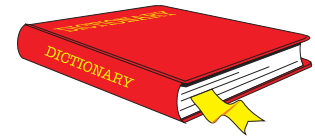


Section 3: EMS Internal Auditing

Key Section Terms



Once your organization has established its EMS, verify its effectiveness. The process of reviewing and verifying your EMS through an internal audit is critical and key to improving your system.

An EMS internal audit is a tool that your wastewater facility will use periodically to identify where things are working well and where improvements are needed. This information will help you assess how well your EMS is performing. The internal audit is a documented review of whether your organization is doing what it said it would do to manage its environmental issues and whether it is doing so effectively. An EMS internal audit is conducted by your organization's employees to determine your conformance with the ISO 14001 Standard.

Audit Finding – A discovery of lack of conformance to the requirements of an (ISO 14001-based) EMS criteria/checklist. All audit findings must be resolved as found during the internal audit or through a formal EMS process of corrective and preventative action.

Corrective Actions – As a result of the audit findings, corrective action reports (CARs) are assigned to all nonconformances to correct EMS deficiencies as they occur. CARs track an audit finding, assigning tasks to be completed, responsibilities, and timeframes.

EMS Audit – A planned and documented review performed in accordance with a documented audit procedure for the purpose of verifying, through interview and an evaluation of EMS documents and records, conformance with the applicable elements of your EMS.

EMS Auditor – A qualified and trained individual who conducts EMS audits. Each EMS Auditor should attend documented training that presents the requirements of a standard (e.g., ISO 14001) EMS and of your organization's EMS audit procedure and discusses their roles in an EMS internal audit.

EMS Lead Auditor – A qualified and trained individual who plans, organizes, and directs your organization's EMS internal audits. The EMS Lead Auditor is the leader of your EMS audit team and will report audit findings and observations to management.

NOTE



An EMS external audit is an EMS review conducted by an independent, third-party to determine EMS conformance, typically as means to seek third-party certification (see Section 4 for more information on third-party certification).

Your EMS internal audit is a snapshot in time. It evaluates your documents, procedures, and records and reviews their implementation effectiveness and consistency. The audit looks at your facility's planned activities for meeting its objectives and targets and controlling its significant aspects. It also looks for signs of management's commitment to the environmental policy and the EMS, and awareness and competency among all your wastewater employees.

Step-by-Step Guide to EMS Internal Auditing

- Step 1) Select and Train EMS Internal Auditors
- Step 2) Determine EMS Audit Scope and Frequency
- Step 3) Prepare Staff for Your EMS Internal Audit
- Step 4) Conduct an EMS Desktop Review
- Step 5) Conduct an EMS Internal Audit
 - a. Hold an Opening Meeting
 - b. Audit for EMS Conformance
 - c. Report EMS Audit Findings
- Step 6) Develop a System Procedure for Conducting EMS Internal Audits
- Step 7) Check the EMS Internal Audit Procedure for EMS Conformance



Key Section Terms, continued

Major Nonconformance – A deficiency in meeting the requirements of an EMS. One or more of the 17 elements of the EMS which are not addressed (e.g., no system procedure) or implemented (e.g., a number of employees are not aware that you have an Environmental Policy).

Minor Nonconformance – A finding that leads to a failure to conform completely with an EMS element, but is not considered to be a breakdown in your system. (e.g., for example, a number of employees were overdue on their EMS refresher training).

Observation – A recognition of something done incorrectly or an area of concern. While not a major or minor nonconformance with an EMS requirement, if done correctly it could strengthen the EMS or if done incorrectly, could potentially cause a system failure. Remember to also document positive observations – things you are doing well.

System Procedure – An EMS (ISO 14001) required document that establishes purpose, scope, roles & responsibilities, the tasks to be completed, and where and how the associated records and documents are maintained.

NOTE



The size of a typical EMS audit team will vary depending on the size of your facility. It is recommended that you have at least two to three qualified members on your team. This will allow you to rotate your auditors to different areas and prevent scheduling conflicts when auditors are sick or on vacation.

Step 1) Select and Train EMS Internal Auditors

Your own qualified and trained employees are the best people to conduct an internal audit. If possible, train at least two people as EMS internal auditors, with one as the lead auditor. This will allow your auditors to work as a team. This also allows audits to take place when one auditor is unavailable.

