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Dependability reviews during the life cycle

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62960

May 2020

ICS 03.120.01

English Version

Dependability reviews during the life cycle (IEC 62960:2020)

Revues de la sûreté de fonctionnement au cours du cycle de vie (IEC 62960:2020)

Zuverlässigkeitsbewertungen während des Lebenszyklus (IEC 62960:2020)

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Ref. No. EN IEC 62960:2020 E

European foreword

The text of document 56/1874/FDIS, future edition 1 of IEC 62960, prepared by IEC/TC 56 "Dependability" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62960:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-01-22
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IEC 60300-1:2014	NOTE	Harmonized as EN 60300-1:2014 (not modified)
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IEC 62741:2015	NOTE	Harmonized as EN 62741:2015 (not modified)
IEC 60812	NOTE	Harmonized as EN IEC 60812
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IEC 61014:2003	NOTE	Harmonized as EN 61014:2003 (not modified)
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IEC 62853:2018	NOTE	Harmonized as EN IEC 62853:2018 (not modified)
IEC 31010:2019	NOTE	Harmonized as EN IEC 31010:2019 (not modified)
IEC 60300-3-2	NOTE	Harmonized as EN 60300-3-2
IEC 60721-2 (series)	NOTE	Harmonized as EN 60721-2 (series)
IEC 60721-3 (series)	NOTE	Harmonized as EN 60721-3 (series)
ISO/IEC 27000:2018	NOTE	Harmonized as EN ISO/IEC 27000:2020 (not modified)
ISO 9000:2015	NOTE	Harmonized as EN ISO 9000:2015 (not modified)

Annex ZA
(normative)

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NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-192	-	International electrotechnical vocabulary - Part 192: Dependability	-	-

IEC 62960

Edition 1.0 2020-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Dependability reviews during the life cycle

Revues de la sûreté de fonctionnement au cours du cycle de vie

IEC 62960:2020-03(en-fr)

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INTERNATIONAL STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DEPENDABILITY REVIEWS DURING THE LIFE CYCLE

FOREWORD

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

FDIS	Report on voting
56/1874/FDIS	56/1878/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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INTRODUCTION

Dependability is the ability to perform as and when required. Dependability has many attributes but is usually characterized in terms of reliability, maintainability, supportability (including maintenance and support) and availability. These attributes are subject to change over the life cycle and can benefit from regular review.

Benefits of dependability review throughout the life cycle include:

– discovering and mitigating or eliminating weaknesses in the early life cycle stages before they manifest as dependability problems in later stages;
– identifying and treating problems which might occur later in the life cycle, and providing feedback to prevent their recurrence and to adapt systems to changes in environment and other factors;
– providing assurance of dependability and of the systems and processes that aim to achieve dependability;
– continually improving the dependability of the system in order to maintain or improve a commercial advantage.

Systems are becoming increasingly complex and constantly changing. This raises specific problems that need attention. Systems are changing in the following ways. A system is often developed, and/or utilized, in organizations across national borders and industry sectors. Changes such as legislation affecting one country or industry sector may necessitate a change to the system. System requirements can also change over time as technology, environmental conditions and societal demands change.

Dependability reviews are mainly used for large systems, but even small products such as mobile phones are complicated systems that may require dependability reviews.

Organizations involved in different parts of the life cycle might not be able to share a common purpose. For example, an engineering design company during the development and realization stages may not be able to fully anticipate the needs of stakeholders at the utilization stage. More generally, it is becoming increasingly difficult to predict at some earlier stage potential dependability problems that can occur at a later life cycle stage. Dependability reviews carried out at appropriate points during the life cycle can assist in addressing all of the above issues.

This document provides guidance on dependability reviews as part of an organization’s technical review processes. It provides a coherent set of principles for dependability reviews which could be useful in addition to, and in support of, general monitoring and dependability assurance carried out by various organizations at different life cycle stages.

In many cases dependability aspects of a system are covered in other reviews such as design reviews or manufacturability reviews. In these cases, the procedures given in this document can be applied. The informative annexes can be used as checklists to cover all technical relevant aspects.

Dependability reviews described in this document are a key part of a dependability management system as described in IEC 60300-1.

DEPENDABILITY REVIEWS DURING THE LIFE CYCLE

1 Scope

This document provides guidance on a review methodology for dependability from a technical perspective that is applicable at all stages of a system life cycle. Its application can improve the dependability of a system throughout its life cycle by triggering appropriate actions at appropriate times to address potential dependability problems.

It provides guidance for developers, manufacturers, users and third-party independent reviewers such as consulting organizations.

This document describes a dependability review methodology focusing on:

– coherence of review activities across life cycle stages and their impact on dependability;
– stakeholder identification and how this affects dependability review activities;
– the relationships between different types of reviews;
– procedures for effective dependability reviews;
– examples of dependability review activities.

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.

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