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IOWA DEPARTMENT OF NATURAL RESOURCES

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ISO 14001 Environmental Management System Training

EMS Corrective Actions & An EMS Professional Q&A Panel

Iowa Department of Natural Resources

June 25, 2025

Presented By: Jess Nicholson, Environmental Engineer
Burns & McDonnell

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This webinar is being recorded

All slides and recordings of webinars in this series are available at

https://www.iowadnr.gov/environmental-protection/land-quality/pollution-prevention-services/p2-workshops

Welcome and Introductions

- Name
- Where do you work?
  - Title/Department/Facility
- What is your experience with:
  - EMS?
  - ISO 14001?
  - Environmental Compliance?
  - Audits?
- What do you hope to get out of this training?

Previous Webinar #1 Review

- Overview of the ISO 14001 Standard
- Identifying Environmental Aspects & Impacts and Defining Significance
  - Determining aspects and impacts
  - Ensuring your rating system is appropriately highlighting the most significant objectives
  - “Workshop” Exercise
- Brief intro to Developing Objectives & Actions

Previous Webinar #2 Review

- Establishing Environmental Objectives
  - Consistency with Environmental Policy
  - Measurable and Monitored objectives
  - Communicated to the organization
  - Documented and kept up-to-date
- SMART Objectives
- Actions to achieve objectives
- What if we aren’t trending in the right direction?

Previous Webinar #3 Review

- Phases of Performing an Audit
  - Planning
  - Execution
  - Reporting
  - Close-out
- Collecting Evidence
- Making Informed Judgements
- Major vs. Minor Nonconformity

Survey Results

- What you want more of:

Webinar #4 Agenda

- Review of Nonconformities
- Identifying Root Causes
- Corrective Action Process
  - Finding/Nonconformity
  - Root Cause
  - Corrective Action
  - Verification
- ISO 14001 Registration Process
- Panel Discussion!
- Summary

Nonconformities

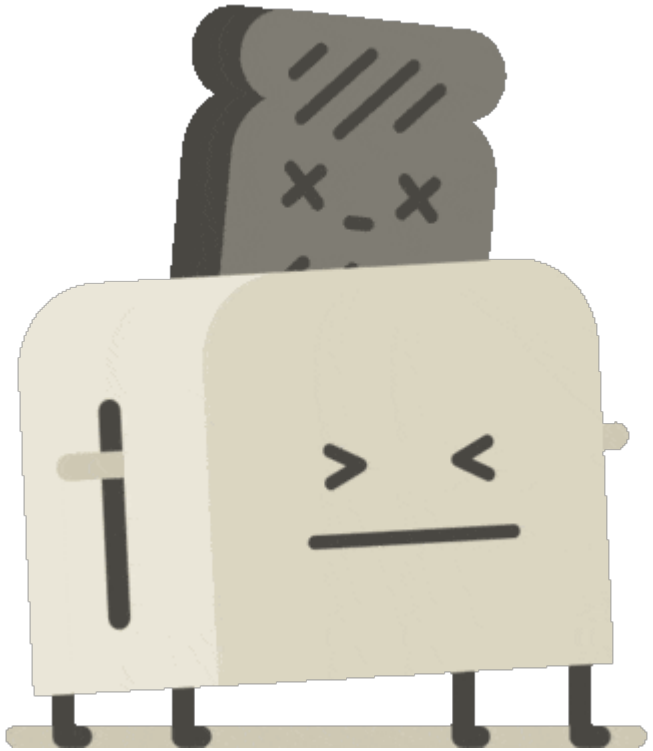
- A Nonconformity is:

