

Fort Devens EMS

Environmental Management System

This tutorial is designed to acquaint the user with the Fort Devens **Environmental Management System (EMS)**. The EMS is being implemented in conformance with the **Standards of ISO 14001**.

The tutorial is divided into three different sections as follows:

- ☞ **Introduction and background**
- ☞ **The Environmental Management System (EMS)**
- ☞ **Summary**

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Introduction and Background

➤ What is ISO 14000?

ISO 14000 is the generic term for the series of international standards for **environmental management**. The standard for an **Environmental Management System (EMS)** is **ISO 14001**.

The **ISO 14001** Standard was developed in response to increased concern over industry's impact on the environment. Today there are more than 6,000 companies worldwide that have adopted the **ISO 14001** Standard - over 350 of these companies are in the United States.

➤ Why is the Army involved with ISO 14001?

The DoD services conducted pilot studies in 1998-1999 to determine if ISO 14001 had applicability within DoD as the standard for an EMS. Fort Devens was one of six Army sites that participated in the pilot study. When the President signed Executive Order 13148 (Greening the Government through Leadership in Environmental Management) on 22 April 2000, it required Federal agencies to implement an EMS at appropriate facilities by 31 December 2005. Effective with a Memorandum from the Deputy Assistant Secretary of the Army, dated 13 July 2001 and The Assistant Chief of Staff for Installation Management, dated 6 August 2001, ISO 14001 became the adopted standard for an EMS. The memorandums also required the ISO elements to be integrated into existing facility management structures NLT FY04. A Memorandum from The Under Secretary of Defense, dated 5 April 2002, supports these implementation requirements. PW is a step ahead of these requirements.

➤ Why is EMS good for Fort Devens?

The EMS improves the Installation's environmental programs by bringing all aspects under centralized management using a single standard. In the short time that the EMS has been functioning, several managerial and operational improvements have been put in place.

The Environmental Management System (EMS)

This section contains the critical information that all Fort Devens employees should know about EMS. Review it carefully and give some thought as to the role you play in the EMS. What objectives and targets do your duties support? How can the performance of your duties best influence the achievement of the objectives and targets?

➤ What is the Environmental Management System (EMS)?

The EMS is a five-phase cyclical system based on the "continual improvement" concept.

The five phases of the EMS and the 17 elements that comprise the phases are listed below. Each phase and its element(s) will be discussed.

- ☞ **I. Environmental policy**
 - ◆ 1. Environmental policy
- ☞ **II. Planning**
 - ◆ 2. Environmental aspects
 - ◆ 3. Legal and other requirements
 - ◆ 4. Objectives, targets and program(s)
- ☞ **III. Implementation and operation**
 - ◆ 5. Resources, roles, responsibility and authority
 - ◆ 6. Competence, training and awareness
 - ◆ 7. Communication
 - ◆ 8. Documentation
 - ◆ 9. Control of documents
 - ◆ 10. Operational control
 - ◆ 11. Emergency preparedness and response
- ☞ **IV. Checking**
 - ◆ 12. Monitoring and measurement
 - ◆ 13. Evaluation of compliance
 - ◆ 14. Nonconformance, corrective action and preventive action
 - ◆ 15. Control of records
 - ◆ 16. Internal audit
- ☞ **V. Managerial review**
 - ◆ 17. Management review

Phase I - Environmental Policy

Environmental policy defines the environmental direction to which management has fully committed and has provided resources.



Element 1 - Environmental policy

Fort Devens is committed to an environmental policy that provides a common vision for managing Installation environmental activities. The policy is contained in the **Environmental Policy Letter** signed by the **Garrison Commander**. This policy letter provides the basis upon which Fort Devens sets its objectives and targets. The letter can be found on the Fort Devens web page under the Sustainable Fort Devens link.

The major points of the policy letter are:

- ◆ It's appropriate to the nature, scale and environmental impacts of Fort Devens activities, products and services
- ◆ Fort Devens will comply with all applicable environmental policy, laws, regulations and other requirements to which relate to Fort Devens environmental aspects
- ◆ Identify potential sources of pollution and meet or exceed Army goals for prevention of pollution
- ◆ Assess the effect of environmental activities, products and services
- ◆ Set objectives and targets to minimize adverse environmental impacts
- ◆ Actively pursue continual improvement in the Fort Devens EMS

The policy is on the Fort Devens Web page at Sustainable Fort Devens. Have you read the policy? How will your work support the policy?

