

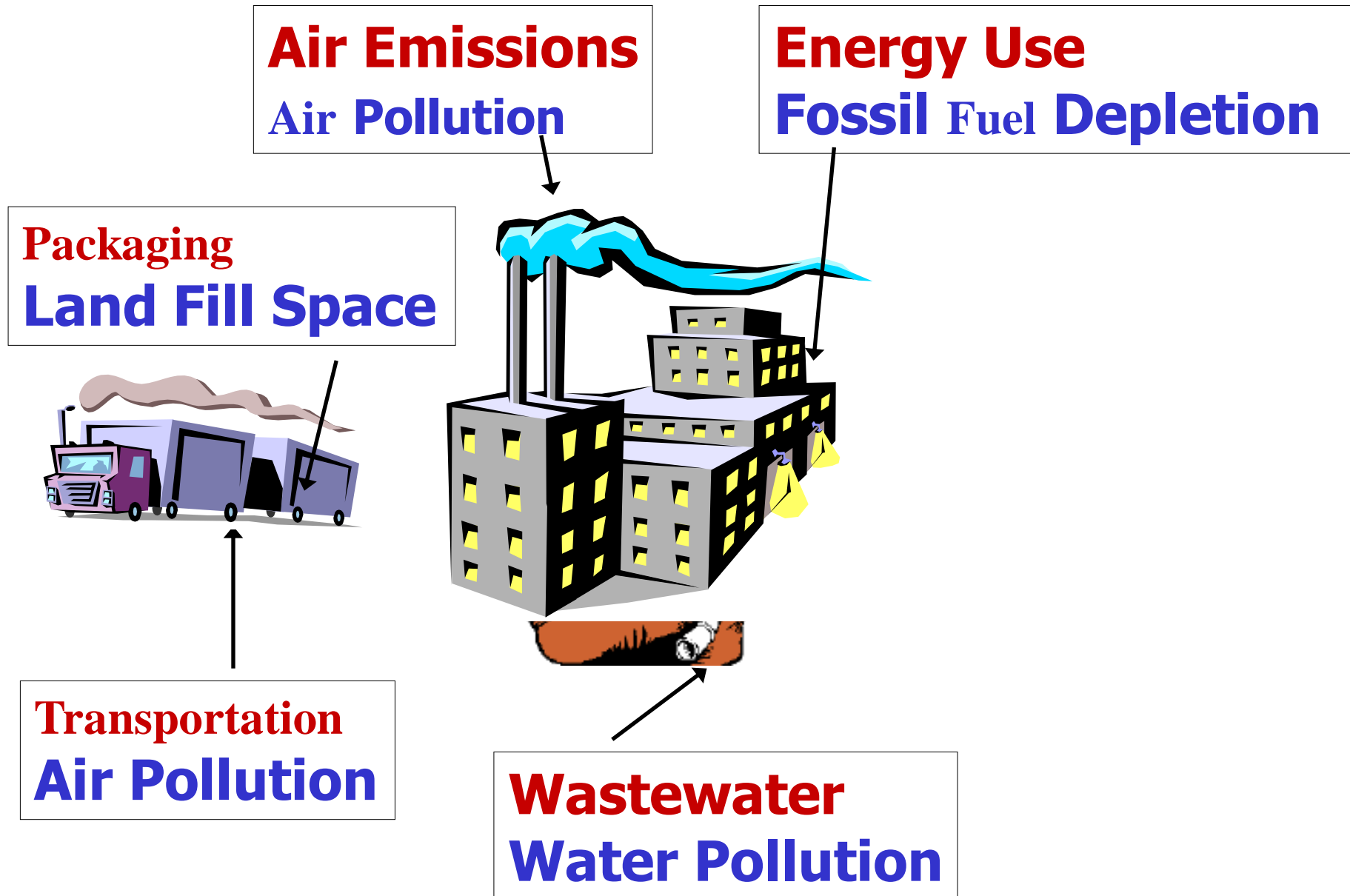
- INTRODUCTION TO THE INTEGRATED MANAGEMENT SYSTEM
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Environment Management Program

An *environmental management program* is a formal set of procedures or activities designed to assign responsibility for and measure performance in achieving its environmental objectives and targets.

