

INTRODUCTION

What is an EMS?

An Environmental Management System (EMS) is a systematic approach to achieve individualized, facility specific environmental and other organizational goals. It is a specialized program designed to minimize that facility's environmental "footprint." The tailored EMS creates a system or site-specific plan that converts company and facility policy into actions. An effective EMS can identify alternatives; incorporate effective corrective action measures and involves management in all aspects of the facility's environmental impact.

An EMS is first and foremost all about the way an individual facility identifies, approaches, and deals with environmental issues from an overall organizational perspective. This document is designed to be a guide for individual facilities to use in developing the EMS that best fits with the facility's unique characteristics, but not an all-encompassing document.

An effective EMS is built on Total Quality Management (TQM) and Quality Management System (QMS) concepts. To improve environmental management, a facility needs to focus not only on what things happen but also why those things happen. Over time, the systematic identification and correction of system deficiencies leads to better environmental (and overall organizational) performance.

What an EMS Can Do

An EMS provides a systematic and logic based approach to managing environmental issues. An EMS can help a facility improve its ability to comply with environmental laws and regulations; improve environmental performance; reduce environmental affairs liability; improve efficiency and clarify the relationship between the facility's environmental goals and other goals (NSF International, January 2001). In addition, by helping to identify the causes of environmental problems and then eliminate them, an EMS can help the facility save money.

One way to conceive of the benefits of an EMS is to approach the process from the philosophy that it is better to make a product (or provide a service) right the first time rather than to fix it later. It is cheaper to prevent a spill in the first place than to clean it up afterwards. And, it is more cost-effective to prevent pollution than to manage it after it has been generated.

In addition, an EMS can be an investment in the long-term viability of a facility. An EMS can help a facility to be more effective in achieving environmental goals. Also, utilizing an EMS will often help businesses keep existing customers and attract new ones, thereby adding value.

Why Have an EMS?

There are many reasons to develop and implement an EMS. Some of those may include:

- Improves efficiency and effectiveness
- Possible bottom line savings
- Could provide alternative to future additional regulation/enforcement
- Demonstrates responsibility throughout the organization
- Demonstrates continuous planning

Benefits of implementing an EMS

- Pollution prevention
- Regulatory Compliance
- Continuous environmental improvement
- Ability to adapt to changing circumstances
- More reliable and predictable outcome for environmental performance
- Reduce or limit the severity of incidents
- Increase in efficiency and benefits
- Places responsibility with those directly associated with environmental impacts and pollution prevention
- Increase community support for a facility
- Continual improvement
- Determine the appropriateness of pollution prevention strategies.
- Earlier problem identification
- Energy efficiency and other process gains

Even if you are convinced that an EMS is good for the facility you may need to convince others. Concerns some may have include:

- Cost of EMS development
- Labor concerns for development and implementation
- May reveal costly needed improvements
- Potential for failure if not committed
- Public awareness of efforts variable
- Could translate into requirements
- Third party certification (ISO14000)

In preparing to launch into an EMS program, facilities will often find that much of what they need for an EMS may already be in place. The management system framework described in this document includes many elements that are common to managing many organizational processes, such as quality, health and safety, finance, or human

resources. Existing management processes such as Hazard Analysis and Critical Control Point (HACCP) have similar elements as an EMS and therefore provide opportunities for efficiency. Many facilities have numerous EMS processes in place, even though they may have been designed for other purposes. Integrating environmental management with other key organizational processes can improve financial, quality, and environmental performance.

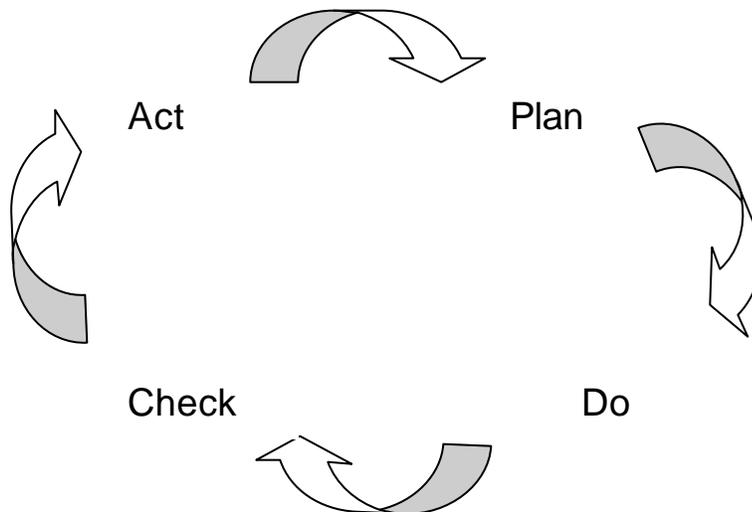
The key to effective environmental management is the use of a systematic approach to planning, controlling, measuring and improving an organization's environmental performance. Significant environmental improvements (and cost savings) can be achieved by assessing and improving a facility's management processes. Many environmental "problems" can be solved without installing expensive pollution control equipment.

