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Space projects — Programme management — Dependability assurance requirements

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Foreword

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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 documents 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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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 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

This second edition cancels and replaces the first edition (ISO 23460:2011), which has been technically revised.

The main changes are as follows:

— updating of normative references and related terms and definitions;

— minor changes on tables.

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

The objective of dependability assurance is to ensure a successful mission by optimizing the system dependability within all competing technical, scheduling and financial constraints.

Dependability assurance is a continuous and iterative process throughout the project life cycle, using quantitative and qualitative approaches, with the aim of ensuring conformity to reliability, availability and maintainability requirements.

Space projects — Programme management — Dependability assurance requirements

1 Scope

This document specifies the requirements for a dependability (reliability, availability and maintainability) assurance programme for space projects.

It defines the dependability requirements for space products as well as for system functions implemented in software, and the interaction between hardware and software.

This document is applicable to all programme phases.

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.

ISO 10795, *Space systems — Programme management and quality — Vocabulary*

ISO 15865, *Space systems — Qualification assessment*

ISO 16192, *Space systems — Experience gained in space projects (lessons learned) — Principles and guidelines*

ISO 17666, *Space systems — Risk management*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10795 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
criticality
classification of a function or of a software, hardware or operation according to the severity of the consequences of its potential failures

Note 1 to entry: This notion of criticality, applied to a function or a software, hardware or operation, considers only severity, differently from the criticality of a failure or failure mode (or a risk), which also considers the likelihood or probability of occurrence.

3.2
failure scenario
conditions and sequence of events leading from the initial root cause to an end failure