Includes the means and timeframe by which the objectives and targets will be achieved.

Environmental Aspects & Impacts



Environmental Management Programs

An environmental management program should define:

- responsibilities
- resources
- objectives
- documentation
- schedules



Should be effectively aligned with existing management system elements.

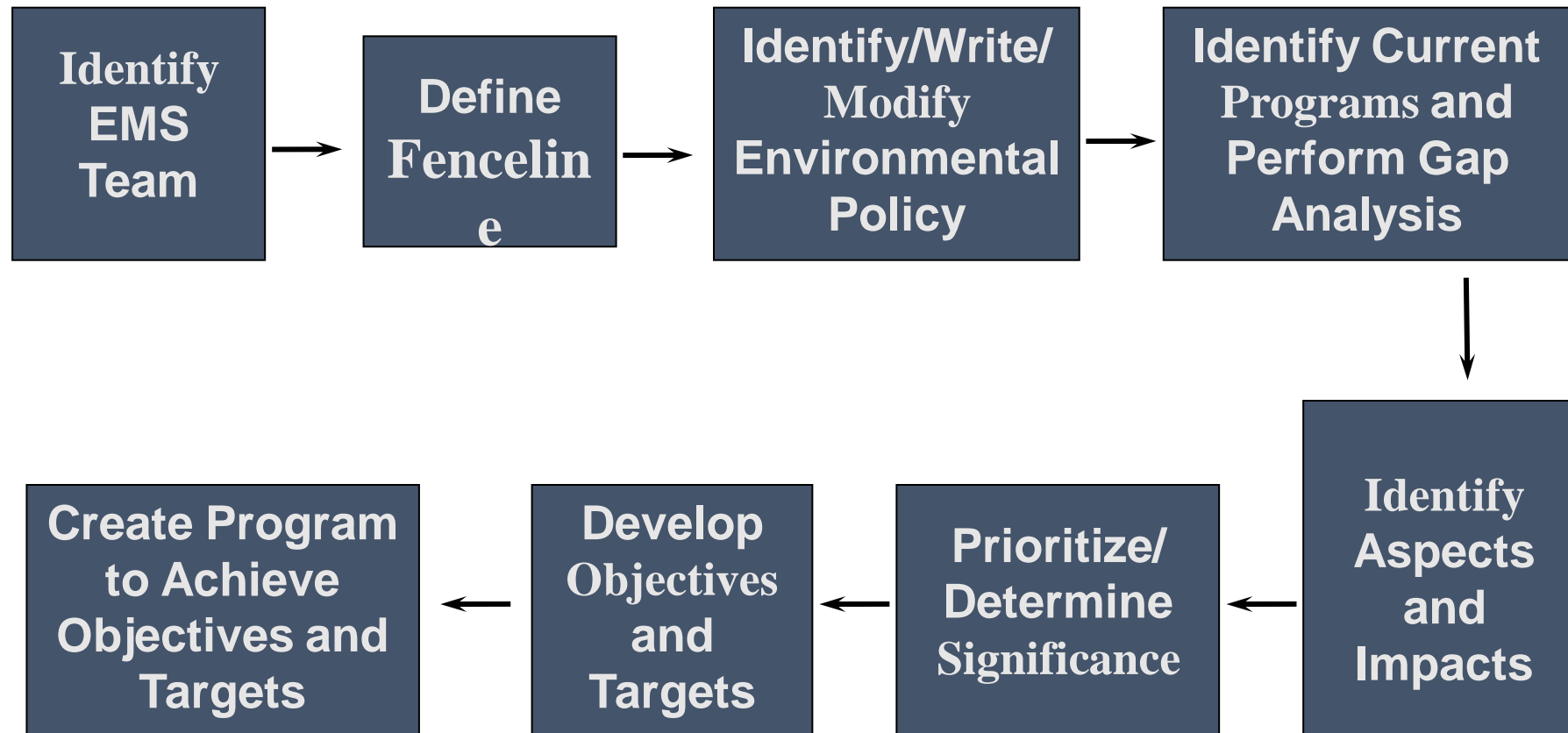
LINKING OBJECTIVES TO PROGRAMS

- Start with EMS objectives.
- Match programs to objectives.
- Review current programs for non-conformance.
- Correct non-conformance in programs.
- Initiate new programs for objectives without existing programs.

Example Objective & Plan

Project Plan Title:		Noise Minimization		Revision Date:		2/20/2020	
Activity/ Product or Service		Aspect		Impact(s):		Significant (S) / Legal (L) / Emergency (E)	
Maint. Work Area		Noise (from Compressor)		Environmental Noise		S/L	
Objective:		Decrease noise to below 80 dBA					
Target(s)			Responsibility		Date Due	Date Completed	
			Employee	Title			
1	Build wall around work area.	Roy	Maintenance	Jun-03			
2	Purchase low noise compressors.	Roy	Maintenance	Aug-03			
Task #	Other Tasks - Description	Responsibility		Date Due	Date Completed		
		Employee	Title				
1 - 1	Get Quote on Wall						
1 - 2	Select Vendor, Get approved and Award Bid						
1 - 3	Build Wall						
1 - 4							
2 - 1	Get Quote on Compressors						
2 - 2	Select Vendor, Get approved and Award Bid						
2 - 3	Install Compressors						
2 - 4	Investigate replacing all other "High Noise" Compressors						

EMS Planning Steps



Where you should be at the end of the planning process:

- Prepared a policy statement.
- Put together an EMS team.
- Conducted a gap analysis.
- Created an aspects register.
- Reviewed legal requirements.
- Determined the significant impacts.
- Set objectives and targets.
- Created environmental management programs.

