



# Environmental Management Systems Awareness Training

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# Objectives

After this awareness training, you should know:

- About Executive Order (EO) 13423.
- What an environmental management system (EMS) is.
- The benefits of an EMS.
- Why an EMS is important to what you do.

# Environmental Management Systems (EMS) Requirements in EO 13423

- Section 3(b) states, “...implement within the agency environmental management systems (EMS) at all appropriate organizational levels to ensure (i) use of EMS as the primary management approach for addressing environmental aspects of internal agency operations and activities, including environmental aspects of energy and transportation functions, (ii) establishment of agency objectives and targets to ensure implementation of this order, and (iii) collection, analysis, and reporting of information to measure performance in the implementation of this order.”

## What Is an Environmental Management System (EMS)?

- An EMS is simply a set of procedures to reduce our environmental footprint in our day-to-day activities.
- An EMS is the combination of people, policies, procedures, review, and plans to help address environmental issues.
- An EMS is that part of an **overall management system** which includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for...achieving environmental policy.
- Important EMS elements include continual improvement, management commitment, formalization, and awareness of a systems based approach.

# Purpose of an EMS

An EMS brings together the people, policies, plans, review mechanisms, and procedures used to manage environmental issues at a facility or in an organization.

# Benefits of an EMS

- Helps maintain compliance
- Reduce operating costs
- Integrate environmental programs into mission
- Increase employee involvement
- Reduce environmental impacts

# Things About EMS You May Not Know

- Your organization may already have an have EMS established or have elements of an EMS in place.
- You may be able to contribute to implementing and improving your organization's EMS.

# EMS Frameworks

- The International Standard ISO 14001 is the most widely used and respected.
- Organizations, however, use many EMS frameworks and models.
- The EO 13423 Implementing Instructions directs Federal agencies to align their EMS programs with ISO 14001.

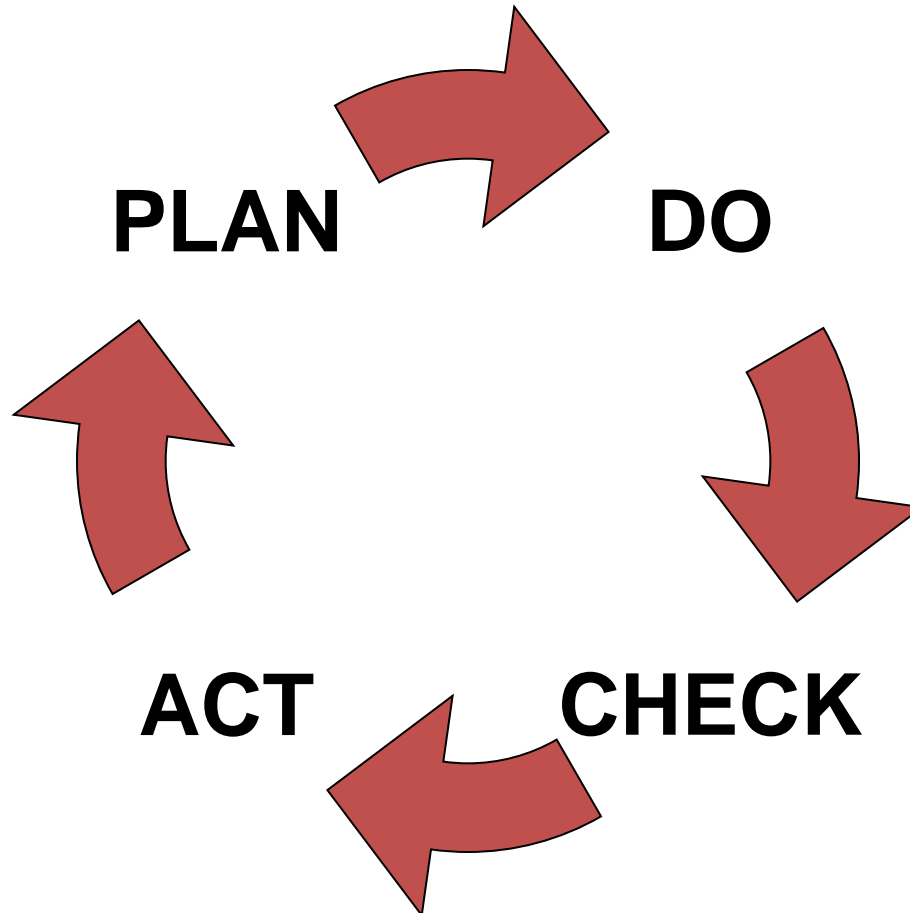


# Questions

- What does an EMS look like?
- How is it structured?

