



ASTRA

AEROSPACE STANDARD

ASSESSMENT CHECKLIST

Management Systems Assurance - Technical Assessment Checklist

AF-AST-CL-002

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Aviation / Space / Defense / Future systems

Publication identity and use

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Purpose and application

Requirement-level evaluation of Management Systems Assurance. Source conditions are reproduced in full; every response requires attributable evidence, sampling and a reasoned conclusion. Family checklists are used with CL-001, the actual profile and all triggered normative annexes.

Source requirements and added implementation detail

The controlling ASTRA source is identified above by content fingerprint. Numbered source clauses and annexes retain their own authority. The retained operating material is restructured and expanded with implementation methods, additional profile controls, worked synthetic examples, decision diagrams and record contracts. Added implementation detail is not presented as an earlier institutional approval or as a change to the supplied core standard. Any additional binding criterion requires the applicable technical adoption process.

The displayed publication date identifies the edition; it is not a fabricated authoring, test, approval or operational date. Actual records retain genuine event times and controlled versions. No named outside organisation or standard is incorporated as a normative reference. AF internal instruments and separate legal or contractual duties remain applicable within their actual scope.

Acceptance boundary

A positive grant requires every applicable mandatory condition to PASS, every N/A to have independent justification, every in-scope nonconformity to be verified closed, and competent independent authority. HOLD, unknown state, missing evidence, a favourable average, a signature image or a completed form cannot substitute for those conditions.

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1 How to use the requirement and child-condition checklist

Apply the following logic to the exact evaluated object and responsible function. A procedural checkpoint, product characteristic, competence decision and public credential are different objects. Their states shall not be collapsed into one score. Source: ASTRA 62.1–62.7 and Annex AL.

State	Sufficient basis	Required next action
PASS	Applicable; current approved predicate met by valid, purpose-specific evidence.	Retain the original evidence and bounded inference. Other mandatory gates still apply.
FAIL	Applicable; valid evidence demonstrates that the approved predicate is not met.	Contain affected use; retain the failure; assess cause, extent and required corrective verification.
HOLD	Applicability, criterion, method, evidence, uncertainty or authority is unresolved.	Resolve the missing basis. Do not manufacture a value, favourable default or product-defect conclusion.
N/A	Activity trigger and retained responsibility are absent; independent exclusion approval exists.	Retain the scope-specific reason and reassess when activity or responsibility changes.
UNSET	Only an uncompleted field in this PDF; not a conformity state.	No conclusion is recorded. Complete review before the field can support a decision.

For a compound source clause, create a child-condition ledger containing every separately testable condition, location, phase and operating mode. A sentence-level checkpoint is a navigation aid, not permission to merge unrelated predicates. Each child receives an ID, responsible owner, criterion, method, source evidence, uncertainty where relevant, current state and independent review. The parent cannot PASS while any mandatory child is FAIL, HOLD or UNSET.

An acceptable measurement interval and an acceptable authority chain are independent prerequisites. Use finite, unit-consistent, unrounded values; negative uncertainty, reversed limits, unknown version or wrong-object evidence produce HOLD. For inclusive [L,H] and accepted interval [a,b], PASS requires $a \geq L$ and $b \leq H$; FAIL requires $b < L$ or $a > H$; otherwise HOLD. Approved one-sided or exclusive boundaries retain their own declared predicate.

Positive-decision conjunction

Every applicable mandatory child is PASS AND each N/A is independently justified AND every in-scope nonconformity is verified closed AND scope, competence, independence and actual authority are valid AND required panel participation and voting rules are satisfied. No average, majority preference or payment supplies missing evidence.

Child-condition ledger and complete population

Stable source clause and child IDs; object, phase/mode, parameters, predicate, evidence, reviewer, actual dates, state and open actions. Use linked controlled continuations rather than hidden scrolling text.

Each source sentence is a separately recordable checkpoint below. Enumerations and compound conditions must additionally be expanded into a local child ledger under Clause 62.1. The printed sentence-level rows preserve source wording; they do not claim to predefine every possible application-specific child. The full relevant source annexes remain mandatory. UNSET is an uncompleted UI field, never an assessment result.