Of course, there is some work involved in planning, implementing and maintaining an EMS. But many organizations have found that the development of an EMS can be a vehicle for positive change. In addition, many organizations have seen that the benefits of an EMS far outweigh the potential costs.

Key Elements of an EMS

Most EMS models are built on the "Plan, Do, Check, Act" model (See Figure 1) introduced by Shewart and Deming. This model endorses the concept of continual improvement.

Figure 1: "Plan, Do, Check, Act" Model



In the text box (Table 1) below key elements of an EMS can be found. The Environmental MAPS program incorporates all of these key elements throughout the four tiers. The text box here is provided as an overview.

Table 1: Key Elements of an EMS: A Snapshot

Environmental policy — Develop a statement of the facility’s commitment to the environment. Use this policy as a framework for planning and action. The policy is a direct reflection of the fundamental values of the organization.

Environmental aspects — Identify environmental attributes of products, activities and services. Determine those that could have significant impacts on the environment.

Legal and other requirements — Identify and ensure access to relevant laws and regulations, as well as other requirements to which the facility adheres.

Objectives and targets — Establish environmental goals for the facility, in line with the policy, environmental impacts, the views of interested parties and other factors.

Environmental management program — Plan actions necessary to achieve the set objectives and targets.

Structure and responsibility — Establish roles and responsibilities for environmental management and provide appropriate resources.

Training, awareness and competence — Ensure that the facility’s employees are trained and capable of carrying out their environmental responsibilities.

Communication — Establish processes for internal and external communications on environmental management issues.

EMS documentation — Maintain information on the facility’s EMS and related documents.

Document control — Ensure effective management of procedures and other system documents.

Operational control — Identify, plan and manage the facility’s operations and activities in line with the facility’s policy, objectives and targets.

Emergency preparedness and response — Identify potential emergencies and develop procedures for preventing and responding to them.

Monitoring and measurement — Monitor key activities and track performance. Conduct periodic assessments of compliance with legal requirements.

Nonconformance and corrective and preventive action — Identify and correct problems and prevent their recurrence.

Records — Maintain and manage records of EMS performance.

EMS audit — Periodically verify that the facility’s EMS is operating as intended.

Management review — Periodically review the facility’s EMS with an eye to continual improvement.

The Tiered Approach

The American Meat Institute developed this four-tiered EMS tool to help increase EMS development and implementation throughout the meat and poultry industry, a proven method to achieving continual environmental improvement. A complete EMS may be too overwhelming and complex for facilities that seek a simple EMS program or a simple step-wise approach to achieving a complete EMS. Still others may be seeking a more advanced program. In an effort to provide environmental assistance to all AMI members and increase EMS use in the meat and poultry industry, AMI's Environmental Committee has developed a 4-tiered EMS -- "Environmental MAPS" -- program, which begins in Tier 1 with a basic package of environmental policy statement and environmental compliance criteria, advances through more comprehensive requirements in Tier 2, incorporates a complete EMS model developed in cooperation with EPA as Tier 3, and culminates with an ISO 14001 EMS as the final tier. Each AMI member can choose the tier or degree of complexity that works best for their situation.

Basic elements in each tier are outlined below. The remainder of this guide will explain how each of the elements in the tiers can be achieved. Keep in mind that an EMS is specifically tailored for each facility according to its situation and that this document should be used only as an assistance tool to develop an individualized EMS. The tier "criteria" should be viewed not as requirements for facilities to utilize an EMS, but for those companies that wish to participate in the AMI Environmental MAPS awards program (see Appendix N).

Tier Criteria

Tier I: Environmental Master

- Commitment of upper management
- Develop Core EMS team
- Develop and adopt environmental policy
- Develop business case
- Adopt AMI model pollution prevention plan
- Adopt AMI model emergency response plan
- Adopt AMI model preventative maintenance plan
- Adopt AMI model internal communication plan
- Monitor and record water/utility use, wastewater discharge, air emissions, hazardous/solid waste generation rates

Tier II: Environmental Achiever

- Meet Tier I criteria
- Expand EMS Team
- Conduct a gap analysis
- Adopt 5-9 Environmental Practices
- Identify and prioritize environmental aspects and impacts
- Develop and implement external communication plan

Tier III: Environmental Pioneer

- Meet Tier I and II criteria
- Complete all 'Plan, Do, Check, Review/Adjust' components
- Establish Objectives and Targets
- Educate at least one additional facility about EMS program and encourage participation

Tier IV: Environmental Star

- ISO 14001