

Waste Isolation Pilot Plant Environmental Management System

Revision 7

Effective Date: 04/25/2018



This document supersedes DOE/WIPP-05-3318, Revision 6.

U.S. Department of Energy
Carlsbad Field Office

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Waste Isolation Pilot Plant Environmental Management System

U.S. Department of Energy

DOE/WIPP-05-3318

Revision 7

Effective Date: 04/25/2018

Approved by: Approval on File 04/25/18
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CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
7	04/26/2018	<ul style="list-style-type: none">• Complete system restructure as required to meet the ISO 14001:2015 standard in preparation for certification to the new version.

1.0 INTRODUCTION

The Waste Isolation Pilot Plant (WIPP) mission is to provide safe, compliant, and efficient characterization, transportation, and disposal of defense transuranic (TRU) waste. The WIPP is committed to maintaining high standards of environmental quality, striving to continually improve environmental performance, and providing a safe and healthful workplace for its employees, contractors, and the surrounding communities while completing our mission, as noted in DOE/WIPP-04-3310, *WIPP Environmental Policy Statement*. The U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) and the WIPP management and operating contractor, Nuclear Waste Partnership LLC (NWP), have implemented the Environmental Management System (EMS) to ensure that these commitments are met.

The WIPP EMS is designed to meet the standard requirements of International Organization for Standardization (ISO) 14001:2015, *Environmental Management Systems – Requirements with Guidance for Use (international standard)*, while supporting DOE Order 436.1, *Departmental Sustainability*, and Executive Order (EO) 13693, *Planning for Federal Sustainability in the Next Decade*. The WIPP EMS is an integrated function of the Integrated Safety Management System (ISMS) which defines safety (DOE Policy 450.4A, *Integrated Safety Management Policy*) as inclusive of the environment. The ISMS guiding principles and core functions are applicable to protection of the environment and employee and public health.

The EMS description document conforms to ISO 14001:2015. The CBFO and NWP have chosen to maintain certification to this standard via an independent third-party certification body.

The EMS is based on the Continuous Improvement cycle of Plan-Do-Check-Act (analogous to ISMS core functions). Within each of these phases of the cycle, there are actions that the CBFO and NWP perform to ensure operations are conducted in accordance with the WIPP Environmental Policy. For the EMS, the actions are grouped by the "elements" defined in the international standard. In this document, the continuous improvement cycle, the elements, and their corresponding sections are illustrated by Figure 1, *EMS Continuous Improvement Cycle with Supporting Elements*.

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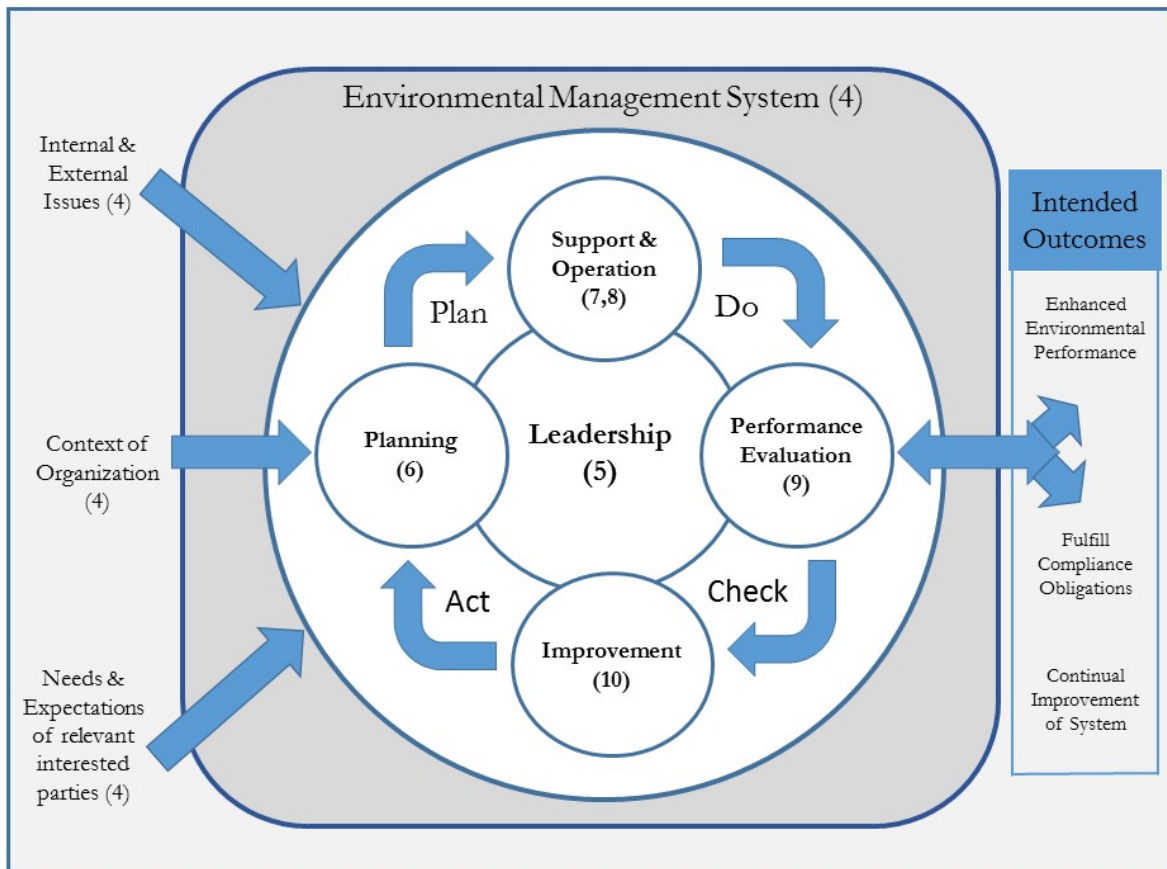


Figure 1 - EMS Continuous Improvement Cycle with Supporting Elements

The remainder of this document describes the WIPP EMS. Each element of the EMS contains the following subsections and contents:

- **ISO 14001 Requirement(s)** – Summary of the international standard’s requirements. These are highlighted by the use of italics.
- **WIPP System** – Brief description of how the element is implemented.

Documents that implement EMS processes are listed and mapped in the EMS Planning Matrix.

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2.0 ABBREVIATIONS/ACRONYMS

ASER	Annual Site Environmental Report
BECR	Biennial Environmental Compliance Report
CAR	Corrective Action Report
CBFO	Carlsbad Field Office
CTAC	CBFO Technical Assistance Contractor
CTS	Commitment Tracking System
DOE	U.S. Department of Energy
EDMS	electronic document management system
EMS	Environmental Management System
EMSSC	Environmental Management System Steering Committee
EO	Executive Order
ISMS	Integrated Safety Management System
ISO	International Organization for Standardization
LANL	Los Alamos National Laboratory
LWA	Land Withdrawal Act
NEPA	National Environmental Policy Act
NMED	New Mexico Environment Department
NTP	National TRU Program
NWP	Nuclear Waste Partnership LLC
P2	Pollution Prevention
PDCA	Plan-Do-Check-Act
POD	Plan of the Day
POW	Plan of the Week
Q&MIS	Quality and Manufacturing Integrated System
QA	Quality Assurance
RES	Regulatory Environmental Services
TRU	Transuranic
WIPP	Waste Isolation Pilot Plant

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3.0 DEFINITIONS/TERMS

For the purposes of this document, the following terms and definitions apply. These terms and definitions are copied directly from the ISO 14001:2015 standard (*italicized*) and are clarified for application to the WIPP EMS (non-italicized) as needed. Definitions are organized according to their relevant EMS clause.

International Standard: ISO 14001:2015(E), *Environmental management systems – Requirements with guidance for use.*

Integrated Safety Management System: A DOE safety management system that systematically integrates safety into management and work practices at all levels so that missions are accomplished efficiently while protecting the workers, public, and environment. (Source: DOE Order 450.2, *Integrated Safety Management.*)

Sustainable Practices/Goals: The practices and resulting goals that are required to be addressed and managed through the EMS by EO 13693, *Planning for Federal Sustainability in the Next Decade.* These include energy efficiency, reduction in greenhouse gases, use of renewable energy, reduced water consumption intensity, acquisition of green products and services, pollution prevention (P2) (cost-effective waste prevention, recycling, diversion of solid wastes), sustainable design/high performance buildings, reduction in petroleum consumption, and electronics stewardship. (Based on EO content and DOE Order 436.1, *Departmental Sustainability.*)

3.1 Terms Related to Organization and Leadership

3.1.1 **Management System:** Set of interrelated or interacting elements of an *organization* (3.1.4) to establish policies and *objectives* (3.2.5) and *processes* (3.3.5) to achieve those objectives.

Note 1 to entry: A management system can address a single discipline or several disciplines (e.g., quality, environment, occupational health and safety, energy, financial management).

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning and operation, performance evaluation and improvement.

Note 3 to entry: The scope of a management system can include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

3.1.2 **Environmental Management System:** Part of the *management system* (3.1.1) used to manage *environmental aspects* (3.2.2), fulfil

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compliance obligations (3.2.9), and address *risks and opportunities* (3.2.11).

3.1.3 **Environmental Policy:** Intentions and direction of an *organization* (3.1.4) related to *environmental performance* (3.4.11), as formally expressed by its *top management* (3.1.5).

3.1.4 **Organization:** Person or group of people that has its own functions with responsibilities, authorities, and relationships to achieve its *objectives* (3.2.5).

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

3.1.5 **Top Management:** Person or group of people who directs and controls an *organization* (3.1.4) at the highest level.

Note 1 to entry: Top management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the *management system* (3.1.1) covers only part of an organization, then top management refers to those who direct and control that part of the organization.

- **WIPP Leadership Team:** Includes both the CBFO Project Manager and the NWP Office of the President.
- **WIPP Top Management:** WIPP Leadership Team.

3.1.6 **Interested Party:** Person or *organization* (3.1.4) that can affect, be affected by, or perceive itself to be affected by a decision or activity.

EXAMPLE: Customers, communities, suppliers, regulators, non-governmental organizations, investors, and employees.

Note 1 to entry: To “perceive itself to be affected” means the perception has been made known to the organization.

3.2 Terms Related to Planning

3.2.1 **Environment:** Surroundings in which an *organization* (3.1.4) operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelationships.

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Note 1 to entry: Surroundings can extend from within an organization to the local, regional, and global system.

Note 2 to entry: Surroundings can be described in terms of biodiversity, ecosystems, climate, or other characteristics.

3.2.2 Environmental Aspect: Element of an *organization's* (3.1.4) activities or products or services that interacts or can interact with the *environment* (3.2.1).

Note 1 to entry: An environmental aspect can cause (an) *environmental impact(s)* (3.2.4). A significant environmental aspect is one that has or can have one or more significant environmental impact(s).

Note 2 to entry: Significant environmental aspects are determined by the organization applying one or more criteria.

3.2.3 Environmental Condition: State or characteristic of the *environment* (3.2.1) as determined at a certain point in time.

3.2.4 Environmental Impact: Change to the *environment* (3.2.1), whether adverse or beneficial, wholly or partially resulting from an *organization's* (3.1.4) *environmental aspects* (3.2.2).

3.2.5 Objective: Result to be achieved.

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, product, service, and *process* [3.3.5]).

Note 3 to entry: An objective can be expressed in other ways, e.g., as an intended outcome, a purpose, an operational criterion, as an environmental objective (3.2.6), or by the use of other words with similar meaning (e.g., aim, goal, or target).

3.2.6 Environmental Objective: *Objective* (3.2.5) set by the *organization* (3.1.4) consistent with its *environmental policy* (3.1.3).

