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Natural Resources

Environmental Management Systems

Assessment and Reevaluation

Annual Conference
November 15, 2012



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Assessment- Iowa

- The organization must have documented procedures for assessing the function of each component and its effectiveness of and conformance with the EMS plan. Assessment is the process of drawing conclusions from the performance measurements.



Typically, EMS Audits are used as the assessment tool.

Reevaluation and Modification - Iowa

- The reevaluation and modification element is an activity that allows an organization to improve and strengthen the EMS on an ongoing basis. This element considers areas where the EMS has met, exceeded, or failed to meet expectations. Identify root causes of those outcomes, and develop additional goals and activities appropriate to each. It's an opportunity to realize the organization's commitment to continuous improvement and should not be looked upon negatively.

**EMS ASSESSMENT IS THE
WAY TO PROACTIVELY
IDENTIFY WEAKNESS IN
THE EMS AND THE
ASSOCIATED ROOT CAUSE**

Assessment (a.k.a. Audits)

- Generally, Two Types of Assessment
 - Compliance Audits
 - Determine Compliance with Local, State and Federal Laws and Regulations
 - Primarily a Paperwork Review and Site Observations
 - Correct Findings
 - EMS Audits
 - Determine Conformance with the EMS
 - Interviews, Paperwork Review, and Site Observations
 - Findings are Evaluated for Their “Root Cause” and Corrective Action is Then Implemented

Reevaluation and Modification

- The Reevaluation and Modification Takes the Findings (Nonconformances) or Weaknesses of the EMS Assessment and Determines the “Root Cause”
- Example: A Drum Wasn’t Labeled in the Maintenance Shop
 - Pre-EMS – Put a Label on the Drum
 - Post-EMS – Put a Label on the Drum but Also Ask Why?
 - Ran Out of Labels?
 - Lack of Training?
 - No Inspections?
 - Vacation/Sick Leave?

If You Are Used to Compliance Audits, What's Different About an EMS Audit?

- ◉ An EMS Audit is a Conversation with Staff Members About the EMS and Their Views of the Environment
- ◉ An EMS Audit Seeks to Find Weaknesses and Strengths in the System
- ◉ An EMS Audit is Not “Find and Fix” ...an EMS Audit Seeks to Identify the Root Cause



If You Develop an Effective EMS Assessment Process, It Will Drive Continual Improvement!

EMS Assessment Process

EMR

- ◉ Identifies and Trains Lead Auditor

EMR/Lead Auditor

- ◉ Determine EMS Audit Scope and Frequency
- ◉ Develop EMS Audit Plan

EMR/Lead Auditor

- ◉ Develops Audit Checklist
- ◉ Schedules and Conducts Audit
- ◉ Produces EMS Audit Report

EMS Assessment Process

EMR/ EMS Core Team

- ◉ Reviews and Approves Draft EMS Audit Report
- ◉ Documents Root Causes

EMS Auditor

- ◉ Finalizes EMS Audit Report

EMR/ EMS Core Team

- ◉ Assigns Findings to Staff for Corrective Action with Due Dates

EMS Assessment Process

Staff

- ◉ Implement Corrective Action

EMR

- ◉ Follows up and Closes Out Findings

EMR/ EMS
Core Team

- ◉ Document the Process in a Written Procedure

Identify and Select Auditor(s)

- ⦿ The Selection of Auditors Must Ensure that that Objectivity and Impartiality of the Audit Remains Intact!
 - Cannot Audit Your Own Work
 - No EMRs or EMS Core Team Members
- ⦿ Traits of a Good Auditor
 - No Fear
 - Conversationalist
 - Some Environmental Knowledge or Concern
 - Tactful

Identify and Select Auditor(s)

- Selecting an Auditor Can be Problematic
 - Small Organizations with Limited Staff
 - Everyone with Environmental Knowledge or Knowledge of the EMS is on the EMS Core Team
 - Availability of Time for the Auditor to Train and Conduct the Audit



Remember, EMS is About Continual Improvement...Your EMS Audit Will Also Continually Improve

Identify and Select Auditor(s) - Suggestions

- ◎ Think Outside the Box
 - Is There Someone from Outside Your Organization That May be Willing to Conduct the Audit (Other EMS Agencies, Engineer/Consultant, Partner Org.?)
- ◎ Consider Making it Prestigious to Be Selected as an Auditor
- ◎ Use a New Staff Person
- ◎ Consider Staff Outside the Fenceline



