



# AF 9100:2026

## Aerospace Quality Management System

FORM

### **Design, Interfaces, Gates and Engineering Budgets**

**AF-FR-9100-016**

FIRST EDITION

30 September 2026 | English master text

# Publication identity and application

| Control                    | Publication value                                                                                                            |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Title                      | Design, Interfaces, Gates and Engineering Budgets                                                                            |
| Document code              | AF-FR-9100-016                                                                                                               |
| Edition / language         | FIRST EDITION / English master text                                                                                          |
| Companion edition identity | 30 September 2026                                                                                                            |
| Controlling source         | AF 9100:2026 — FIRST EDITION — 29 September 2026                                                                             |
| Responsible owner function | Responsible record owner                                                                                                     |
| Primary source anchors     | 8.3, 11, C, D, Z.2                                                                                                           |
| Delivery status            | Prepared implementation companion. Actual approval, adoption, effectivity and operational decisions are recorded separately. |

## Use and document-control boundary

This companion implements the supplied AF 9100 requirement basis without changing the original standard. Its process allocation, examples, checklists and record design are authored implementation material. Actual mission or product limits, specialist procedures, permissions and genuine observations must be completed before consequential use. Applicable source minima and independent decision conditions cannot be reduced by this companion.

The printed edition date identifies the companion series; it is not evidence that later preparation, review or operational decisions occurred on that date. New support codes in this set are proposed allocations for controlled registration. Established AF-IG-9100-001, AF-FAQ-9100-001 and AF-TR-9100-001 identities are retained; earlier files, the corporate master list and ASTRA codes are not overwritten.

Equivalent combined or digital records are permitted when all required fields, relationships, authority and history remain intact. A completed PDF field or typed name is not evidence of an authenticated approval. Blank records in this delivery contain no invented applicant, signature, event or result.

Interactive fields are blank by default. Save a working copy, use continuation records where necessary and preserve raw supporting evidence outside the PDF through controlled references. Separate issued PDFs are the authoritative interactive copies; the combined reading edition is flattened.

# Contents and reading route

|                                                             |    |
|-------------------------------------------------------------|----|
| Publication identity and application                        | 2  |
| Contents and reading route                                  | 3  |
| 1 Purpose, source identity and completion rules             | 4  |
| 2 Common identity and record control                        | 4  |
| 3 Form-specific evidence and decisions                      | 6  |
| 4 Detailed continuation record                              | 8  |
| 5 Completeness and receiving review                         | 9  |
| Appendix A — Source requirements and complete field payload | 10 |
| Source tables — complete field and decision payloads        | 15 |

Select actual scope → complete application criteria → use the applicable procedure and technical book → capture authentic evidence → evaluate every applicable condition → obtain the required independent decision. Document availability does not establish implementation or conformity.

# 1 Purpose, source identity and completion rules

This additional implementation form organizes the detailed record needs of the identified AF 9100 provisions. It supplements the twelve source form modules without renumbering them or creating a new assessment route.

Complete the applicable fields with authentic information. Record unknown, unavailable and not-yet-demonstrated conditions explicitly. An exclusion needs an approved applicability rationale. Use linked continuation records for multiple items, sources, tests, people or decisions. Keep source attachments under controlled custody; do not rely on this PDF alone where raw evidence is required.

## 2 Common identity and record control

**Record ID and continuation link**

**Template/code and controlled version**

**Case/applicant/asset identity**

**Route, scope and application profile**

**Object configuration and relevant period**

**Actual creation/event time and time zone**

**Author and role**

**Reviewer and approval responsibility**

**Current state and original history**

**Original evidence and source location**

**Access classification and permitted recipients**

**Retention basis, duration and preservation hold****Correction: original value, reason, author and approval****Authenticated approval/workflow reference (typed name is not a signature)**

## 3 Form-specific evidence and decisions

### Mission concept and users

### Success and protective states

### Requirements allocation

### Interface provider/receiver

### Units/frames/time basis

### Hazard and model assumptions

### Verification strategy

### Resource budget quantity

### Capacity/demand/degradation

### Reserve owner and concurrent allocations

### Gate and reviewed configuration

### Entry/exit criteria

### Independent review and dissent

**Decision and permitted/prohibited work****Conditions and closure****Receiving handover**

## 4 Detailed continuation record

Use this section for each additional independently testable condition or actual event. A form-level summary cannot remove a required field, earlier failed result or unresolved item.