3.2.7 Prevention of Pollution: Use of *processes* (3.3.5), practices, techniques, materials, products, services, or energy to avoid, reduce, or control (separately or in combination) the creation, emission, or discharge of any type of pollutant or waste, in order to reduce adverse *environmental impacts* (3.2.4).

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Note 1 to entry: Prevention of pollution can include source reduction or elimination; process, product, or service changes; efficient use of resources; material and energy substitution; reuse; recovery; recycling, reclamation; or treatment.

3.2.8 Requirement: Need or expectation that is stated, generally implied, or obligatory.

Note 1 to entry: “Generally implied” means that it is custom or common practice for the *organization* (3.1.4) and *interested parties* (3.1.6) that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, for example in *documented information* (3.3.2).

Note 3 to entry: Requirements other than legal requirements become obligatory when the organization decides to comply with them.

3.2.9 Compliance Obligations (preferred term): legal requirements and other requirements (admitted term) *legal requirements* (3.2.8) that an *organization* (3.1.4) has to comply with and other requirements that an organization has to or chooses to comply with.

Note 1 to entry: Compliance obligations are related to the *environmental management system* (3.1.2).

Note 2 to entry: Compliance obligations can arise from mandatory requirements, such as applicable laws and regulations, or voluntary commitments, such as organizational and industry standards, contractual relationships, codes of practice, and agreements with community groups or non-governmental organizations.

3.2.10 Risk: Effect of uncertainty.

Note 1 to entry: An effect is a deviation from the expected — positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential “events” (as defined in ISO Guide 73:2009, 3.5.1.3) and “consequences” (as defined in ISO Guide 73:2009, 3.6.1.3), or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated “likelihood” (as defined in ISO Guide 73:2009, 3.6.1.1) of occurrence.

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3.2.11 **Risks and Opportunities:** Potential adverse effects (threats) and potential beneficial effects (opportunities).

3.3 Terms Related to Support and Operation

3.3.1 **Competence:** Ability to apply knowledge and skills to achieve intended results.

3.3.2 **Documented Information:** Information required to be controlled and maintained by an *organization* (3.1.4) and the medium on which it is contained.

Note 1 to entry: Documented information can be in any format and media, and from any source.

Note 2 to entry: Documented information can refer to the *environmental management system* (3.1.2), including related *processes* (3.3.5); information created in order for the organization to operate (can be referred to as documentation); evidence of results achieved (can be referred to as records).

3.3.3 **Life Cycle:** Consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal.

Note 1 to entry: The life cycle stages include acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment, and final disposal.

[SOURCE: ISO 14044:2006, 3.1, modified – The words “(or service)” have been added to the definition and Note 1 to entry has been added.]

3.3.4 **Outsource** (verb): Make an arrangement where an external *organization* (3.1.4) performs part of an organization’s function or *process* (3.3.5).

Note 1 to entry: An external organization is outside the scope of the *management system* (3.1.1), although the outsourced function or process is within the scope.

3.3.5 **Process:** Set of interrelated or interacting activities which transform inputs into outputs.

Note 1 to entry: A process can be documented or not.

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3.4 Terms Related to Performance Evaluation and Improvement

3.4.1 **Audit:** Systematic, independent, and documented *process* (3.3.5) for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled.

Note 1 to entry: An internal audit is conducted by the *organization* (3.1.4) itself, or by an external party on its behalf.

Note 2 to entry: An audit can be a combined audit (combining two or more disciplines).

Note 3 to entry: Independence can be demonstrated by the freedom from responsibility for the activity being audited or freedom from bias and conflict of interest.

Note 4 to entry: "Audit evidence" consists of records, statements of fact, or other information which are relevant to the audit criteria and are verifiable; and "audit criteria" are the set of policies, procedures, or *requirements* (3.2.8) used as a reference against which audit evidence is compared, as defined in ISO 19011:2011, 3.3 and 3.2, respectively.

3.4.2 **Conformity:** Fulfilment of a *requirement* (3.2.8).

3.4.3 **Nonconformity:** Non-fulfilment of a *requirement* (3.2.8).

Note 1 to entry: Nonconformity relates to requirements in this International Standard and additional environmental *management system* (3.1.2) requirements that an *organization* (3.1.4) establishes for itself.

3.4.4 **Corrective Action:** Action to eliminate the cause of a *nonconformity* (3.4.3) and to prevent recurrence.

Note 1 to entry: There can be more than one cause for a nonconformity.

3.4.5 **Continual Improvement:** Recurring activity to enhance *performance* (3.4.10).

Note 1 to entry: Enhancing performance relates to the use of the environmental *management system* (3.1.2) to enhance *environmental performance* (3.4.11) consistent with the *organization's* (3.1.4) *environmental policy* (3.1.3).

Note 2 to entry: The activity need not take place in all areas simultaneously, or without interruption.

3.4.6 **Effectiveness:** Extent to which planned activities are realized and planned results achieved.

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3.4.7 **Indicator:** Measurable representation of the condition or status of operations, management, or conditions.
(SOURCE: ISO 14031:2013, 3.15).

3.4.8 **Monitoring:** Determining the status of a system, a *process* (3.3.5) or an activity.

Note 1 to entry: To determine the status, there might be a need to check, supervise, or critically observe.

3.4.9 **Measurement:** *Process* (3.3.5) to determine a value.

3.4.10 **Performance:** Measurable result.

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to the management of activities, *processes* (3.3.5), products (including services), systems, or *organizations* (3.1.4).

3.4.11 **Environmental Performance:** *Performance* (3.4.10) related to the management of *environmental aspects* (3.2.2).

Note 1 to entry: For an environmental *management system* (3.1.2), results can be measured against the *organization's* (3.1.4), *environmental policy* (3.1.3), *environmental objective* (3.2.6), or other criteria, using *indicators* (3.4.7).

4.0 CONTEXT OF THE ORGANIZATION

4.1 Understanding the Organization and its Context

The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its environmental management system. Such issues shall include environmental conditions being affected by or capable of affecting the organization.

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External and internal issues were determined for the WIPP project by Site Environmental Compliance based on input from NWP and CBFO organizations. The issues were vetted through the Environmental Management System Steering Committee (EMSSC).

External and internal issues are reviewed by the EMSSC periodically to ensure changes in issues are determined and integrated into the EMS as appropriate.

Issues are documented in the EMS Planning Matrix (Planning Matrix).

4.2 Understanding Needs and Expectations of Interested Parties

The organization shall determine:

- a. *the interested parties that are relevant to the environmental management system*
- b. *the relevant needs and expectations (i.e. requirements) of these interested parties*
- c. *which of these needs and expectations become compliance obligations*

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Interested parties (stakeholders) relevant to the EMS and their needs and expectations were determined. Expectations that are in statutes and regulations are, by definition, compliance obligations. Other expectations have been determined to be a compliance obligation. Compliance obligations are documented in the Planning Matrix.

New or changed interested parties, along with their needs and expectations, will be incorporated into this EMS as determined appropriate by the EMSSC.

4.3 Scope of the Environmental Management System

The organization shall determine the boundaries and applicability of the environmental management system to establish its scope. When determining this scope, the organization shall consider:

- a. *the external and internal issues referred to in Section 4.1*
- b. *the compliance obligations referred to in Section 4.2*
- c. *its organizational units, functions and physical boundaries*
- d. *its activities, products and services*
- e. *its authority and ability to exercise control and influence*

Once the scope is defined, all activities, products and services of the organization within the scope need to be included in the environmental management system.

The scope shall be maintained as documented information and be available to interested parties.

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This EMS applies to environmental aspects of the WIPP project under the influence and control of the CBFO and NWP. In determining the scope, the following were considered:

External and internal issues - A number of high level internal and external issues were identified, evaluated, and considered in order to determine the need for them to be addressed in the EMS. The results of this evaluation are documented in the Planning Matrix. The following issues were determined to be relevant to the EMS based on their potential to significantly affect CBFO and/or NWP meeting the WIPP mission in accordance with the EMS.

- Protection of the environmental media (air, soil, subsurface water) is key. Accomplishing the WIPP mission while avoiding adverse effects to the environment and demonstrating limited impact to the environment is fundamental to realizing its positive environmental benefits to the nation.
- Resource use and conservation is important as both energy and water needs must be met for TRU waste to be disposed. External factors that could affect resource use are the increasing demands other industries place on available energy and its infrastructure, and the decreasing availability of fresh water within the region.
- Compliance with environmental regulations is key to maintaining the authorizations necessary to carry out the WIPP mission. Compliance is a fundamental commitment of the WIPP project and is described in more detail in a subsequent section of this document.
- The aging infrastructure at the WIPP facility has the potential to present a threat to the WIPP project. A catastrophic failure to a significant system (hoist, fire water, energy infrastructure) would affect the ability to dispose of TRU waste.
- Provision of necessary funding by the Federal Government to carry out the WIPP mission and to address aging infrastructure is critical to achievement of the WIPP EMS objectives.
- A key factor for the success of the EMS is the support from employees (inclusive of the Union). WIPP employees have expressed their support for emplacement of TRU waste and operating the facility in such a manner as to protect the environment and people.

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- Preparedness to respond to potential emergencies that could cause negative environmental impacts is a critical issue that could affect WIPP environmental performance.

These issues are further evaluated through the risk and opportunities element of the system to determine the need for the EMS to address the issue(s).

Compliance obligations - Mandatory compliance obligations within the scope of this EMS are:

- Federal, state, and local environmental laws and regulations relevant to the project.
- Executive and DOE orders to the extent they are incorporated into the contract between the CBFO and NWP.

Compliance obligations that are adopted as part of the scope of this EMS are:

- Provision of transparent communication with employees (inclusive of the Union), ranchers, local communities (Hobbs and Carlsbad) including emergency response organizations, and transportation corridor entities relative to:
 - environmental information relevant to their interface with the WIPP
 - TRU waste related emergency event preparedness and response
- Certification of the EMS to the ISO 14001:2015 standard

Organizational units and functions - The DOE owns the WIPP project and the National TRU Program (NTP), with the CBFO providing oversight. The NTP oversees the process of preparing TRU waste from DOE waste generator sites to meet WIPP requirements including characterization and packaging of the waste at the generator sites, followed by the transportation of the waste to the WIPP facility.

NWP is the management and operating contractor for the WIPP. NWP is responsible for the daily operation of the WIPP site, including protecting the environment, operating in accordance with compliance obligations, assisting in characterization and confirmation of the TRU waste, interfacing with contractors that transport TRU waste to the WIPP site, and providing the support functions necessary for operating the WIPP facility.

There are other organizations that provide key functions to support the WIPP project. These organizations operate under contracts with the CBFO. The organizations are not within the scope of the EMS; however, the functions that are necessary for the EMS to

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fulfill its purpose (e.g., compliance, protection of environment) are part of the scope of the system. Further, while these organizations' representatives are working at the WIPP facility they are included in the scope of the EMS as contractors. These organizations are:

- Carlsbad Field Office Technical Assistance Contractor (CTAC). CTAC provides technical and administrative support services to the CBFO. Functions performed that are necessary to the EMS may include, but are not limited to, compliance, internal EMS, and generator site audits.
- Sandia National Laboratories – Carlsbad Programs Group. This organization is the scientific and technical advisor to the CBFO, with primary responsibilities of performance assessment and decision analysis and repository performance. These functions are within the scope of the EMS as they are necessary for compliance and to demonstrate protection of people and the environment.
- Los Alamos National Laboratory – Carlsbad Programs Group (LANL) provides scientific and technical expertise to CBFO in a variety of areas including TRU waste treatment, packaging, characterization, acceptable knowledge, transportation, and inventory. LANL's Actinide Chemistry and Repository Science Program supports the long-term safety of WIPP. These functions support compliance and safe transportation of TRU waste to the WIPP facility.