The non-fulfillment of a requirement

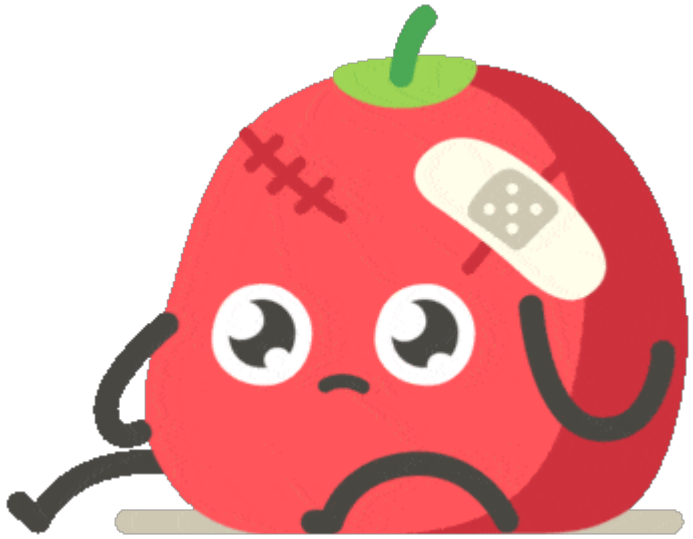
The difference between what you ***say*** you will do,
and what you ***actually*** did

Nonconformities

- Nonconformities occur because:
  - Procedure or approach does not meet the requirements of the Standard
  - Action is not as stated in approach/procedure
  - Action is not effective



