activities and processes, and so forth.
 - (iv) Auditors must maintain notes of audit activities so that nonconformance items/audit findings can be effectively described during the reporting phase of the audit.
 - (c) *Closing meeting:* The audit team holds a closing meeting with the Science Center to review the findings of the audit and clarify any open or inaccurate items.
- (6) *Reporting:* The lead auditor directs the following reporting efforts:
- (a) Documentation of nonconformance items/audit findings. Each auditor records detailed audit findings based on the results of their audit activities.
 - (i) Findings and nonconformance items are documented in an internal audit report.
 - (ii) The audit report is submitted to the appropriate organization manager for follow up.

(b) Management system auditors are not permitted to disclose information or documents obtained during or after the audit, including the audit report, to any third party (i.e., parties outside of the USGS) without written approval of the organization.

B. Audit Follow-up and Corrective Action: Audit findings that require corrective actions are managed in accordance with Chapter 14, Element 13, Nonconformity, Corrective Action, and Preventive Action. It is the responsibility of the Science Center Director being audited, not the audit team members, to handle corrective action(s) associated with audit findings at a Science Center. It is the responsibility of the OMS to address corrective action(s) associated with audit findings at the OMS-level. Audit reports, including audit findings and the results of related corrective action, are reviewed by top management (e.g., the CFT or the Sustainability Council) as discussed in Chapter 17, Element 16, Management Review.

4. External Audit.

The EMS will be audited by a qualified party outside of the control or scope of the EMS at least once every 3 years. Auditors should be independent of the activities they audit and free from bias and conflict of interest throughout the audit process. Auditors should use a level of care, diligence, and judgment expected of any auditor in similar circumstances while conducting a management system audit.

The OMS prepares the external audit schedule which runs on a 3-year cycle. Science Centers are notified in advance when they will have an EMS external audit at their facility. Audits are performed by a third party, typically a contractor, or by a qualified auditor.

Upon completion of the audit, the auditor provides all findings and associated root causes in a report. Science Center Directors, or their designees, are responsible for preparing CAPAs in accordance with Chapter 14, Element 13, Nonconformity, Corrective Action, and Preventive Action. The USGS maintains reports and documentation of CAPAs on the EMS Web site.

Declaration of Conformance: The declaration of conformance is a written document which attests that an EMS has been developed and implemented and is fully operational as determined by a conformance review and statement by the Senior Sustainability Officer. Conformance declarations are maintained within the EMS Web site and in accordance with Chapter 15, Element 14, Control of Records.

5. Annual Reviews and Updates.

After the External Audit and EMS Conformance Declaration, Science Center Directors must continue to review, maintain, and improve the EMS in accordance with 515 DM 4 and SM 515.4. Internal EMS audits ensure that the EMS is consistently reviewed, maintained, implemented, and improved.

CHAPTER 17. MANAGEMENT REVIEW (ELEMENT 16)

1. Purpose.

Establish and document a process for senior management to formally review the effectiveness of the EMS. The management review process is designed to ensure the continued suitability, adequacy, and effectiveness of the EMS as the organization works to achieve established goals.

2. Procedure.

Roles and Responsibilities. Refer to Chapter 7, Element 6, Resources, Roles, Responsibilities, and Authority, for additional information regarding the EMS organizational structure, roles, and responsibilities.

3. Management Review.

The Sustainability Council, and (or) the USGS SSO, participates in management reviews of the EMS at least annually. Management reviews provide a platform for senior leaders to participate in active dialogue regarding management system performance, giving participants an opportunity to ask questions and provide real-time feedback.

A. *Schedule and Notifications:* Management reviews are led by the OMS and are conducted at least annually. Senior leadership may elect to schedule additional management review meetings from time to time, at their discretion. Information regarding scheduled meetings is communicated through staff calendars and (or) e-mail.

B. *Scope and Agenda:* The OMS develops the scope of management reviews, which is based on implementation progress, performance, and recommendations to senior leadership. With input from the CFT, the OMS prepares an agenda that contains at a minimum:

- (1) Results of past management reviews.
- (2) Performance on established objectives and targets.
- (3) DOI and other Federal reporting requirements and results for the previous year.
- (4) Changing circumstances, including legal and other requirements related to environmental aspects.
- (5) Results of past compliance and management system audits.
- (6) Status of corrective and preventive actions.
- (7) Select EMS information requests received from external parties and the USGS response.
- (8) Adequacy of existing resources, such as human and financial.

(9) Suitability, adequacy, and effectiveness of the overall management system (e.g., environmental policy; significant environmental aspects and impacts; objectives and targets; etc.).

(10) Recommendations for future actions and improvements.

The OMS ensures the effectiveness of the management review process through environmental program reviews. Additionally, the OMS formalizes action items, responsibilities, and schedules resulting from management reviews, and documents results.

4. Independent EMSs.

A. Within the USGS, some Science Centers independently manage and operate facility-level EMSs, also known as independent EMSs. Independent EMSs, from an organizational perspective, are not part of the USGS USGS EMS, and therefore are not subject to oversight or administrative decisions from the CFT or the OMS; they are separate entities. Status updates of independent EMSs are not part of the management reviews.