Your auditors should be objective, and not audit his/her own areas of operation or service. For example, if your wastewater lab manager is one of your internal auditors, he/she should not be auditing your laboratory operations.

NOTE



Your EMS internal auditors require training in order to be effective reviewers of your system. Consider a three-day EMS Audit Overview or five-day EMS Lead Auditor training conducted by EMS training organizations in your area. For training, contact a certified Registrar Accreditation Board (RAB) commercial organization in your area (http://www.rabnet.com/ec_main.shtml). Also consult the Technical Assistance Providers (TAP) Directory or contact a Local Resource Center (LRC) in your region to find out if they offer EMS training for auditors. LRCs can be found on the PEER Center Website.

Step 2) Determine EMS Audit Scope and Frequency

Next, determine how often you want to conduct your internal audits and determine your audit scope. All programs and elements of your EMS should be audited every year. Audit your entire EMS at one time each year or break your review into specific elements for more frequent audits, where you would review a sampling of elements every quarter, but still audit all EMS elements within a year.

To determine the scope and frequency of your EMS internal audits, consider the environmental importance of the activities and the results of your previous audits. For example, you may want to focus audit efforts on significant aspect areas and activities or your objectives and targets, as well as on the findings from your previous EMS audits. This will direct your EMS audits to the most important areas for potential improvement.

Conduct internal audits quarterly to simplify the audit process and to get a quarterly check up on how your EMS is working. These quarterly audits and their results can then be reviewed in a quarterly management review.

James Naber
Buncombe County, North Carolina
Metropolitan Sewer District

A sample EMS audit scope and schedule is shown below. Review your entire EMS at least every year, beginning with a review of all EMS elements during your first internal audit. Then, consider conducting a sampling of EMS elements every quarter, as shown in the schedule below. Also, remember that your EMS internal audits can be integrated with other reviews you currently conduct (e.g., environmental, health and safety, quality, or security audits, etc.).

A Sample EMS Audit Scope and Schedule

(For an Example of Internal Audits Conducted Every Quarter)

ISO 14001:1996

		01/2005	04/2005	07/2005	10/2005	01/2006
4.2	Environmental Policy	*		*		*
4.3.1	Environmental Aspects	*	*	*	*	*
4.3.2	Legal and other Requirements	*		*		*
4.3.3	Objectives and Targets	*	*	*	*	*
4.3.4	Environmental Management Programs	*	*	*	*	*
4.4.1	Structure and Responsibility	*		*		*
4.4.2	Training, Awareness and Competence	*		*		*
4.4.3	Communication	*	*		*	
4.4.4	Environmental Management System Documentation	*	*		*	
4.4.5	Document Control	*		*		*
4.4.6	Operational Control	*	*	*	*	*
4.4.7	Emergency Preparedness and Response	*		*		*
4.5.1	Monitoring and Measurement	*	*		*	
4.5.2	Nonconformance & Correct/Prev Action	*	*	*	*	*
4.5.3	Records	*	*	*	*	*
4.5.4	EMS Audit	*		*		*
4.6	Management Review	*	*	*	*	*
	Previous Findings of Nonconformance	*	*	*	*	*

Three Lessons Learned

(from wastewater facilities):

1. Make “cheat sheets” for your employees. For example, post significant aspects and objectives and targets in work areas and have wallet cards made of your environmental policy so that employees do not have to memorize the EMS.
2. Work with your staff’s schedule so that you do not disrupt the routine of daily operations in the area you are auditing – be flexible with your audit schedule.
3. Establish a well-defined audit schedule and plan. Also, use an EMS checklist. These tools will effectively prepare your EMS auditor(s) and keep your audits consistent.



Three Things to Avoid

(from wastewater facilities):

1. Trying to be too “textbook” and/or using too much EMS jargon during the internal audits. Your internal auditors should take what they know and relate it to the activities that are being reviewed – then tie in the EMS requirement.
2. Not providing the necessary training for your internal auditors. Make sure your auditors understand the EMS and ISO 14001 requirements AND what you are trying to accomplish with your internal audits (i.e., environmental improvement).
3. Not preparing staff for your EMS Audits – all employees should understand what is expected of them during an EMS internal audit.

