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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 27025 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

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Introduction

This International Standard is intended to be applied for the management of quality assurance in space programmes and applications.

The formulation of this International Standard takes into account the existing International Standards prepared by ISO/TC 176 (notably ISO 9000, ISO 9001 and ISO 9004) and the content of ISO 14300-1 and ISO 14300-2.

For programme management, and as required in ISO 14300-2, the following concepts apply.

— The objective of quality assurance is to provide adequate confidence to the customer that the end product or service satisfies the requirements.

— The quality assurance policy is to ensure, in conjunction with other integrated project and product assurance functions, that required quality is specified, designed-in and will be incorporated, verified and maintained in the relevant hardware, software and associated documentation throughout all project phases, by applying a programme where

  — assurance is provided that all requirements are adequately specified,

  — design rules and methods are consistent with the project requirements,

  — each applicable requirement is verified through a verification programme which includes one or more of the following methods: analysis, inspection, test, review of design, audits,

  — design and performance requirements including the specified margin are demonstrated through a qualification process,

  — assurance is provided that the design is producible and repeatable, and that the specification of the resulting product can be verified and operated within the required operating limits,

  — adequate controls are established for the procurement of components, materials, software and hardware items, services,

  — fabrication, integration, test and maintenance are conducted in a controlled manner such that the end item conforms to the applicable baseline,

  — a non-conformance control system is established and maintained in order to track non conformances systematically and to prevent reoccurrence,

  — records are maintained and analysed to report and detect trends in due time for preventive/corrective actions,

  — inspection, measuring and test equipment and tools in use on the contract are controlled to be accurate for their application,

  — procedures and instructions are established which provide for the identification, segregation, handling, packaging, preservation, storage and transportation of all items, and

  — assurance that the operations including post-flight and disposal are carried out in a controlled way and in accordance with the relevant requirements.

Requirements in this International Standard are defined in terms of what shall be accomplished, rather than in terms of how to organize and perform the necessary work. This allows existing organizational structures and methods to be applied, where they are effective, and for the structures and methods to evolve as necessary.

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Space systems — Programme management — Quality assurance requirements

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1 Scope

This International Standard defines the quality assurance (QA) requirements for the establishment and implementation of QA programmes for projects covering mission definition, design, development, production and operations of space systems, including disposal.

It is applicable to the customer-supplier relationship for space products to the extent agreed by both parties. The requirements of this International Standard and its associated referenced standards are tailored to the needs and classes of specific projects.

When viewed from the perspective of a specific project context, the requirements defined in this International Standard are tailored to match the genuine requirements of a particular profile and circumstances of a project.

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.

ISO 9000*, Quality management systems — Fundamentals and vocabulary*

ISO 14300-2, *Space systems — Programme management — Part 2: Product assurance*

ISO 14620-1, *Space systems — Safety requirements — Part 1: System safety*

ISO 14621-1, *Space systems — Electrical, electronic and electromagnetical (EEE) parts — Part 1: Parts management*

ISO 14621-2:2003, *Space systems — Electrical, electronic and electromagnetical (EEE) parts — Part 2: Control programme requirements*

ISO 23460, *Space projects — Programme management — Dependability assurance requirements*

ISO 23461, *Space systems — Programme management — Non conformance control system*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000 and the following apply.

3.1.1
business agreement
agreement between two or more parties for the supply of goods or services

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