2 Evidence validity and decision sequence

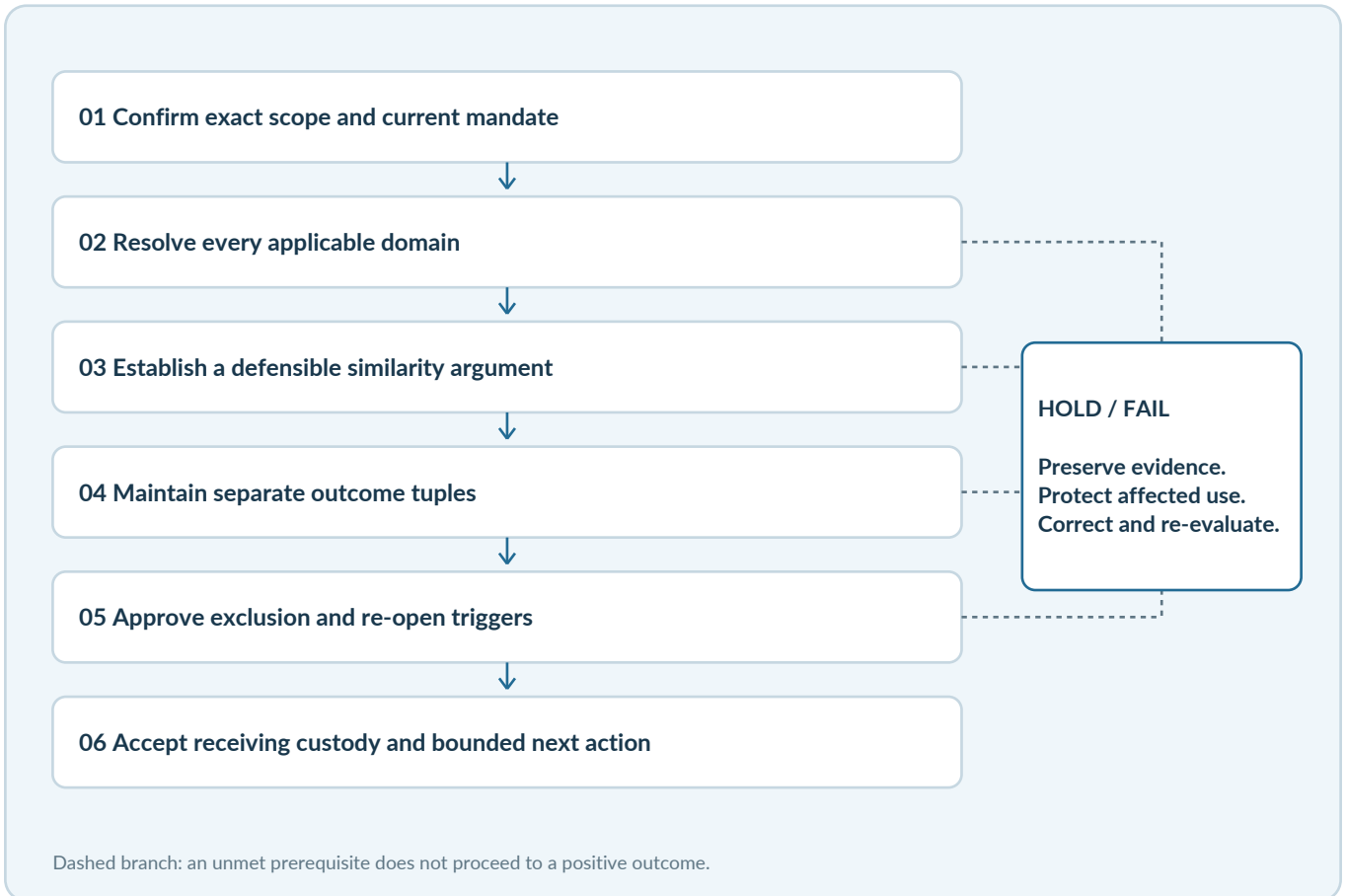
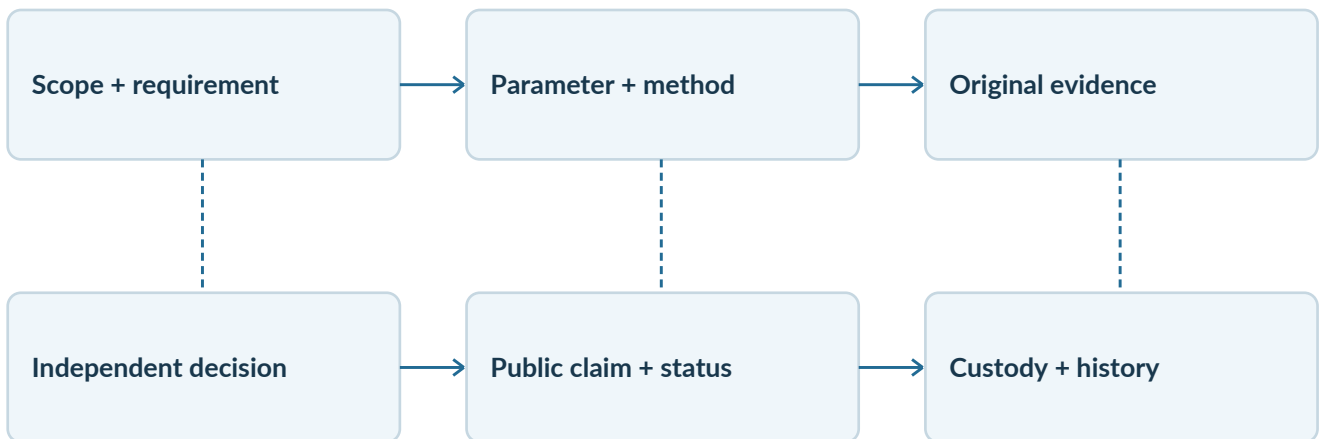