**Parent form and continuation/item ID**

**Exact object / configuration / performer / event time**

**Source requirement / approved profile / condition**

**Numeric criterion with units or observable attribute**

**Method / validity / uncertainty / essential step**

**Original evidence and actual result**

**Conclusion and limitations / rejected or contrary evidence**

**Required protection / action / responsible owner / actual due event**

**Reviewer / approval reference / receiving acknowledgement**

## 5 Completeness and receiving review

| Check                 | Required review                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------|
| Identity and scope    | Every record belongs to the actual object, evaluated configuration and relevant period.                                |
| Evidence and validity | Required original data, method, actual results and limitations are traceable.                                          |
| Decision separation   | Technical disposition, independent attestation, employer task authority and public permission are not merged.          |
| History and time      | Earlier failed states and original notification clocks are preserved; no manufactured observations.                    |
| Approval and custody  | Actual competent authority and receiving responsibility are established; typed names are not authenticated signatures. |

### Actual reviewer / conclusion / unresolved items

### Authenticated approval instrument or workflow reference

### Receiving custodian / access / retention / accepted residual duties

# Appendix A — Source requirements and complete field payload

Source: AF 9100:2026, Aerospace Quality Management System, FIRST EDITION, 29 September 2026; supplied 131-page PDF. Source page references below locate the original publication. These excerpts are read with the complete applicable standard; local implementation sequences do not replace it.

## 8.3 Design and development

### **SOURCE p. 22 | Normative when applicable**

8.3(a) The organization shall apply 8.3.1–8.3.6 to its actual product, service and process design responsibilities, including outsourced design for which it remains responsible. Supplied design shall be controlled and deficiencies escalated even where the organization does not own the product design.

**Required evidence:** Design scope and responsibility; controlled inputs; review, verification, validation and changes.

### 8.3.1 Design and development governance

#### **SOURCE p. 22 | Normative when applicable**

8.3.1(a) The organization shall establish a design and development process appropriate to the complexity, novelty and consequence of the output. It shall define technical authority, independent review, design responsibility and interfaces with customer or externally provided design.

8.3.1(b) Design assurance shall include hardware, software, interfaces, manufacturing methods, operational procedures and maintenance assumptions. Build-to-print work shall still assess the adequacy and controlled use of supplied data and shall escalate defects or ambiguities to the design authority.

**Required evidence:** Design process; responsibility allocation; design-data acceptance; escalation of ambiguities.

### 8.3.2 Design planning and lifecycle controls

#### **SOURCE p. 22 | Normative when applicable**

8.3.2(a) The design plan shall define stages, work breakdown, resources, reviews, verification, validation, configuration controls and transition criteria. Planning shall address ability to manufacture, inspect, integrate, test, operate, maintain, repair and retire the design.

8.3.2(b) Interfaces among disciplines and organizations shall be explicitly managed. Customer and user involvement shall be planned where necessary to validate intended use. Independence and specialist competence shall be matched to criticality and uncertainty.

**Required evidence:** Design plan; interface agreements; review schedule; V&V strategy; required independence.

### 8.3.3 Design inputs and derived requirements

#### **SOURCE p. 22 | Normative when applicable**

8.3.3(a) Design inputs shall identify functions, performance, constraints, operating environments, applicable obligations, lessons learned, failure consequences, materials, lifecycle limits and obsolescence risks. The organization shall review inputs for completeness, consistency and testability before baselining.

8.3.3(b) Derived requirements shall have a documented technical rationale and a traceable parent need or analysis. Safety-related derived requirements shall be reviewed by the appropriate authority. Conflicts shall be resolved rather than propagated into competing design assumptions.

**Required evidence:** Approved input baseline; derivation rationale; assumption register; conflict resolutions.

### 8.3.4 Design review, verification and validation

#### **SOURCE p. 22 | Normative when applicable**

8.3.4(a) Reviews shall evaluate whether the design can fulfill requirements and whether evidence and unresolved issues justify progression. Verification shall demonstrate that outputs satisfy specified inputs; validation shall demonstrate suitability for intended use in a representative context. These activities shall not be treated as interchangeable.

8.3.4(b) Test plans shall identify the test item and configuration, objectives, methods, environment, equipment, uncertainty, data to retain, acceptance criteria and anomaly handling. Test readiness shall be approved before

execution. Deviations from the plan shall be recorded and evaluated for their effect on validity.

