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AS IEC 60300.2—2005

Australian Standard™

Dependability management

Part 2: Guidance for dependability programme management

STANDARDS AUSTRALIA

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Australian Electrical and Electronic Manufacturers Association
Australian Industry Group
Australian Nuclear Science & Technology Organisation
Certification Interests (Australia)
Commonwealth Department of Transport and Regional Services
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PREFACE

This Standard was prepared by Standards Australia Committee QR-005, Dependability.

This Standard is identical with, and has been reproduced from IEC 60300-2, Ed.2.0 (2004), *Dependability management*—Part 2: *Guidelines for dependability management*. It supersedes AS 3930—1992, *Reliability and maintainability – Introductory guide* and AS 3960—1990, *Guide to reliability and maintainability program management*.

'Dependability' is a collective term for performance characteristics (reliability, availability, maintainability) of simple or complex products and systems. The AS IEC 60300 series of dependability management system Standards provide general guidelines for establishing a dependability management system to meet most organizational or project needs, supported by a 'tool kit' of non-prescriptive guidance Standards on a range of dependability applications and methods.

The objective of this Standard is to provide guidelines on managing dependability programmes. This Standard discusses planning and implementation of a dependability programme to meet specific product requirements for reliability, maintainability and life cycle cost. It identifies the process steps and essential features of dependability management, and links them to processes and methods relevant to a wide range of products. It supports Part 1 of the dependability management system Standard, AS IEC 60300.1, and is compatible with AS/NZS ISO 9001.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this part of IEC 60300' should read 'this Australian Standard'.

Reference to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS IEC	
60300	Dependability management	60300	Dependability management
60300-1	Part 1: Dependability management systems	60300-1	Part 1: Dependability management systems
60300-3-1	Part 3-1: Application guide—Analysis techniques for dependability—Guide on methodology	60300.3.1	Part 3.1: Application guide—Analysis techniques for dependability—Guide on methodology
61014	Programmes for reliability growth	61014	Programmes for reliability growth
ISO/IEC		AS/NZS	
15026	Information technology—System and software integrity levels	15026	Information technology—System and software integrity levels

Only international references identical to Australian or Australian/New Zealand Standards have been listed.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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INTRODUCTION

Dependability deals with the availability performance of a product. The factors influencing availability performance are reliability, maintainability and maintenance support performance. Dependability is a technical discipline that needs to be managed in order to achieve its objectives and benefits. Dependability management should provide a clear customer focus. It should be incorporated into an organization's overall management system to coordinate dependability activities for cost-effective results.

This part of IEC 60300 provides guidelines on dependability management. It supports the top-level dependability management system standard IEC 60300-1 by identifying and referencing relevant processes and methods for a broad range of products. This standard links the management process steps with applicable dependability standards to foster continual improvement.

The concept of product life cycle is introduced to deal with the significance of dependability activities and timing for their effective implementation. The association of product life cycle phases with the applicable dependability programme elements and tasks are presented to facilitate tailoring of dependability programmes to meet specific project needs.

This standard outlines the generic process for dependability applications based on successfully applied industry practices. It can be incorporated into the management systems of large corporations as well as being adaptable to small businesses.

Time-dependent reliability, maintainability and maintenance support performance characteristics in products are addressed.

This standard references other published TC 56 standards and also makes reference to several ISO/IEC standards as well as some sector specific reliability standards. These references are listed in the bibliography.

Annex A provides a summary description of the elements and tasks of a dependability programme for application.

Annex B defines the product life cycle phases.

Annex C presents an association of product life cycle phases with the applicable dependability elements and tasks.

Annex D presents process steps and standards for managing dependability.

Annex E provides a list of questions to facilitate dependability management review.

Annex F provides guidelines for the tailoring process.

Annex G presents the classification of dependability standards with the life cycle phases.

STANDARDS AUSTRALIA

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Dependability management
Part 2: Guidance for dependability programme management

1 Scope

This part of IEC 60300 provides guidelines for dependability management of product design, development, evaluation and process enhancements. Life cycle models are used to describe product development or project phases. A tailoring process is recommended for the selection of relevant dependability programme tasks for time-phased implementation to meet varied user needs.

This part of IEC 60300 is applicable for detailed planning and implementation of a dependability programme to meet specific product needs. The tailoring process provides a method for selection of dependability programme elements and associated processes from a product or project perspective. This standard is applicable to all organizations, during all life-cycle phases and in any contract situation, regardless of type, size and product provided.

2 Normative references

The following referenced documents are indispensable for the application 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 60300-3-1, *Dependability management – Part 3-1: Application guide – Analysis techniques for dependability – Guide on methodology*

IEC 61014, *Programmes for reliability growth*

ISO/IEC 15026, *Information technology – System and software integrity levels*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE 1 Certain terms and definitions are taken from IEC 60050(191) and IEC 60300-1.

NOTE 2 ISO 9000 is used as a reference to quality vocabulary.

3.1
dependability
collective term used to describe the availability performance and its influencing factors: reliability performance, maintainability performance and maintenance support performance

NOTE Dependability is used only for general descriptions in non-quantitative terms.

[IEC 60050, 191-02-03]

3.2
dependability management
coordinated activities to direct and control an organization with regard to dependability

NOTE Dependability management is part of an organization's overall management.

[IEC 60300-1, definition 3.2]