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Space systems — Programme management and quality — Vocabulary

Systèmes spatiaux — Management de programme et qualité — Vocabulaire

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Foreword

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ISO 10795 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

Introduction

It is intended that this International Standard be applied for the management, engineering, and product assurance in space projects and applications. The definitions in this International Standard specify what is accomplished, rather than how the necessary work is organized and carried out. This allows the application of existing organizational structures and methods where they are effective, and for the structures and methods to evolve as necessary without rewriting the standards. The formulation of this International Standard takes into account the existing International Standard prepared by ISO/TC 176.

Space systems — Programme management and quality — Vocabulary

Scope

This International Standard provides definitions of all common terms used in the area of space systems and operations. It does not contain terms specific to an individual International Standard in the area of space systems and operations, which are defined in that particular International Standard.

1 Terms and definitions

1.1 Acceptance

1.1.1
acceptance
⟨act⟩ raw, semi-finished or finished substance (gaseous, liquid, solid) of given characteristics from which processing into a **component** (1.43) or **part** (1.153) is undertaken

1.1.2
acceptance
⟨process⟩ part of the verification process, which demonstrates that the **product** (1.162) meets specified acceptance margins

1.2
acceptance criteria
minimum requirements that it is necessary for an item to satisfy for formal acceptance

1.3
accepted risk
hazard that has not been eliminated and for which the residual risk is deemed low enough to continue operation and that has been accepted by project/program management on the basis of documented risk acceptance rationale

1.4
acceptance test
test to determine that a system, subsystem, **component** (1.43), or functional part is capable of meeting performance requirements prescribed in a purchase specification or other **document** (1.81) specifying what constitutes the adequate performance capability for the **item** (1.121) and to demonstrate that the item is free from manufacturing defects

1.5
accident
undesired event arising from operation of any **project** (1.167) or specific **item** (1.121) that results in (a) human death or injury, (b) loss of, or damage to, project hardware, **software** (1.205) or facilities that can then affect the accomplishment of the **mission** (1.140), (c) loss of, or damage to, public or private property, or (d) detrimental effects on the **environment** (1.85)

NOTE Accident and mishap are synonymous.

[EN 13701:2001, 3.2]

1.6
action
task negotiated between two and only two persons, one decision maker and one holder, whose result leads to an expected result as a description of an operation in the formulation of a solution, and is characterized by objectives in terms of cost, quality and due date

1.7
action item
assignment to a designated organization or individual the accomplishment of a defined objective within a specified time frame

1.8
alert
formal notification to users, informing them of a **failure** (1.91) or **nonconformity** (1.144) of an **item** (1.121), already released for use or not, that can also be present on other items already delivered (e.g. items with identical **design** (1.75) concept, **material** (1.135), **component** (1.43) or **process** (1.160)

NOTE An alert can also be raised when a deficiency in a specified **requirement** (1.190) that can affect the fitness for purpose in the defined application has been identified.

[EN 13701:2001, 3.4]

1.9
analysis
verification method utilizing techniques and tools such as math models, compilation similarity assessments, validation of records, etc., to confirm that verification requirements have been satisfied

1.10
anomaly
any gap between a current situation and an expected one

NOTE 1 An anomaly justifies an investigation that can lead to the discovery of a nonconformance, a defect or a "non-lieu" [deviation without impact, e.g. **product** (1.162) peculiarity].

NOTE 2 A deviation may be declared, foreseen or requested.

NOTE 3 An anomaly is often detected in comparison with what seems to be standard or with the expected use.

1.11
applicable document
document (1.81) that contains **provisions** (1.170) which, through reference in the source document, incorporates additional provisions in the source document

NOTE In this context, a provision is an expression that takes the form of a statement, an instruction, a recommendation or a requirement.

1.12
approval
formal agreement by a designated management official to use or apply an **item** (1.121) or proceed with a proposed course of action

NOTE 1 Approvals shall be documented.

NOTE 2 Approval implies that the approving authority has verified that the **item** (1.121) conforms to its **requirements** (1.190).

Adapted from EN 13701:2001, 3.8.

1.13
as-built configuration
configuration of one **product** (1.162) item identified by its gaps of conformity with respect to its applicable configuration

NOTE 1 The relevant “as-designed configuration” corresponds to the same “part number”.

NOTE 2 “As-built configuration” includes any impacts from technical events, anomalies, repairs, life potential consumption that occurred before the **product** delivery and any potential modifications applied on the **product** but not embodied in the relevant design data file.

1.14
as-built configuration list
ABCL
reporting instrument defining the “as-built status” for each serial number of a configuration item subject to formal acceptance

NOTE 1 The ABCL shall identify the “as-manufactured” and “as-tested” statuses applicable to a part comprising a configuration item.

