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Energy management systems — Requirements for bodies providing audit and certification of energy management systems

Systèmes de management de l'énergie — Exigences pour les organismes procédant à l'audit et à la certification de systèmes de management de l'énergie

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO 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).

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

For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 301, *Energy management and energy savings*, in collaboration with the ISO Committee on conformity assessment (CASCO).

This second edition cancels and replaces the first edition (ISO 50003:2014), which has been technically revised. The main changes compared with the previous edition are as follows:

- the definitions have been updated to include the audit time, the duration of the audit and terms related to multi-site audits;
- the phrase "maintained documented information" has been used to represent procedures, work instructions or other forms of documents that provide the who, what, when, how or why information;
- the phrase "retained documented information" or "record of audit evidence" has been used to represent records that demonstrate or provide evidence of the execution of a requirement;
- the structure has been updated to align with ISO/IEC 17021-1:2015;
- the phrase "man-days" has been changed to "audit days";
- for audit day calculations, the number of energy types have been changed to those that comprise at least 80 % of total consumption;
- the weighted values for complexity have been modified;
- the sampling requirements for multi-site EnMS have been updated;
- the use of IAF MD documents as they relate to Annexes A and B has been clarified;
- the information on EnMS effective personnel has been clarified in A.2;
- Tables A.3 and A.4 have been modified to refer to audit time rather than the duration of the audit;
- the technical areas have been removed and requirements for technical competency added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is intended to be used in conjunction with ISO/IEC 17021-1:2015.

In addition to the requirements of ISO/IEC 17021-1:2015, this document specifies requirements for the specific technical area of energy management systems (EnMS) that are needed to ensure the effectiveness of the audit and certification, while supporting the efforts of the organization to continually improve energy performance including energy efficiency, energy use and energy consumption, and the EnMS. In particular, this document addresses the additional requirements necessary for the audit process. It covers the planning process, the initial certification audit, conducting the on-site audit, auditor competence, audit time and multi-site sampling. The structure of this document follows that of ISO/IEC 17021-1:2015. Annexes A and B are normative while Annexes C and D provide additional information to complement ISO/IEC 17021-1:2015.

This document deals with EnMS audits for certification purposes, but it does not deal with energy audits where the purpose is to establish a systematic analysis of energy consumption and energy use, and which are defined in ISO 50002.

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.

In this document, references to the word “site” can be taken as either singular, meaning one permanent site (physical or virtual) or temporary site (physical or virtual), or can be plural, meaning more than one permanent site or temporary site, unless otherwise specified.

Energy management systems — Requirements for bodies providing audit and certification of energy management systems

1 Scope

This document specifies requirements for competence, consistency and impartiality in the auditing and certification of ISO 50001 energy management systems (EnMS) for bodies providing these services. In order to ensure the effectiveness of EnMS auditing, this document addresses the auditing process, the competence requirements for the personnel involved in the certification process for EnMS, the audit time and multi-site sampling.

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*

ISO 50001, *Energy management systems — Requirements with guidance for use*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 17021-1:2015, ISO 50001 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
audit evidence
documented information, statements of fact or other information, which are relevant to the audit criteria and verifiable

Note 1 to entry: Audit evidence can be qualitative or quantitative.

[SOURCE: ISO 9000:2015, 3.13.8, modified — The word “records” has been replaced by “documented information” and Note 1 to entry has been added.]

3.2
duration of the audit
part of *audit time* (3.3) spent conducting audit activities from the opening meeting to the closing meeting, inclusive

Note 1 to entry: Audit activities normally include:

— conducting the opening meeting;

— performing document review while conducting the audit;

— communicating during the audit;

— assigning roles and responsibilities of guides and observers;

— collecting and verifying information;

— generating audit findings;

— preparing audit conclusions;

— conducting the closing meeting.

[SOURCE: ISO/IEC 17021-1:2015, 3.17, modified — The term "duration of management system certification audits" has been replaced by "duration of the audit".]

3.3
audit time
time needed to plan and accomplish a complete and effective audit of the client organization's management system

[SOURCE: ISO/IEC 17021-1:2015, 3.16]

3.4
central function
function that is responsible for and controls the EnMS of a *multi-site organization* (3.7)

Note 1 to entry: The central function is not necessarily operating from the headquarters or a single site.

Note 2 to entry: The authority of the central function is derived from top management. The central function has authority over every site regarding the EnMS.

3.5
EnMS effective personnel
personnel who materially contribute to the effectiveness of the EnMS or impact energy performance

Note 1 to entry: EnMS effective personnel is not necessarily the total number of employees (headcount).

Note 2 to entry: The EnMS effective personnel number is a factor used to determine the *audit time* (3.3).

