

ISO 27025:2023-10 (E)

Space systems - Programme management - Product quality assurance requirements

Contents	Page
Foreword.....	vii
Introduction.....	viii
1 Scope.....	1
2 Normative references.....	1
3 Terms, definitions and abbreviated terms.....	1
3.1 Terms and definitions.....	1
3.2 Abbreviated terms.....	2
4 QA programme management.....	3
4.1 QA programme.....	3
4.2 Organization.....	4
4.3 QA programme plan.....	4
4.4 QA status reporting.....	4
4.5 Personnel training and certification.....	4
4.6 QA programme audits.....	4
4.7 QA role in configuration management.....	5
4.8 Critical items control.....	5
5 Quality assurance general requirements.....	5
5.1 Documentation and data control.....	5
5.2 Records.....	6
5.3 Stamp control.....	6
5.4 Traceability.....	7
5.4.1 General.....	7
5.4.2 Identification.....	7
5.4.3 Data retrieval system.....	8
5.5 Metrology and calibration.....	8
5.6 Nonconformity control system.....	9
5.7 Alert system.....	10
5.7.1 Supplier participation.....	10
5.7.2 PA experts involvement.....	10
5.7.3 Generation of alerts within the project.....	10
5.7.4 Processing of alerts from other sources.....	11
5.8 Handling, storage and preservation.....	11
5.8.1 Handling.....	11
5.8.2 Storage.....	11
5.8.3 Preservation.....	12
5.9 Statistical quality control and analysis.....	12
5.9.1 General.....	12
5.9.2 Sampling plans.....	12
6 QA requirements for design and verification.....	12
6.1 General.....	12
6.2 Planning.....	13
6.3 Organizational and technical interfaces.....	13
6.4 Design rules.....	13
6.4.1 General.....	13
6.4.2 Producibility.....	13
6.4.3 Repeatability.....	14
6.4.4 Inspectability and testability.....	14

6.4.5	Operability.....	14
6.5	Standards and procedures.....	14
6.5.1	General.....	14
6.5.2	Provisions.....	15
6.6	Verification.....	15
6.6.1	General.....	15
6.6.2	Design verification analysis.....	15
6.6.3	Design reviews.....	16
6.6.4	Qualification process.....	16
6.7	Design changes.....	17
7	QA requirements for procurement.....	17
7.1	General.....	17
7.2	Selection of procurement sources.....	17
7.2.1	General.....	17
7.2.2	Selection criteria.....	18
7.2.3	Record and list of procurement sources.....	18
7.3	Procurement documents.....	18
7.3.1	General.....	18
7.3.2	Procurement documents.....	18
7.3.3	Review of procurement documents.....	19
7.3.4	Product assurance documentation to deliver.....	19
7.4	Surveillance of procurement sources.....	19
7.4.1	General.....	19
7.4.2	Surveillance programme.....	19
7.4.3	Criteria for surveillance.....	19
7.4.4	Surveillance of lower level suppliers.....	19
7.5	Receiving inspection.....	20
7.5.1	General.....	20
7.5.2	Receiving inspection activities.....	20
7.5.3	Customer furnished items.....	21
7.5.4	Receiving inspection records.....	21
8	QA requirements for manufacturing, assembly and integration.....	21
8.1	General.....	21
8.2	Planning of manufacturing, assembly and integration activities and associated documents.....	21
8.3	Manufacturing readiness reviews.....	22
8.3.1	General.....	22
8.3.2	Objectives.....	22
8.4	Control of processes.....	22
8.4.1	General.....	22
8.4.2	Critical processes.....	23
8.4.3	Statistical process control.....	23
8.5	Workmanship standards.....	23
8.5.1	General.....	23
8.5.2	Identification of criteria.....	23
8.5.3	Samples.....	23
8.6	Materials and parts control.....	23
8.6.1	General.....	23
8.6.2	Items marks.....	24
8.6.3	Sensitive items.....	24
8.7	Equipment control.....	24
8.7.1	Tools.....	24
8.7.2	Equipment for computer-aided manufacturing.....	24
8.8	Cleanliness and contamination control.....	24
8.8.1	General.....	24
8.8.2	Cleanliness levels.....	24
8.8.3	Cleaning materials and methods.....	25
8.8.4	Contamination control.....	25
8.8.5	Cleanliness of facilities.....	25
8.9	Inspection.....	25
8.9.1	General.....	25
8.9.2	Critical characteristics.....	25

8.9.3	Self-inspection	25
8.9.4	Mandatory inspection points (MIPs)	25
8.9.5	MIPs agreement	25
8.9.6	MIPs selection	25
8.9.7	MIPs invitation	26
8.9.8	Inspection and tests status identification	26
8.10	Specific requirements for assembly and integration	26
8.10.1	Control of temporary installations and removals	26
8.10.2	Logbooks	27
8.11	Manufacturing, assembly and integration records	27
9	Testing	27
9.1	General	27
9.2	Test facilities	27
9.3	Test equipment	27
9.3.1	General	27
9.3.2	Verification of test equipment	27
9.4	Test documentation	27
9.4.1	Test procedures	27
9.4.2	Test reports	28
9.5	Test performance monitoring	28
9.5.1	General	28
9.5.2	Test witnessing	28
9.5.3	Test of critical characteristics	28
9.5.4	Self-certification for test activities	28
9.5.5	Testing activities subject to QA certification	28
9.5.6	Testing of hazardous operations	29
9.5.7	QA authority	29
9.6	Test reviews	29
9.6.1	General	29
9.6.2	QA function representation	29
10	QA requirements for acceptance and delivery	29
10.1	General	29
10.1.1	Acceptance process	29
10.1.2	Preparation of items for delivery	29
10.2	End item data package	29
10.2.1	General	29
10.2.2	Basis for formal acceptance	29
10.2.3	EIDP objectives	29
10.2.4	EIDP content	29
10.3	Delivery review board (DRB)	30
10.3.1	General	30
10.3.2	DRB functions	30
10.3.3	DRB composition	30
10.3.4	Customer participation	30
10.3.5	DRB responsibilities	30
10.3.6	Delivery authorization	30
10.4	Preparation for delivery	31
10.4.1	Packaging	31
10.4.2	Marking and labelling	31
10.5	Delivery	31
10.5.1	Shipping control	31
10.5.2	Transportation	31
11	Operations	31
11.1	General	31
11.2	Basic quality concepts for operations	31
11.2.1	Mission quality	31
11.2.2	Quality of mission products and services	32

11.3	Validation of the system.....	32
11.4	QA requirements.....	32
11.4.1	QA plan for operations	32
11.4.2	Operations planning.....	32
11.4.3	Operational demonstration.....	33
11.4.4	Training and operator certification.....	33
11.4.5	Operations anomalies and feedback corrective loop.....	33
11.4.6	Alerts	34
11.4.7	Procedural deviations	34
11.4.8	General requirements.....	34
Annex A	(informative) Ground support equipment (GSE).....	35
Annex B	(informative) Logbook — Document requirements definition	38
Annex C	(informative) End item data package — Document requirements definition	42
Annex D	(informative) Declaration of conformity — Document requirements definition.....	47
Bibliography	50