NOTE 2 Using the configuration item data list as a reference, any difference between the ABCL and the CIDL shall be documented in the ABCL with reference to the applicable NCR and RFW.

1.15
as-delivered configuration
as-built configuration at the time of delivery

1.16
as-designed configuration

current design status at any point of time providing the complete definition of a configuration item

NOTE The starting point of the “as-designed” configuration with regard to the “as-planned” configuration is based on changes the company has approved internally but has not yet incorporated in the design, and on changes already implemented but not yet approved in the “as-planned” configuration.

1.17
as-ordered configuration
contractual configuration
configuration of a product configuration item, effectively given by its contractual approved changes from the configuration baseline

NOTE At a given moment, a **product** (1.162) may have several applicable configurations.

1.18
as-planned configuration
planned to be built statement for each configuration item unit being delivered

NOTE The as-planned configuration is composed of the current configuration baseline and any changes that the company has approved internally but has not yet embodied in the current configuration baseline.

1.19
as-qualified configuration
as-built configuration that was certified to have satisfactorily passed specified qualification tests

1.20
assembly
combination of **parts** (1.153), **components** (1.43) and units that form a functional entity

NOTE An assembly can be disassembled and retain its capabilities after reassembly.

1.21
assessment
systematic process of collecting and analysing data to determine the current status of a **product** (1.162), a **process** (1.160), a **system** (1.221), a person or an **organization** (1.150)

1.22
audit
systematic, independent and documented **process** (1.160) for obtaining **audit evidence** (1.26) and evaluating it objectively to determine the extent to which **audit criteria** (1.25) are fulfilled

NOTE Internal audits, sometimes called first-party audits, are conducted by, or on behalf of, the **organization** (1.150) itself for internal purposes and can form the basis of the organization's self-declaration of **conformity** (1.55). External audits include what are generally termed “second-” or “third-party audits”. Second-party audits are conducted by parties having an interest in the organization, such as **customers** (1.71), or by other persons on their behalf. Third-party audits are conducted by external independent organizations. Such organizations provide certification or registration of **conformity** (1.55) with **requirements** (1.190) such as those of ISO 1401:1994. When **quality** (1.176) and environmental **management systems** (1.134) are audited together, this is termed “combined audit”. When two or more auditing organizations cooperate to audit a single auditee jointly, this is termed “joint audit”.

Adapted from ISO 9000:2005, 3.9.1.

1.23
audit client
organization (1.150) or person requesting an **audit** (1.22)

NOTE The audit client may be the auditee or any other **organization** (1.150) that has the regulatory or contractual right to request an audit.

[ISO 9000:2005, 3.9.7]

1.24
audit conclusion
outcome of an **audit** (1.22) provided by the audit team after consideration of the audit objectives and all **audit findings** (1.27)

[ISO 9000:2005, 3.9.6]

1.25
audit criteria
set of policies, **procedures** (1.159), or **requirements** (1.190) used as a reference

[ISO 9000:2005, 3.9.3]

1.26
audit evidence
records (1.184), statements of fact or other information which is relevant to the **audit criteria** (1.25) and verifiable

NOTE Audit evidence can be qualitative or quantitative.

[ISO 9000:2005, 3.9.4]

1.27
audit findings
results of the evaluation of the collected **audit evidence** (1.26) against **audit criteria** (1.25)

NOTE Audit findings can indicate either **conformity** (1.55) or **nonconformity** (1.144) with audit criteria, or opportunities for improvement.

[ISO 9000:2005, 3.9.5]

1.28
availability of an item
ability to be in a state to perform as required, under given conditions, at a given instant, or over a given time interval

NOTE 1 The “given conditions” include the provision of necessary external resources.

NOTE 2 This ability depends on the combined aspects of the reliability and maintainability of the **item** (1.121), and the maintenance support performance or recoverability of the **item** (1.121).

NOTE 3 Availability may be quantified using appropriate measures.

1.29
baseline
set of information that describes exhaustively a situation at a given instant of time or over a given time interval

[EN 13701:2001, 3.13]

NOTE It is generally used as a reference for comparison with an analysis of subsequent evolutions of the information.

1.30
business agreement
legally binding agreement, for the supply of goods or services, between two or more actors in the customer-supplier chain

NOTE Business agreements are recorded in a variety of forms, such as

— **contracts** (1.60),

— memoranda of understanding,

— inter-governmental agreements,

— inter-agency agreements,

— partnerships,

— bartering agreements,

— purchase orders.