8.3.4(c) Analysis and simulation used as evidence shall have a justified model, validated range, input provenance, sensitivity analysis and uncertainty treatment. Completion of design shall require evidence covering identified operating conditions and interfaces; untested or unanalyzed conditions shall be explicitly bounded or resolved.

**Required evidence:** Review records; requirements-to-evidence matrix; approved test plans; raw data; model credibility; anomaly dispositions.

### 8.3.5 Design outputs and release

**SOURCE p. 22 | Normative when applicable**

8.3.5(a) Design outputs shall define the product or service sufficiently for procurement, manufacture, integration, verification, use and support. They shall identify characteristics, interfaces, materials, software versions, critical items, key characteristics, acceptance criteria and necessary handling or maintenance information.

8.3.5(b) Outputs shall be approved by authorized technical personnel before release. Where a model is authoritative, its role, exchange format, revision and interpretation rules shall be explicit. Manufacturing and inspection shall use consistent definitions of geometry, units, coordinate systems and tolerances.

**Required evidence:** Released design package; critical-characteristic list; approval; downstream usability review.

### 8.3.6 Design changes and continued validity

**SOURCE p. 23 | Normative when applicable**

8.3.6(a) Design changes shall be identified, reviewed, verified or validated as necessary and approved before implementation. Impact shall be assessed on interchangeability, interfaces, hazards, software, process capability, qualification, service instructions and the affected delivered population.

8.3.6(b) The organization shall identify when customer or competent-authority approval is required. A change that appears physically small shall not be presumed low risk. Changes to materials, manufacturing routes, model training data or timing behavior shall receive a consequence-based assessment.

**Required evidence:** Change request; impact analysis; requalification decision; approvals; affected-item and implementation records.

## 11.1 Mission and concept definition

**SOURCE p. 28 | Normative when applicable**

11.1(a) The organization shall establish a mission or service concept identifying users, objectives, success criteria, operational scenarios, environments, external interfaces and constraints. Normal, degraded, emergency, maintenance and retirement states shall be considered. Assumptions about external services or operator behavior shall be explicit.

11.1(b) The concept shall define the boundary between mission success and safe behavior when mission success is no longer achievable. A system shall not be permitted to continue an unsafe action merely to preserve a mission objective. Changes to the concept shall trigger reassessment of derived requirements and evidence.

**Required evidence:** Mission concept; scenario catalogue; boundary assumptions; success and safe-state criteria.

## 11.2 Requirements decomposition and interface control

**SOURCE p. 28 | Normative when applicable**

11.2(a) System requirements shall be allocated to subsystems, functions, operators and external services with traceable rationale. Interfaces shall specify physical, electrical, data, timing, environmental, human and procedural characteristics as applicable.

11.2(b) The organization shall assess emergent behavior and incompatible assumptions between separately acceptable subsystems. Interface changes shall be jointly reviewed by the affected authorities. Verification of each component independently shall not be assumed to verify the integrated system.

**Required evidence:** Requirement allocation; interface-control documents; integration assumptions; cross-interface verification.

## 11.3 Assurance planning and lifecycle gates

**SOURCE p. 28 | Normative when applicable**

11.3(a) Programs shall define lifecycle gates with entry criteria, required evidence, accountable decision makers, independent review, open-issue rules and exit criteria. Annex C provides minimum decision content. Gate names may be adapted to the organization, but the required decisions shall remain identifiable.

11.3(b) Gate decisions shall distinguish unconditional progression, bounded conditional progression and hold. Conditions shall have owners, deadlines and limits on work permitted before closure. A schedule milestone shall not be recorded as a passed technical gate when required evidence is missing.

**Required evidence:** Gate plan; review packages; decision records; conditions and verified closure.

## 11.4 Reliability, availability and maintainability

### SOURCE p. 28 | Normative when applicable

11.4(a) RAM requirements shall be derived from operational needs, exposure, consequence, support concept and applicable obligations. The organization shall state the population, mission duration, failure definition, repair boundary, confidence and statistical assumptions associated with every numerical claim.

11.4(b) Analysis shall address failure mechanisms, dependencies, common causes, wear-out, maintenance-induced failure, dormant failures and environmental stress as relevant. Predicted reliability shall be distinguished from demonstrated performance. Qualification tests shall not be interpreted as proving rare-event safety rates without a defensible statistical and engineering basis.