In addition, LANL provides mobile loading services in support of the CBFO's NTP. These services are managed under the NWP Central Characterization Program and, to the extent used by generator sites, are key to transporting the waste to the WIPP in an environmentally safe manner. Services include loading TRU waste containers into Nuclear Regulatory Commission-approved packaging at DOE waste generator sites and shipping the waste to the WIPP site.

Physical boundaries – The DOE CBFO controls the primary physical location that is the WIPP site. The WIPP site is located 33 miles southeast of Carlsbad, New Mexico. The site boundary is the perimeter of the 16 sections (10,240 acres) of land allocated by the Land Withdrawal Act (LWA). Within the 16 sections there are 3 areas with varying levels of control. The Property Protection Area is the interior core of the facility surrounded by a chain-link fence. The Exclusive Use Area is surrounded by a barbed-wire fence and is restricted exclusively for the use of the DOE and its contractors and subcontractors in support of the project. The Off-Limits Area encompasses the remainder of the 16 sections. Grazing, public thoroughfare, and recreational use are allowed in the Off-Limits Area unless these activities present a threat to the security, safety, or environmental quality of the WIPP site. The environmental aspects that are in

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CBFO and/or NWP control or influence within the 16 sections are within the scope of the WIPP EMS.

There are several leased buildings in which support functions for the WIPP project are conducted. These are the Skeen-Whitlock office building and buildings used for warehouse space. In addition, there is leased office space within a building at the Cascades in Carlsbad. CBFO oversight, NWP management and business, and other project support functions are conducted in the Skeen-Whitlock Building. The functions that are performed to support the WIPP project at these locations are within the scope of the WIPP EMS.

Activities, products, and services - The WIPP project's fundamental purpose is to provide a service to the nation. This service is to permanently dispose of TRU waste to support the cleanup of Cold War nuclear production sites. The activities within the scope of this EMS are those necessary to provide this service. This includes the activities associated with the disposal life cycle as described below:

- Characterization of the waste, loading, and offering the waste to the transporter for shipment to the WIPP facility. These activities are included to the extent NWP NTP services (e.g., characterization and LANL mobile loading services) are used by the generator sites.
- Transport of the TRU waste to the WIPP site to the extent CBFO controls and influences this contracted service.
- Receipt and disposal of the waste. These activities are associated with operation of the infrastructure and equipment necessary to dispose of the waste once it reaches the WIPP site.
- Maintaining project infrastructure and equipment necessary for accomplishing the WIPP mission.
- Managing the environmental outflows from the project operation (e.g., waste, storm water, groundwater protection).
- Monitoring to ensure environmental compliance requirements are met and potential environmental impacts in both the short and long term are understood and addressed as appropriate.

Organizations such as universities and research institutions may take advantage of WIPP's open door policy and unique underground geology to conduct experiments. For experimental projects, the work that is conducted at the WIPP facility is within the scope of the EMS. The overall organization conducting the experimental project is not within the scope of this EMS.

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Authority and ability to exercise control and influence - The CBFO's or NWP's authority and ability to exercise control and influence has been incorporated into the discussions of the other factors described within this element.

4.4 WIPP EMS

To achieve the intended outcomes, including enhancing its environmental performance, the organization shall establish, implement, maintain and continually improve an environmental management system, including the processes needed and their interactions, in accordance with the requirements set by the international standard.

The organization shall consider the knowledge gained in Sections 4.1 and 4.2 when establishing and maintaining the EMS.

WIPP System

This document, describes the WIPP EMS and how it strives to achieve the objectives defined in the Environmental Policy, inclusive of enhanced environmental performance. The results from the analysis of the context of the organization (Section 4.1) and the needs and expectations of stakeholders (Section 4.2) were taken into consideration in establishing and maintaining the scope and remaining elements of this EMS (Section 4.3).

This document describes the EMS processes used to achieve its intended objectives. The interactions and integration into WIPP processes are also described. Specific WIPP policies, programs, procedures (i.e., documents) that implement the EMS are included in the Planning Matrix document map.

5.0 LEADERSHIP

5.1 Leadership and Commitment

Top management shall demonstrate leadership and commitment with respect to the environmental management system by:

- a. *taking accountability for the effectiveness of the environmental management system*
- b. *ensuring that the environmental policy and environmental objectives are established and are compatible with the strategic direction and the context of the organization*
- c. *ensuring the integration of the environmental management system requirements into the organization's business processes*

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- d. *ensuring that the resources needed for the environmental management system are available*
- e. *communicating the importance of effective environmental management and of conforming to the environmental management system requirements*
- f. *ensuring that the environmental management system achieves its intended outcomes*
- g. *directing and supporting persons to contribute to the effectiveness of the environmental management system*
- h. *promoting continual improvement*
- i. *supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility*

NOTE: Reference to “business” in this International Standard can be interpreted broadly to mean those activities that are core to the purposes of the organization’s existence.

WIPP System

WIPP top management is defined as the WIPP Leadership Team. The Leadership Team is accountable for the EMS and the system’s effectiveness. This is demonstrated by the team doing the following:

- Ensuring EMS expectations are incorporated into appropriate management policies.
- Setting environmental policy.
- Establishing the EMSSC with direct accountability to the Leadership Team.
- Providing resources for implementation of the EMS (e.g., personnel, time).
- Participating in the management review.
- Acting on recommendations from the EMSSC and EMS management review to ensure continual improvement in environmental performance and the effectiveness of the EMS.

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5.2 Environmental Policy

Top management shall establish, implement and maintain an environmental policy that, within the defined scope of its environmental management system:

- a. is appropriate to the purpose and context of the organization, including the nature, scale and environmental impacts of its activities, products and services*
- b. provides a framework for setting environmental objectives*
- c. includes a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the organization*

NOTE: Other specific commitment(s) to protect the environment can include sustainable resource use, climate change mitigation and adaptation, and protection of biodiversity and ecosystems.

- d. includes a commitment to fulfill its compliance obligations*
- e. includes a commitment to continual improvement of the environmental management system to enhance environmental performance*

The environmental policy shall:

- be maintained as documented information*
- be communicated within the organization*
- be available to interested parties*

WIPP System

The CBFO and the NWP President and Project Managers established the WIPP Environmental Policy (DOE/WIPP 04-3310). It is maintained and documented in the WIPP electronic document management system (EDMS or Q&MIS).

The EMSSC ensures the environmental policy is appropriate in terms of the context of the project and planning analyses (Section 4.0 and Section 6.0), inclusive of changes in mission, issues, stakeholder needs, compliance obligations, and risks and opportunities. The policy is updated or revised upon recommendation by the EMSSC with approval of the CBFO Manager and the NWP President and Project Manager.

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The policy is communicated within NWP and CBFO via:

- badge cards
- WIPP Fundamentals Handbook
- EMS Awareness Training Module

The policy is made available to any interested party through the NWP and/or CBFO communications department and/or from the WIPP Document List on the WIPP external website.

5.3 Organizational Roles, Responsibilities, and Authorities

Top management shall ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization. Top management shall assign the responsibility and authority for:

- a. *ensuring that the environmental management system conforms to the requirements of this International Standard*
- b. *reporting on the performance of the environmental management system, including environmental performance, to top management*

WIPP System

Responsibilities for relevant roles in the EMS are defined, assigned, and documented in Attachment I, EMS Roles and Responsibilities. Authority to fulfill EMS roles and responsibilities is a function of departmental and personal work scope. Authority is also extended through the WIPP Core Values.

The CBFO Office of Environmental Protection and NWP EMSSC are responsible and have the authority to ensure the EMS conforms to the ISO 14001:2015 standard. The NWP EMS Program Coordinator is responsible for reporting on the EMS, including environmental performance, to the Leadership Team.

The WIPP defines roles, responsibilities, and authorities within management policies for Management Responsibility and Accountability, Integrated Safety Management System, and Mission, Goals, and Responsibilities.

The general EMS role and responsibilities of each employee are communicated to WIPP personnel through training and the WIPP Fundamentals Handbook. Management and functional roles and responsibilities are communicated through appropriate venues such as applicable training or the EMS website.

6.0 PLANNING

6.1 Actions to Address Risks and Opportunities

6.1.1 General

The organization shall establish, implement and maintain the process(es) needed to meet the requirements in Sections 6.1.1 to 6.1.4.

When planning for the environmental management system, the organization shall consider:

- a. the issues referred to in Section 4.1*
- b. the requirements referred to in Section 4.2*
- c. the scope of its environmental management system*

And determine the risks and opportunities, related to its environmental aspects (see Section 6.1.2), compliance obligations (see Section 6.1.3) and other issues and requirements, identified in Sections 4.1 and 4.2, that need to be addressed to:

- give assurance that the environmental management system can achieve its intended outcomes*
- prevent or reduce undesired effects, including the potential for external environmental conditions to affect the organization*
- achieve continual improvement*

Within the scope of the environmental management system, the organization shall determine potential emergency situations, including those that can have an environmental impact.

The organization shall maintain documented information of its:

- risks and opportunities that need to be addressed*
- process(es) needed in Sections 6.1.1 to 6.1.4, to the extent necessary to have confidence they are carried out as planned*

WIPP System

The process for determining risk and opportunities is to:

- develop and maintain the master list of:
 - issues identified to be of most significance from the analysis performed and documented as described in Section 4.1
 - the mandatory and adopted compliance obligations resulting from the stakeholder analysis (Section 4.2) and the compliance obligations defined in Section 6.1.3 that are determined to need further risk and opportunities analysis
 - significant aspects and impacts from the aspects and impacts analysis performed under the element described in Section 6.1.2
 - potential emergency situations that have the potential for having significant environmental impact as defined in emergency management program components
- using the process outlined in the NWP Risk and Opportunity Management Guide
 - evaluate risks and opportunities associated with the master list
 - determine if and how risks or opportunities are proposed to be addressed
 - document results of analysis
- Vet risk and opportunities and priorities with the EMSSC and CBFO Office of Environmental Protection
- The WIPP leadership team confirms risk and opportunities to be addressed

The EMSSC Program Coordinator facilitates implementation of this process.

6.1.2 Environmental Aspects

Within the defined scope of the environmental management system, the organization shall determine the environmental aspects of its activities, products and services that it can control and those that it can influence, and their associated environmental impacts, considering a life cycle perspective.

When determining environmental aspects, the organization shall take into account:

- a. change, including planned or new developments, and new or modified activities, products and services*
- b. abnormal conditions and reasonably foreseeable emergency situations*

The organization shall determine those aspects that have or can have a significant environmental impact, i.e., significant environmental aspects, by using established criteria.

The organization shall communicate its significant environmental aspects among the various levels and functions of the organization, as appropriate.

The organization shall maintain documented information of its:

- environmental aspects and associated environmental impacts*
- criteria used to determine its significant environmental aspects*
- significant environmental aspects*

NOTE: Significant environmental aspects can result in risks and opportunities associated with either adverse environmental impacts (threats) or beneficial environmental impacts (opportunities).

WIPP System

The CBFO and NWP process for identifying environmental aspects and determining their significance is outlined in Figure 6.1.2. This process is facilitated by the EMSSC Program Coordinator.

