

INTERNATIONAL STANDARD

**Management of network assets in power systems -
Part 1: Overview, principles and terminology**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 63223-1 has been prepared by IEC technical committee 123: Management of network assets in power systems. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
123/134/FDIS	123/140/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 63223 series, published under the general title *Management of network assets in power systems*, can be found on the IEC website.

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- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

Background

The IEC white paper "Strategic asset management of power networks" was published in 2015 [1] and TC 123 was established the following year to develop a management standard covering power network assets.

This white paper and power network sector specific asset management standards (TC 123, IEC 63223 series [2]) were initiated by the CEO of a power network company who found that some sections of asset management system standards (ISO 55000 series [3]) were very generic and as such the requirements were not easy to follow and to discuss with the country's regulatory authority.

The scope of TC 123 is *"standardization to deliver, in co-operation with other TC/SCs and international organizations, common methods and guidelines for coordinated lifetime management of network assets in power systems to support good asset management"*. This possibly includes the development of new methods and guidelines. Asset management is defined as "coordinated activity of an organization to realize value from assets" in ISO 55000:2024, 3.2.1, which is part of the ISO 55000 series [3] (comprising ISO 55000:2024, ISO 55001:2024 and ISO 55002:2018 [4]).

The structure of the deliverables produced by TC 123 is specified in Annex B. In addition to this document, the other standards published or under development include:

- IEC 60050-693 which defines the relevant terms used in the context of the management of network assets in power systems;
- IEC TS 63224:2025 [5] which explains management aspects and provides case studies related to asset management practices or implementation of an asset management system, in the power network sector;
- IEC 63223-2:2026 [6] based on the approved new work item proposal (NP) 123/47/NP [7], which explains the requirements for the development of a risk-informed decision-making process within asset management.

One of the comments on the NP 123/47/NP and on the CD of IEC TS 63224:2025 [5] was: *"The scope is supposed to be about realizing value from power network assets, but it is biased towards only reducing the risk of existing assets. TC 123 should have a broader scope"*. Therefore, it was decided at the 2022 plenary meeting to create a new project, IEC 63223-1, to present an overall picture that includes value creation as well as asset risk mitigation.

The purpose of this document, IEC 63223-1, is to provide an overview of the scope of the whole IEC 63223 series [2], with principles and terminologies. The purpose of the IEC 63223 series [2] is to create power network sector-specific International Standards for the ISO 55000 series [3].

Users

The main intended users are:

- asset managers of power network companies;
- regulatory authorities of the power network companies.

Other assumed readers include:

- asset owners and service providers of power network companies;
- stakeholders of the power network companies.

It should be noted that this document has been prepared in such a way that the reader can understand it to some extent by reading this document alone, but it assumes that the reader has a basic knowledge of the [ISO 55000 series \[3\]](#).

Structure of this document

This document consists of three major parts after the scope in [Clause 1](#) and the normative references in [Clause 2](#):

- [Clause 3](#): Terms, definitions and abbreviated terms:

While IEC 60050-693 specifies terms for management of network assets in power systems for the whole IEC, terms used only in the [IEC 63223 series \[2\]](#) and not in IEC 60050-693 should be described in IEC 63223-1. Terms in IEC 63223-1 can be integrated in IEC 60050-693 later, if appropriate.

- [Clause 4](#): Principles for asset management of power networks:

The [ISO 55000 series \[3\]](#) specifies an asset management system, i.e. the general requirements for value creation. [Clause 4](#) describes the principles for asset management of power network assets, including the main characteristics of power networks, the main activities related to asset management decisions and the risk-informed decision-making process associated with asset risk mitigation. This process is detailed in [IEC 63223-2:2026 \[6\]](#).

- [Clause 5](#): Value creation options:

There are various options of value-creating activities for power network assets, including reducing risk and taking advantage of opportunities. [Clause 5](#) describes those options.

- [Annex A](#) gives examples of value creation options;
- [Annex B](#) shows the current structure of the TC 123 standards.

1 Scope

This part of [IEC 63223 series \[2\]](#) provides an overview of asset management, its principles and value creation options for the management of network assets in power systems.

This document can be applied to all types of network assets and by all types and sizes of power network companies. The term power network company does not necessarily refer to legally structured companies.

In this document, network assets refer mainly to the physical assets of the electrical energy network, meaning items, equipment, or systems that have potential or actual value for the electric company and are part of the power lines and substations responsible for the transmission and distribution of electrical energy. Examples of network assets that can be included in the asset portfolio of a power network company are presented in [IEC 63223-2:2026 \[6\]](#), 4.2.2.

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.

IEC 60050-693, *International Electrotechnical Vocabulary - Part 693: Management of network assets in power systems - Terminology*

ISO 55000:2024, *Asset management — Vocabulary, overview and principles*

ISO 55001:2024, *Asset management – Management system – Requirements*

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- [25] IEC 61850 series, *Communication networks and systems for power utility automation*
- [26] International Energy Agency, Electricity Grids and Secure Energy Transitions, Enhancing the foundations of resilient, sustainable and affordable power systems, 2023, available at: <https://iea.blob.core.windows.net/assets/ea2ff609-8180-4312-8de9-494bcf21696d/ElectricityGridsandSecureEnergyTransitions.pdf>