Identify and Schedule Your Auditor for the Audit Training (tentatively Feb. 2013), Prior to the Site Visit for Audit



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Developing the EMS Audit Plan



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EMS Audit Plan

- The EMS Audit Plan Serves as a Planning Tool to Facilitate the Assessment Process
- The EMS Audit Plan Should
 - Document the EMS Audit Agenda
 - 9:00 – 10:00 – Interview the EMR
 - 10:00 – 11:00 – Review Records
 - Identify the Interviews, Records, and Documents that Are Needed to Verify the EMS is in Place and Working Effectively
 - The “Evidence”
- As Part of Audit Planning, Review Audit Checklists and Example Audit Questions



Audit Plan

Internal EMS Audit Plan

Date: _____

Preparer: _____

Facility:

Facility/Department/Area	EMS Element	Auditor(s)	Auditee(s)	Date and Time	Special Instructions



Audit Plan Best Practices



- The EMS Auditor Should Work with the EMR to Determine the Schedule and Necessary Interviews
- Remember to Schedule Senior Management Interviews in Advance
- Allow Flexibility in the Schedule – You Never Know Where the Audit Will Take You
- The Flow of the Audit Plan is Up to the Auditor and EMR But Most Auditors:
 - Start with an Interview with the EMR and Document Review
 - The Site Observations and Interviews Confirm the Statements by the EMR and Commitments in the Documents



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Conducting the EMS Audit



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The Goal of the Assessment is to Collect
Objective Evidence to Demonstrate the
EMS is Working

Elements of the EMS Audit

- Audit Opening Meeting
 - Outline Schedule
 - Discuss Process and Expected Results
- Conduct the Audit According to the Audit Plan
 - Interviews
 - Document/Record Review
 - Field Observations
- Closing Meeting
 - Disclose the Preliminary Findings of the Audit
- Audit Report
 - Document the Objective Evidence of EMS Performance

Audit Agenda



Environmental Management System



Date: July 12, 2010

Lead Auditor: Laura Fiffick

Audit Team Member(s): Jennifer Ryan-Fencil and Joe Horaney

Participants: Marie DeVries, John Foster, Karmin McShane, Jerry Olsten, Floyd Pelkey

Audit Agenda

8:00 – 8:30 - Audit opening meeting with EMS Core Team

8:30 – 10:00 – Documents, records, and discussion with the EMR

10:00 – 3:30 – Site visits and staff interviews

3:30 – 4:30 – Auditor wrap up

4:30 – 5:00 – Closing meeting



Audit Checklist

Date:

Lead Auditor:

Facility:

Iowa EMS Element Description and Number	Audit Results						
	Senior Mgmt.	EMR/Core Team	Staff	Met	Partly Met	Not Met	Commendable
1 Environmental Policy Statement							
Has an Environmental Policy Statement been adopted by management?							
Does the policy provide the following:							
(1) commitment to environmental performance?							
(2) framework for action?							
(3) framework for setting objectives and targets?							
(4) commitment to continual improvement?							
Is it visible and communicated to staff?							
Are staff aware of the Policy?							

Results of the EMS Audit

- Are the EMS Elements Implemented as Designed and Providing Benefit to the Organization?
 - Findings = Results. Determination of conformance with the EMS requirements.
 - Meets Requirements
 - Partially Meets
 - Doesn't Meet
 - Commendable— observation of a best practice
 - Evidence = method or record used to identify “Findings”



EMS Audit Results

Internal EMS Audit Results Form

Scope/Facility: Cedar Rapids/Linn County Solid Waste Agency

Auditors: Laura Fiffick, Joe Horaney and Jennifer Ryan-Fencel

Date: July 13, 2010

Iowa EMS Element Number and Description		Audit Results/Findings		
Number	Description	Evidence	Finding(s)	Iowa EMS Reference
1	Environmental Policy Statement	Reviewed EMS Policy Interviewed EMR, EMS Core Team, Executive Director (ED), and Staff	The Policy has not been formally adopted.	"Statement of the organization of its intentions and principle..."
			The ED thinks the Policy needs to be reformatted or a condensed version be used to educate staff.	
			<i>Commendable: Staff at Site 2 are very engaged and knowledgeable of the EMS and overall organization environmental goals.</i>	
2	Environmental Impacts	Review Environmental Impacts List Interviewed EMR and EMS Core Team	An Environmental Impacts Procedure should be written to document the process for evaluating Impacts and subsequent reviews.	"During the evaluation process, significant impacts to the environment are determined"
			Identification of significant impacts should be completed.	
3	Legal and Other Requirements	Reviewed permit list, legal list, and contract list Interviewed EMR, EMS Core Team, and Site Supervisors	The Legal and Other Procedure should be modified to include a description of how changes to legal requirements are incorporated into the EMS.	"...and have a process for tracking any changes in these regulations."
			<i>Commendable: The list of contracts and responsibilities is a helpful management tool.</i>	