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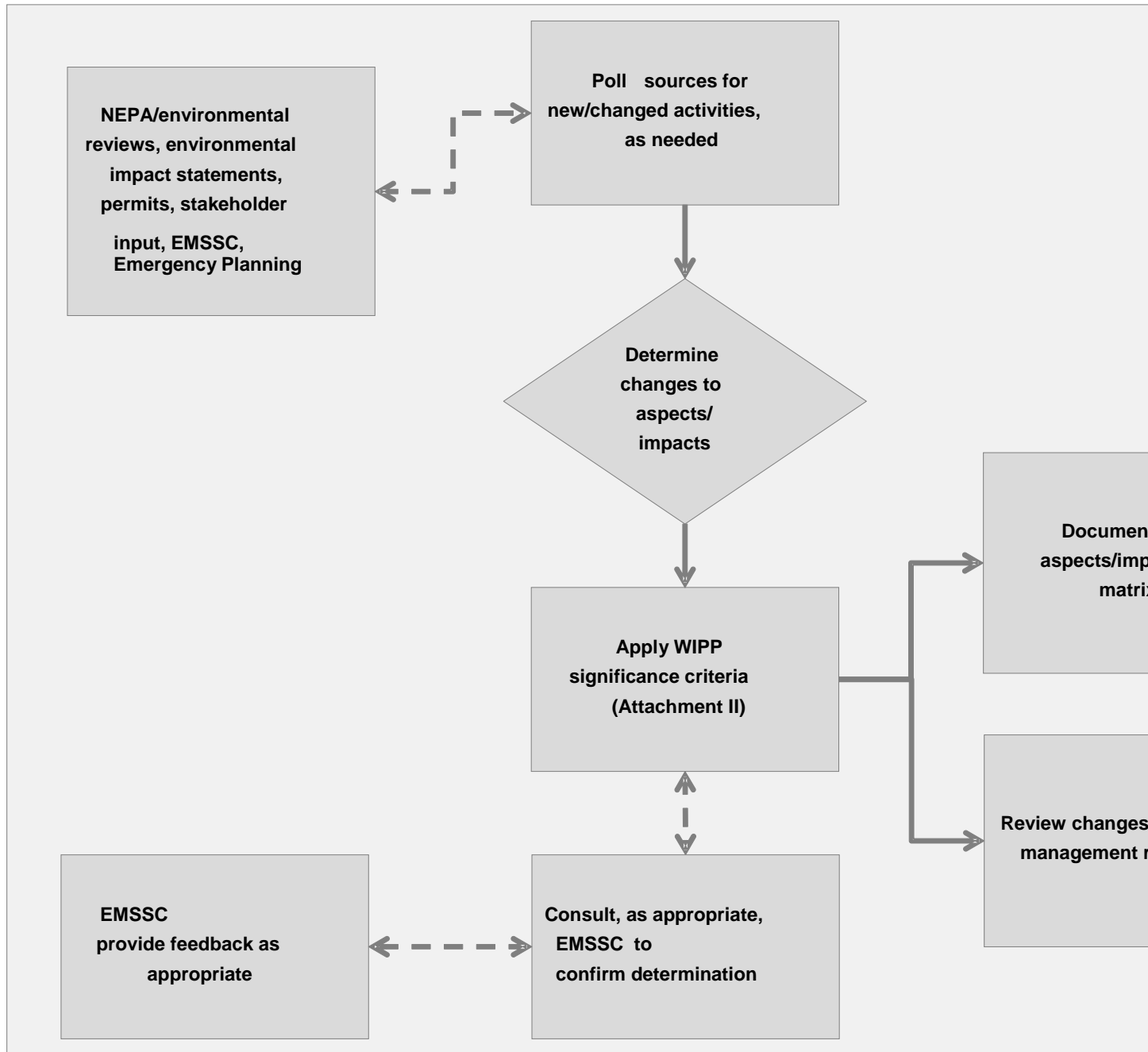


Figure 6.1.2 - Process for Determining Significant Aspects and Impacts

The CBFO and NWP apply the criteria outlined in Attachment II, Criteria for Determination of Significance of Impacts, to determine significance. Aspects and impacts are documented and maintained in the Planning Matrix. A working copy of the matrix is posted on the internal EMS website.

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Changes in the WIPP mission or changes in the processes that implement the current mission may be identified through the following WIPP processes:

- National Environmental Policy Act (NEPA) analysis
- Environmental compliance review screening
- Permit modification
- EMSSC input
- Emergency planning

Significant environmental aspects are communicated to relevant audiences via several mechanisms, including but not limited to:

- EMSSC members communicate directly with their organization
- EMS awareness training
- EMS content in other relevant training

6.1.3 Compliance Obligations

The organization shall:

- a. *determine and have access to the compliance obligations related to its environmental aspects*
- b. *determine how these compliance obligations apply to the organization*
- c. *take these compliance obligations into account when establishing, implementing, maintaining and continually improving its environmental management system. The organization shall maintain documented information of its compliance obligations.*

NOTE: Compliance obligations can result in risks and opportunities to the organization.

WIPP System

WIPP compliance obligations include the legal requirements associated with environmental aspects and impacts, along with the adopted needs and expectations from stakeholders and the ISO standard.

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WIPP compliance obligations are defined in the Biennial Environmental Compliance Report (BECR) and in the Planning Matrix.

Access to legal requirements is provided through CyberRegs® and intranet access to state and federal websites.

WIPP uses the following processes to ensure new, or changes to existing, compliance obligations are identified and planned for:

- Regulatory Environmental Services (RES) staff perform monthly reviews of the *Federal Register* and the *New Mexico Register* and other publications to identify and evaluate changes in regulations, DOE Directives, or other requirements
- Performance assurance procedures are used to identify and determine the impact of new or revised requirements from DOE Directives

Requirements that may impact the WIPP are routed, as appropriate, to subject matter experts for analysis and impact determinations. Subsequently, policies, plans, procedures, targets, etc., are revised to address new or revised requirements as appropriate.

In addition, the CBFO Directives Compliance Program procedure is used to determine applicability of new or revised DOE Directives, such as orders, notices, policies, guides, and technical standards, and to initiate implementation and proper flow-down of directives into support contracts as appropriate.

6.1.4 Planning Action

The organization shall plan:

a. *to take actions to address its:*

1. *significant environmental aspects*
2. *compliance obligations*
3. *risks and opportunities identified in Section 6.1.1*

b. *how to:*

1. *integrate and implement the actions into its environmental management system processes (see Section 6.2, Clause 7, Clause 8, and Section 9.1) or other business practices*

2. *evaluate the effectiveness of these actions (see Section 9.1)*

When planning these actions, the organization shall consider its technological options and its financial, operational and business requirements.

WIPP System

WIPP uses standard organizational processes when planning actions to address significant aspects, compliance obligations, and risk and opportunities. The planning process used is dependent on the scope and complexity of the actions needed to address these items.

Permanent (long term) program plans and procedures may be developed, revised, and maintained to address compliance obligations (e.g., groundwater protection, land management, NEPA compliance, P2, sustainability, contact-handled TRU waste handling, procurement).

Other planning may be accomplished through specific project plans under the WIPP project control systems, or through routine budgets and work schedules as appropriate to the complexity of the actions to be accomplished.

Technological options and financial, operational, and business requirements are considered when planning the actions necessary to address these items.

In addition, these items are taken into account in implementing and maintaining the EMS via implementation of the remaining EMS elements (e.g., objectives, targets and plans, operational controls, competence, awareness, and training; resources, roles, and responsibilities).

Evaluation of effectiveness of the actions taken to address these items may be accomplished through various WIPP programs or processes. The monitoring method selected will be chosen to match the type of actions needed. Methods may include:

- Monitoring project schedule(s)
- WIPP Issues Management System action plans
- Compliance audits performed under the CBFO compliance program
- Compliance audits performed by the NWP Quality Assurance (QA) Program
- Management assessments performed by the NWP organization
- RES Environmental Compliance Assessment Program assessments

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- Status monitoring on environmental targets
- Management review
- Environmental Compliance Program reviews performed by cognizant managers

6.2 Environmental Objectives and Targets - Planning to Achieve Them

6.2.1 Environmental Objectives

The organization shall establish environmental objectives at relevant functions and levels, taking into account the organization's significant environmental aspects and associated compliance obligations, and considering its risks and opportunities.

The environmental objectives shall be:

- a. *consistent with the environmental policy*
- b. *measurable (if practicable)*
- c. *monitored*
- d. *communicated*
- e. *updated as appropriate*

The organization shall maintain documented information on the environmental objectives.

WIPP System

WIPP objectives are strategic level results to be achieved for environmental performance as defined in the WIPP Environmental Policy. WIPP targets are tactical or operational actions that support the objectives. WIPP targets are intended to foster continual improvement in the EMS and environmental performance. The WIPP environmental targets are not typically related to maintaining compliance, as compliance is the baseline expectation for environmental performance. However, a compliance-related target may be established for a significant new or revised compliance obligation (Section 4.2).

Environmental objectives and targets may be focused on improvements in one or more of the following areas:

- Management of significant aspects and impacts
- Methods used to maintain compliance

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- Sustainability, inclusive of the traditional pollution prevention arena
- Risks and opportunities

The EMSSC members establish measurable targets to support the objectives as relevant to their departments.

Approved objectives and targets are communicated to the entire organization through one or more avenues such as communications in WIPP employee newsletters, the EMS internal website, directly from the WIPP Leadership Team or EMSSC members.

Figure 6.2.1 illustrates the development of objectives, targets, and associated implementation planning.

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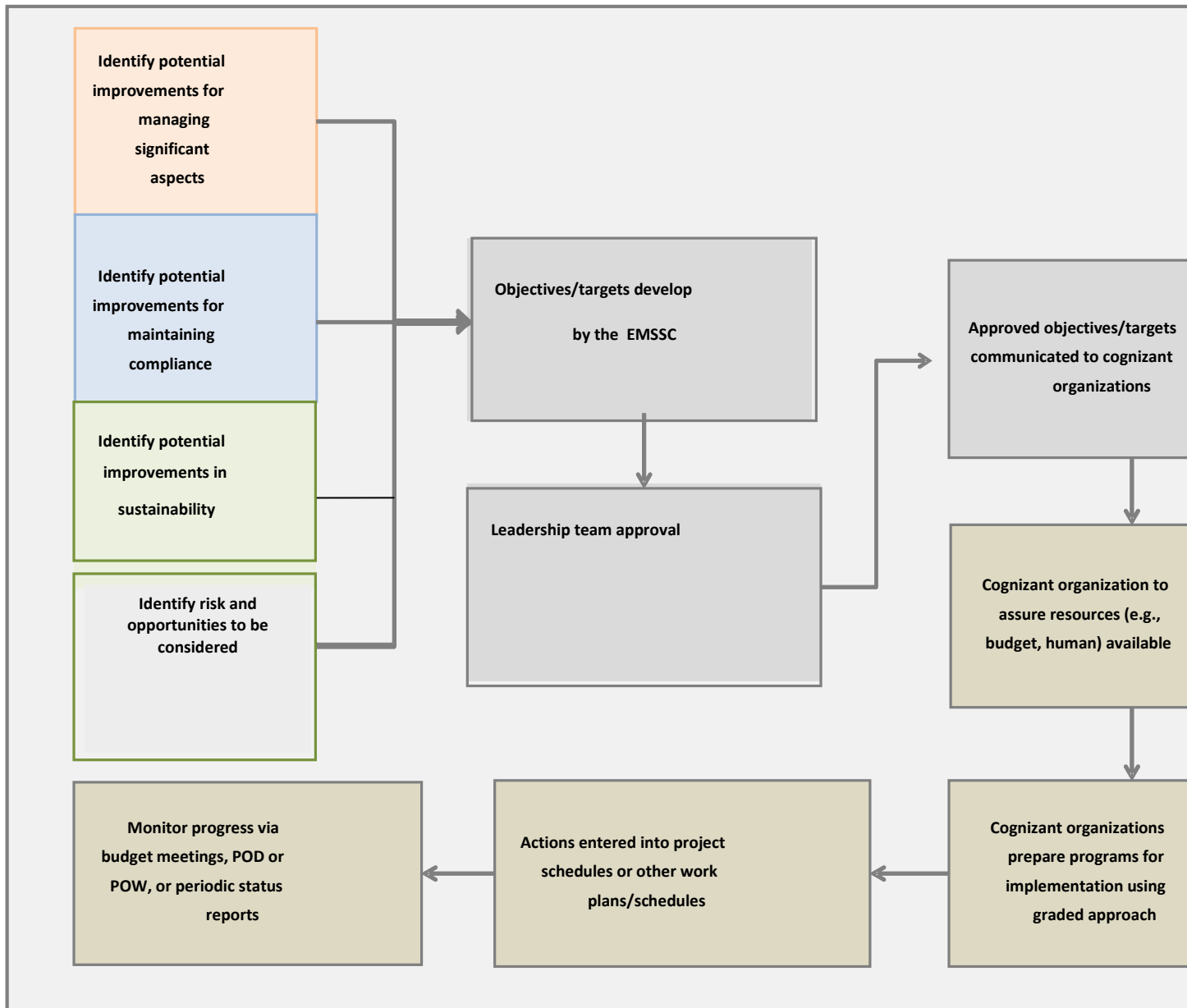


Figure 6.2.1 - Objectives, Targets, Planning Process

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6.2.2 Planning Actions to Achieve Environmental Objectives

When planning how to achieve its environmental objectives, the organization shall determine:

- a. *what will be done*
- b. *what resources will be required*
- c. *who will be responsible*
- d. *when it will be completed*
- e. *how the results will be evaluated, including indicators for monitoring progress toward achievement of its measurable environmental objectives (see Section 9.1.1)*

The organization shall consider how actions to achieve its environmental objectives can be integrated into the organization's business processes.