Nonconformities

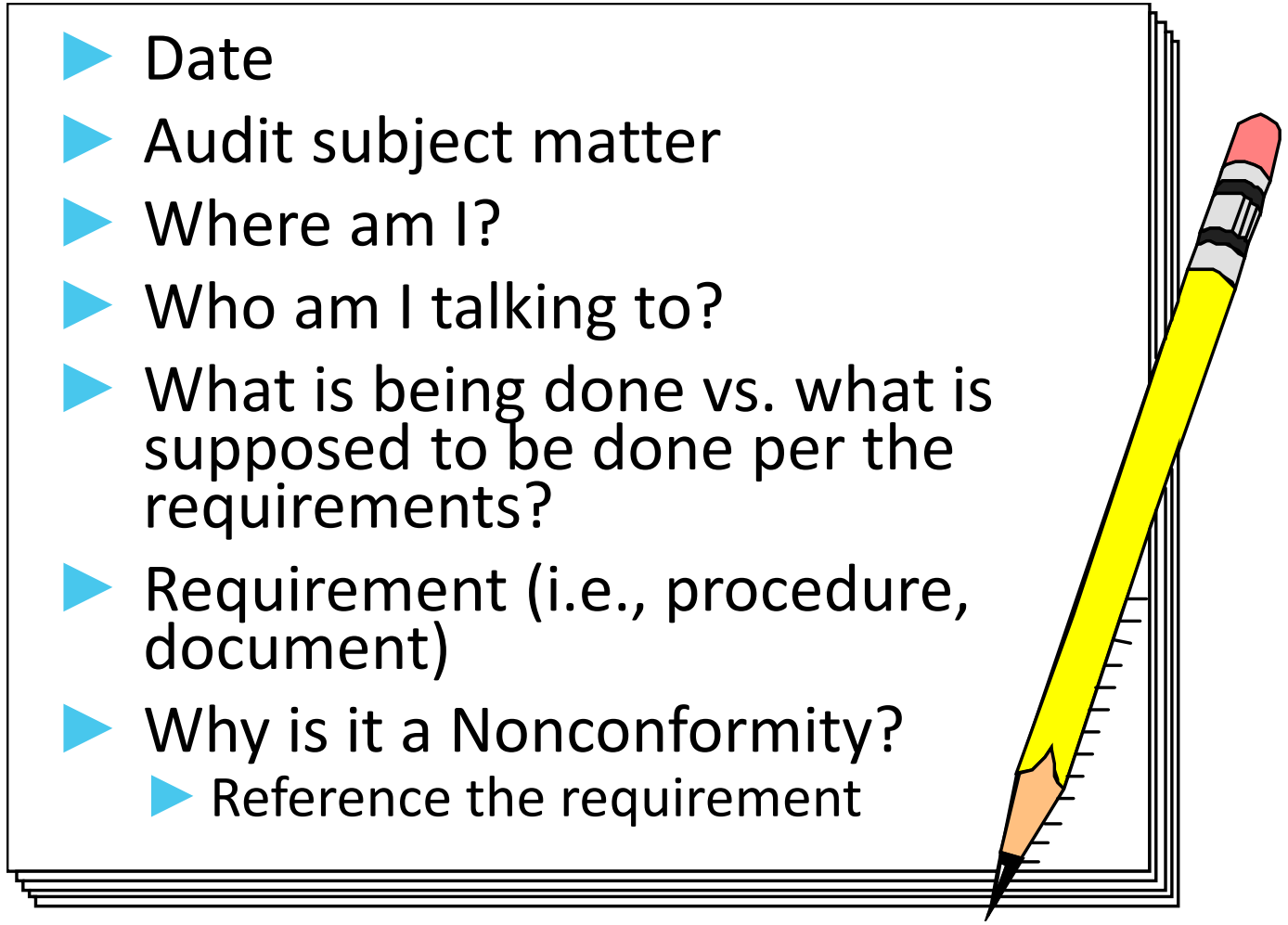


- Are nonconformities bad?
  Or can they be good?

  - The finding of a nonconformity should not be portrayed negatively
  - Presents the opportunity to make improvements to the EMS
  - Demonstrates the effectiveness of our internal audit process

Writing Nonconformities

- Date
- Audit subject matter
- Where am I?
- Who am I talking to?
- What is being done vs. what is supposed to be done per the requirements?
- Requirement (i.e., procedure, document)
- Why is it a Nonconformity?
  - Reference the requirement



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Identifying Root Cause and Applying Corrective Action

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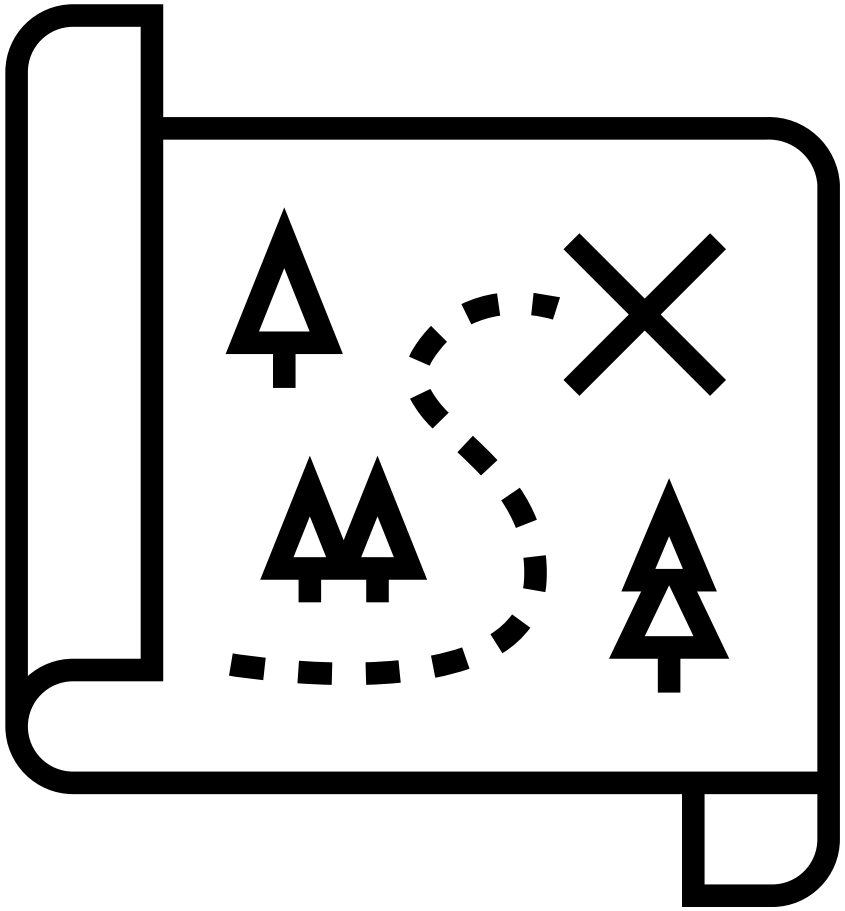
Plan – Do – Check - Act