B. While the OMS may provide assistance through a variety of means, it is the responsibility of the personnel at these Science Centers to keep the independent EMSs in conformance with the ISO 14001:2004 standard, as well as the DOI manual, 515 DM 4.

C. To ensure that independent EMSs remain in conformance with the ISO 14001:2004 standard, the OMS may request the following documents annually from each independent EMS:

- (1) Meeting minutes from the annual management review.
- (2) The auditor/audit team results of the annual internal audit.
- (3) The auditor/audit team results of the external audit.
- (4) The environmental policy.
- (5) Procedures, roles, and responsibilities of the key personnel involved.

D. Independent EMS Nonconformance.

(1) If an independent EMS is not in conformance with the ISO 14001:2004 standard and 515 DM 4 after 1 year, then it will be given a grace year to be brought into conformance. If the EMS is still not in conformance with the ISO 14001:2004 standard and 515 DM 4 after a second year in a row, then it will receive a notification from the OMS.

(2) During this second year of nonconformance, the independent EMS shall commit resources to meeting and maintaining conformance and provide the OMS with quarterly progress updates.

(3) If the EMS is still not in conformance after a third year, the Science Center Director will be notified that the center will be automatically placed in the USGS EMS.



U.S. Geological Survey Manual

APPENDIX A. EVALUATION OF ENVIRONMENTAL ASPECTS AND IMPACTS STANDARD OPERATING PROCEDURE

PART 515, CHAPTER 4

The USGS evaluates environmental aspects to determine actual and potential environmental impacts using a risk-based evaluation methodology using various methods. Methods may include, but not limited to, questionnaires or surveys.

Surveys results are tabulated for a simple statistical analysis. The responses are grouped and graphically represented to show the numerical responses for each question. The frequency of responses provides an indication of the potential significance of aspects and impacts.

Questionnaires are administered using a rating criterion for evaluating the significance of aspects and impacts are:

(1) *Impact on the Mission*: How will the mission be impacted?

(a) *High (10)*: Loss of ability to accomplish mission or near mission failure.

(b) *Medium (5)*: Degraded mission capability or mission restrictions.

(c) *Low (1)*: Insignificant or minor mission impacts or restrictions.

(d) *NA (0)*: Not applicable or no negative impact.

(2) *Stakeholder Issues*: Stakeholders are defined as local communities and the broader community beyond immediate operating areas (e.g., USGS or DOI employees, contractors, or volunteers; USGS-cooperators; other agencies; the general public; or nongovernmental organizations).

(a) *High (10)*: Stakeholders express serious concern regarding impacts through repeated, documented complaints or significant media coverage.

(b) *Medium (5)*: Stakeholders express concern regarding impacts through occasional complaints.

(c) *Low (1)*: Complaints regarding impacts are rare.

(d) *NA (0)*: Not applicable or no negative impact.

(3) *Frequency or Likelihood of Occurrence*: The likelihood or probability of a negative impact occurring.

(a) *High (10)*: The impact is likely to occur once a month or more.

(b) *Medium (5)*: The impact is likely to occur less than once a month, and greater than once a year.

(c) *Low (1)*: The aspect is likely to occur less than once a year.

(d) *NA (0)*: Not applicable or no negative impact.

(4) *Severity*: The magnitude of the environmental impact.

(a) *High (10)*: Will damage multiple resources (air, water, soil, wildlife, etc.) and the impact is sustained (>1 year) with potential for impact beyond the operational area.

(b) *Medium (5)*: Will damage multiple resources (air, water, soil, wildlife, etc.) but is not sustained (<1 year), or is sustained but affects a localized, relatively non-sensitive area.

(c) *Low (1)*: The event is localized and impact is relatively minor and not sustained.

(d) *NA (0)*: Not applicable or no negative impact.

(5) *Cost*: The costs accrued over time as a result of managing the impact.

(a) *High (10)*: Greater than or equal to \$100,000.

(b) *Medium (5)*: Between \$25,000 and \$100,000.

(c) *Low (1)*: Less than or equal to \$25,000.

(d) *NA (0)*: No cost.

Note: Cost threshold based on [Part 602 DM 2 \(5.E\) Remediation](#).

(6) *Legal and Other Requirements*: Direct or indirect legislative, statutory, executive orders, or other requirements including MOUs and (or) other binding documents.

(a) *High (10)*: Regulated and (or) other requirements and history of noncompliance, nonconformance, or nonachievement of a numeric target.

(b) *Medium (5)*: Regulated and (or) other requirement and history of compliance and conformance with a numeric target.

(c) *Low (1)*: No enforceable requirements.

(d) *NA (0)*: Not applicable.

Positive environmental aspects and impacts may be manually entered into the questionnaire.

The general framework and guidance described above is used to generate numerical significance rating scores for each environmental aspect and impact. Each appropriate USGS Science Center documents its environmental aspects and impacts in the questionnaire, which is then compiled into the aspect and impact inventory. Scores are based on the selected rating criteria (i.e., High, Medium, Low, or NA) and a significance rating is calculated.