WIPP System

EMSSC members ensure the appropriate level of budget and planning are in place and implemented to achieve targets. Plans for achieving targets will determine identification of action, resources required, assigned responsibilities, indicators (as relevant), completion dates, and the tracking mechanism to monitor progress.

Documentation of the objectives and targets is maintained in the Planning Matrix. Target status may be tracked through formal or informal project schedules, Plan of the Week/Day (POW/POD) schedules, Commitment Tracking System (CTS) actions, or via EMSSC directed status reports. These mechanisms are part of the WIPP's processes.

7.0 SUPPORT

7.1 Resources

The organization shall determine and provide the resources needed for the establishment, implementation, maintenance and continual improvement of the EMS.

WIPP System

WIPP management ensures resources are available for implementing and improving the EMS through the annual and long-term (out-year) budget setting processes as described in Section 6.0 and the implementing documents for this element.

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7.2 Competence

The organization shall:

- a. determine the necessary competence of person(s) doing work under its control that affects its environmental performance and its ability to fulfill its compliance obligations*
- b. ensure that these persons are competent on the basis of appropriate education, training or experience*
- c. determine training needs associated with its environmental aspects and its environmental management system*
- d. where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken*

NOTE: Applicable actions can include, for example, the provision of training to, the mentoring of, or the reassignment of currently employed persons; or the hiring or contracting of competent persons.

The organization shall retain appropriate documented information as evidence of competence.

WIPP System

Competence of employees performing work is ensured through education, experience and/or training. Training for WIPP personnel who perform work that could affect WIPP environmental performance or compliance obligations is accomplished through the WIPP comprehensive training program, administered by Technical Training. The training program uses a DOE-approved methodology of Tabletop Job and Needs Analysis, and Tabletop Training Program Design to determine training content based on defined job requirements.

Individuals complete position-specific training requirements and/or qualification criteria that are determined to be needed to competently perform their assigned work. For example workers who will perform TRU waste handling, hazardous waste management, mining, maintenance, and other waste management and compliance tasks must successfully complete required training and, in many cases, the necessary qualifications, before they may begin unsupervised work in those assignments.

EMS training needs associated with environmental aspects and EMS are determined collaboratively by the EMSSC Program Coordinator and the training department. These are documented in the Planning Matrix.

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7.3 Awareness

The organization shall ensure that persons doing work under the organization's control are aware of:

- a. the environmental policy*
- b. the significant environmental aspects and related actual or potential environmental impacts associated with their work*
- c. their contribution to the effectiveness of the environmental management system, including the benefits of enhanced environmental performance*
- d. the implications of not conforming with the environmental management system requirements, including not fulfilling the organization's compliance obligations*

WIPP System

WIPP employees, contractors, and visitors are made aware of the Environmental Policy and EMS standards, requirements, and expectations specific to the facility in accordance with the standard using one or more of the following mechanisms:

- Introduction to the Environmental Policy and other key documents is provided by the EMS badge card summary
- WIPP Fundamentals Handbook (Standards and expectations)
- Training modules
- Internal communications (e.g., *TRU TeamWorks*, 2150 newsletter, site-wide email campaigns, poster campaigns)

Contractors working for or on the behalf of the WIPP are made aware of the WIPP EMS standards, requirements, and expectations through project (goods/services) contractual language.

7.4 Communication

7.4.1 General

The organization shall establish, implement and maintain the process(es) needed for internal and external communications relevant to the environmental management system, including:

- a. *on what it will communicate*
- b. *when to communicate*
- c. *with whom to communicate*
- d. *how to communicate*

When establishing its communication process(es), the organization shall:

- *take into account its compliance obligations*
- *ensure that environmental information communicated is consistent with information generated within the environmental management system, and is reliable*

The organization shall respond to relevant communications on its environmental management system.

The organization shall retain documented information as evidence of its communications, as appropriate.

WIPP System

WIPP uses the EMSSC in conjunction with the EMS Program Coordinator to determine how, when, and with whom WIPP communicates relevant information.

WIPP communicates information regarding roles and responsibilities, environmental policy, environmental objectives and targets, and EMS performance to the CBFO and NWP organizations. The environmental policy is made available to stakeholders via the WIPP external webpage.

Communications related to stakeholder expectations adopted as compliance obligations are performed in accordance with the WIPP Emergency Management Program, the CBFO Program Implementation Guide, and the Land Management Plan.

WIPP responds to relevant communications regarding its EMS via WIPP communications (external) and/or by direct communication with the applicable point of contact or the EMS Program Coordinator (internal). Relevant communications are those related to environmentally safe disposal of TRU waste, environmental justice, current or long term environmental impact of WIPP operations, or the EMS specifically.

Relevant communications exclude those performed as a result of a defined regulatory requirement (e.g., permitting or compliance recertification).

7.4.2 Internal Communication

The organization shall:

- a. internally communicate information relevant to the environmental management system among the various levels and functions of the organization, including changes to the environmental management system, as appropriate*
- b. ensure its communication process(es) enable(s) persons doing work under the organization's control to contribute to continual improvement*

WIPP System

WIPP internal communication of information relevant to the EMS is described in Sections 5.3 (Organizational Roles, Responsibilities, and Authorities), 6.2.1 (Environmental Objectives), and 7.3 (Awareness). Internal communications are integrated into WIPP communication mechanisms including, but not limited to, the following:

- Pre/Post Job safety briefings
- Documented policies, programs, plans, and procedures that address activities that could have significant environmental aspects, and their impacts
- Meetings (e.g., T-0 schedule, POD, POW, weekly integration, staff, and all hands)
- WIPP internal EMS website
- Electronic and paper communications (e.g., *TRU TeamWorks*, 2150 newsletter, Kiosk, email distribution[s])
- Suggestion and conflict resolution systems, as well as mechanisms for addressing employee issues and concerns (e.g., employee concerns and issues management programs)

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7.4.3 External communication

The organization shall externally communicate information relevant to the environmental management system, as established by the organization's communication process(es) and as required by its compliance obligations.

WIPP System

The CBFO and NWP communicate externally about significant environmental aspects and impacts using the following mechanisms:

- The NEPA process ensures public involvement should new activities be undertaken by the WIPP that may have significant environmental impacts as defined in the NEPA regulations.
- Annual Site Environmental Report - communicates environmental performance. These reports are available via the WIPP public website.
- Comprehensive public involvement efforts, which may include meetings with stakeholders, permit hearings, press releases to the news media, the WIPP information repository, and a toll-free information line at 1-800-336-WIPP.

7.5 Documented Information

7.5.1 General

The organization's environmental management system shall include:

- a. documented information required by this International Standard*
- b. documented information determined by the organization as being necessary for the effectiveness of the environmental management system*

NOTE: The extent of documented information for an environmental management system can differ from one organization to another due to:

- *the size of organization and its type of activities, processes, products and services*
- *the need to demonstrate fulfillment of its compliance obligations*
- *the complexity of processes and their interactions*
- *the competence of persons doing work under the organization's control*

WIPP System

The following documents are necessary to ensure the effectiveness of the WIPP EMS.

- Environmental Policy
- EMS document
- EMS planning matrix
- EMSSC records
- Management review documents (e.g., agenda's, contents, minutes)
- Plans and procedures that control the operation of equipment, processes that could have significant environmental impact
- Reports for EMS audits and surveillances performed under the CBFO assessment or NWP QA assessment programs and those performed by the international standard registrar
- Declaration(s) of conformance with DOE Order 436.1
- Records of corrective actions associated with the EMS audits and surveillances

7.5.2 Creating and updating

When creating and updating documented information, the organization shall ensure appropriate:

- a. identification and description (e.g. a title, date, author, or reference number)*
- b. format (e.g., language, software version, graphics) and media (e.g., paper, electronic)*
- c. review and approval for suitability and adequacy*

WIPP System

CBFO and NWP QA and document control programs ensure WIPP EMS documents (i.e., policies, procedures, other programmatic documents) are managed in accordance with these requirements.

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7.5.3 Control of documented information

Documented information required by the environmental management system and by this International Standard shall be controlled to ensure:

- a. it is available and suitable for use, where and when it is needed*
- b. it is adequately protected (e.g. from loss of confidentiality, improper use, or loss of integrity)*

For the control of documented information, the organization shall address the following activities as applicable:

- distribution, access, retrieval and use*
- storage and preservation, including preservation of legibility*
- control of changes (e.g., version control)*
- retention and disposition*

Documented information of external origin determined by the organization to be necessary for the planning and operation of the environmental management system shall be identified, as appropriate, and controlled.

NOTE: Access can imply a decision regarding the permission to view the documented information only, or the permission and authority to view and change the documented information.

WIPP System

CBFO and NWP QA and document control programs ensure WIPP EMS policies, procedures, and other programmatic documents are available and suitable for use, adequately protected, distribution and access controlled, and that changes are controlled.

Records, including EMS and environmental records are identified and managed according to the WIPP Records Management Program and procedures. The program establishes the actions that assure records are identified, stored, protected, retrievable, retained, and disposed in accordance with requirements. The procedures also establish that records remain legible, identifiable, and traceable.

The ISO standard is a document of external origin that is controlled by the EMSSC Program Coordinator. Environmental permits are controlled by the cognizant organizations. To the extent documents of external origin are communicated via incoming and outgoing correspondence to the CBFO, the WIPP mailroom system controls the receipt and distribution of the documents.

8.0 OPERATION

8.1 Operational Planning and Control

The organization shall establish, implement, control and maintain the processes needed to meet environmental management system requirements, and to implement the actions identified in Sections 6.1 and 6.2, by:

- a. establishing operating criteria for the process(es)*
- b. implementing control of the process(es), in accordance with the operating criteria*

NOTE: Controls can include engineering controls and procedures. Controls can be implemented following a hierarchy (e.g., elimination, substitution, administrative) and can be used individually or in combination.

The organization shall control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

The organization shall ensure that outsourced processes are controlled or influenced. The type and extent of control or influence to be applied to the process(es) shall be defined within the environmental management system.