Step 3) Prepare Staff for Your EMS Internal Audit

You’ve developed an EMS internal audit scope and agreed on an audit schedule. You are ready to begin and so are your internal auditors. Your job as lead EMS auditor is to support the audit function by preparing your managers, employees, and all documents and records. All of these should be readily available to your audit team according to a pre-arranged audit schedule.

In advance of the audit, prepare management by:

- ▶ Reviewing their EMS responsibilities
- ▶ Rehearsing the type of questions that the auditor might ask (NSF Guide [Second Addition](#), Appendix A, pages 153 - 156)
- ▶ Organizing and tracking corrective actions that the audit identifies.
- ▶ Indicating on managers’ calendars suggested times for the pre-audit meeting to review the audit scope, plan and schedule, and the closing meeting to share audit findings
- ▶ Encouraging them to be visible, involved, and available for the month of preparation preceding the registration audit

Prepare employees by:

- ▶ Emphasizing the “find, fix, and prevent” opportunity the audit provides
- ▶ Reviewing the environmental policy and confirming the role it has in employees’ daily activities
- ▶ Reviewing significant aspects, objectives and targets with relevant department managers and folks on the front-line
- ▶ Rehearsing the types of questions that an auditor might ask them (you may want to use the checklist you developed in the internal audit)
- ▶ Reviewing EMS roles and responsibilities

Prepare documents and records by:

- ▶ Ensuring they are current, easily retrievable, and controlled according to your document control procedures

For sample EMS Audit Checklists, Plans, and an Audit Report Template from wastewater facilities, see Appendix B.

Step 4) Conduct an EMS Desktop Review

An EMS “desktop” or document review is a review of written EMS policies, procedures and records that is developed before you conduct your full EMS internal audit and interview personnel. The desktop review is conducted to provide the audit team with a “snapshot” overview of an organization’s EMS elements and how they fit together. A desktop review also provides the audit team with a first look at an organization’s EMS and how the system elements fit with your current environmental programs and will therefore increase the efficiency of your full EMS internal audit.

Step 5) Conduct an EMS Internal Audit

Step 5a) Hold an Opening Meeting

Before you begin your internal audit, conduct an EMS opening meeting with management and relevant staff. During the meeting, go over: 1) the members of the audit team and introduce the team leader; 2) review the audit scope and the checklists/questionnaires that will be used; and 3) the audit schedule. Also, leave time at the end for questions.

This meeting will help set the stage on what to expect for your employees and management.

Step 5b) Audit Your System for EMS Conformance

Check your EMS by touring the site and observing the operations and services within your fenceline. While on-site, your audit team will want to review work practices and operations, interview employees, and examine procedures, documents and records.

Although not a requirement, it’s important to use an EMS audit checklist/protocol to conduct your EMS internal audit. The checklist provides your audit team with typical ISO 14001 language, and audit tips and suggestions to ensure that all EMS elements and their requirements are covered and reviewed. Besides, it’s a great tool to ensure consistency!

Step 5c) Report EMS Audit Results

As your audit team conducts and finalizes your internal EMS review, they will be taking notes, making observations, documenting audit findings, and writing up (if applicable) findings of nonconformance. Audit findings are typically documented and noted in a final report as either 1) observations (i.e., suggestions for improvement or a note on something done well); 2) major nonconformances (e.g., an entire system element is missing); 3) or minor nonconformances (e.g., One or two employees in the administration are overdue on EMS refresher training).

Nonconformances are discrepancies in your EMS that require attention through a corrective action. Corrective Action Reports (CARs) will be noted by the lead auditor and/or environmental management representative (EMR). CARs should include the discrepancy and the timeframe, and the person(s) responsible for bringing the discrepancy back into EMS conformance.

Your EMS Lead Auditor will be tasked with completing an audit plan to determine the scope of each of your internal audits. The following should be included in each audit plan:

- ▶ a statement of the audit objectives
- ▶ an identification of the specific elements being audited
- ▶ a review of any special emphasis or focus (e.g., corrective actions from previous EMS audits)
- ▶ references to appropriate plans, procedures, or requirements documents
- ▶ a timetable for the audit
- ▶ an identification of the Audit Team and the members assigned rolls
- ▶ audit materials such as checklists, questionnaires, etc.

