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Dependability reviews during the life cycle

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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ICS 03.120.01

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ICS 03.120.01

English Version

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

Revue 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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Comité Européen de Normalisation Electrotechnique
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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
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-04-22

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IEC 60300-1:2014	NOTE	Harmonized as EN 60300-1:2014 (not modified)
IEC 60300-3-3:2017	NOTE	Harmonized as EN 60300-3-3:2017 (not modified)
IEC 62741:2015	NOTE	Harmonized as EN 62741:2015 (not modified)
IEC 60812	NOTE	Harmonized as EN IEC 60812
IEC 61025:2006	NOTE	Harmonized as EN 61025:2007 (not modified)
IEC 62402:2019	NOTE	Harmonized as EN IEC 62402:2019 (not modified)
IEC 62740:2015	NOTE	Harmonized as EN 62740:2015 (not modified)
IEC 61014:2003	NOTE	Harmonized as EN 61014:2003 (not modified)
IEC 61508-1:2010	NOTE	Harmonized as EN 61508-1:2010 (not modified)
IEC 60706-2:2006	NOTE	Harmonized as EN 60706-2:2006 (not modified)
IEC 61078:2016	NOTE	Harmonized as EN 61078:2016 (not modified)
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)

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	8
3.1 Terms and definitions.....	8
3.2 Abbreviated terms.....	11
4 Introducing dependability reviews	11
4.1 General.....	11
4.2 Technical reviews	13
4.3 Status reviews	13
4.4 Overview of the dependability review method.....	14
4.4.1 Overview	14
4.4.2 Identifying stakeholders.....	14
4.4.3 Identifying what the requirements are	15
4.4.4 Capturing information on actual performance.....	15
4.4.5 Assessing the gap between requirements and actual performance	15
4.4.6 Identifying risks and areas of concern.....	15
4.4.7 Recommending actions.....	16
4.5 Planning for and timing of dependability reviews.....	16
4.6 Levels of dependability reviews.....	17
4.6.1 Overview	17
4.6.2 Team reviews	18
4.6.3 Project reviews	18
4.6.4 Status reviews.....	19
5 Dependability review activities during the life cycle.....	19
5.1 General.....	19
5.2 Concept stage.....	20
5.3 Development stage	20
5.3.1 Overview	20
5.3.2 Design reviews	21
5.4 Realization stage	22
5.5 Utilization stage	23
5.6 Enhancement stage	23
5.7 Retirement stage	24
6 Implementing the dependability review process	24
6.1 General.....	24
6.2 Planning of the review.....	24
6.3 Selection of the review team	25
6.4 Preparation of the input package	25
6.5 Meeting notification and agenda	25
6.6 Conducting a review meeting	26
6.6.1 General	26
6.6.2 Meeting protocol.....	26
6.6.3 Action points.....	27
6.6.4 Recommendations	27

6.6.5	Rejected action points and recommendations	27
6.6.6	Meeting conclusion	27
6.7	Preparing and distributing review minutes	27
6.7.1	General	27
6.7.2	Minutes	28
6.8	Actions and recommendations from a review	28
6.9	Follow-up and completion of action points and recommendations	29
Annex A (informative)	Examples of an input package for a review	30
A.1	Concept stage	30
A.2	Development stage	30
A.3	Realization stage	30
A.4	Utilization stage	31
A.5	Enhancement stage	31
A.6	Retirement stage	32
Annex B (informative)	Examples of objectives for dependability reviews during the life cycle	33
B.1	General	33
B.2	Concept stage	33
B.3	Development stage	33
B.3.1	Conceptual design review	33
B.3.2	Detail design review	33
B.3.3	Final design review	34
B.4	Realization stage	34
B.5	Utilization stage	35
B.5.1	Operation	35
B.5.2	Maintenance	35
B.6	Enhancement stage	35
B.7	Retirement stage	36
Annex C (informative)	Considerations during dependability reviews through the life cycle	37
C.1	General	37
C.2	Examples of dependability review considerations in the concept stage	37
C.3	Examples of dependability review considerations in the development stage	38
C.4	Examples of dependability review considerations in the realization stage	39
C.5	Examples of dependability review considerations in the utilization stage	40
C.6	Examples of dependability review considerations in the enhancement stage	41
C.7	Examples of dependability review considerations in the retirement stage	42
Annex D (informative)	Functions and responsibilities of some key persons for a technical review	43
D.1	General	43
D.2	Chair	43
D.3	Secretary	44
D.4	Relevant specialists	44
D.5	Project or team manager and members	45
D.6	Customers and users	45
Annex E (informative)	Dependability topics for a review	46
E.1	General	46
E.2	Reliability	46
E.3	Maintainability	46

E.4	Maintenance	47
E.5	Maintenance support.....	47
E.6	Availability	47
E.7	Quality assurance	48
E.8	Environmental effects	49
E.9	Product safety.....	50
E.10	Human factors	50
E.11	Legal matters.....	51
E.12	Durability	52
E.13	Security	52
E.14	Property damage	52
E.15	Accountability	53
	Bibliography.....	54
	Figure 1 – Flow of reviews during a life cycle stage	18
	Figure 2 – Implementing the review process	24

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DEPENDABILITY REVIEWS DURING THE LIFE CYCLE

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International Standard IEC 62960 has been prepared by IEC technical committee 56: Dependability.

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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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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.

IEC 60050-192, *International electrotechnical vocabulary – Part 192: Dependability* (available at <http://www.electropedia.org>)

3 Terms and definitions

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-192 and the following apply.

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

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

3.1.1

dependability management

coordinated activities to direct and control an organization with regard to dependability

Note 1 to entry: Dependability management is part of an organization's overall management.

[SOURCE: IEC 60300-1:2014, 3.1.4]