Consistent with a life cycle perspective, the organization shall:

- a. establish controls, as appropriate, to ensure that its environmental requirement(s) is (are) addressed in the design and development process for the product or service, considering each life cycle stage*
- b. determine its environmental requirement(s) for the procurement of products and services, as appropriate*
- c. communicate its relevant environmental requirement(s) to external providers, including contractors*
- d. consider the need to provide information about potential significant environmental impacts associated with the transportation or delivery, use, end-of-life treatment and final disposal of its products and services*

The organization shall maintain documented information to the extent necessary to have confidence that the processes have been carried out as planned.

WIPP System

WIPP uses a range of operational controls to ensure that environmental requirements and planning actions identified in Sections 6.1 (Actions to Address Risk and Opportunities) and 6.2 (Environmental Objectives and Targets) are carried out within the necessary operating criteria. Controls include, but are not limited to, engineered controls, programs, procedures, work instructions, preventive maintenance orders, worker qualifications, scheduling, etc. Organizations responsible for implementing controls relative to significant environmental aspects, risk and opportunities, compliance obligations, and environmental objectives are listed in the Planning Matrix.

Controls are established and changes are controlled, reviewed, and planned in accordance with the WIPP Conduct of Operations and Conduct of Engineering Programs. The Conduct of Operations Program ensures processes are designed and technology is used for control as appropriate and operations are planned and executed in a formal, disciplined manner that protects people and the environment. They are implemented through controlled project design and documentation, development and implementation of thorough and clear procedures, clear definition of roles and responsibilities, assurance of competence and qualification of personnel, and ensuring that mechanical systems remain functional and perform as required.

Changes to physical equipment and configuration are managed through the Conduct of Engineering Program. This program ensures that proposed changes are analyzed for potential impacts. Changes to administrative controls such as programs, plans, and procedures are addressed via the document control process. Controls are also incorporated into training and qualification as determined appropriate by training program implementation. Both configuration changes and administrative control changes are subject to review for environmental requirements via the Environmental Review and NEPA Screening procedure and Permit Screen procedure.

QA programs provide an integral function supporting operational control. Comprehensive CBFO and NWP QA programs have been implemented to ensure that all work is performed in a manner that meets or exceeds quality requirements. The programs are tailored for activities associated with the receipt of TRU waste, including operational safety, environmental compliance, and performance assessment.

The extent of control to be applied to outsourced services (contracted work) is determined and implemented through the following processes:

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Procurement

- Including specific environmental conditions/terms in statements of work and contracts as appropriate.
- Contractor selection.
- NWP General Terms and Provisions for subcontracts for commercial items, firm fixed price construction, firm fixed price orders, and cost reimbursement.

Training

- Completion of General Employee Training and applicable WIPP training courses prior to contractors performing work onsite.

Oversight

- Oversight of contractors/service providers by the Subcontract Technical Representative and Person in Charge.

Evaluation of need to provide information regarding potential environmental impacts associated with the life cycle of the mission (products, goods, and services) when a specific request for this type of information is received.

Records generated for the execution of operational controls are defined by the operational controls (e.g., procedures, preventative maintenance schedules, qualifications) and are maintained in accordance with the WIPP Records Management Program.

8.2 Emergency Preparedness and Response

The organization shall establish, implement and maintain the process(es) needed to prepare for and respond to potential emergency situations identified in Section 6.1.1.

The organization shall:

- a. *prepare to respond by planning actions to prevent or mitigate adverse environmental impacts from emergency situations*
- b. *respond to actual emergency situations*
- c. *take action to prevent or mitigate the consequences of emergency situations, appropriate to the magnitude of the emergency and the potential environmental impact*

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- d. *periodically test the planned response actions, where practicable*
- e. *periodically review and revise the process(es) and planned response actions, in particular after the occurrence of emergency situations or tests*
- f. *provide relevant information and training related to emergency preparedness and response, as appropriate, to relevant interested parties, including persons working under its control*

The organization shall maintain documented information to the extent necessary to have confidence that the process(es) is (are) carried out as planned.

WIPP System

The CBFO and NWP comprehensive Emergency Management Program is the process for preparing for and responding to potential emergency situations. This program provides for identifying and addressing emergency events, including radiological and non-radiological incidents, environmental events, and operational events, that could impact the environment. The program provides for prevention or mitigation of adverse environmental impacts.

Response actions are tested and reviewed periodically in accordance with program parameters. Improvement actions identified from events, drills, or exercises are documented and processed in accordance with the WIPP Issues Management Program (including, but not limited to, appropriate updates to program documents and procedures).

Mechanisms for providing relevant emergency response information to employees and contractors may include training, WIPP communications venues, and required readings. Hazardous waste responder training is provided to employees based on training determinations, and WIPP emergency response personnel are trained to meet professional requirements.

9.0 PERFORMANCE EVALUATION

9.1 Monitoring, Measurement, Analysis, and Evaluation

9.1.1 General

The organization shall monitor, measure, analyze and evaluate its environmental performance.

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The organization shall determine:

- a. *what needs to be monitored and measured*
- b. *the methods for monitoring, measurement, analysis and evaluation, as applicable, to ensure valid results*
- c. *the criteria against which the organization will evaluate its environmental performance, and appropriate indicators*
- d. *when the monitoring and measuring shall be performed*
- e. *when the results from monitoring and measurement shall be analyzed and evaluated*

The organization shall ensure that calibrated or verified monitoring and measurement equipment is used and maintained, as appropriate.

The organization shall evaluate its environmental performance and the effectiveness of the environmental management system.

The organization shall communicate relevant environmental performance information both internally and externally, as identified in its communication process(es) and as required by its compliance obligations.

The organization shall retain appropriate documented information as evidence of the monitoring, measurement, analysis and evaluation results.

WIPP System

The WIPP monitors environmental conditions in accordance with the WIPP Environmental Monitoring Program. This comprehensive program established baseline environmental conditions and continues to monitor key characteristics of operations (e.g., disposal of TRU waste, mined salt) that can have significant environmental impacts. The program addresses this element's requirements relative to environmental conditions. The program's implementing documents address monitoring for environmental impact to groundwater, soil/sediment, air quality, flora, fauna, and humans on and around the WIPP site.

Environmental performance and effectiveness of the EMS is evaluated by the EMSSC and the Leadership Team. This includes progress towards objectives and targets, actions directed by Leadership Team during the management review, and EMSSC-directed performance indicators.

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Environmental performance information is reported in the Annual Site Environmental Report (ASER). This report is the mechanism for communicating both environmental monitoring program and EMS performance results both externally and internally. The ASER is published in the Federal Register and is also made available on the WIPP external website. Progress toward objectives and targets is communicated to WIPP employees. WIPP also communicates environmental monitoring information as required by compliance obligations.

Measuring and monitoring equipment is calibrated or verified through implementation of the WIPP Metrology Program and the implementing procedure for calibration and control of monitoring and data collection equipment, or as specified in procedures for monitoring of specific media.

9.1.2 Evaluation of Compliance

The organization shall establish, implement and maintain the process(es) needed to evaluate fulfillment of its compliance obligations.

The organization shall:

- a. *determine the frequency that compliance will be evaluated*
- b. *evaluate compliance and take action if needed*
- c. *maintain knowledge and understanding of its compliance status*

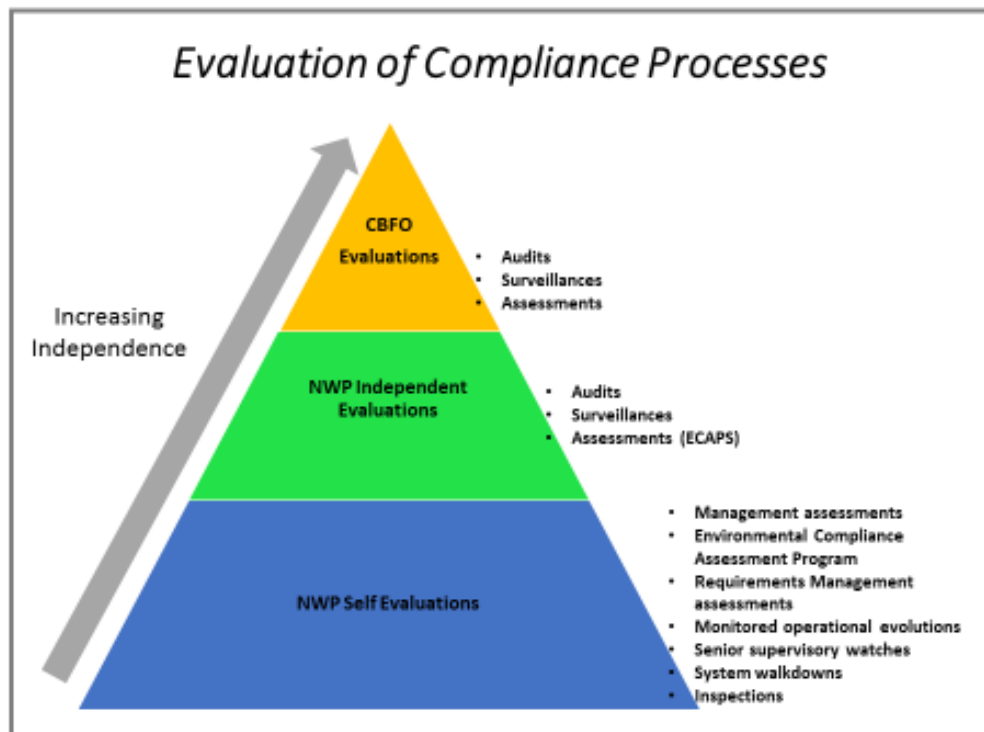
The organization shall retain documented information as evidence of the compliance evaluation result(s).

WIPP System

All environmental compliance obligations are evaluated biennially through the BECR preparation process. Annually, significant environmental compliance obligations are evaluated as part of preparation of the ASER.

WIPP implements several other processes that incorporate varying degrees of compliance evaluation. These processes are shown in Figure 9.1.2.

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9.2 Internal Audit

9.2.1 General

The organization shall conduct internal audits at planned intervals to provide information on whether the environmental management system:

- a. *conforms to:*
 1. *the organization's own requirements for its environmental management system*
 2. *the requirements of this International Standard*
- b. *is effectively implemented and maintained*

WIPP System

The WIPP EMS undergoes a full system audit triennially at a minimum. The audit reviews the system for conformance to the ISO standard and determines if it is effectively implemented and maintained.

9.2.2 Internal Audit Programme

The organization shall establish, implement and maintain (an) internal audit programme(s), including the frequency, methods, responsibilities, planning requirements and reporting of its internal audits.

When establishing the internal audit programme, the organization shall take into consideration the environmental importance of the processes concerned, changes affecting the organization and the results of previous audits.

The organization shall:

- a. *define the audit criteria and scope for each audit*
- b. *select auditors and conduct audits to ensure objectivity and the impartiality of the audit process*
- c. *ensure that the results of the audits are reported to relevant management*

The organization shall retain documented information as evidence of the implementation of the audit programme and the audit results.

WIPP System

Internal audits may be performed under the CBFO audit program and/or the NWP quality assurance independent assessment program.

9.3 Management Review

Top management shall review the organization's environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

The management review shall include consideration of:

- a. *the status of actions from previous management reviews*
- b. *changes in:*
 1. *external and internal issues that are relevant to the environmental management system*
 2. *the needs and expectations of interested parties, including compliance obligations*
 3. *its significant environmental aspects*

4. *risks and opportunities*
- c. *the extent to which environmental objectives have been achieved*
- d. *information on the organization's environmental performance, including trends in:*
 1. *nonconformities and corrective actions*
 2. *monitoring and measurement results*
 3. *fulfillment of its compliance obligations*
 4. *audit results*
- e. *adequacy of resources*
- f. *relevant communication(s) from interested parties, including complaints*
- g. *opportunities for continual improvement*

The outputs of the management review shall include:

- *conclusions on the continuing suitability, adequacy and effectiveness of the environmental management system*
- *decisions related to continual improvement opportunities*
- *decisions related to any need for changes to the environmental management system, including resources*
- *actions, if needed, when environmental objectives have not been achieved*
- *opportunities to improve integration of the environmental management system with other business processes, if needed*
- *any implications for the strategic direction of the organization*

The organization shall retain documented information as evidence of the results of management reviews.