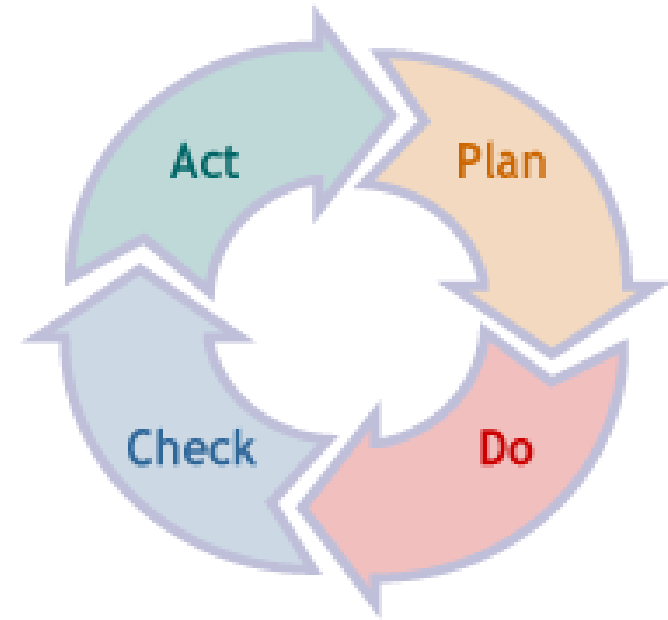
# A Basic EMS Framework

## Plan, Do, Check, Act



# The Continuous Cycle

- **Plan**  
Planning, identifying environmental aspects and establishing goals
- **Do**  
Implementing, includes training and operational controls
- **Check**  
Checking, includes monitoring and corrective action
- **Act**  
Reviewing, includes progress reviews and acting to make needed changes



# EMS Components (e.g., ISO 14001)

- Environmental Policy
- Planning
- Implementation and Operation
- Checking and Corrective Action
- Management Review

# Environmental Policy

- Issue a policy statement signed by facility manager
- At a minimum, commit to
  - Continual improvement
  - Pollution prevention
  - Environmental compliance
- Identifies EMS framework
- Publicly available

# Planning

- Identify aspects and impacts from facility activities, products, and services
- Review legal requirements
- Set objectives and targets
- Establish formal EMS program

# Implementation and Operation

- Define roles and responsibilities
- Provide EMS training
- Establish internal and external communication mechanisms
- Establish document control system
- Establish operational controls
- Integrate with or establish emergency preparedness procedures

