



ENVIRONMENTAL AUDITING GUIDE

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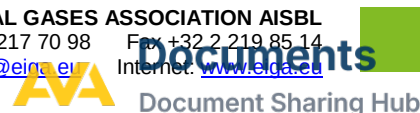


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Amendments to 135/12

Section	Change
3.2	Former sections 3.3, 3.4, 4.6 and 4.9 were deleted, because these definitions are given in the audit guidelines.
Appendix 1	Appendix 1 is replaced to reflect the links to the renewed ISO14001 (2015).

NOTE Technical changes from the previous edition are underlined

1 Introduction

This publication is a guide to auditing of environmental management systems and practices in the industrial gases industry.

2 Scope and purpose

2.1 Scope

This publication provides guidance for auditing environmental management systems and practices in the industrial gases industry. This publication does not give specific advice on health and safety issues, which shall be taken into account before undertaking any activity. On these issues the relevant EIGA documents, and/or national legislation should be consulted for advice.

2.2 Purpose

This publication is intended as a guide to environmental management systems and site auditing for industrial gas facility managers, internal auditors, environmental specialists and technical managers.

The publication provides an overview of the environmental auditing process that is an important element of a company's environmental management system and a necessary part of any certified environmental management system. The key points for ensuring success of an environmental audit process are identified. More details on the principles of applying environmental management system can be found in EIGA Doc 107 *Guidelines on Environmental Management Systems*, ISO 14001, *Environmental Management Systems – Requirements with Guidance for Use*, EU Eco-Management and Audit Scheme (EMAS) [1,2,3].¹

The Appendices provide guidance in the form of checklists to assist in the practical conduct of a site environmental audit and a management systems audit. Refer to the EIGA Doc 88 *Good Environmental Management Practices for the Industrial Gas Industry*, which can be used as a site checklist [4].

General principles of an auditing system for occupational health, safety and environment and any other management systems can be found in EIGA Doc 102 *Audit Guidelines* [5].

3 Definitions

For the purpose of this publication, the following definitions apply.

3.1 Publication terminology

3.1.1 Shall

Indicates that the procedure is mandatory. It is used wherever the criterion for conformance to specific recommendations allows no deviation.

3.1.2 Should

Indicates that a procedure is recommended.

3.1.3 May

Indicates that the procedure is optional.

¹ References are shown by bracketed numbers and are listed in order of appearance in the reference section.

3.1.4 Will

Is used only to indicate the future, not a degree of requirement.

3.1.5 Can

Indicates a possibility or ability.

3.2 Technical definitions

3.2.1 Environmental audit

Management tool consisting of a systematic, documented, periodic and objective evaluation of environmental performance, management systems and equipment with the aim of firstly, facilitating management control of environmental practices and secondly, assessing compliance with an operation's or activity's environmental policies, including meeting regulatory requirements. Examples include:

- internal auditing of systems and procedures for measuring, recording and reporting performance data;
- independent validation of systems and procedures for measuring, recording, and reporting performance data; and
- independent evaluations and commentaries by external experts regarding an organisation's economic, environmental, and social performance and/or management processes.

3.2.2 Environmental reporting

Management tool which assists the monitoring and assessment of the performance of a process or system.

The quality, usefulness, and credibility of reporting can be enhanced by verification and validation. Independent verification, for example it provides an additional level of assurance in regard to the reliability and completeness of an external environmental report and enhances the quality, usefulness, and credibility of information used within the company and the underlying management systems and processes.

3.2.3 Process

Set of interrelated or interacting activities which transforms inputs into outputs.

Plan

- Establish the objectives.
- Select the issue to receive attention (often based on priorities).
- Design a clear statement of purpose.
- Define the processes necessary to deliver results in accordance with the environmental policy.
- Then seek advice about expectations from the process; prioritise expectations, set performance measures, identify barriers to good performance, measure current performance, identify opportunities for improvement and develop solutions.

Do

Implement the process steps where practicable and seek the involvement of those affected by the change during the testing phase.

Check

Monitor and measure processes, objectives, targets, legal and other requirements and report the results.

Act

- Take actions to continually improve performance of the environmental management system.
- Standardise the improvement.
- Install the improvement.
- Leverage the improvement into other areas of the organisation.

The process should be:

- Documented and approved by senior management;
- Communicated to relevant staff.

Accountability for implementation and review should be established; performance should be monitored and reported with appropriate adjustment to the process where appropriate.

4 Environmental Auditing

4.1 Background

There is an increasing need for companies to demonstrate good environmental management practice to a wide range of interested parties. ISO 14001 and the EMAS require that participating organisations have their environmental performance measured and verified [2,3].

Environmental auditing is not a legal requirement under any specific law or regulation. Rather, it is a proactive management tool that is used to consciously identify environmental problems before they occur in order to take preventative measures. Environmental auditing is an internal management tool for use by an organisation or activity in carrying out its environmental management responsibilities.