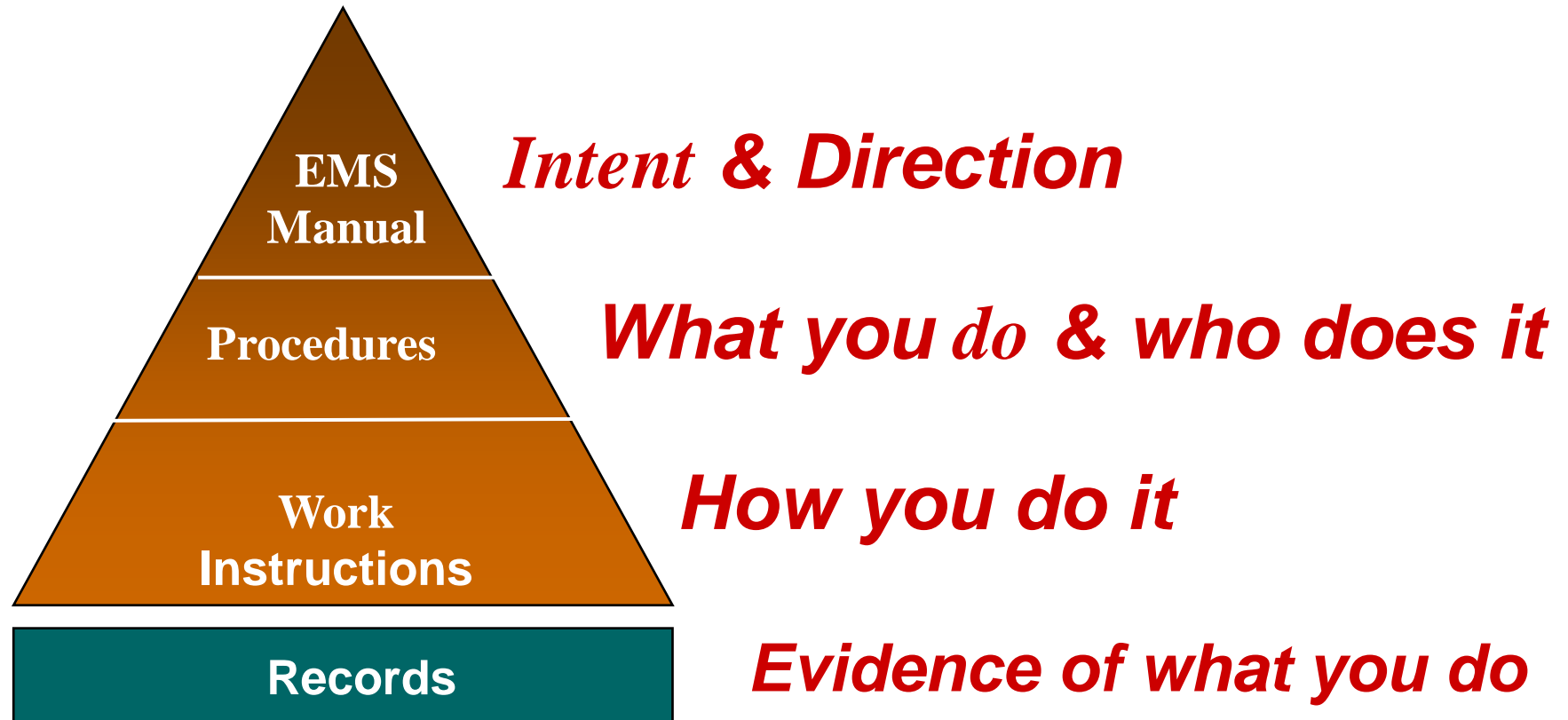


EMS Implementation

- Translate all your planning into action.
- Where performance is improved.
- Next step is to roll out:
 - training
 - procedures
 - documentation
 - new job assignments



Implementation of ISO 14001



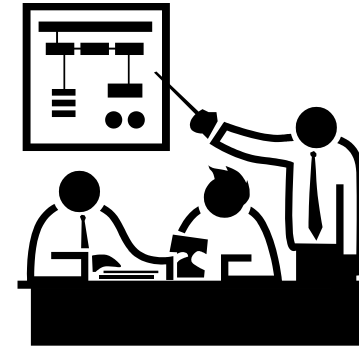
Structure & Responsibility

ISO 14001 requires

- facilities to define, document, and communicate organizational roles and responsibilities in an EMS, including an EMS management representative
- management to provide appropriate human, physical and financial resources to implement and maintain the EMS



Incorporate EMS into Organizational Structure



- Revise organizational charts to reflect EMS.