11.4(c) Maintainability shall consider access, diagnosis, repair errors, tools, spares, human factors and verification after intervention. Availability claims shall identify whether logistics and administrative downtime are included. Annex F provides worked methods and limits.

**Required evidence:** RAM plan; models and assumptions; test plan; field exposure; repair-time and downtime definitions.

## 11.5 Hazard analysis and assurance case

### SOURCE p. 28 | Normative when applicable

11.5(a) The organization shall maintain a structured safety and mission-assurance argument proportionate to criticality. Claims shall be bounded by configuration and operational domain and supported by traceable evidence. The argument shall expose uncertainty, counter-evidence and unresolved limitations.

11.5(b) Hazard analysis shall be maintained as the design and operating context evolve. Failure-mode analysis, fault trees, scenario analysis and other methods shall be selected for the problem rather than used as paperwork substitutes. Shared resources, common software, environmental exposure and organizational dependencies shall be assessed.

**Required evidence:** Assurance case; hazard log; analysis rationale; evidence index; limitations and independent challenge.

## 11.6 Verification strategy and model credibility

### SOURCE p. 28 | Normative when applicable

11.6(a) The organization shall select inspection, analysis, demonstration and testing methods capable of establishing each requirement. The selected method shall address representativeness, observability, uncertainty, test-article differences and required confidence.

11.6(b) For models and simulations, credibility shall be established for the stated decision use. Verification of implementation, validation against relevant observations, input quality, sensitivity and uncertainty shall be addressed. Extrapolation beyond the demonstrated domain shall be identified and approved with compensating evidence.

**Required evidence:** Verification matrix; method-selection rationale; model-credibility dossier; approved extrapolations.

## 11.7 Technical budgets and margin management

### SOURCE p. 29 | Normative when applicable

11.7(a) The organization shall manage relevant budgets such as mass, power, thermal capacity, memory, latency, structural loads and resource consumption. Each budget shall have a baseline, allocation, margin definition, uncertainty treatment, owner and review trigger.

11.7(b) Margins shall be defined consistently so that reserve is not counted twice across subsystem and system levels. Changes that consume allocated margin shall be evaluated for cumulative effects and compatibility with qualification evidence. A positive arithmetic margin shall not substitute for a valid physical model.

**Required evidence:** Budget register; margin definitions; allocation history; uncertainty and change assessments.

## 11.8 Integrated readiness and handover

### **SOURCE p. 29 | Normative when applicable**

11.8(a) Before operational handover, the organization shall reconcile the released configuration, validated operational procedures, support capability, training, maintenance data, open issues and contingency arrangements. The receiving organization shall acknowledge responsibilities and limitations.

11.8(b) The handover shall include information required for continued assurance and not merely delivery acceptance. Long-duration missions shall plan how evidence, expertise, spares and secure updates remain available after original project personnel or suppliers are no longer present.

**Required evidence:** Integrated readiness review; handover dossier; receiving acknowledgement; long-life support arrangements.

## C.1 Gate governance and evidence package

### **SOURCE p. 54 | Normative when applicable**

C.1(a) For each gate, the program shall identify the decision authority, required specialists, independence, entry criteria, evidence package and permissible outcomes. Evidence shall correspond to the reviewed configuration. A gate package shall include open issues, dissent, assumptions and the limitations of analysis or testing.

C.1(b) The decision record shall state pass, conditional progression or hold, with permitted downstream activity and conditions. Conditional progression shall not permit an irreversible action that depends on missing critical evidence. Closure shall be verified before the dependent activity occurs.

## C.2 Iterative and emergency development

### **SOURCE p. 54 | Normative when applicable**

C.2(a) Incremental delivery shall define the assurance boundary of each increment and its compatibility with existing configurations. An increment shall not rely on a future increment to make current operation safe unless operation is explicitly restricted until that future control is verified.

C.2(b) Emergency development shall preserve necessary technical authority and evidence. Compressed scheduling may change sequencing, but it shall not reclassify unknown performance as verified. Temporary deployment shall have limitations, monitoring, expiry and recovery arrangements.

## D.1 Requirement-record integrity

### **SOURCE p. 55 | Normative when applicable**

D.1(a) Every controlled product or service requirement shall have an identifier, statement, source, owner, revision, rationale, applicability, verification method and acceptance criteria. Derived and safety-related requirements shall include their parent link and approving authority.

