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Asset management — Asset management system — Requirements

ISO/TC 251

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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 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).

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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 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 251, *Asset management*.

This second edition cancels and replaces the first edition (ISO 55001:2014), which has been technically revised.

The main changes are as follows:

- application of the Harmonized Structure for Management System Standards, which includes the incorporation of the common core management system terminological entries in [Clause 3](#);
- inclusion of new subclauses dealing with asset management decision-making, the strategic asset management plan and knowledge;
- making clear that operational planning and control includes life cycle management;
- making a clear distinction between how an organization shall address “risk” and how it shall address “opportunities”;
- renaming the subclause “preventive action” to “predictive action” and full technical revision of the content of this subclause (see [10.3](#));
- a stronger emphasis on leadership and its role in supporting the enablement and success of the asset management system.

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 specifies requirements for the establishment, implementation, operation, maintenance and improvement of a management system for asset management, referred to as an “asset management system”.

This document can be used by any organization of any size and type. The organization determines to which of its assets this document applies, taking into account its legal, regulatory and contractual requirements. This document can be applied to all types of assets both physical and non-physical.

This document is primarily intended for use by:

- those involved in the establishment, implementation, operation, maintenance and improvement of an asset management system;
- those contracted or involved in delivering asset management activities and service providers;
- internal and external parties involved in assessing an organization’s ability to meet asset management system requirements.

The order in which requirements are presented in this document does not reflect their importance nor imply the order in which they are to be implemented.

General information on asset management, and information on the terminology applicable to this document, is provided in ISO 55000.

Further guidance regarding the application of the requirements in this document is provided in ISO 55002.

Additional guidance on specific elements of the asset management system as specified in this document is provided in ISO/TS 55010 (alignment between financial and non-financial functions of the organization), ISO 55012 (people involvement and competence) and ISO 55013 (management of asset data).

Guidance on development of public policy to enable asset management is provided in ISO 55011.

There are some important principles associated with asset management, including:

- value: asset management focuses on the value assets provide to the organization over time;
- alignment: asset management aligns financial, technical and operational decisions with the organizational objectives, promoting vertical and horizontal coordination;
- leadership: leadership and sustained commitment at all levels are crucial for successful asset management.

The primary outcomes of asset management are the realization of value and the achievement of organizational objectives. There are also some characteristics that result from the implementation of a systematic approach to asset management, including the following:

- assurance: asset management provides better organizational oversight and accountability;
- adaptability: asset management enables organizations to adapt more rapidly and effectively to changes in internal and external context;
- sustainability: asset management promotes long-term thinking, considering future impacts, risks, uncertainties and opportunities to realize value.

This document has been prepared using the Harmonized Structure for ISO Management System Standards (i.e. identical clause numbers, clause titles, text and common terms and core definitions) intended to enhance alignment among Management System Standards and to facilitate their combined and integrated implementation. This document is therefore designed to enable an organization to align and integrate its asset management system with related management system requirements.

Asset management — Asset management system — Requirements

1 Scope

This document specifies requirements for an asset management system.

This document is applicable to all types of assets and all types and sizes of organizations.

Consistent with the organization's asset management policy, the intended results of an asset management system include:

- realized value from assets throughout their life for the organization and its stakeholders;
- achievement of asset management objectives and fulfilment of applicable requirements;
- continual improvement of asset management, the asset management system and the performance of assets.

This document does not specify financial, accounting nor technical requirements for managing specific asset types.

NOTE For the purposes of ISO 55000, this document and ISO 55002, the term "asset management system" is used to refer to a management system for asset management.

2 Normative reference

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 55000, *Asset management — Vocabulary, overview and principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 55000 and the following apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 organization

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.6)

Note 1 to entry: The concept of organization includes, but is not limited to, sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

Note 2 to entry: If the organization is part of a larger entity, the term "organization" refers only to the part of the larger entity that is within the scope of the *asset management system* (3.4).

[SOURCE: ISO 55000:—, 3.3.1]

3.2

stakeholder

interested party

person or *organization* (3.1) that can affect, be affected by, or perceive itself to be affected by a decision or activity

[SOURCE: ISO 55000:—, 3.3.2]

3.3

top management

person or group of people who directs and controls an *organization* (3.1) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the *management system* (3.4) covers only part of an organization, then top management refers to those who direct and control that part of the organization.