Three Keys to Success

(from wastewater facilities):



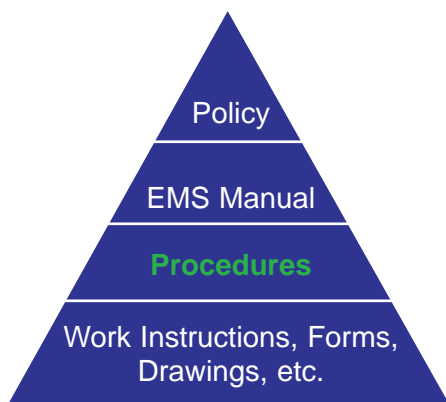
1. Streamline the EMS internal auditing process to be understandable for employees. Don’t make the process too lengthy or complicated.

2. Perform an internal audit of your EMS system and processes—not individuals.

3. Make the EMS internal audit process positive—identify the good things and compliment people—as well as identify the opportunities for system improvements.

An EMS Internal Audit is a tool to improve your system. View it as such, and as an effective management tool.

Beth Eckert
Gastonia, North Carolina
Public Works and Utilities Department



An EMS Internal Audit system procedure is required for this element. A system procedure defines the purpose (why the procedure is needed), scope (to what operations/areas/staff the procedure applies), roles & responsibilities (who needs to complete the tasks), and the tasks that need to be completed for this element.

Examples of Nonconformance:

- No external/internal communication procedure
- Emergency preparation procedure exists, but is not posted
- A number of employees are not aware that you have an Environmental Policy

An EMS nonconformance requires a documented corrective action. An observation is a recognition noted during the audit that a system element may lead to a nonconformance; or if done correctly, could strengthen your EMS.

Examples of Observations

- Procedures that are long and difficult to follow
- Poor housekeeping
- EMS knowledge of pretreatment staff was excellent

More on documenting, managing, and closing out nonconformant EMS audit findings can be found in this Handbook in the next Section on Nonconformance and Corrective and Preventative Actions.

Step 6) Develop a System Procedure for Conducting Your EMS Internal Audits

Document your internal audit process in a system procedure that clearly defines what you'll do, roles and responsibilities, when they'll do it, how the information will be communicated, and where the information will be stored. This documented procedure will be a consistent, easily accessible, and clear guide for ensuring that this important element of your environmental management system is carried out according to your plans.

REMEMBER



Documenting a procedure is not enough to satisfy the EMS requirement and the audit team. It's critical to put the procedure into practice in your facility – to implement it and do what you say you will do. Within a few months it's time to verify that your procedure is working well, and if necessary, make any improvements.

For sample EMS Internal Auditing procedures from wastewater facilities, see Appendix A.

Step 7) Check the EMS Internal Audit Procedure for EMS Conformance

Here are some questions to investigate regarding your EMS internal audit procedure:

Check ✓

1. Have you determined who will be conducting your EMS Internal Audits?
2. Are they qualified and trained?
3. Do you have an EMS audit program that verifies the conformance of your EMS?
4. Are EMS findings of nonconformance documented?
5. Are corrective and preventative actions implemented for audit findings of past nonconformance?
6. Are audit checklists and reports maintained as EMS records?
7. Are audit results communicated to management?

Solicit internal auditors from various levels and functions of the organization to provide different viewpoints of the system. Set schedule to audit the entire system on a yearly basis.

James Naber
Buncombe County, North Carolina
Metropolitan Sewer District

REMEMBER



Your internal auditing program is a great tool for identifying areas to improve your system. In addition, it is a valuable step in preparing for external audits if you are pursuing third-party accreditation. Set up your internal audits to mirror the scope of your external audits.

Your EMS Internal Audit can Accomplish Several Things, Including:

1. It lets you know if the EMS element is being implemented as planned.
2. It gives employees practice in being audited.
3. It gives audit teams a chance to practice their auditing skills.
4. It reinforces everyone's involvement and responsibility in your EMS.
5. It's a teaching tool to get employees to understand each element of the EMS.
6. It's an important tool to measure how your system is or is not continually improving.
7. It's a "find, fix, and prevent" opportunity to identify weaknesses in procedures and work instructions before they become a documented part of your EMS.