Findings of the Audit

Evidence	Finding
<p>The Policy was adopted by management with all the required elements. It was posted in the facility and on the web page. 18 out of 20 staff were familiar with the Policy and knew where to find it.</p>	<p>Meets Requirements</p>
<p>The Policy was adopted by management with all the required elements. It was posted. 10 of the 20 staff were familiar with Policy and knew where to find it.</p>	<p>Partially Meets Requirements</p>
<p>Staff were unaware of the Policy</p>	<p>Doesn't Meet Requirements</p>
<p>Focused internal communication of the policy is apparent through a series of posters located in prominent locations within the facility with various themes updated every month.</p>	<p>Commendable</p>

EMS Assessment Best Practices



- ⦿ Use Your EMS Checklist!
- ⦿ Follow “Audit Trails”
- ⦿ Look for Objective Evidence and Record Results
- ⦿ Be Friendly and Patient
- ⦿ Consider Changing Terminology or Approach with Each Interview
- ⦿ Generally Explain the Process to Staff
- ⦿ Remember Everyone is Nervous
- ⦿ Communicate to the EMR During the Audit

**Remember, The EMS is About
Continual Improvement and So is
the EMS Audit**

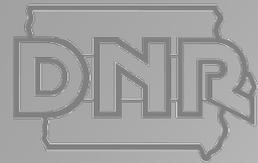


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EMS Policy Audit Exercise



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Audit Reporting



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Audit Reporting

- The Lead Auditor Will Prepare an Audit Report Documenting the Findings of the EMS
- The Report Should be Issued as a Draft to the EMR to Allow for Comments
- The EMS Audit Report Should Document
 - The Assessment Process
 - Evidence Collected
 - Findings of the EMS Audit
- Recommend Using Limited Amount of Text as Needed, Supported with Tabular Data

METRO WASTE AUTHORITY FIRST ANNUAL INTERNAL EMS AUDIT



The first annual environmental management system (EMS) internal audit was conducted on September 1, 2010. The audit consisted of a review of all of the Iowa EMS elements within the Metro Park East Landfill and the Regional Collection Center (RCC). The audit was conducted from 8:00 a.m. to 3:30 p.m. Interviews were conducted with the Environmental Management Representative (EMR), EMS Core Team, Executive Director, Site Supervisors and staff. Documents and some records associated with the EMS were also reviewed.

The following general observations were made during the Internal EMS Audit:

- All employees interviewed were familiar with the EMS, understood who to call in the event of an emergency or an environmental question, and were aware of either their individual impacts on the environment or overall environmental impacts of the organization. Employees also understood the environmental commitments of the organization through the use of the environmental policy acronym “IMPACT.” Most of the staff interviewed could describe environmental improvements that have occurred recently, or as a result of the EMS. The staff members at the RCC could describe the objectives and targets that affected their facility and the progress made to date. Fifteen to twenty staff members from across the organization were interviewed.
- Posters on the EMS were located throughout the facilities audited.
- Much of the organization’s EMS information has been entered into Intelix.
- Consistent progress is being made on all of the objectives and targets.
- The MPE Landfill has a comprehensive inspection program conducted every month.
- The EMS has a Corrective and Preventive Action Report (CPAR) that is used to track reported non-conformances and resolutions.
- Work teams have been established that assist with continual improvement in their work areas and provide suggestions to the EMS Core Team.
- The MPE Landfill has a comprehensive and effective document control process.