# Checking and Corrective Action

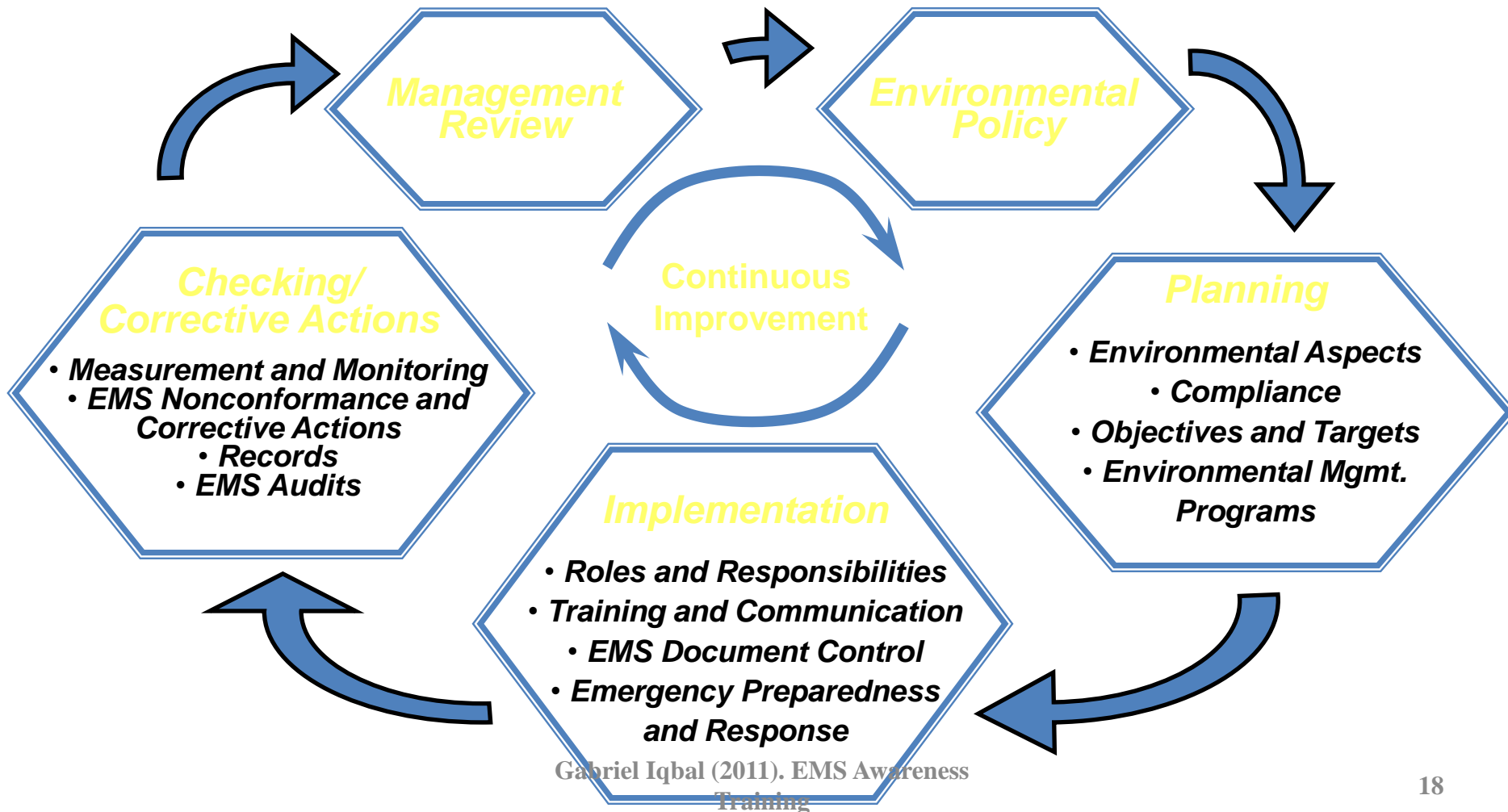
- Conduct periodic monitoring of environmental performance
- Identify root causes of findings and conduct corrective and preventive actions
- Maintain environmental records
- Conduct periodic EMS audit



# Management Review

- Conduct periodic senior management review of EMS
- Revise policies as needed

# The EMS Plan, Do, Check, Act Cycle (e.g., ISO 14001)



# Bottom Line EMS Requirements

- Must have commitment of top managers.
- An EMS doesn't exist in isolation.
- Must be consistent with other management systems (e.g., IT) in your organization.
- An EMS must be owned by everyone in your organization.

# Some Basic EMS Definitions

- **Environmental Aspect (Cause)** – The elements of an organization’s activities, products, or services which can interact with the environment.
  - It is important to establish, implement and maintain a procedure to identify the environmental aspects of activities products and services that you “*can control and ...can influence.*”
  - After identifying environmental aspects you must determine those which have or can have *significant* impacts on the environment.
  - Examples include: air emissions, water discharges, , use of raw materials, energy use, use of natural resources, use of volatile organic compounds.
- **Environmental Impact (Effect)** – Any change to the environment whether adverse or beneficial, wholly or partially resulting from an organizations activities, products, or services.
  - Examples include: depletion of natural resources, air pollution, hazardous waste generation, soil and water contamination.

## Examples of Aspects and Impacts

- **Facility Operations**

- Aspect: Office use of electronic equipment
  - Impact: Generation of recyclable waste (paper, batteries, toner cartridges)
- Aspect: Use of solvents, oil, fluorescent lamps, and excess furniture
  - Impact: Land contamination (landfill)
- Aspect: Air emissions from buildings
  - Impact: Air pollution, global warming