WIPP System

The WIPP leadership team reviews the WIPP EMS annually (at a minimum) to ensure its suitability, adequacy, and effectiveness. The EMSSC jointly prepares the

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management review with the EMS Program Coordinator for presentation to the WIPP Leadership Team.

The information is an overview of system status related to the standard's items to be considered. The review facilitates evaluation of the EMS effectiveness, including environmental performance for the prior period, and recommendations for improvement.

As a result of the review, the Leadership Team determines if the system continues to be suitable, adequate, and effective, and provides direction for continual improvement, including changes to the EMS, resources, policy, objectives, targets, or programs. They may also direct action to improve integration of the EMS with other business processes and identify implications for strategic direction of the WIPP.

Records of the management review, including content, decisions, and actions are maintained in meeting minutes, agendas, and/or presentations.

10.0 IMPROVEMENT

10.1 General

The organization shall determine opportunities for improvement (see Sections 9.1, 9.2 and 9.3) implement necessary actions to achieve the intended outcomes of its environmental management system.

WIPP System

Opportunities for improvement in the EMS or environmental performance are determined from evaluation of environmental performance (measuring and monitoring), evaluation of compliance, internal audit, evaluation of EMS processes, and/or management review.

Improvements may be implemented via establishment or revision of targets, changes in operational controls (e.g., document revision), defined projects and schedules, WIPP forms, corrective action procedure, or CTS actions. The method chosen for implementing improvements is dependent on the improvement type and complexity.

10.2 Nonconformity and Corrective Action

When nonconformity occurs, the organization shall:

- a. *react to the nonconformity and, as applicable:*
 1. *take action to control and correct it*

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2. *deal with the consequences, including mitigating adverse environmental impacts*
- b. *evaluate the need for action to eliminate the causes of the nonconformity, in order that it does not recur or occur elsewhere, by:*
 1. *reviewing the nonconformity*
 2. *determining the causes of the nonconformity*
 3. *determining if similar nonconformities exist, or could potentially occur*
- c. *implement any action needed*
- d. *review the effectiveness of any corrective action taken*
- e. *make changes to the environmental management system, if necessary*

Corrective actions shall be appropriate to the significance of the effects of the nonconformities encountered, including the environmental impact(s).

The organization shall retain documented information as evidence of:

- *the nature of the nonconformities and any subsequent actions taken*
- *the results of any corrective action*

WIPP System

WIPP has implemented several programs with procedures that address the requirements related to nonconformities (non-fulfillment of a requirement). These programs are summarized in the following paragraphs.

The CBFO corrective action program establishes responsibilities and defines the method for initiating and processing corrective action reports (CARs) issued by the CBFO, which may include CARs resulting from issues identified by external entities (e.g., regulators, DOE Headquarters). This procedure provides for verification of the completed corrective action.

The NWP CBFO Quality Assurance Corrective Action Coordination procedure assures that CARs issued by the CBFO are addressed. NWP implementation of actions to address CARs is tracked via the CTS.

The WIPP Issues Management Program is NWP's formal process to capture, evaluate, and track the resolution of issues, deficiencies, and associated actions, excluding those

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identified via CBFO-issued CARs. Issues may include those identified by any employee in any organization, by an external entity (New Mexico Environment Department [NMED]), or through assessments (audits/surveillances). Implementation of actions is tracked through the Issues Management Processing System or the action request process. Determination of effectiveness of these actions is accomplished by review of the action by the cognizant NWP manager. In addition, the next regularly scheduled audit by NWP QA that covers the area where the corrective actions were implemented includes a review of implementation of the corrective actions. The NWP QA department may also conduct an unscheduled follow-up assessment to verify effectiveness of the actions.

The WIPP process for nonconformance is specific to items and materials that are determined to have an unacceptable characteristic or record that renders them unable to perform their intended function. These items or materials are recorded on nonconformance reports and their corrective action(s) are tracked via the CTS. Corrective actions for programmatic issues stemming from nonconformance's (e.g., including multiple occurrences of similar nonconforming conditions) are also addressed through the WIPP Issues Management Program.

These processes use a graded approach (appropriate to magnitude and impact) to determine root and contributing causes and corrective or preventive actions. Immediate actions necessary to control or correct an issue including their adverse environmental impacts are required by the processes as well as evaluation for extent of impact and implementation of preventive actions (e.g., making changes to the EMS).

Records of corrective action are maintained as directed in these WIPP programs.

10.3 Continual Improvement

The organization shall continually improve the suitability, adequacy and effectiveness of the environmental management system to enhance environmental performance.

WIPP System

The EMS improvements determined as an outcome of section 10.1 are used by the EMSSC to decide which improvements are implemented during the next EMS cycle and the method for implementation.

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Attachment I - EMS Roles and Responsibilities

Roles and responsibilities are defined for implementation of the EMS as described in this section. These roles and responsibilities apply to both NWP and CBFO personnel.

Employees

Every employee's role in the EMS is to carry out the following responsibilities:

- Know where to find the WIPP Environmental Policy (DOE/WIPP-04-3310)
- Be mindful of the environmental effects of your actions.
- Avoid negative environmental impacts.
- Help achieve environmental objectives and targets, including but not limited to:
 - Minimize personal waste generation by reducing materials used and recycling.
 - Minimize personal use of water and electricity to the extent possible.
- Comply with environmental requirements; follow procedures.
- Look for, and implement, ways to improve protection of the environment.

WIPP Managers

WIPP managers' EMS role is to implement the EMS within their scope of work, ensuring the following responsibilities are carried out within their work group:

- Review and provide input, as requested, to maintain currency of significant environmental aspects and impacts.
- Ensure personnel whose work could result in significant environmental impacts are competent.
- Ensure processes (e.g., programs/procedures) are in place to address significant environmental impacts, compliance obligations and risks, and opportunities, and that operations are performed in a consistent, environmentally responsible manner.
- Set, provide resources for, and implement function related targets to support WIPP environmental objectives, as appropriate.

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Attachment I - EMS Roles and Responsibilities

- Ensure environmental requirements, environmental policy, and targets are communicated to their organization as applicable.
- Request/provide resources sufficient to achieve environmental policy and targets.
- Develop and incorporate into budget and work schedules methods for achieving environmental policy and targets. Methods may take the form of formal project schedules, POW/POD schedules, or documented plans for the actions necessary to meet the targets.
- Track performance in project schedules or other work schedules for environmental targets, as appropriate.

Function Specific Roles and Responsibilities

The following roles and responsibilities apply to both CBFO and NWP functions.

Function	Roles and Responsibilities
WIPP Leadership Team (CBFO Manager and NWP Office of the President)	<ul style="list-style-type: none"> • Define WIPP environmental policy. • Communicate expectations for environmental excellence, adherence to the WIPP Environmental Policy, and the EMS • Perform the annual EMS management review. • Assign action items to appropriate personnel, as necessary, to ensure continuous improvement of the EMS. • Assign responsibility and authority for ensuring the EMS conforms to the requirements of ISO 14001:2015 and for reporting on the performance of the EMS and environmental performance to this team.

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Attachment I - EMS Roles and Responsibilities

Function	Roles and Responsibilities
Business & Finance	<ul style="list-style-type: none"> • Advise control account managers of the requirement to include in their budget and work scope activities that: <ul style="list-style-type: none"> - address significant aspects/impacts, environmental risk and opportunities, and compliance obligations - implement WIPP Environmental Policy and targets. • Support/contribute to project-wide targets. • Maintain and implement procedures that incorporate procurement of sustainable materials and products. • Facilitate meeting DOE HQ petroleum fuel reduction goals. • Find and utilize opportunities for reuse or recycling of property, equipment, materials. • Ensure energy efficiency and duplex settings are the default on network printers/copiers. • Provide information regarding progress towards achieving environmental targets that are tracked in project schedules to RES as requested.
Communications	<ul style="list-style-type: none"> • Support/contribute to project-wide targets. • Provide environmental information to stakeholders. • Incorporate information relating to WIPP environmental issues and EMS in WIPP internal communications (e.g., 2150, <i>TRU TeamWorks</i>). • Provide and/or coordinate responses to members of the public or outside organizations that make inquiries related to environmental issues. • Notify EMS Program Coordinator of environmentally related inquiries from stakeholders and the responses as defined in Section 7.4.1.
Emergency Management	<ul style="list-style-type: none"> • Support/contribute to project-wide targets. • Ensure environmental impacts, compliance obligations, and risks and opportunities are considered and planned for in emergency management programs as appropriate. • Implement emergency management programs. • Test emergency response procedures in accordance with emergency management program. • Ensure emergency management planning meets ISO 14001 requirements. • Perform required inspections.

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Attachment I - EMS Roles and Responsibilities

Function	Roles and Responsibilities
EMS Program Coordinators (CBFO, NWP)	<ul style="list-style-type: none"> • Ensure EMS requirements are established, implemented, and maintained. • Prepare and provide annual overview to WIPP Leadership Team summarizing the suitability, adequacy, and effectiveness of the EMS. • Facilitate EMS planning processes described in Section 6.0, Planning. • Facilitate implementation toward sustainability through EMS.
Engineering	<ul style="list-style-type: none"> • Plan, design, and execute projects to meet environmental policy objectives. • Support/contribute to project-wide targets. • Implement operational controls (e.g., programs/procedures) to address WIPP's significant environmental impacts and compliance obligations (e.g., configuration change control and design). • Facilitate the WIPP contribution to DOE HQ sustainability goals (e.g., energy, fuel, water conservation, greenhouse gas reductions, and sustainable buildings).
Human Resources	<ul style="list-style-type: none"> • Assure open door policy is in place for addressing employee concerns. • Support/contribute to project-wide targets.
Information Technology	<ul style="list-style-type: none"> • Implement operational controls (e.g., procedures) to address WIPP's significant environmental impacts and compliance obligations (e.g., electronics management, data center energy use). • Support/contribute to project wide targets.
Maintenance	<ul style="list-style-type: none"> • Perform compliance inspections. • Implement operational controls (e.g., procedures) to address WIPP's significant environmental impacts and compliance obligations (maintenance of hoist, waste handling equipment, energy using equipment). • Support/contribute to project-wide targets.
National TRU Program	<ul style="list-style-type: none"> • Ensure waste shipped to WIPP conforms to compliance obligations. • Maintain and implement operational controls (e.g., programs/procedures) to address WIPP's significant environmental impacts and compliance obligations for incoming and outgoing (site-generated) wastes and hazardous materials. • Support/contribute to project wide targets.