Phase II - Planning

Planning is the critical examination of organizations activities in concert with legal and other requirements to develop programs to reduce and eliminate the environmental impact of those activities.



Element 2 - Environmental aspects

An **environmental aspect** is defined as an element of organizations activities or services that can interact with the environment. An environmental aspect can be thought of as the *cause*, and its environmental impact is the *effect*. A significant environmental aspect is one that can have a significant impact on the environment.

Do you work at a facility or perform an activity that has an environmental aspect? Do you know what they are? If not, ask your supervisor.

 What are some significant Fort Devens environmental aspects? The proposed Fort Devens significant environmental aspects are:

- ◆ Vehicle and Equipment Use and Maintenance
 - Air Emissions
 - Spills/releases to air/water/land
 - Noise
- ◆ Hazardous Material Use
 - Air Emissions
 - Spills/releases to air/water/land
- ◆ Fuel Leaking
 - Air Emissions
 - Spills/releases to air/water/land
- ◆ Evacuation/Grading/Clearing/Constructing
 - Air Emissions
 - Spills/releases to air/water/land
 - Noise
 - Loss of habitat/flora
- ◆ Water Use
 - Depletion of natural resources
- ◆ Energy Use
 - Air Emissions
 - Spills/releases to air/water/land
 - Depletion of natural resources

 The significant aspects are considered, along with other factors in setting organization environmental objectives



Element 3 - Legal and other requirements

Fort Devens organizations must identify and comply with all applicable Federal, state and local environmental laws, regulations and other requirements to which they subscribe that are related to their environmental aspects. Organizations must also determine how these requirements apply to their environmental aspects. Additionally, Fort Devens may subscribe to selected industry codes of practice such as ISO 14001.



Element 4 – Objectives, targets and program(s)

An **environmental objective** is defined as a goal set within Fort Devens that arises from the environmental policy.

An **environmental target** is defined as a quantified performance requirement that supports an environmental objective and must be met to achieve the established objective.

The Fort Devens objectives and targets are contained in the Installation Sustainability Program 5-year Plan.

Do your duties support any Fort Devens objectives and targets? If you don't know, ask your supervisor. If you do support one or more objectives and targets, do you know specifically what they are?

 What are the Fort Devens objectives based on the ISP 5-year Plan?

Air Quality

- ◆ Compare/contrast environmental and financial lifecycle costs when making decisions for all new project designs
- ◆ Use of propane for backup generators
- ◆ Reduce installation source and non-tactical motor vehicle air emissions 10% by 2015.

Energy & Infrastructure

- ◆ Reduce total energy consumption by 5% by 2015.
- ◆ Develop land use criteria to minimize energy use, POV use, paved parking surfaces and impact on natural systems
- ◆ Establish minimum LEED rating to be achieved on new construction
- ◆ Reduce impact to natural features on development/cantonment sites
- ◆ Plan facilities to reduce infrastructure
- ◆ Reduce potable water use
- ◆ Optimize views/aesthetics
- ◆ Prepare occupants for changes caused by sustainability initiatives
- ◆ Inform contractors, stakeholders, partners, and local community

Products and Materials

- ◆ Change procurement practices to introduce only recyclable materials to Fort Devens
- ◆ Achieve 100% cradle-to-grave hazardous material management
- ◆ Achieve 40% reduction in waste stream leaving Fort Devens by the end of 2015.
- ◆ Change the procurement practice to use safer and more environmentally friendly chemicals and procedures

Training Lands

- ◆ Maintain the ability of Fort Devens to meet its current and future military missions without compromising the integrity of natural and cultural resources.
- ◆ Working with regional partners, identify and provide resources for acquisition and management of, several sites in regional proximity to installation to reduce encroachment and maintain training capability.

Water Resources

- ◆ Improve existing processes and infrastructure
- ◆ Reduce per capita potable water consumption by implementing conservation and best management by 2% by 2015.

An environmental management program is the final element of the planning process. Within organizations action is taken to identify the aspects (*cause*) and impacts (*effects*), review the regulatory requirements, determine organization objectives and develop targets to achieve the objectives. To make this work organizations have management programs that designate responsibilities for specific objectives and targets and sets a schedule for achieving the objectives and targets.