- Corrective Action is part of **Acting**

Review: Audit Report

- Evidence
  - Who
  - What
  - Where
  - When
- Summary
  - Nonconformities
  - Best practices
  - Recommendations

Corrective Action Process



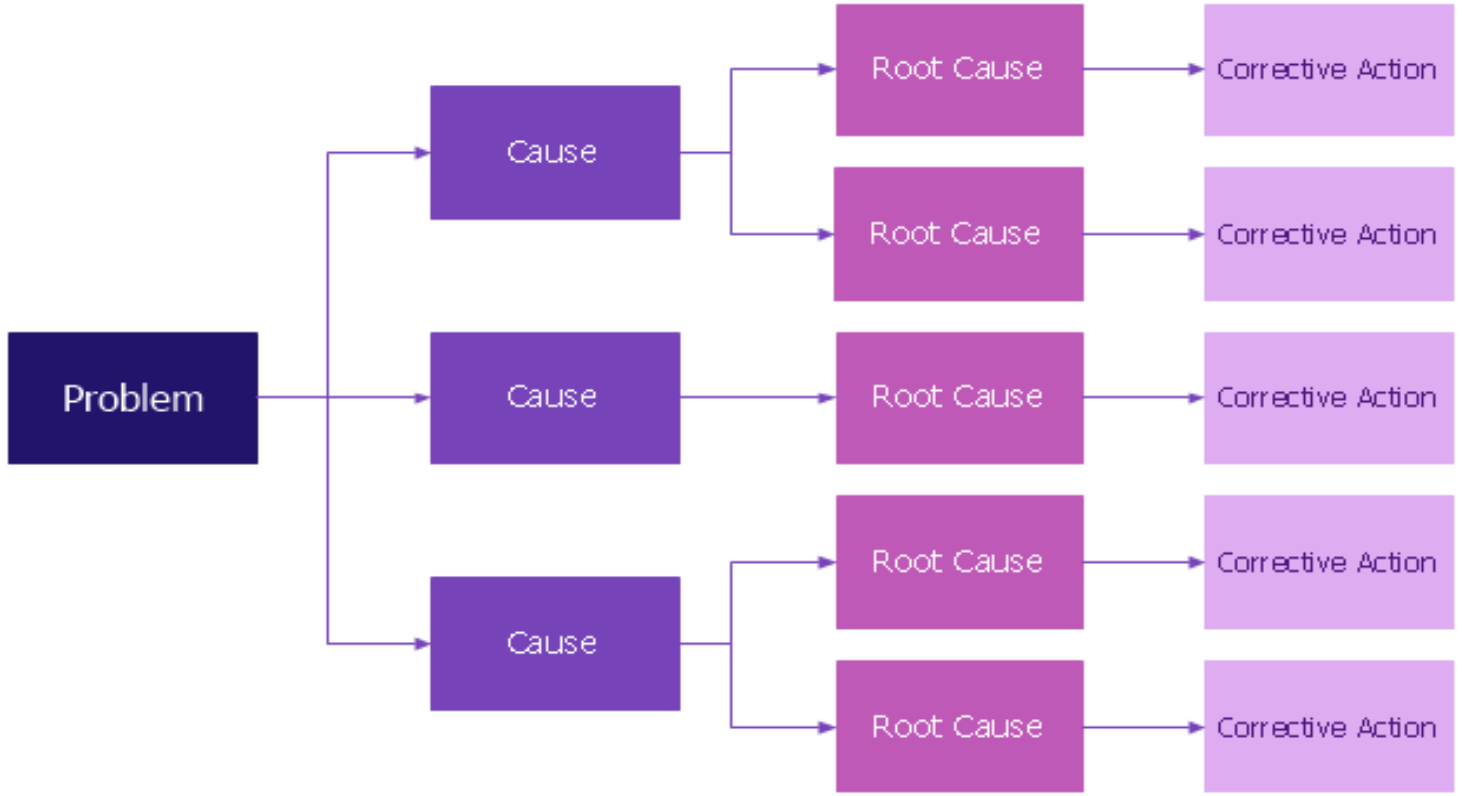
- Nonconformity (NC) will be assigned to auditee
- Auditee will respond to NC by identifying root cause and performing corrective action (CA)
- Auditor will verify effectiveness of root cause and CA