3.6
major nonconformity
<energy management system> nonconformity that affects the capability of the EnMS to achieve the intended results

Note 1 to entry: Classifying nonconformities as major could be as follows:

— *audit evidence* (3.1) that energy performance improvement was not achieved;

— a significant doubt that effective process control is in place;

— a number of minor nonconformities associated with the same requirements or issue could demonstrate a systemic failure and thus constitute a major nonconformity.

[SOURCE: ISO/IEC 17021-1:2015, 3.12, modified —The words "management system" have been replaced by "EnMS" and the first bullet has been added to Note 1 to entry.]

3.7
multi-site organization
organization having an identified *central function* (3.4) and more than one site (permanent or temporary) with a common management system

Note 1 to entry: The EnMS of a multi-site organization is established, implemented, maintained and subject to internal audits planned by the central function.

3.8
permanent site
location (physical or virtual) where a client organization performs work or provides a service on a continual basis

[SOURCE: ISO/IEC TS 17023:2013, 3.4, modified — The word "continuing" has been replaced by "continual".]

3.9
temporary site
location (physical or virtual) where a client organization performs specific work or provides a service for a finite period of time and which is not intended to become a *permanent site* (3.8)

EXAMPLE Construction site; road site.

[SOURCE: ISO/IEC TS 17023:2013, 3.5, modified — Example has been added.]

4 Principles

Principles are not requirements. The principles of ISO/IEC 17021-1:2015, Clause 4, apply.

5 General requirements

All the requirements defined in ISO/IEC 17021-1:2015 and in this document shall be applied to the EnMS auditing process.

This document defines the requirements for the determination of audit time for an EnMS in Annex A.

This document defines the requirements for the multi-site sampling of a client organization's EnMS in Annex B.

6 Structural requirements

The requirements of ISO/IEC 17021-1:2015, Clause 6, apply. In addition, when safeguarding impartiality, the certification body shall manage, as a potential conflict of interest, energy audits and/or other energy related services conducted by the auditor or the certification body within the last two years.

7 Resource requirements

7.1 Technical competence

The requirements of ISO/IEC 17021-1:2015, Clause 7, apply. Basic knowledge of the client's business and typical business processes knowledge is defined in ISO/IEC 17021-1:2015. (See ISO/IEC 17021-1:2015, Table A.1.) In addition, the technical competence requirements for the audit team and personnel involved in the EnMS certification process are defined in 7.2.

NOTE This document does not apply technical sectors when defining technical competence.

7.2 Personnel involved in the certification activities

7.2.1 General

The competencies shall include a level of generic competence described in ISO/IEC 17021-1:2015 as well as the EnMS technical knowledge described in Table 1, where "X" indicates that the certification body shall define the criteria and depth of knowledge. The certification body personnel shall have the competencies defined in Table 1.

In addition to the technical knowledge requirements specified in Table 1, the certification body shall define criteria, including the knowledge and skills of the audit team that is necessary for the client.

Table 1 — Required EnMS technical knowledge

Knowledge	Certification functions		
	Conducting the application review to determine the required audit team competence, to select the audit team members and to determine the audit time	Reviewing audit reports and making certification decisions	Auditing
Energy specific terminology	X (7.2.2.3)	X (7.2.2.2)	X (7.2.2.1)
Energy principles	X (7.2.3.3)	X (7.2.3.2)	X (7.2.3.1)
Energy-related legal requirements	—	X (7.2.4.2)	X (7.2.4.1)
Knowledge of ISO 50001 requirements	X (7.2.5.3)	X (7.2.5.2)	X (7.2.5.1)
Energy performance indicators (EnPIs), energy baseline (EnB), relevant variables and static factors	—	X (7.2.6.2)	X (7.2.6.1)
Common energy using systems	—	X (7.2.7.2)	X (7.2.7.1)
Energy performance improvement	—	X (7.2.8.2)	X (7.2.8.1)
Principles of data collection and of monitoring, measuring and evaluating data	—	X (7.2.9.2)	X (7.2.9.1)

7.2.2 Energy specific terminology

7.2.2.1 Auditing

The certification body auditors shall have knowledge of the terminology from ISO 50001.

Certification bodies may include terminology from ISO 50002, ISO 50006, ISO 50015 or ISO 50047 for their auditors, as determined appropriate.

7.2.2.2 Reviewing audit reports and making certification decisions

The personnel responsible for reviewing audit reports and making certification decisions within the certification body shall have knowledge of the terminology from ISO 50001.

Certification bodies may include additional terminology as determined appropriate for those reviewing audit reports and making certification decisions.

7.2.2.3 Conducting the application review to determine the required audit team competence, to select the audit team members and to determine the audit time

The personnel responsible for conducting the application review, selecting the audit team, determining the needed audit competence and determining the audit time shall have knowledge of the terms and definitions from ISO 50001.