D.1(b) The organization shall maintain traceability through allocation, implementation, verification, anomaly resolution and release. Traceability completeness shall be evaluated for meaning and validity, not only the presence of hyperlinks. Broken or circular links shall be investigated.

## D.2 Identifiers, versioning and time

### **SOURCE p. 55 | Normative when applicable**

D.2(a) Identifiers shall remain unique within the defined repository and resolvable after migration. Revision and status shall be distinct; an approved obsolete version shall not appear current. Time records shall identify the relevant time basis and sequence sufficient to reconstruct events.

D.2(b) Units, coordinate systems, reference frames and data encodings shall be explicit where misinterpretation could affect conformity. Imported supplier data shall be checked for mapping errors, truncated precision and semantic differences. Automated exchange shall retain validation results.

## D.3 Evidence provenance and tamper indication

### **SOURCE p. 55 | Normative when applicable**

D.3(a) An evidence record shall identify the source system or person, acquisition method, processing, transformations and approvals. Cryptographic hashes or signatures may support integrity but shall not be treated

as proof that the original observation was correct.

D.3(b) Corrections shall preserve the prior evidence and explain why it changed. Access and modification logs shall be protected in accordance with consequence and obligations. Migration shall verify relationships as well as files; a readable PDF without its underlying configuration links may be insufficient. The filled chain demonstrates structure only. It deliberately does not supply a universal stopping-time value, load or speed; those values require a valid system-specific safety basis.

## Z.2 Margin definitions and reserve double counting

**SOURCE p. 101 | Definition, explanation or informative example; no new universal limit**

Z.2(a) Assume an available power capacity of 5.0 kW and a predicted demand of 4.0 kW for a stated condition. Margin relative to demand is  $(5.0 - 4.0) / 4.0 = 25\%$ . Unused fraction of available capacity is  $(5.0 - 4.0) / 5.0 = 20\%$ . Both calculations are correct but use different denominators.

Z.2(b) The budget should define which convention is used and whether uncertainty, degradation, contingency and reserve have already been included. Allocating the same reserve independently to multiple subsystems can overstate system margin. Simultaneous peak and transient conditions may require a separate assessment.

Source calculation note: (Z-1)  $\text{Margin\_relative\_to\_demand} = (\text{capacity} - \text{demand}) / \text{demand}$  Use the same physical quantity and compatible units. A nominal positive margin is not sufficient when the prediction uncertainty or unmodeled transients can consume it.

# Source tables — complete field and decision payloads

**Table C-1 — Lifecycle transition requirements**

Source p. 54 | Required structure when applicable

| Gate                                         | Required evidence before decision                                                                                                   | Exit condition                                                                                                                  |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| G0 — Concept and feasibility                 | User need; intended domain; candidate architecture; initial hazards; applicable obligations; technology gaps; support concept.      | The mission is defined, feasibility gaps are owned and unacceptable concepts are eliminated or bounded.                         |
| G1 — Requirements baseline                   | Traceable requirements; acceptance methods; interfaces; special requirements; constraints; initial assurance allocation.            | Requirements are coherent and verifiable; open assumptions cannot invalidate the next work stage.                               |
| G2 — Architecture and preliminary design     | Allocated functions; hazard controls; budgets; supplier strategy; model assumptions; planned V&V; independence.                     | Architecture plausibly satisfies requirements and critical assumptions have a verification path.                                |
| G3 — Detailed design release                 | Controlled design outputs; analyses; software architecture; process and material suitability; updated hazards; interface agreement. | Design data are sufficient for controlled realization; required reviews and approvals are complete.                             |
| G4 — Manufacturing or service readiness      | Qualified processes; competent personnel; equipment; work instructions; inspection methods; source approvals; traceability.         | The actual route can produce or perform the defined output with valid acceptance evidence.                                      |
| G5 — Test and integration readiness          | Test configuration; procedures; instrumentation; uncertainty; safety arrangements; acceptance criteria; anomaly rules.              | The test or integration can proceed safely and produce interpretable evidence for the intended claims.                          |
| G6 — Qualification and operational readiness | Verification results; validation; configuration reconciliation; resolved anomalies; training; support; contingency capability.      | Required performance and controls are demonstrated for the approved domain; limitations are accepted by authorized parties.     |
| G7 — Delivery or deployment                  | Acceptance dossier; authorized deviations; life status; software manifest; required documentation; release checklist.               | All release-blocking obligations are closed and the receiving party has the necessary information.                              |
| G8 — Change or life extension                | Current condition; field evidence; changed requirements; remaining life; impact analysis; requalification and support.              | Continued or modified use is justified for a bounded configuration and period; unsupported assumptions are not carried forward. |
| G9 — Retirement and disposal                 | Isolation plan; hazardous inventory; reuse restrictions; disposal route; sensitive data; records and remaining-user support.        | Disposition is verified and remaining obligations have an owner and accessible evidence.                                        |