Attach Audit Results

Internal EMS Audit Results Form

Scope/Facility: Metro Waste Authority/Metro Park East Landfill and RCC

Auditors: Laura Fiffick and Mary Gillaspey

Date: September 1, 2010

Iowa EMS Element Number and Description		Audit Results/Findings		
Number	Description	Evidence	Finding(s)	Iowa EMS Reference
1	Environmental Policy Statement	Reviewed EMS Policy Interviewed EMR, EMS Core Team, Director of Operations (DO), Landfill Manager (LM), Executive Director (ED), and Staff	None – NOTE: A framework for action is not specifically called out in the Environmental Policy; however, the Policy has been in place for many years and has provided ongoing value and direction to the EMS.	“...which provides a framework for action and for the setting of its environmental objectives and targets...”
2	Environmental Impacts	Reviewed Environmental Aspects and Impacts List and associated EMS procedure Interviewed EMR, ED, DO, and LM	<i>Commendable: Work teams have been established around the different work areas to identify environmental impacts and discuss ways to improve these impacts. Suggestions from the Work teams are provided to the EMS Core Team for consideration.</i> NOTE: The EMS procedure should match the process for determined significant aspects.	



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Reevaluation and Modification



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Reevaluation and Modification

...It's an opportunity to realize the organization's commitment to continuous improvement and should not be looked upon negatively.



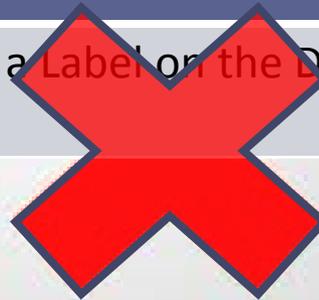
Reevaluation and Modification

- The Reevaluation and Modification of the EMS is Conducted with Two Primary Functions
 - Identification of Which Elements of the EMS Meets, Partially Meets, Failed to Meet, or Exceeded Expectations (Results of the EMS Audit)
 - Identify the Root Cause of Each of these Nonconformances (Concerns)
 - Implement Corrective Action to Prevent Reoccurrence
 - Management Review
 - Review the EMS with Management and Identify EMS Goals for the Next Year

Root Cause Analysis

- The Reevaluation Process Should Not Take a “Find and Fix” Approach

Finding	Corrective Action
55 Gallon Drum was Missing a Label	Place a Label on the Drum



Root Cause Analysis



Finding	Root Cause	Corrective Action
55 Gallon Drum Was Missing a Label	The Shop Ran Out of Labels Because the Contract on the Price Agreement Expired.	Purchase Labels with Purchase Card. Notify Purchasing of the Importance of the Contract and the Resulting Compliance Problem. Train Staff on the Importance of Labeling and Notification to Management if Price Agreements Expire.

Root Cause Analysis/Corrective Action

- Usually Conducted by the EMR and/or Facility Manager
 - Five Why's is a Popular Tool for Identification of the Root Cause in an EMS
- Receive Input on the Root Cause from Staff Knowledgeable About the Finding
- Corrective Action Should be Identified Immediately Following the Root Cause
 - Assign Responsibilities and Due Dates
 - Follow Up!

Step 1-- Define

Example Investigation Questions

- ⦿ What were the conditions?
- ⦿ What proof exists?
- ⦿ When did the problem start/end?
- ⦿ What is the impact?

Step 2-- Analyze

- **1st Why:** Why was the drum not labeled?
 - **Answer:** We ran out of the labels.
- **2nd Why:** Why did we run out of labels?
 - **Answer:** The employee who used the last label didn't inform the inventory manager because he didn't know the regulatory requirements.
- **3rd Why:** Why didn't the employee know the regulatory requirements?
 - **Answer:** He wasn't trained on the waste handling work instructions.
- **4th Why:** Why wasn't training provided on the work instructions?
 - **Answer:** The employee was on vacation when the manager provided training on work instructions.
- **5th Why:** Why didn't the employee get trained when he got back from vacation?
 - **Answer:** Poor tracking of employee training.

Step 2– Analyze (cont.)

Example Root Causes

- ⦿ Human factors (training, supervision, distraction, etc.)
- ⦿ Design defect
- ⦿ Equipment defect
- ⦿ Records/Documentation
- ⦿ Purchasing practice
- ⦿ Permit incomplete
- ⦿ Maintenance failure
- ⦿ SOP deviation
- ⦿ Lack of SOP

Step 3-- Prevent

Example Corrective Actions

- ◉ Clean up spill
- ◉ Revise the SPCC/SWPPP Plan
- ◉ Develop an SOP
- ◉ Use a different material
- ◉ Change design/construction
- ◉ Develop an approval process
- ◉ Provide training
- ◉ Revise content of training
- ◉ Audit more frequently
- ◉ Share results with another facility