Steps of Corrective Action

- Finding/Nonconformity
  - What happened? Where? Who?
- Root Cause
  - Why did the finding/nonconformity occur?
- Corrective Action (CA)
  - How do we prevent this from happening again?
- Verification
  - Was the CA effective and timely?

Steps of Corrective Action

- Why did the nonconformity occur?



Root Cause

- A root cause should NOT be a restatement of the finding
- Why did the nonconformity occur?
- What in the system failed which caused this problem?
- “5 Why” method:
  - Example: Product did not meet specification
    - Why 1: Machine was not set up properly.
    - Why 2: Operator did not follow work instruction.
    - Why 3: Operator was not aware of work instruction.
    - Why 4: Operator was not trained on work instruction.
    - Why 5: Training process not effectively implemented.

Determine Root Cause – “5 Whys”

5 Why? An Example

Problem: Procedure Work Instruction WISOP 1234, Revision 0 was found in use at Work Center #3. Revision 4 is the current relevant version registered in the document control database for the work being performed.

1. **Why?** –Revision 0 was photocopied for Work Center #3 when it was launched.
2. **Why?** –Work Center #3 not on the distribution list for required documents and updates.
3. **Why?** –Document controller was not informed of the new Work Center launch.
4. **Why?** –Document controller is not included in planning for Work Center launches.
5. **Why?** –Engineering group failed to realize need for documents related to work center operations.

Another “5 Whys” Example

You discover coolant leaking from a machine

WHY?

Coolant is leaking from the machine.

WHY?

A seal was damaged.

WHY?

Metal shavings got into the coolant.

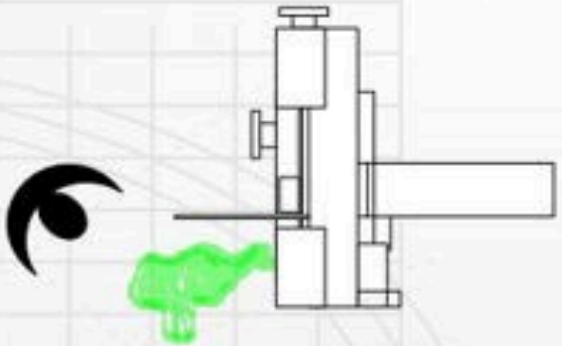
WHY?

A screen on a coolant recycling pump was broken.

WHY?

Root Cause

The screen is located in a place where it was likely to be damaged by dropped parts.



Action: Redesign machine, or add guard to cover the screen and prevent damage. If the seal was merely replaced, it would have soon needed repair again as the damage repeated itself.

Corrective Action

- What can we do to eliminate the root cause?
- What can we do to make sure the nonconformity doesn't re-occur?
- How do we keep the problem from happening again?

Verification of Corrective Action

- Evaluate the root cause to ensure that the root cause was properly identified and addressed (not just a quick fix).
- Ensure that the CA was completed as stated/scheduled (timely) and is appropriate to the finding/root cause.
- Was the CA effective? Any evidence of recurrence?
- Review evidence of implementation.
- If CA is not effective or incomplete, issue new Corrective Action Request.