Auditing all or part of that system can measure the performance of a company's environmental management system. The results of audits can assist companies in demonstrating their commitment to continuously improving their environmental performance. Full commitment from senior company management is essential if the audit process is to be a success. This commitment requires an involvement and interest in the whole audit process.

4.2 Use of this Guide

These general guidelines can be used as a guide for implementation of environmental audits for an organisation or activity. The environmental audit is a voluntary action which can be undertaken by the manager of an organisation or activity or by a third party and which serves as an instrument for managing and monitoring the environment.

A guidance checklist for conducting a site environmental audit is provided in Appendix and a checklist for conducting a management systems audit is given in Appendix 3.

Several publications are also available which provide further guidance on conducting an environmental audit, see EIGA Doc 102 [5]. A guideline on land contamination issues, which can be used for auditing, is contained in the EIGA Doc 137 *Environmental Aspects of Decommissioning* [6].

4.3 Why audit?

It is important to establish the purpose of the audit; this will help in deciding when to audit and what approach to use. An environmental audit can provide valuable information to help a company to meet the agreed standards of environmental performance (which should be defined in company policy) and stay ahead of the requirements placed on them by law.

The possible functions and benefits of an environmental audit include:

4.3.1 Management

- Demonstrate a visible commitment to improving an organisation's environmental performance.
- Use as a basis for the development of environmental management policies or efforts to improve existing plans and improve environmental performance of the organisation.
- Identify environmental risks, impacts and review of management controls and systems and associated liabilities, liabilities and risks from past and present activities of the site or surroundings and implementation of recommendations.
- Review process and plant operating procedures or activity's current environmental standards of operation and company environmental management procedures, including emergency response planning, monitoring and reporting systems and planning for future changes in Processes or Regulations.
- Increasing actions undertaken or needing to be undertaken by an organisation or activity to meet environmental goals such as sustainable development, Responsible Care®, recycling and efficient use of resources.

4.3.2 Financial

- Prevention of financial losses: through remediation or the closure of an organisation or activity; government restrictions or negative publicity caused by bad management or monitoring of the environment.
- Fair assessment of financial implications of environmental issues, liabilities and impact of new regulations.
- Highlight where costs can be saved (for example through energy conservation or minimisation, improved use of raw materials, process changes, waste reduction, reuse and recycling etc).

4.3.3 Legal

- To measure and improve an organisation's or activity's compliance with environmental legislation and regulations such as operating permits, air emission standards, effluent standards, waste management standards, transport regulations, etc, thus avoiding legal sanctions against an organisation or activity or its management under prevailing laws and regulations.
- Provision of evidence of the implementation of environmental management in court if requested.

4.3.4 Training

- To facilitate the sharing of best environmental practices and increase in the awareness of the management and staff of an organisation regarding environmental policies and responsibilities.
- Assessment of training, knowledge and awareness of employees.

4.3.5 Reporting

- Provision of an environmental audit report for use by an organisation, or activity in dealings with environmental groups, government and the mass media.
- Provision of information required by insurance companies, financial institutions, shareholders and other stakeholders.

It is also important to recognise the limitations of the audit process when deciding to conduct an environmental audit. The following points may be helpful to remember in this respect:

- An audit should not be used as a chance to tell the audited unit how to do their job.
- It is not a technical investigation in itself (although can be used in support).
- It should not be used to provide a public statement of performance (although it may be used to back up and support any such statements made).

4.4 Types of environmental audit

General definitions of types of audit are covered in the auditing guide EIGA DOC 102 [5]. For environmental issues different type of audit may be chosen based upon why the audit is being conducted. Three broad types of audit can be identified:

4.4.1 Self-audit / Self-assessment

Team members are selected from the staff of the business, operating unit or department to be audited.

4.4.2 Internal audit

Team members are selected from employees of the organisation, but not from the business, operating unit or department to be audited. In some circumstances it can be of benefit to have a representative of the unit on the audit team. They should not be team leaders.

4.4.3 External audit

Team members are drawn from outside the organisation, for example, consultants. The team may, be assisted by employees of the organisation such as business, operating unit or department manager acting as guide and advisor. This type of audit can be useful where third party benchmarking, certification and neutrality is required, or where company resources do not allow internal audits.

4.5 Basic principles of auditing

4.5.1 Basic characteristics

An environmental audit has the following characteristics;

4.5.1.1 Comprehensive methods

An environmental audit requires the use of detailed procedures and methodology. The environmental audit must be conducted using comprehensive protocols and fixed procedures to ensure collection of the required data and the documentation and verification of that information.

4.5.1.2 Evidence and verification

The concept of evidence and verification of environmental deficiencies is a main element in an environmental audit. The audit team must verify all procedures, collected data and information through direct field inspection.

4.5.1.3 Relevant measures and standards

The standards and measures of environmental performance must be adjusted to be relevant to the organisation or activity and the production process being audited. An audit is meaningless unless there are accepted standards against which performance can be compared.