- Modify position descriptions to include EMS responsibilities.
- Measure EMS performance in performance reviews.
- Reassign personnel to EMS if necessary.
- Allocate training and financial resources to EMS.

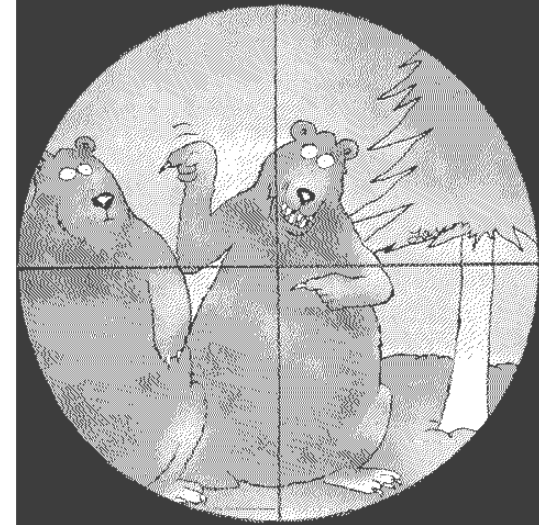


EMS Coordinator

- Management representative with defined roles and responsibilities:
 - ensuring EMS requirements are met
 - report on performance of the EMS to top management for review and as a basis for improvement

Performance Reviews

- Require accountability for appropriate personnel.
- Measure individual performance as it contributes to EMS objectives.
- Include EMS in EMS Coordinator's and EMS Team's reviews.