Report Summary

4.4.2 Competence, Training and Awareness (SV3-DPD-01-CO)

Describe the Issue

Several employees interviewed in the HQ building had not received required training as identified in the DPD training matrix. One EMR has not attended any training as required on the DPD Training Matrix since 2006 other than the EMS Refresher training. A Sergeant and Sr. Corporal interviewed at HQ had not received all of their required training such as EMS Awareness, Hazard Communication and Proper Spill Response. There is no process in place to ensure that DPD employees have received all of their required training. Evidence of testing which is a DOT training requirement was not available for an employee signing hazardous waste manifests at the Gun Range. Records were not available to demonstrate that the EMR at the Auto Pound had attended all the required training that is identified on the DPD Training Matrix.

What was the Immediate Resolution (Quick Fix)

Describe the Root Cause and Actions to be taken (required if this is a Corrective or Preventive Action)

Date Reported

Friday, October 30, 2009

Submitted By

Westphal, Brittany

Date Submitted

Thursday, November 05, 2009

Use the following fields to assign responsibility and set the target date for INVESTIGATION and FINAL APPROVAL of this report

Assigned to Alex, Monique Target Date Thursday, November 26, 2009

Comments Investigate the nonconformance by conducting a root cause analysis using the 5 Whys method. Caution: If BV listed multiple issues in the nonconformance, then multiple 5-Why root cause analyses may need to be conducted. Based on the root cause analysis (or analyses), determine the necessary corrective action(s). Be sure that your proposed corrective action(s) correct the problem throughout your operations, not just at the audited facility. Summarize the results of your investigation (i.e., root cause and needed corrective action(s)) in the Intelex "Investigation Results" field. Also, you must then detail your corrective action plan.

Assigned for Final Approval Target Date Thursday, February 25, 2010
Assigned By Camp, Frank Date Assigned Thursday, November 05, 2009
Westphal, Brittany

Use the following fields to enter the results of the investigation and initiate follow up or corrective actions if required

1. Select the type of Root Cause Tool you plan to use.
2. Complete 5 items for each '5 Why' question or Brainstorm idea.
5. Create your Corrective Action Plan.

Root Cause Analysis Tool The Five Why's

View/Edit	Item Description
05193	The Environmental Coordinator resigned. There is no common record keeping process.
05194	Current training cycle ended September 30, 2009
05195	Six months prior to the end of the training cycle the DPD Training Matrix was developed
05196	Unreasonable time-frame to complete the training for 3000 officers within requested time
05197	Training methods were never established. Nor were methods in place to track training progress.



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Conduct Reevaluation and Modification Exercise



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Management Review

◎ Purpose:

- Keep Management Informed on the Progress and Direction of the EMS
- Opportunity to Discuss Environmental Improvements
- Secure Staff and Resource Needs
- Receive Direct Feedback on Environmental Programs
- Receive Direct Feedback on the Future of the EMS



Align the organization's direction/
goals with the EMS

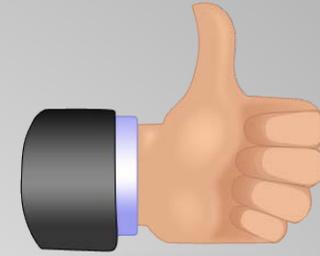
Management Review

- Management Team Varies by Organization
 - Waste Agency Board
 - Director or CEO
 - City Council
 - Others– What Works for Your Agency?
- Should be Decision Maker(s)

Management Review

- EMR Typically Presents Information
- Cover the Ten Elements of the Iowa EMS
 - Review the Policy for Adequacy
 - Review the List of Significant Impacts
 - Discuss Objectives, Targets, and Action Plans to Reduce Impacts
 - Discuss Monitoring and Measurement including Metrics
 - Discuss Key Resources and Whether There are Additional Needs for the EMS
 - Discuss Communication Techniques and Responses
 - Discuss EMS Assessment Process and Results

Management Review Best Practices



- ◉ Schedule Management Review At Least Annually
- ◉ Conduct Management Review During a Regularly Scheduled Review Meeting
 - Otherwise Attendance May be Poor
 - Integrate with Organization's Schedule
- ◉ Provide Metrics Data
- ◉ Discuss Positive EMS Results as Well as Negative
- ◉ Obtain Input on EMS Goals for the Next Year
- ◉ Document Management Review Results in a Memo



Management Review Will
Improve Over Time



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QUESTIONS?



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