Common NC example - Training

- Finding: *"There is a lack of objective evidence to demonstrate that formal training was completed. Non-conformant with section 7.2 Competence of ISO 14001:2015."*

Possible Answers to "Why?" For Root Cause Analysis
Training was not completed.
Lack of communication around roles and responsibilities.
Complete list of personnel to be trained was not identified.
Training records were not retained.
Lack of central recordkeeping location.
Training needs was incomplete; activity was not listed on Operator Training Analysis.
SOP or Process control does not exist.
Activity has not been integrated into existing business practices – Training process at the facility.

Immediate Fix Examples:

- Complete training with employee who was absent from training session.
- Obtain training record and put in appropriate filing location.
- Add training need to training matrix.

Corrective Action Examples:

- Review training matrix to ensure all appropriate employees who are to receive the training are identified with appropriate frequency and content.
- Ensure recordkeeping processes/responsibilities for training records have been identified, assigned, and communicated.
- Review training matrix to verify all relevant training needs have been identified and are being tracked.

Common NC example – Doc Control

- Finding: *"There is an outdated document (procedure/form) in the facility that does not have appropriate documentation control features (title, date, revision, etc.). This is non-conformant with Section 7.5 Documented Information of ISO 14001:2015."*

Possible Answers to "Why?" For Root Cause Analysis
Document has always been there.
Nobody owns the document.
Document has not been incorporated into facility document control process.
Document provides no value to the organization (Why are we doing it?).
We needed a formal procedure, but one did not exist, so one was haphazardly created.
Inadequate removal of obsolete document.
Inadequate process to review and update procedures on the shop floor.
Document owner does not understand document control process is required at facility.

Immediate Fix Examples:

- Update or remove document.
- Formalize document to meet document control requirements.
- Assign document owner.

Corrective Action Examples:

- Determine if larger document control gaps exist at facility. Develop plan of action to focus on specific areas requiring action.
- Review other areas to determine if other rogue documents exist that should be removed, updated, or formalized.
- Provide training/awareness on document control process and its importance.

Common NC example – NC/CA Process

- Finding: *"Corrective action form has not been populated with enough detail to correct issue at hand. Non-conformant with 10.2 Nonconformity and Corrective Action."*

Possible Answers to "Why?" For Root Cause Analysis
Root cause analysis not completed.
Only containment actions/short term fixes have been addressed.
Facility personnel doesn't properly understand CAR process.
Problem Statement does not detail issue to be corrected (too broad or too granular).
Problem has multiple issues that need to be resolved separately.
"Why's" have not been completely explored to the extent necessary.
Corrective action does not relate back to facility business process.
Evaluation of effectiveness is not thorough to prevent recurrence.

Immediate Fix Examples:

- Update deficient CAR.
- Complete root cause analysis.
- Reissue CAR if not effective.

Corrective Action Examples:

- Provide additional coaching and training on CAR and Root Cause Analysis process.
- Investigate whether or not additional CARs require updates.
- More frequent review of CARs to help ensure CAR/root cause training has been effective.

Workshop: Corrective Actions

- Please review the root causes and corrective actions and state why or why they are not appropriate for the issues raised.

CA/Root Cause: Example #1

- **Finding:** In several checklists reviewed, checklist items checked "yes" (meaning there was a problem found) have no additional info marked in the "comment" section. Therefore, no evidence of follow-up on these items.
- **Root Cause:** Personnel checked "yes" in error.
- **CA:** Supervisor will proofread before submission.

- Have we identified the root cause?
- Can we ask more "Whys"?

CA/Root Cause: Example #2

- **Finding:** Several log sheets reviewed were not signed off as required.
- **Root Cause:** Several recent personnel changes in area. New supervisor not aware of requirement.
- **CA:** Supervisor trained.

- Have we identified the root cause?
- Can we ask more “Whys”?