 How do you summarize the planning process?

The environmental aspects and impacts of organization activities are examined considering all legal and other requirements. The significant aspects provide input for establishing objectives and targets that will enable organizations to implement and meet the environmental policy.

Phase III - Implementation and Operation

Implementation and operation is the daily supervision, direction and execution that are necessary to maintain a functional EMS.



Element 5 – Resources, roles, responsibility and authority

The EMS **organization** is the same as the functional organization. The Garrison Commander provides guidance and resources for implementation and operation of the EMS. Organization Chiefs and their subordinates implement the EMS within their Organization. The EMS Management Representative provides the technical assistance and continuous oversight of the EMS.

Organization program managers develop an Annual Work Plan for achieving targets specified by the objectives and implement the approved Work Plan. As necessary they

advise the Organization Chiefs of any significant changes or events that impact the objectives and targets.

Organization Chiefs implement procedures to support the Fort Devens objectives and targets within their organization.

Daily management of the EMS is the responsibility of the **EMS Management Representative effected through the EMS Champion..** This management representative, appointed by the Garrison Commander has full authority to take those actions required to operate and manage the EMS.

Do you know the EMS organization and responsibilities in your section or organization?



Element 6 – Competence, training and awareness

Fort Devens personnel (including contractors) whose duties may create a significant impact on the environment must be **competent to perform their duties on the basis of appropriate education, training or experience.**



What must all Fort Devens employees and contractors at each relevant function and level be aware of?

- ◆ The importance of the EMS and the importance of conformance with environmental policy and procedures
- ◆ The significant environmental aspects and related actual or potential impacts associated with their work activities and the environmental benefits of improved personnel performance
- ◆ Their roles and responsibilities in achieving conformance with the EMS, including emergency preparedness and response requirements
- ◆ The potential consequences of departing from specified operating procedures



Element 7 - Communication

Within organizations there are open lines of communication regarding the EMS. This means that every employee who is aware of a potential or actual significant environmental impact due to an activity or activities in their area has the responsibility to communicate this through their normal chain of command or directly to the responsible individual in the EMS.

All communications from the public and the media regarding the EMS will be directed to the Fort Devens Public Affairs Office for documenting and response.

Are there established lines of communication in your work area? What are they?



Element 8 - Environmental management system documentation

Fort Devens will maintain documents in electronic and hard copy form to describe the core elements of the EMS and to support the operation of the EMS at various levels within the installation organizations.



What are the types of documentation in the Fort Devens EMS?

- ◆ **Tier I** - The Fort Devens level Environmental Management System documents.
- ◆ **Tier II** - The Fort Devens and organizational level procedures that elaborate on specific areas of the EMS
- ◆ **Tier III** – Fort Devens and organizational level work instructions or standard operating procedures (SOPs)
- ◆ **Tier IV** - Records such as calibration records and training records
- ◆ **References** – Documents such as Federal or State Regulations (and permits) that are not owned by the user but are needed for operation

Tier II and Tier III documents may include blank forms such as operating logs. A form when completed becomes a record.

Do you know where in your organization EMS documents are maintained?



Element 9 - Control of documents

Essential EMS documents need to be controlled so that they are available at locations where needed, are current, are periodically reviewed and revised, and that no obsolete documents are used. Tier I, II and III documents (including forms) are controlled documents. Tier IV (records) are not controlled documents but are located where accessible and retained for specific periods



What are the document control measures for Fort Devens?

- ◆ The controlled copy of **Tier I and Tier II documents** is on the Fort Devens and organization Web. Printed copies of I and II documents are uncontrolled and used for reference only
- ◆ Fort Devens will maintain **Tier III documents** at the location or locations that are readily accessible to those whose duties require their use.
- ◆ Each organization maintains **Tier IV** documents where they are easily accessible by auditors and other interested parties.

Does your organization have the most current EMS documents on hand? Do you have access to them? If you operate a piece of equipment that has an operator's manual, where is the manual maintained? Is it quickly available to you?