Resource Allocation



Management must provide sufficient resources to implement the EMS including:

- Personnel
- Physical resources
- Equipment
- Training
- Financial resources

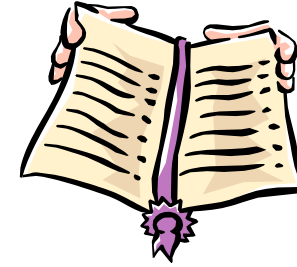


Training Steps

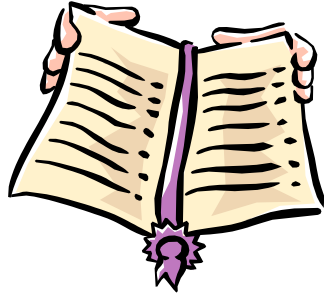
- Determine audiences for general and specific training.
- Identify trainer.
- Develop and implement training schedule.
- Keep accurate and complete records.

Training is essential to an effective EMS!

ISO 14001 Training Requirements



- EMS Awareness level in addition to functional areas.
- Personnel performing tasks that can cause significant environmental impacts shall be competent based on education, training, and/or experience.



ISO 14001 Training Requirements

- Conformance with environmental policy and EMS.
- Significant environmental aspects of work activities.
- Roles and responsibilities in EMS.
- Emergency preparedness and response.
- Potential consequences of departure from specified operating procedures (SOPs).

Internal Communication

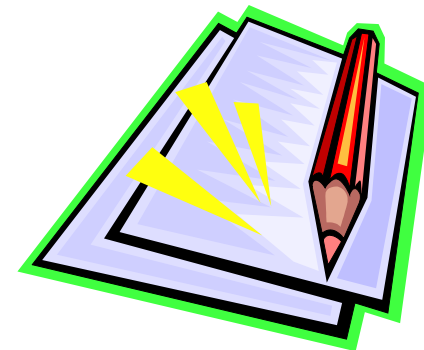
- “Vertical” communication within the organization.
 - Senior manager to/from line managers.
 - Line managers to/from staff.
 - EMS team to/from senior manager, line managers, staff.
- “Horizontal” communication
 - Between offices.
 - Within an office or shop.



External Communication

The organization must

- Review, document and respond to relevant external communication.
- communicates through several channels, both regulatory and research.



EMS Documentation



- Describes main elements of EMS.
- Provides directions to related documents.
- Supports employee awareness.
- Facilitates implementation and evaluation of the system and environmental performance.

Examples of EMS documents

- Policy statement.
- Procedures.
- Process information.
- Organizational charts.
- Internal and external standards.
- Site emergency plans.
- Records.

Emergency Preparedness / Response – EMS Requirements

- Establish and maintain procedures to identify and respond to accidents and emergencies
- (Safety plan).
- Address potential environmental effects.
- Review and revise procedures as necessary after accidents (accident investigation).
- Conduct periodic tests of procedures (drills).