**Table C-2 — Minimum gate-decision record**

Source p. 54 | Required structure when applicable

| Field        | Required content                                                                                          |
|--------------|-----------------------------------------------------------------------------------------------------------|
| Identity     | Program, gate, date, reviewed configuration, evidence-package version.                                    |
| Participants | Decision authority, technical reviewers, independent reviewer and conflicts of interest.                  |
| Criteria     | Entry and exit criteria, status against each criterion and evidence references.                           |
| Open matters | Issues, assumptions, risk decisions, dissent and required external approvals.                             |
| Decision     | Pass, conditional progression or hold; exact activities permitted or prohibited.                          |
| Conditions   | Owner, due date, verification method, dependent activity and escalation trigger.                          |
| Closure      | Evidence of completion, independent verification where required, and authority to release the dependency. |

## Table D-1 — Required lifecycle data entities

Source p. 55 | Required structure when applicable

| Entity                    | Minimum fields                                                                                       | Required relationships                                                             |
|---------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Requirement               | ID; revision; statement; source; rationale; criticality; owner; acceptance criterion; status.        | Parent need; allocated item/function; verification case; applicable obligation.    |
| Configuration item        | ID; type; revision; physical/software identity; owner; baseline; approved use.                       | Requirements; BOM; interfaces; change history; as-built or deployed instances.     |
| Material or component lot | Source; manufacturer; lot/batch; quantity; condition; certificate; received date.                    | Incoming verification; process route; consumed serials; split/merge history.       |
| Verification case         | ID; method; requirement; configuration; procedure; environment; uncertainty; acceptance rule.        | Test article; equipment; raw data; result; anomaly and disposition.                |
| Process execution         | Route revision; operation; performer; date/time; equipment; parameters; material; result.            | Lot/serial; qualified procedure; inspection; nonconformity; next authorized step.  |
| Change                    | ID; reason; baseline before/after; impact; approvals; effectivity; verification.                     | Affected requirements/items; delivered population; suppliers; support information. |
| Hazard or risk            | ID; scenario; consequence; likelihood basis; exposure; controls; owner; residual decision.           | Requirements; mitigations; verification evidence; operational limitations.         |
| Release                   | ID; configuration; scope; acceptance evidence; concessions; restrictions; authorized identity; date. | Requirements baseline; product serial/lot; delivery dossier; service-life status.  |
| Digital artifact          | Artifact ID; version; source/build; dependencies; hash; signature; provenance; access class.         | Requirements; verification; release; deployment instances; vulnerabilities.        |
| Retirement                | Asset identity; condition; hazardous inventory; reuse restrictions; disposition; verifier.           | Life history; disposal evidence; retained records; remaining obligations.          |

## Table D-2 — Filled illustrative trace chain

Source p. 55, 56 | Illustrative or explanatory source table

| Record        | Example value                                                                                | Connection                                                                 |
|---------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Need          | NEED-GSC-01: controlled motion during payload handling.                                      | Allocated to SYS-GSC-R12.                                                  |
| Requirement   | SYS-GSC-R12 rev B: stop response within a program-defined limit under stated load and speed. | Hazard H-GSC-02; verification V-GSC-12.                                    |
| Configuration | Controller CTRL-07 rev C; firmware 2.4.1; cart serial GSC-004.                               | Build manifest BM-241; interface ICD-09 rev D.                             |
| Verification  | V-GSC-12 rev 3; test article GSC-004; report TR-012.                                         | Raw records RAW-012; calibrated timer TM-08; approved decision rule DR-03. |
| Disposition   | Anomaly AN-04 closed after independent retest.                                               | NCR-026; verified corrective action CA-026.                                |
| Release       | REL-GSC-004 rev 1; approved operating- domain restriction attached.                          | Release authority RA-02; receiving acknowledgement ACK-004.                |