Singapore Standards Council

SS ISO 50002 : 2014

(ICS 27.015)

SINGAPORE STANDARD

Energy audits – Requirements with guidance for use

[Identical adoption of ISO 50002 : 2014]

Published by

Enterprise Singapore

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ISBN 978-981-4557-50-4

This Singapore Standard was approved by the Energy Standards Committee on behalf of the Singapore Standards Council on 21 October 2014.

First published, 2015

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The Working Group, under the purview of the Energy Standards Committee, was formed to assist in the preparation of this standard and comprises the following experts who contributed in their *individual capacity*:

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Actsys Process Management Consultants Pte Ltd
Association of Consulting Engineers Singapore
DTZ Facilities & Engineering (S) Ltd
Gas Association of Singapore
Land Transport Authority
LJ Energy Pte Ltd
Lutron GL Limited
National Environment Agency
Siemens Pte Ltd
Soitec Singapore Pte Ltd

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National Foreword

This Singapore Standard was prepared by a Working Group formed under the purview of the Energy Standards Committee.

This standard is identical with ISO 50002 : 2014 published by the International Organization for Standardization.

Where appropriate, the words "International Standard" shall be read as "Singapore Standard". The reference to International Standards shall be replaced by the following Singapore Standards:

International Standard	Corresponding Singapore Standard
ISO 19011	SS ISO 19011
ISO 50001	SS ISO 50001
ISO 50003	SS ISO 50003
ISO 50004	SS ISO 50004
ISO 50006	SS ISO 50006
ISO 50015	SS ISO 50015

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*

2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.*

3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

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).

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is Technical Committee ISO/TC 242, *Energy management*.

Introduction

The purpose of this International Standard is to define the minimum set of requirements leading to the identification of opportunities for the improvement of energy performance.

An energy audit comprises a detailed analysis of the energy performance of an organization, equipment, system(s) or process(es). It is based on appropriate measurement and observation of energy use, energy efficiency and consumption. Energy audits are planned and conducted as part of the identification and prioritization of opportunities to improve energy performance, reduce energy waste and obtain related environmental benefits. Audit outputs include information on current use and performance and they provide ranked recommendations for improvement in terms of energy performance and financial benefits.

An energy audit can support an energy review and can facilitate monitoring, measurement and analysis as described in ISO 50001, or it can be used independently.

This International Standard allows for differences in approach and in terms of scope, boundary and audit objective and seeks to harmonize common aspects of energy auditing in order to enhance clarity and transparency.

The energy audit process is presented as a simple chronological sequence, but this does not preclude repeated iterations of certain steps.

The main body of this International Standard covers the general requirements and framework common to all energy audits that can be supplemented by equivalent national audit standards. For auditing of specific types of facilities, processes or equipment, refer to the relevant international, national and local standards and guidelines, some of which are referenced in the Bibliography.

In this International Standard, the following verbal forms are used:

— “shall” indicates a requirement;

— “should” indicates a recommendation;

— “may” indicates a permission;

— “can” indicates a possibility or a capacity.

Energy adudits – Requirements with guidance for use

1 Scope

This International Standard specifies the process requirements for carrying out an energy audit in relation to energy performance. It is applicable to all types of establishments and organizations, and all forms of energy and energy use.

This International Standard specifies the principles of carrying out energy audits, requirements for the common processes during energy audits, and deliverables for energy audits.

This International Standard does not address the requirements for selection and evaluation of the competence of bodies providing energy audit services, and it does not cover the auditing of an organization's energy management system, as these are described in ISO 50003.

This International Standard also provides informative guidance on its use (see Annex A).

2 Normative references

There are no normative references.