Emergency Preparedness

**potential emergencies
identified in**

- **Develop emergency preparedness & response plans**
- **Include plans for mitigating “environmental impacts”**
- **Test emergency plans (fire drills)**





Checking

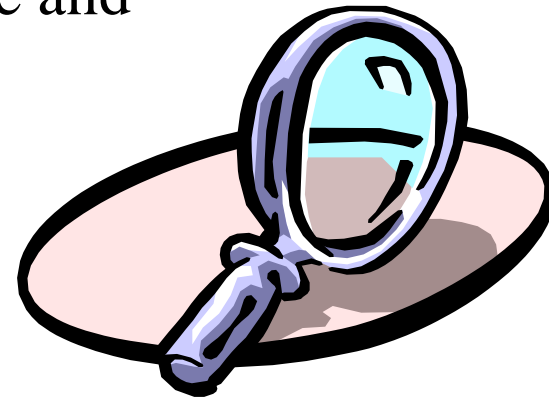
- Conduct periodic monitoring of environmental performance.
- Identify root causes of findings and conduct corrective and preventive actions.
- Maintain environmental records.
- Conduct periodic EMS audit.



Checking

Procedures shall be established for monitoring the EMS and correcting deviations. Requirements for procedures cover:

- ✓ Monitoring and measurement
- ✓ Evaluation of compliance
- ✓ Nonconformance and corrective and preventive action
- ✓ Control of records
- ✓ EMS audits



Monitoring and Measurement

- ✓ Develop procedures to regularly monitor and measure key operations and activities with significant environmental impacts.
- ✓ Record information tracking performance, relevant operational controls and conformance with the organization's objectives and targets.
- ✓ Calibrate and maintain monitoring equipment and retain associated records.

Evaluation of Compliance

- ✓ Establish procedures to periodically evaluate compliance with relevant environmental legal and other requirements.
- ✓ Keep records of the results.

Nonconformance and Corrective and Preventive Actions

Establish and maintain procedures for

- ✓ handling and investigating nonconformance.
- ✓ taking action to mitigate impacts.
- ✓ initiating and completing appropriate corrective and preventive actions.



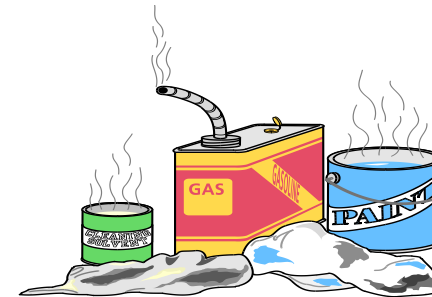
Nonconformance and Corrective and Preventive Actions

- ✓ Record any changes resulting from corrective actions.
- ✓ Review the effectiveness of actions taken.



Reasons for a Nonconformance

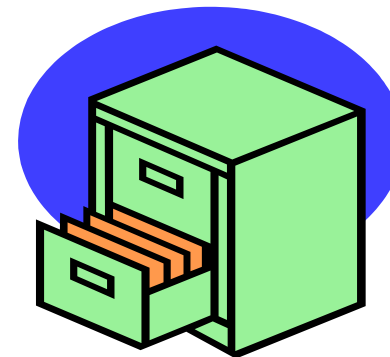
- ✓ Implementation differs from documentation.
- ✓ System is not working.
- ✓ Requirement is not addressed.



Records

Records – a special type of document

- Provide verification of things that have happened.
- Individual records are not updated (new records are created).



Records

- ✓ Procedures must be maintained for the identification, storage, protection, retrieval, retention and disposal of environmental records.
- ✓ Records must be maintained to demonstrate conformance to EMS requirements and the results achieved.



Records

Properly maintained records will be

- ✓ Legible.
- ✓ Identifiable.
- ✓ traceable to the activity, services or product involved.

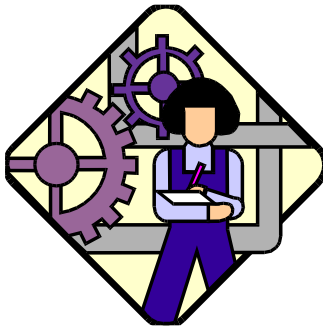


Scope of Records

Records should cover:

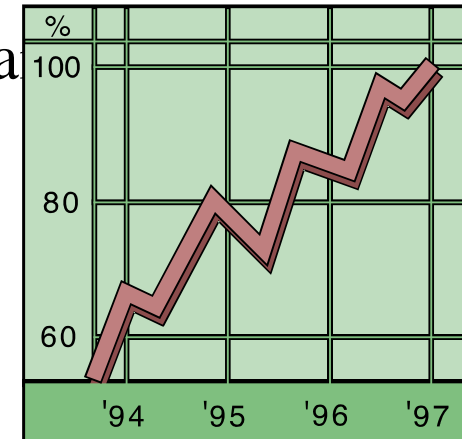


- ✓ Legal compliance.
- ✓ Process monitoring.
- ✓ Environmental aspects and their impacts.
- ✓ Environmental training.
- ✓ Inspection, calibration and maintenance activity.



Scope of Records

- ✓ Environmental communications.
- ✓ Details of non-conformance: incidents, complaints and follow-up action.
- ✓ Tests for emergency preparedness.
- ✓ Environmental performance information.
- ✓ Pertinent supplier and contractor information.
- ✓ Environmental audits and management reviews.
- ✓ Environmental meetings.



EMS Audits

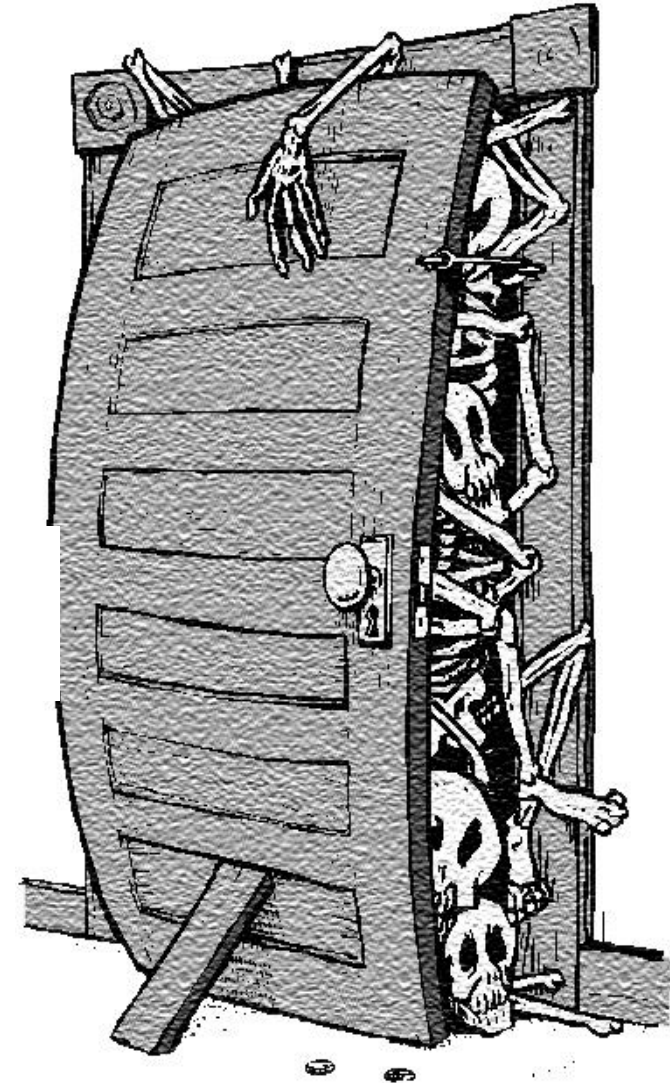


Internal Audit

To Determine if EMS meets:

- ISO 14001
- EMS Procedures & Programs

**ARE YOU DOING WHAT
YOU SAID YOU'D DO?**



Internal Audit

Establish an audit program for

- frequency, methods, responsibilities & reporting
- Define audit criteria and scope
- select auditors for objectivity and impartiality
- Ensure audit results are reported to Management

Internal Audit

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Examples of non- conformances