ISO 14001 Registration Process

ISO Certification Audit

- Evaluation of an organization's adherence to the standards set by ISO 14001
- Steps include
  - Selecting an authorized third-party certification body
  - Stage 1: Documentation Review
  - Stage 2: Operational Review
  - Addressing Nonconformities
  - Certification Decision

Stages

- Initial registration audit consists of two (2) stages:

STAGE 1:

A detailed analysis / document review to provide focus for planning the operational (Stage 2) audit. It involves gaining an understanding of the EMS in the context of the organization's:

- Environmental aspects and impacts
- Environmental policy and objectives
- State of preparedness for the Stage 2 audit

STAGE 2:

An operational audit conducted to confirm:

- That the organization adheres to its own policies, objectives and procedures.
- That the EMS conforms with all requirements of the standard and is achieving the organization's policy and objectives.

Stage 1

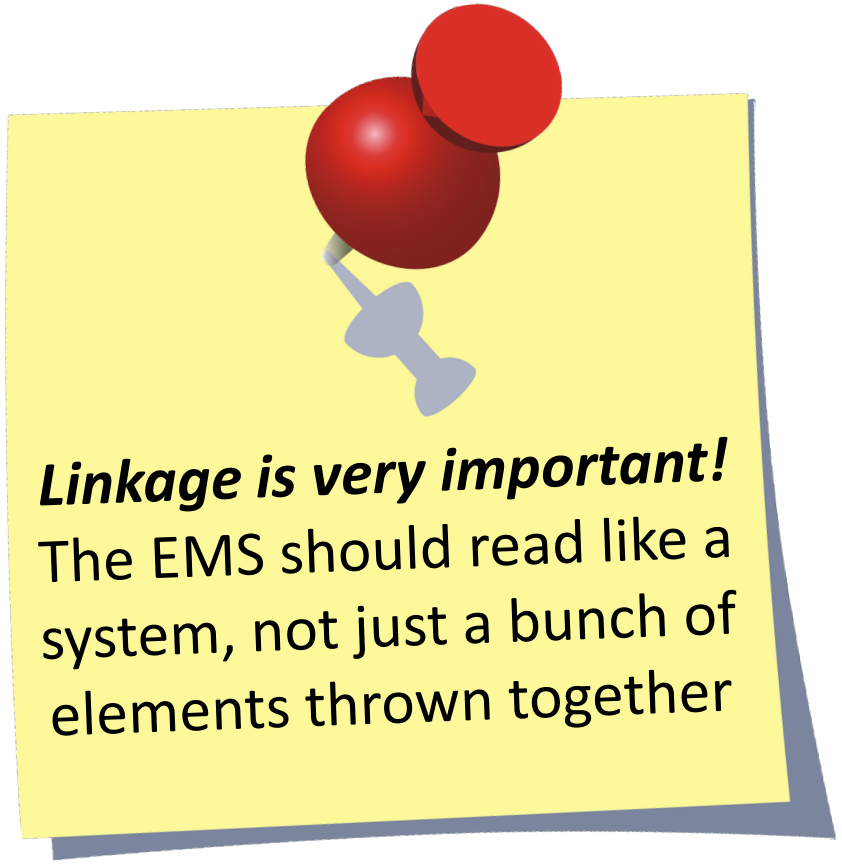
- This portion of the audit should verify that:
  - An adequate process exists for identifying significant environmental aspects.
  - Environmental permits are in place for relevant activities.
  - The EMS is designed to achieve the environmental policy.
  - The results of previous internal audits demonstrate conformance to ISO 14001.
  - The site is ready for Stage 2.

Stage 2

- Stage 2 focuses on an organization's:
  - Identification of environmental aspects and significance determination.
  - Objectives derived from evaluation process.
  - Performance monitoring, measuring, reporting, and reviewing.
  - Internal auditing and management review.
  - Management responsibility for the environmental policy.

Stage 2

- Links between:
  - Environmental Policy
  - Environmental aspects/impacts
  - Objectives
  - Responsibilities
  - Programs
  - Procedures
  - Performance data
  - Internal audit and review



Third-Party Registration Audit

- When the registrar determines that the EMS meets all of the applicable requirements, the company is eligible for a certificate of registration.