Element 10 - Operational Control

To help ensure the accomplishment of organization objectives and targets and prevent unnecessary environmental impacts, pertinent work instructions or standing operating procedures (SOPs) are prepared for activities and operations. The work instructions specify operating procedures and conditions. The procedures and conditions cover those situations where their absence could lead to deviations from the environmental policy and the objectives and targets.

Are there work instructions or SOPs pertinent to your activity? Do they specify operating criteria that you need to follow or monitor?



Element 11 - Emergency preparedness and response

Organizations will have established procedures to identify and to respond to potential and actual accidents and emergency situations, and to prevent and mitigate the associated environmental impacts.

Do you know what to do if an emergency occurs in your building? Do you work at a site where a spill of a hazardous substance can occur? Are you familiar with the spill plan?



How do you summarize implementation and operation?

Implementation and operation can be thought of as the glue or control that keeps the various elements of the EMS organized and functioning and working toward a common objective.

Phase IV - Checking

Checking is the heart of the "continual improvement" aspect of the EMS. Supervisors, workers and auditors check for conformance with the EMS. Appropriate feedback is provided and corrective action taken.



Element 12 - Monitoring and measurement

Monitoring and measurement is the establishment and maintenance of documented procedures to monitor on a regular basis key characteristics of Fort Devens operations and activities that can have a significant impact on the environment.

 What are some of the key elements monitored and maintained by organizations?

- ◆ Performance tracking (*e.g.* generator operating logs)
- ◆ Equipment calibration
- ◆ Training

 Element 13 – Evaluation of compliance

Consistent with a commitment to compliance, Fort Devens shall establish, implement and maintain a procedure for periodically evaluating compliance with applicable legal requirements.

- ◆ Organizations shall keep records of the results of the periodic evaluations

 Element 14 – Nonconformity, corrective and preventive action

These are the established procedures for investigating and correcting nonconformance in organizations activities. These procedures provide for

- ◆ Identifying the cause of the nonconformance
- ◆ Identifying and implementing the appropriate corrective action
- ◆ Implementing controls necessary to avoid repetition of the nonconformance
- ◆ Updating written procedures affected by the corrective action

Do you know how to submit a Service Order (SO) to report a deficiency? The Fort Devens method of reporting and dealing with nonconformance or conditions requiring correction is the Service Order. Anyone can submit an SO. SOs are electronically submitted through the individual organizations EMS Intranet site or hard copy to the Organization EMS Management Representative.

 Element 15 – Control of records

Records are those documents maintained within the various levels of an organization to demonstrate conformance with requirements of the EMS.

 What are the main requirements for EMS records?

- ◆ Legible, dated, identifiable and traceable
- ◆ Readily retrievable

- ◆ Protected against loss and damage
- ◆ Established and recorded retention time

↗ What are Examples of records?

- ◆ Training records
- ◆ Inspection, maintenance and calibration records
- ◆ Information on emergency response
- ◆ Audit results
- ◆ Management review minutes
- ◆ Correspondence with regulators

Do you know where the training records are maintained in your organization?



Element 16 - Internal audit

In order to determine the EMS conformance to the **ISO 14001** standard, periodic audits are conducted.

↗ What are the types of audits?

- ◆ **Internal audits** conducted by organization internal auditors provide a means of self-evaluation and contribute to continuous improvement through corrective actions.
- ◆ **Surveillance audits** are performed by auditors external to the organization being audited.

All audits focus on the relative environmental importance of each activity and the results of previous audits.

↗ How do you summarize checking action?

Checking action is the key aspect of the EMS that provides for continual improvement by providing for regular oversight of operations and the implementation of needed corrective action.

When was the last time your activity was audited? Where you asked any questions? Do you remember what they were?

Phase V - Management Review

Management review is the periodic review of the EMS by senior management to ensure continuing suitability, adequacy and effectiveness.



Element 17 - Management review

Periodically the Garrison Commander and Organization Chiefs hold a Management Review of the EMS to ensure its continuing suitability, adequacy and effectiveness. This review also addresses the possible need for changes to policy and objectives in the light of changing circumstances.



What are some of the topics included in the management reviews?

- ◆ EMS audit results and trends
- ◆ The extent to which objectives and targets have been met
- ◆ Concerns of relevant interested parties
- ◆ Changes in legal or other requirements
- ◆ Status of open issues

Congratulations! You should now have a general understanding of the EMS and its role at Fort Devens.