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Attachment I - EMS Roles and Responsibilities

Function	Roles and Responsibilities
Operations	<ul style="list-style-type: none"> • Plan, design, and execute projects to meet environmental policy. • Support/contribute to project-wide targets. • Implement operational controls (e.g., procedures) to appropriately manage WIPP's significant environmental impacts and compliance obligations (e.g., TRU waste disposal, ventilation, salt tailings, underground storage tank, wastewater treatment, storm water collection, etc.). • Maintain and follow procedures to ensure compliance and protect the environment in all operations. • Include relevant EMS content in WIPP Fundamentals Handbook. • Facilitate the WIPP contribution to DOE HQ sustainability goals (e.g., energy, fuel, and water conservation, greenhouse gas reduction, sustainable buildings, waste diversion). • Perform compliance inspections.
Quality and Contractor Assurance	<ul style="list-style-type: none"> • Support/contribute to project-wide targets. • Maintain and implement processes that evaluate environmental requirements (e.g., audits/surveillances, management assessments, issues management, corrective action tracking, and inspections). • Perform independent audit of EMS as required by ISO 14001. • Implement and maintain processes for identification of impacts and assessment compliance with DOE Directives.
Radiological Controls & Dosimetry	<ul style="list-style-type: none"> • Perform compliance inspections. • Implement operational controls (e.g., programs/procedures) to address WIPP's significant environmental impacts and compliance obligations (e.g., processes to ensure no or limited radiological release, minimizing radiological waste). • Support/contribute to project-wide targets.
Safety & Industrial Health	<ul style="list-style-type: none"> • Integrate EMS into ISMS. • Facilitate meeting the DOE environmental goal for reducing hazards from material use. • Support/contribute to project-wide targets. • Implement operational controls (e.g., programs, procedures) to manage WIPP's significant environmental aspects and compliance obligations as applicable.
Science and Development	<ul style="list-style-type: none"> • Ensure environmental policy objectives (e.g., compliance, sustainability) are integrated into science projects. • Support/contribute to project-wide targets.

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Attachment I - EMS Roles and Responsibilities

Function	Roles and Responsibilities
Records Management	<ul style="list-style-type: none"> • Implement and maintain records management systems to meet ISO 14001 requirements. • Support/contribute to project-wide targets.
Security	<ul style="list-style-type: none"> • Provide visitors/vendors with EMS Card along with Access Card prior to site access. • Perform compliance inspections. • Support/contribute to project-wide targets.
Technical Training and Procedures	<ul style="list-style-type: none"> • Maintain and implement the training program compliant with ISO 14001 requirements. • Include environmental content in relevant training to meet compliance obligations and ISO 14001 requirements. • Implement and maintain document control process to meet ISO 14001 requirements. • Support/contribute to project-wide targets.
RES	<ul style="list-style-type: none"> • Facility planning processes delineated in Section 6.0 (environmental aspects and impacts, risks and opportunities, compliance obligations). • Support/contribute to project-wide targets. • Monitor environment, effluents, and emissions. • Manage site generated wastes. • Facilitate meeting environmental compliance obligations. • Secure and maintain required compliance certification and environmental permits. • Implement TRU waste acceptance and waste confirmation programs. • Review, and communicate to affected organizations, new or changed environmental requirements (e.g., Environmental Protection Agency, NMED, DOE). • Support integration of EMS into ISMS. • Identify and request the necessary resources to administer the EMS. • Evaluate compliance with legal requirements.
Work Control	<ul style="list-style-type: none"> • Support/contribute to project-wide targets. • Include identification of, and plans to address, potential environmental impacts in work planning process.

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Attachment II - Criteria for Determination of Significance of Impacts

Frequency, Severity, Legal, and Stakeholder Concerns scales are assigned to aspects/impacts based on qualitative judgment. These scales are outlined in figure 4.

Significance Ranking Criteria for Environmental Aspects/Impacts

Criteria	Scale	
Severity (S), i.e., potential damage to the environment	5	High (severe/widespread damage)
	4 or 3	Medium (moderate/limited damage)
	2 or 1	Low (minor, little, or no damage)
Legal Implications (L) ¹	5	High (permit violation, potential NOV/CO)
	4 or 3	Medium (compliance actions are required)
	2 or 1	Low (below regulatory thresholds or not regulated)
¹ Aspects covered by DOE requirements must have a minimum score of 3.		
Stakeholder Concerns (SC)	3	High (expressed significant concerns)
	2	Medium (expressed some)
	1	Low (expressed minimum or none)
Frequency Range (F) Frequency of activity which has potential to generate impact	3	Daily to Continuous
	2	Weekly to Monthly
	1	Annual to Occasional

The significance score for each aspect is determined using the following formula:

$$\text{Significance Score} = (\text{S} + \text{L} + \text{SC}) \times \text{F}$$

A significant aspect/impact for WIPP is one with a score of greater than 20 or that top management designates as significant.

Attachment III - Standard Expectation

This attachment is a direct excerpt from the Introduction to the ISO 14001:2015 standard. It is included to provide users of the WIPP EMS document context for its contents and organization.

Achieving a balance between the three pillars of sustainability, which include the environment, society, and the economy, is considered essential to meet the needs of the present without compromising the ability of future generations to meet their needs. Sustainable development as a goal is achieved by balancing the three pillars of sustainability.

Societal expectations for sustainable development, transparency, and accountability have evolved with increasingly stringent legislation, growing pressures on the environment from pollution, inefficient use of resources, improper waste management, climate change, degradation of ecosystems, and loss of biodiversity.

This has led organizations to adopt a systematic approach to environmental management by implementing environmental management systems with the aim of contributing to the environmental pillar of sustainability.

Aim of an environmental management system

The purpose of this International Standard is to provide organizations with a framework to protect the environment and respond to changing environmental conditions in balance with socio-economic needs. It specifies requirements that enable an organization to achieve the intended outcomes it sets for its environmental management system.

A systematic approach to environmental management can provide top management with information to build success over the long term and create options for contributing to sustainable development by:

- protecting the environment by preventing or mitigating adverse environmental impacts.
- mitigating the potential adverse effect of environmental conditions on the organization.
- assisting the organization in the fulfillment of compliance obligations.
- enhancing environmental performance.
- controlling or influencing the way the organization's products and services are designed, manufactured, distributed, consumed and disposed by using a life cycle perspective that can prevent environmental impacts from being unintentionally shifted elsewhere within the life cycle.
- achieving financial and operational benefits that can result from implementing environmentally sound alternatives that strengthen the organization's market position.

Attachment III - Standard Expectation

- communicating environmental information to relevant interested parties. The International Standard, like other International Standards, is not intended to increase or change an organization's legal requirements.

Success factors

The success of an environmental management system depends on commitment from all levels and functions of the organization, led by top management. Organizations can leverage opportunities to prevent or mitigate adverse environmental impacts and enhance beneficial environmental impacts, particularly those with strategic and competitive implications. Top management can effectively address its risks and opportunities by integrating environmental management into the organization's business processes, strategic direction, and decision making, aligning them with other business priorities, and incorporating environmental governance into its overall management system. Demonstration of successful implementation of the International Standard can be used to assure interested parties that an effective environmental management system is in place.

Adoption of the International Standard, however, will not in itself guarantee optimal environmental outcomes. Application of this International Standard can differ from one organization to another due to the context of the organization. Two organizations can carry out similar activities but can have different compliance obligations, commitments in their environmental policy, environmental technologies, and environmental performance goals, yet both can conform to the requirements of the International Standard.

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

Plan-Do-Check-Act model

The basis for the approach underlying an environmental management system is founded on the concept of Plan-Do-Check-Act (PDCA). The PDCA model provides an iterative process used by organizations to achieve continual improvement. It can be applied to an environmental management system and to each of its individual elements. It can be briefly described as follows.

- Plan: establish environmental objectives and processes necessary to deliver results in accordance with the organization's environmental policy.
- Do: implement the processes as planned.

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Attachment III - Standard Expectation

- Check: monitor and measure processes against the environmental policy, including its commitments, environmental objectives and operating criteria, and report the results.
- Act: take actions to continually improve.

Figure 1 shows how the framework introduced in this International Standard could be integrated into a PDCA model, which can help new and existing users to understand the importance of a systems approach.

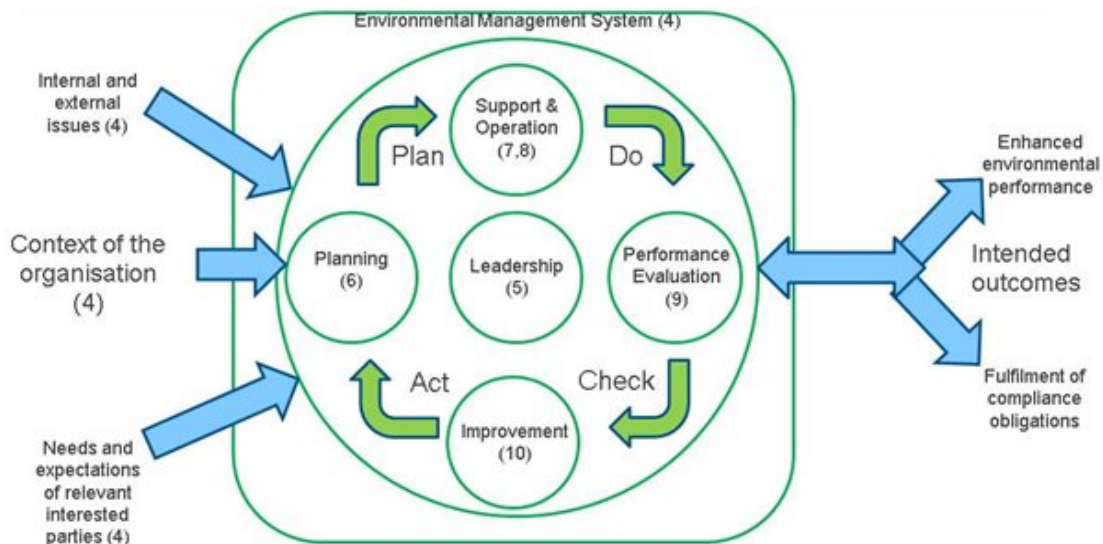


Figure 1 — Relationship between PDCA and the framework in this International Standard

Contents of this International Standard

This International Standard conforms to ISO's requirements for management system standards. These requirements include a high level structure, identical core text, and common terms with core definitions, designed to benefit users implementing multiple ISO management system standards.

This International Standard does not include requirements specific to other management systems, such as those for quality, occupational health and safety, energy, or financial management. However, this International Standard enables an organization to use a common approach and risk-based thinking to integrate its environmental management system with the requirements of other management systems.

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Attachment III - Standard Expectation

This International Standard contains the requirements used to assess conformity. An organization that wishes to demonstrate conformity with this International Standard can do so by:

- making a self-determination and self-declaration, or
- seeking confirmation of its conformance by parties having an interest in the organization, such as customers, or
- seeking confirmation of its self-declaration by a party external to the organization, or
- seeking certification/registration of its environmental management system by an external organization.

Annex A of the standard provides explanatory information to prevent misinterpretation of the requirements of the International Standard.

Annex B of the standard shows broad technical correspondence between the previous edition of the International Standard and the current International Standard edition.

Expanded guidance on the implementation of environmental management systems is included in the ISO 14004 standard.

In the International Standard, the following verbal forms are used:

- “shall” indicates a requirement.
- “should” indicates a recommendation.
- “may” indicates a permission.
- “can” indicates a possibility or a capability.

Information marked as “NOTE” is intended to assist the understanding or use of the document. “Notes to entry” used in **Clause 3** of the standard provide additional information that supplements the terminological data and can contain provisions relating to the use of a term.

The terms and definitions in **Clause 3** of the standard are arranged in conceptual order, with an alphabetical index provided at the end of the document.

Attachment III - Standard Expectation

Organization of this Document

This International Standard specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance. This International Standard is intended for use by an organization seeking to manage its environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability.

This International Standard helps an organization achieve the intended outcomes of its environmental management system, which provide value for the environment, the organization itself, and interested parties. Consistent with the organization's environmental policy, the intended outcomes of an environmental management system include:

- enhancement of environmental performance
- fulfillment of compliance obligations
- achievement of environmental objectives

This International Standard is applicable to any organization, regardless of size, type, and nature, and applies to the environmental aspects of its activities, products, and services that the organization determines it can either control or influence considering a life cycle perspective.

The International Standard does not state specific environmental performance criteria.

The International Standard can be used in whole or in part to systematically improve a facility's environmental management performance.

Claims of conformity to the International Standard, however, are not acceptable unless all of its requirements are incorporated into an organization's environmental management system and fulfilled without exclusion.