1.31
calibration
all the operations for the purpose of determining the values of the **errors** (1.87) and, if necessary, other metrological properties of a measuring instrument

NOTE The metrological use of the term “calibration” is often extended to include operations such as adjustments, scale graduation, etc. This use is deprecated.

[IEC Multilingual Dictionary: 2001 edition]

1.32
catastrophic
capable of causing death or major system destruction

1.33
certificate of compliance
signed formal declaration that states that all actions relating to safety and interface verification that the user is required to complete prior to turnover have been accomplished

1.34
certification procedure
written assurance by a third party that a **product** (1.162), **process** (1.160) or service conforms to specified **requirements** (1.190)

1.35
change
official numerically issued alterations to a **document** (1.81) or any portion thereof, usually brought about by changed conditions or more complete information

NOTE 1 Such a correction is not extensive enough to require retying and reprinting of the entire **document** (1.81) and usually consists of an instruction to replace a few pages with those of a later issue. Documents of 10 or fewer pages are revised, not changed.

NOTE 2 "Class 1" ("major" for deviation) are changes that impact the contractual/technical agreement reached between the **project** (1.167) and its customer. It is necessary that such changes be submitted to the customer for review and approval before implementation.

NOTE 3 "Class 2" ("minor" for deviation) are changes that do not impact the customer **contract** (1.60) and that are necessary for the **project** (1.167) and its supply chain to meet the technical/contractual requirements and provisions. Such changes can be implemented after CCB approval.

1.36
change request
document (1.81) containing a call for an adjustment of a system

NOTE 1 It is of great importance in the change management process.

NOTE 2 A change request is declarative (i.e. it states what it is necessary to accomplish) but leaves out how the change should be carried out.

1.37
characteristic
distinguishing feature

NOTE 1 A characteristic can be inherent or assigned.

NOTE 2 A characteristic can be qualitative or quantitative.

NOTE 3 There are various classes of characteristic, such as the following:

— physical (e.g. mechanical, electrical, chemical or biological characteristics);

— sensory (e.g. related to smell, touch, taste, sight, hearing);

— behavioural (e.g. courtesy, honesty, veracity);

— temporal [e.g. punctuality, **reliability** (1.187), **availability** (1.28)];

— ergonomic [e.g. physiological characteristic, or related to human **safety** (1.198)];

— functional (e.g. maximum speed of an aircraft).

[ISO 9000:2005, 3.5.1]

1.38
clean room
clean area controlled according to specified levels

NOTE Levels specified include humidity, temperature, particulates number versus size and volume and chemical contamination.

1.39
common-cause failure
⟨within a system⟩ multiple **failures** (1.91) related to a single cause or causal event

NOTE 1 It is generally accepted that the **failures** (1.91) occur simultaneously or within a short time of each other.

NOTE 2 Common-cause failures can also be common-mode failures.

NOTE 3 Common-cause failures reduce the effect of system redundancy.

1.40
common-mode failure
⟨within a system⟩ multiple **failures** (1.91) that occur in the same way

NOTE 1 Common-mode failures can have different causes.

NOTE 2 Common-mode failures can also be common-cause failures (1.91).

1.41
common-mode fault
fault (1.94) of multiple **items** (1.121) that exhibit the same fault mode

[EN 13701:2001, 3.21]

1.42
competence
demonstrated ability to apply knowledge and skills

NOTE 1 Technical competence is defined by the know-how, such as working practices, special skills (“tours de main”), mastery of technology, etc.

NOTE 2 Cognitive competence is knowledge, such as specific fundamental knowledge, scientific “capital”, expertise in a domain, history, etc.

NOTE 3 Methodological competence is defined by the working methods, such as problem solving, manner of decision.

NOTE 4 Experimental competence is the experience related to relations with different interlocutors (e.g. customer relations), to participation, to events, to “personal” actions, etc.

[ISO 9000:2005, 3.9.14]

1.43
component
part
set of materials, assembled according to defined and controlled processes, which cannot be disassembled without destroying its capability and which performs a simple **function** (1.102) that can be evaluated against expected performance requirements

NOTE 1 The term “part” is preferred when referring to purely mechanical devices.

NOTE 2 The term “component” is preferred for EEE devices.

1.44
concession
permission to use or release a **product** (1.162) that does not conform to specified **requirements** (1.190)

NOTE 1 The concession can impose limitations on the use of the concessed product: a concession is generally limited to the delivery of a **product** (1.162) that has nonconforming characteristics within specified limits for an agreed period of time or quantity of that **product** (1.162).

NOTE 2 The “deviation” is an anterior decision whereas the “waiver” is a posterior decision with respect to production phase.

NOTE 3 A concession is part of the **product** (1.162) as-built configuration and does not affect the configuration baselines.