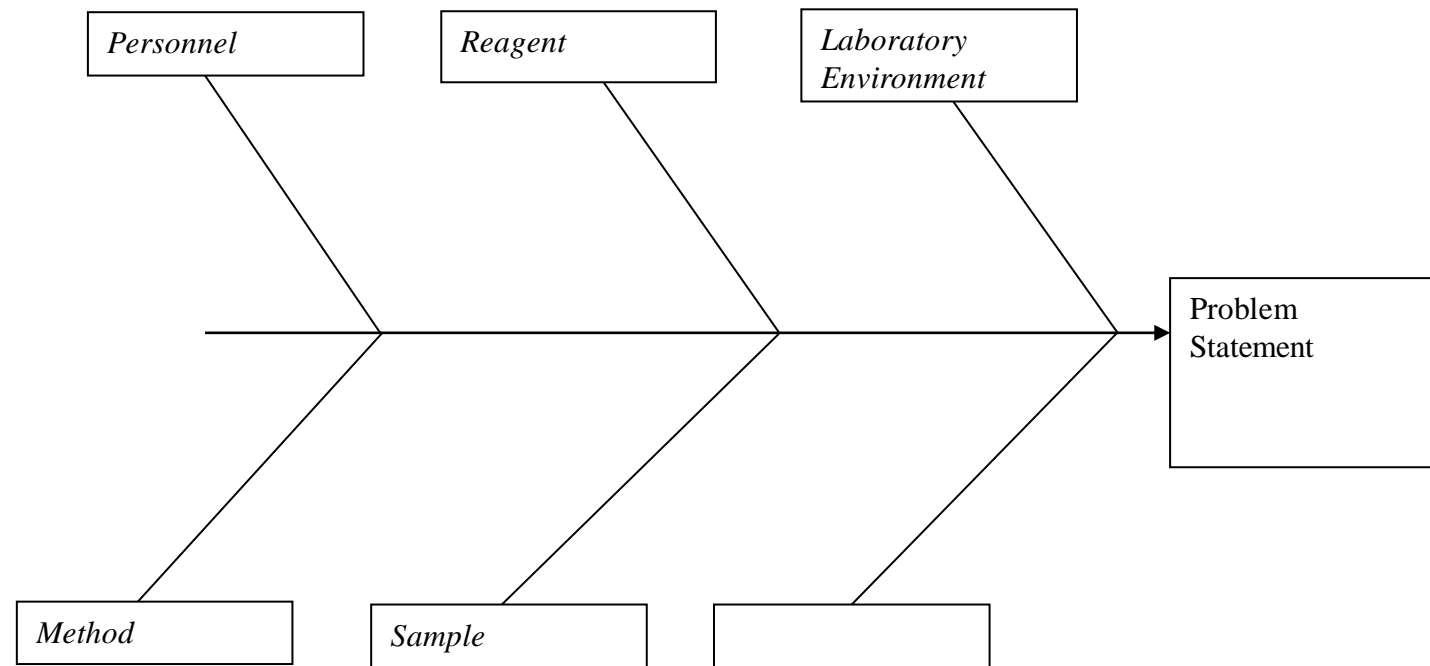
- After audit, the auditor identified that there was not competency done for the Coordinator.

USING FISH BONE TO MAKE ANALYSIS

Lab Section: _____ Performed By: _____ Date: _____

Reviewed

By: _____ Sign.: _____ Date: _____



Management Review

- Involve **Top Management**
- Determine if EMS is
 - Continuingly Suitable
 - Adequate
 - Effective
- **BOTTOM LINE:** Determine if EMS needs to be **CHANGED**
- Follow required **Inputs** and **Outputs**
- Records:
 - Management Review Schedule
 - Documented Minutes

Improvement - General

- Determine opportunities for improvement
- Implement necessary actions to achieve “intended EMS outcomes”

Continual Improvement

- Continually improve the suitability, adequacy and effectiveness of the EMS to enhance environmental performance



- **THANK YOU**