4.5.1.4 Written reports

Reports should contain factual observations and reasoning, and the documentation of the processes. All findings should be presented clearly and accurately, based on valid and documented evidence.

4.6 Scope

An environmental audit should be conducted in a manner that allows for the provision of information regarding:

4.6.1 Background

The history of an organisation, land or activity including information on the setting, previous environmental damage/spill at the site, environmental practices, monitoring records and known environmental issues from the site and neighbours including soil and underground water.

Any changes in the environmental setting that have occurred since the establishment of the organisation or activity up to the time of the last audit.

The natural resources used as input, processing of materials and all finished products (energy, water, raw material use) and wastes including hazardous and toxic wastes.

4.6.2 Compliance with environmental management policy and objectives

Compliance with environmental management policy and objectives includes:

- Environmental risk assessment including compliance to regulations, soil; underground water, solids wastes, emissions, waste waters, hazardous products & nuisances.
- Emergency response plans and procedures.
- Waste minimisation and environmental pollution control plans.
- The utilisation of energy, water and other natural resources.
- Recycling programs and product life cycle considerations.

4.6.3 Training

Plans for management and employees training (fundamental environmental concerns, regulations, permits, and policy), objectives and environmental awareness.

4.6.4 Practices

Practices include:

- The handling and storage of chemicals, hazardous and toxic materials and any potential environmental hazards;
- Waste management control systems, transportation route for materials and waste disposal, including facilities to minimise waste disposal impacts and accidents;
- Measure of the effectiveness of pollution control equipment as indicated in inspection reports, maintenance logs, emission test results and routine analytical reports;
- Records regarding waste disposal licenses and compliance with laws, regulations and environmental quality standards;
- Environmental practices of contractors and sub-contractors.

4.7 When to audit?

The need to conduct an audit, and the timing and frequency of such an audit, should be determined by considering the following factors:

- hazard and risk ranking;
- history of past incidents;
- past performance against standards (results of previous audits, incidents on site);
- environmental associated costs, including energy, insurance, waste disposal;
- legal requirements;
- availability of resources;
- review before acquisition or sale of sites;
- changes in process, organisation or activity; and
- third party certification requirements.

4.8 Confidentiality

Internal audit reports are the confidential property of the organisation or activity that has been audited and often contain a disclaimer. However, the organisation or activity can, at their discretion, submit the environmental audit reports to the authorities, the public or other organisations for the purpose of:

- publicising their environmental management efforts;
- responding to the requirements for performance rating of the business; and
- any other purposes as defined by the organisation activity.

This confidentiality policy should not be interpreted as in any way limiting the following.

The rights of authorities to:

- verify the audit results;

- carry out routine or special inspections of an organisation of activity;
- carry out investigations of an organisations or activity suspected of violations or non-compliance with laws and regulations;
- request specific information as the basis for any scheme for environmental performance ranking of an organisation or activity; and
- remove the responsibility of the organisation or activity to provide environmental management and monitoring data as prescribed usually under regulations.

4.9 Training of the auditors

To ensure that environmental audits are conducted in a reputable and professional manner, business activities and non-governmental organisations are recommended to establish and implement a code of ethics and certification of environmental auditors. The environmental auditors should have suitable education and professional experience to carry out their duties. The skills needed by environmental auditors include those in the areas of:

- environmental auditing processes, procedures and techniques;
- characteristics and analysis of management systems;
- laws, regulations and environmental policies, environment health and safety protection systems and technology;
- operation of facilities to be audited; and
- potential environmental impact and worker health and safety risks.

Auditors should also have training and demonstrated ability in areas needed to perform the audit including:

- communication skills;
- work scheduling and planning;
- data analysis and finding; and
- audit report writing.

Environmental auditors should exercise professional care in ensuring accuracy, consistency and objectivity in the performance of audits. Auditors should conform to a recommended code of ethics.

5 References

Unless otherwise specified the latest edition shall apply.

- [1] EIGA Doc 107, *Guidelines on Environmental Management Systems*, www.eiga.eu.
- [2] ISO 14001, *Environmental Management Systems – Requirements with Guidance for Use*, www.iso.org.
- [3] EU Eco-Management and Audit Scheme (EMAS), www.ec.europa.eu.
- [4] EIGA Doc 88 *Good Environmental Management Practices*, www.eiga.eu.
- [5] EIGA Doc 102 *Audit Guidelines*, www.eiga.eu.

- [6] EIGA Doc 137 *Environmental Aspects of Decommissioning*, www.eiga.eu.

6 Additional references

- [1] ISO 14004, *Environmental Management Systems – General Guidance on principles, systems and supporting techniques*, www.iso.org.
- [2] ISO 19011, *Guidelines for quality and/or environmental management systems auditing*, www.iso.org.
- [3] Responsible Care, International Council of Chemical Associations, www.icca.org/responsible-care.