Communication of your audit goals to all levels of the organization is crucial in providing a level of comfort and knowledge to field crews.

Chris Toth
City of San Diego
Wastewater Collection Division

Auditor Credentials

- ⇒ Independent of the areas being audited
- ⇒ Has an understanding of relevant laws and regulations
- ⇒ EMS training
- ⇒ An understanding of audit process and procedures
- ⇒ Good communication skills
- ⇒ An attention to detail

NOTE



A systems audit looks for system elements and system linkages. For example, did the environmental goals you set consider your significant impacts and what you said in your policy statement? A compliance audit looks for regulatory violations based on meeting specific laws and regulations. For example, are the discharges from your outfall within the permit limits?

Involving Contractors and Temporary Staff




If your contractor and temporary employees work in operations and services that your organization identified as significant, they should understand what is expected of them during your internal EMS audits. For example, temporary and contractor staff should understand the basics of your EMS Policy, what operations and services have significant aspects, and the environmental goals your wastewater facility is looking to achieve.

Suggestions on Conducting EMS Internal Audits from Wastewater Facilities and Other Public Organizations

We've benefited from hiring an outside consultant to train our internal audit team. The outside expert credibility factor worked wonders in a short time.

We partnered with other public entities in our region and are using each other's audit teams for internal EMS audits. We get a fresh look at our own system, and we learn a lot about how others have implemented and improved their EMS. These are extremely valuable experiences for all of us.

We handed out a manual of all our work to date before our internal audit training. This proved very valuable in showing off the big picture and reinforcing what we had already accomplished so far. It also made the audits that much easier to conduct at each facility.



EMS Internal Auditing

(Cut out this section for handy reference)




The **Purpose** of this EMS element is to:

- Establish an effective EMS internal audit program to continually evaluate and improve your EMS system.

The **Results** of this EMS element are:

- An EMS audit procedure (EMS Document) that covers scope, frequency, methods and responsibilities.
- A mechanism for EMS internal audit results (EMS Record) to be reported to management for the purpose of management review.
- An EMS Internal Audit Schedule/Plan that covers all elements of the EMS requirements.
- A group of trained EMS internal auditors identified and available to conduct EMS internal audits.
- Internal audit documentation, including checklists, reporting documents (e.g., an internal audit report), and summary documents (EMS Records) to review and follow-up on the results of audits.

Before you Begin this EMS element:

- Implement all elements of your EMS.
 - Conduct EMS employee awareness and understanding training for all staff to prepare them for the internal audit process.
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ISO 14001 Requirements	Key Links to Other EMS Elements	Required Documents & Records	Optional Documents & Records
<p><i>Environmental Management System Audit</i></p> <p>The organization shall establish and maintain (a) program(s) and procedures for periodic EMS audits to be carried out, in order to:</p> <p>a) determine whether or not the environmental management system</p> <p>1) conforms to planned arrangements for environmental management including the requirements of this International Standard; and</p> <p>2) has been properly implemented and maintained; and</p> <p>b) provide information on the results of audits to management.</p> <p>The organization's audit program, including any schedule, shall be based on the environmental importance of the activity concerned and the results of previous audits. To be comprehensive, the audit procedures shall cover the audit scope, frequency and methodologies, as well as the responsibilities and requirements for conducting audits and reporting results.</p>	<p>Structure & Responsibility - Employees and management are aware of their roles for your EMS internal audit program.</p> <p>Training & Awareness - Your organization has qualified, trained and capable EMS internal auditors. All staff are aware of their responsibilities during the EMS internal audit.</p> <p>Corrective Actions - Establish a report (CAR) that identifies EMS audit discrepancies, action items, responsibilities and timeframes for improving your system.</p> <p>Management Review - Meet with top management to discuss new or changed priorities based on your internal audit results.</p>	<p>EMS Audit Procedure</p> <p>Audit Records/Reports</p> <p>Corrective Action Reports (CARs)</p> <p>List on Nonconformances</p>	<p>Audit Plan/Schedule</p> <p>List of Qualified EMS/QS Auditors</p>