Only the registrar can issue a certificate of registration, not the audit team.

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Panel Discussion

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Speaker Panel Q&A

Today's Speakers:

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Parting Tips & Wrap-Up

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General Tips

- Start with an implementation plan/schedule
  - Even if you don't stick to it 100%, helps to keep you on track
- Utilize existing systems, processes, and documentation
  - No need to recreate what has already been done
- More than one "right way"
  - Do what works for you

General Tips

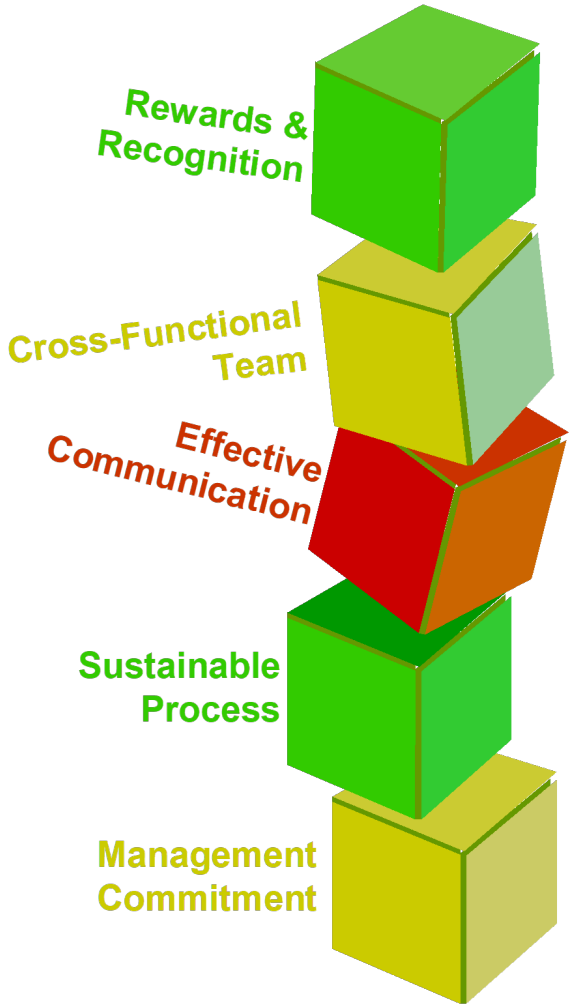
- Communicate and share information within the site and across sites:
  - Successes
  - Challenges
  - Lessons learned
  - Audit results
  - Corrective actions
  - Opportunities
  - Improvements

General Tips

- Communication of the EMS is very important throughout process:
  - Helps to raise awareness
  - Helps to gain employee understanding and buy-in
- Utilize employee resources and knowledge
  - Do not implement EMS in a “vacuum”

EMS Implementation Strategies

- Clear implementation plan
- Strong management support
- Teamwork
- Communication/awareness
- Common documents
- Sharing lessons learned
- Integrate with existing systems
- Understand expectations
- Sustaining the EMS



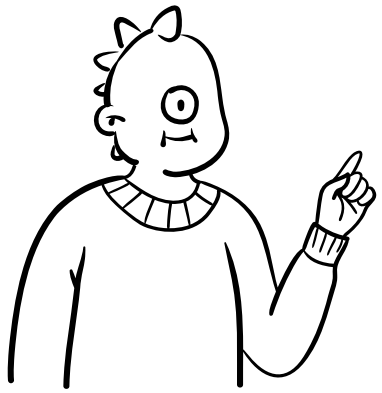
EMS Sustainability

- Ensure the EMS is sustainable and beneficial
  - Facility ownership
  - Employee involvement
  - Fits within the facility culture
  - Integrated with other business systems
  - Procedures are effective
  - Objectives and targets are meaningful
  - Clear metrics
  - Effective prioritization

Effective EMS → Cost Savings
Business Improvement
Risk Reduction

Until Next Time…

Please fill out this survey that will also be sent shortly after this meeting. Let us know how we did! We really do care!



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