## Examples of Aspects and Impacts

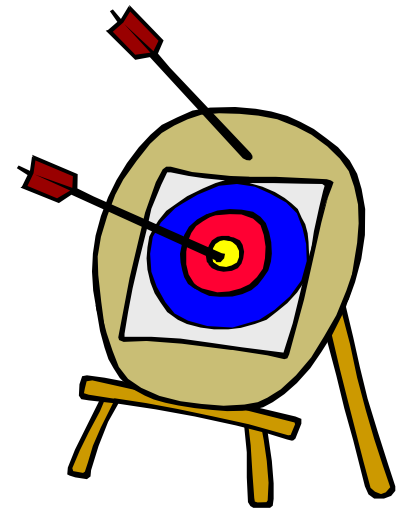
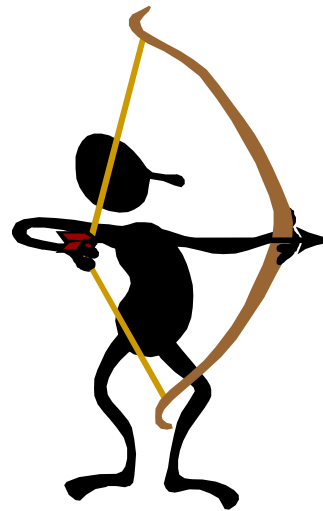
- **Facility Operations (continued)**
  - Aspect: Motor vehicle operations  
(Use of oil, rags, antifreeze, tires, and batteries)
  - Impact: Hazardous waste generation and air pollution
  - Aspect: Custodial Operations  
(Use of cleaning products, paper, water, energy)
    - Impact: Depletion of natural resources and contamination of land
  - Aspect: Grounds Maintenance
    - Impact: Depletion of natural resources (pesticides, fertilizer, water use, fossil fuels)

## Examples of Significant Environmental Aspects

- Purchasing chemicals
- Use of chemicals
- Application of pesticides
- Office products/paper consumption
- Use of electronic equipment
- Building temperature control
- Grounds and custodial operations
- Motor vehicle operations

# Objectives and Targets

- Compliance with Regulations
- Reduce Waste Streams
  - Hazardous, Solid, and Universal
- Reduce Energy Consumption
- Recycle
- Green Purchasing
- Pollution Prevention





# Definitions

An EMS ***objective*** is an overall goal arising from the environmental policy statement set by the organization.

An EMS ***target*** is a detailed measurable performance requirement related to the objective.

# Examples

Objective: Increase solid waste diversion

Target: Achieve a 60% diversion rate for all solid waste by the year 2008.

# Examples

Objective: Improve environmental compliance

Target: Reduce the number of external environmental compliance audit findings by 50% on an audit-to-audit basis.

# Examples

Objective: Reduce transportation congestion

Target: Increase the number of employee-days of mass transit use by 50% by the year 2007 based on a 2002 calendar year baseline.

Target: Purchase 25 bicycles for use within the facility by the year 2004.

*An objective of EMS is to reduce environmental impacts.*

Below are ways you can support this objective:

- **Reduce, Reuse, Recycle** – Reduce your use of resources such as water. Reuse resources such as office supplies Recycle all batteries, paper, electronics, toner cartridges, metal scraps, metal cans, glass and plastic containers, and fluorescent light bulbs, etc.
- **Purchasing Requirements** – Government purchasing agents, including credit card holders, are required to follow the Affirmative (Green) Procurement Plan.
- **Carpool** – Conserve fuel by carpooling to field sites or other work related destinations.

# What Managers and Supervisors Need to Do

Provide support to change habits

- Old habits die hard.
- Employees need support through both motivational and technical hurdles.
- Initial training and periodic refreshers are essential to continuing pollution prevention success.

# Top Ten Pollution Prevention Techniques

- 1. Good housekeeping and maintenance practices**
- 2. Spill prevention and preparedness**
- 3. Inventory management**
- 4. Prudent purchasing**
- 5. Waste exchange programs**
- 6. Alternate cleaning processes**
- 7. Reduce/reuse process wastes**
- 8. Process modifications**
- 9. Changes in equipment or technology**
- 10. Environmentally preferable purchasing**

## An Example: Environmentally Preferable Purchasing

### Definition:

Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.



# Environmentally Preferable Purchasing



**Environmentally preferable purchasing means examining the pollution prevention practices of your *vendors* and *subcontractors***

# Summary

- An EMS is the combination of people, policies, procedures, review, and plans to help address environmental issues.
- Important EMS elements include continual improvement, management commitment, formalization, and awareness of system approach.

# Summary

- Being a good environmental steward is every employee's business.
- Performing your job in an environmentally safe and sound manner benefits us all by protecting the health of the surrounding ecosystem, preserving resources for future generations, being good neighbors, minimizing mission impact due to non-compliance issues, and saving money by decreasing wasted resources.

# Your Participation

All personnel have roles and responsibilities at the location for EMS. Your level of participation will vary according to the work you perform. At a minimum, you are responsible for knowing:

- The commitments of the Environmental Policy.
- How your job impacts the environment.
- The procedures/protocols of your job and adhering to them.
- The potential environmental impacts of departing from the procedures of your job.
- The legal and other requirements of your job.

# Congratulations and Thank You!

- **You have completed general EMS Awareness Training.**
- **Your feedback allows us to continually improve EMS implementation.**
- **For more information or to actively participate in EMS implementation, please contact your Bureau or Office EMS Coordinator.**