

---

---

**Conformity assessment —  
Requirements for bodies providing  
audit and certification of management  
systems —**

Part 2:  
**Competence requirements for  
auditing and certification of  
environmental management systems**

*Évaluation de la conformité — Exigences pour les organismes  
procédant à l'audit et à la certification des systèmes de  
management —*

*Partie 2: Exigences de compétence pour l'audit et la certification des  
systèmes de management environnemental*



**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

# Contents

	Page
<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vi</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Generic competence requirements</b> .....	<b>1</b>
<b>5 Competence requirements for EMS auditors</b> .....	<b>2</b>
5.1 General.....	2
5.2 Environmental terminology.....	2
5.3 Environmental metrics.....	2
5.4 Environmental monitoring and measuring techniques.....	2
5.5 Environmental aspects and impacts.....	2
5.6 Life cycle perspective.....	2
5.7 Environmental performance evaluation.....	2
5.8 Compliance obligations.....	2
5.9 Emergency preparedness and response.....	3
5.10 Operational control.....	3
5.11 Factors related to site.....	3
5.12 Scope.....	3
5.13 Communicated information.....	3
5.14 Context of the organization.....	3
5.15 Risks and opportunities.....	3
<b>6 Aspect-specific competence requirements for EMS auditing</b> .....	<b>4</b>
6.1 General.....	4
6.2 Emissions to air.....	4
6.2.1 General.....	4
6.2.2 Gases, aerosols and particulate matter.....	4
6.2.3 Operational control.....	4
6.2.4 Monitoring and measurement.....	4
6.3 Releases to land.....	4
6.3.1 General.....	4
6.3.2 Liquid or solid releases.....	4
6.3.3 Operational control.....	5
6.3.4 Monitoring and measurement.....	5
6.4 Releases to water.....	5
6.4.1 General.....	5
6.4.2 Surface and ground water.....	5
6.4.3 Operational control.....	5
6.4.4 Monitoring and measurement.....	5
6.5 Uses of raw materials, energy and natural resources.....	5
6.5.1 Upstream management.....	5
6.5.2 Downstream management.....	6
6.5.3 Operational control.....	6
6.5.4 Monitoring and measurement.....	6
6.6 Energy emitted.....	6
6.6.1 Sources of energy emissions.....	6
6.6.2 Operational control.....	6
6.6.3 Monitoring and measurement.....	6
6.7 Waste.....	6
6.7.1 Sources of waste.....	6
6.7.2 Operational control.....	6
6.7.3 Monitoring and measurement.....	7

6.8	Use of space .....	7
6.8.1	Physical attributes .....	7
6.8.2	Operational control .....	7
6.8.3	Monitoring and measurement .....	7
<b>7</b>	<b>Competence requirements for other personnel .....</b>	<b>7</b>
7.1	General .....	7
7.2	Competence of personnel conducting the application review to determine the audit team competence required, to select the audit team members and to determine the audit time .....	7
7.2.1	Environmental terminology .....	7
7.2.2	Environmental aspects and impacts .....	7
7.2.3	Factors related to site .....	7
7.2.4	Scope .....	7
7.3	Competence of personnel reviewing audit reports and making certification decisions .....	8
7.3.1	Environmental terminology .....	8
7.3.2	Environmental aspects and impacts .....	8
7.3.3	Environmental performance evaluation .....	8
7.3.4	Compliance obligations .....	8
7.3.5	Scope .....	8
	<b>Annex A (informative) Knowledge for EMS auditing and certification .....</b>	<b>9</b>
	<b>Bibliography .....</b>	<b>11</b>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of conformity assessment, ISO and IEC develop joint ISO/IEC documents under the management of the ISO Committee on Conformity assessment (ISO/CASCO).

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

ISO/IEC 17021-2 was prepared by Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 2, *Environmental auditing and related environmental investigations*, and the ISO Committee on conformity assessment (CASCO). It was circulated for voting to the national bodies of both ISO and IEC, and was approved by both organizations.

This first edition of ISO/IEC 17021-2 cancels and replaces ISO/IEC/TS 17021-2:2012, which has been technically revised.

The following major changes have been made compared with ISO/IEC/TS 17021-2:2012:

- addition of the new requirements of ISO 14001:2015 which required additional competence to audit them;
- adaptation of the competence requirements to reflect the greater focus in ISO 14001:2015 on expected outcomes;
- clarification of the difference between sustainable development and sustainability;
- inclusion of competence criteria for the auditor to understand the context of the organization;
- inclusion of competence to audit the reliability of client communications about their EMS.

A list of all parts in the ISO/IEC 17021 series can be found on the ISO website.

## Introduction

This document complements ISO/IEC 17021-1. In particular, it clarifies the requirements for the competence of personnel involved in the certification process set out in ISO/IEC 17021-1:2015, Annex A.

Certification bodies have a responsibility to interested parties, including their clients and the customers of the organizations whose management systems are certified, to ensure that only those auditors who demonstrate the relevant competence are allowed to conduct environmental management system (EMS) audits. All EMS auditors should possess the generic competencies described in ISO/IEC 17021-1 as well as the specific EMS knowledge described in this document.

Certification bodies will need to identify the specific audit team competence needed for the scope of each EMS audit. The selection of an EMS audit team will depend upon various factors, including the EMS technical area, the context of an organization, its environmental aspects and the site where these aspects occur.

The competence requirements for other personnel involved in certification activities are also described.

In this document, the following verbal forms are used:

- “shall” indicates a requirement;
- “should” indicates a recommendation;
- “may” indicates a permission;
- “can” indicates a possibility or a capability.

Further details can be found in the ISO/IEC Directives, Part 2.

For the purposes of research, users are encouraged to share their views on this document and their priorities for changes to future editions. Click on the link below to take part in the online survey:

<https://www.surveymonkey.com/r/D5PK2NV>

# Conformity assessment — Requirements for bodies providing audit and certification of management systems —

Part 2:

## Competence requirements for auditing and certification of environmental management systems

### 1 Scope

This document specifies additional competence requirements for personnel involved in the audit and certification process for environmental management systems (EMS) and complements the existing requirements of ISO/IEC 17021-1.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 17021-1:2015, *Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 1: Requirements*