[SOURCE: ISO 55000:—, 3.3.3]

3.4

management system

set of interrelated or interacting elements of an *organization* (3.1) to establish *policies* (3.5) and *objectives* (3.6), as well as *processes* (3.8) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The management system elements include the organization's structure, roles and responsibilities, planning and operation.

[SOURCE: ISO 55000:—, 3.3.4]

3.5

policy

intentions and direction of an *organization* (3.1) as formally expressed by its *top management* (3.3)

[SOURCE: ISO 55000:—, 3.3.6]

3.6

objective

result to be achieved

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as finance, health and safety, and environment). They can be, for example, organization-wide or specific to a project, service, product or *process* (3.8).

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended result, as a purpose, as an operational criterion, as an asset management objective or by the use of other words with similar meaning (e.g. aim, goal, or target).

Note 4 to entry: In the context of *asset management systems* (3.4), asset management objectives are set by the *organization* (3.1), consistent with the *asset management policy* (3.5), to achieve specific results.

[SOURCE: ISO 55000:—, 3.3.7]

3.7

risk

effect of uncertainty on *objectives* (3.6)

Note 1 to entry: An effect is a deviation from the expected — positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

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Note 3 to entry: Risk is often characterized by reference to potential events (as defined in ISO 31073) and consequences (as defined in ISO 31073), or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood (as defined in ISO 31073) of occurrence.

[SOURCE: ISO 55000:—, 3.3.8]

3.8

process

set of interrelated or interacting activities that uses or transforms inputs to deliver a result

Note 1 to entry: Whether the result of a process is called an output, a product or a service depends on the context of the reference.

[SOURCE: ISO 55000:—, 3.3.10]

3.9

competence

ability to apply knowledge and skills to achieve intended results

[SOURCE: ISO 55000:—, 3.3.11]

3.10

documented information

information required to be controlled and maintained by an *organization* (3.1) and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media and from any source.

Note 2 to entry: Documented information can refer to:

- the *management system* (3.4), including related *processes* (3.8);
- information created in order for the organization to operate (documentation);
- evidence of results achieved (records).

[SOURCE: ISO 55000:—, 3.3.12]

3.11

performance

measurable result

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to managing activities, *processes* (3.8), products, services, systems or *organizations* (3.1).

Note 3 to entry: For the purposes of asset management, performance can relate to assets in their ability to fulfil *requirements* (3.17) or *objectives* (3.6) and thereby their ability to realize value.

[SOURCE: ISO 55000:—, 3.3.13]

3.12

continual improvement

recurring activity to enhance *performance* (3.11)

[SOURCE: ISO 55000:—, 3.3.14]

3.13

effectiveness

extent to which planned activities are realized and planned results are achieved

[SOURCE: ISO 55000:—, 3.3.15]

**3.14
requirement**

need or expectation that is stated, generally implied or obligatory

Note 1 to entry: “Generally implied” means that it is custom or common practice for the *organization* (3.1) and *stakeholders* (3.2) that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, e.g. in *documented information* (3.10).

[SOURCE: ISO 55000:—, 3.3.16]

**3.15
conformity**

fulfilment of a *requirement* (3.14)

[SOURCE: ISO 55000:—, 3.3.17]

**3.16
nonconformity**

non-fulfilment of a *requirement* (3.14)

Note 1 to entry: Nonconformity can be any deviation from asset *management system* (3.4) requirements (e.g. from relevant work standards, practices, procedures, legal requirements), or any failure of an asset to meet or perform to specification.

[SOURCE: ISO 55000:—, 3.3.18]

**3.17
corrective action**

action to eliminate the cause(s) of a *nonconformity* (3.16) and to prevent recurrence

[SOURCE: ISO 55000:—, 3.3.19]

**3.3.18
preventive action**

action to eliminate the cause of a potential *nonconformity* (3.16) or other undesirable potential situation

Note 1 to entry: There can be more than one cause for a potential nonconformity.

Note 2 to entry: Preventive action is taken to prevent occurrence and to preserve an asset’s function whereas *corrective action* (3.17) is taken to prevent recurrence.

Note 3 to entry: Preventive action is normally carried out while the asset is functionally available and operable or prior to the initiation of functional failure.

Note 4 to entry: Preventive action includes the replenishment of consumables where the consumption is a functional requirement.

[SOURCE: ISO 55000:—, 3.3.20]

**3.3.19
incident**

unplanned event or occurrence

[SOURCE: ISO 55000:—, 3.3.22]

**3.20
audit**

systematic and independent *process* (3.8) for obtaining evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

Note 1 to entry: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined audit (combining two or more disciplines).