Figure — Implementation sequence for AF-AST-PR-004. Explanatory diagram; the source prerequisites and actual authority remain controlling.



Each relationship carries object identity, controlled version, actual event time and purpose-specific validity.

Figure — Scope-to-custody evidence relationships. A relationship is validated for its decision purpose, not merely because two identifiers exist.

3 Source conditions selected by family and retained responsibility

1.3 – Object and responsibility tuple

Source: AF-AST-STD-001 / FIRST EDITION, p. 10; exact source subclause 1.3.

1. Each application shall identify the responsible legal entity, actual performer, object type, family and module, sites and remote functions, configuration or programme version, lifecycle role, applicable period, criticality, profile and exclusions.	UNSET
2. Products, services, processes, people, supplier scopes, educational programmes, assessment providers and environmental statements are separate objects.	UNSET
3. A combined dossier may share evidence but shall provide a separate conclusion and status history for each claimed object.	UNSET
4. Where a duty is outsourced, the record shall identify both the performer and the organisation retaining accountability.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Complete scope tuple; separate requested outcomes; actual-performer map.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

1.5 – Activity-based applicability

Source: AF-AST-STD-001 / FIRST EDITION, p. 11; exact source subclause 1.5.

1. The applicant shall make a reasoned applicability decision for every common and family requirement.	UNSET
2. Non-applicability requires the actual activity and retained responsibility to be absent, without undermining a claimed outcome.	UNSET
3. Small size, another certificate, customer nomination or outsourcing alone does not justify exclusion.	UNSET
4. A provider that changes from distribution to repair, or from laboratory testing to product certification, shall reassess its scope before making the broader claim.	UNSET
5. Technical reviewers shall approve material exclusions and record the supporting evidence.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Approved applicability matrix; technical rationale; review triggers and version history.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

3.4 – Case separation and decision panels

Source: AF-AST-STD-001 / FIRST EDITION, p. 13; exact source subclause 3.4.

1. Evaluation, independent review, decision and appeal shall be assigned through explicit role checks.	UNSET
2. Final accreditation grants, renewals, extensions and contested adverse decisions shall use three independent authorised panel members: all three participate and at least two support the reasoned outcome, with every mandatory technical gate met.	UNSET
3. A technical reviewer may serve on that panel only when independent of evaluation and separately authorised.	UNSET
4. Other outcome classes use the independent authority specified in the released profile.	UNSET
5. A majority vote cannot resolve missing essential technical evidence by preference.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Assignment matrix; independent review; three-person participation and votes; gate record.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

11.3 – Existing evidence and reuse

Source: AF-AST-STD-001 / FIRST EDITION, p. 22; exact source subclause 11.3.

1. Review prior reports, approvals and certificates for authenticity, issuer competence, actual method, site, period, conditions and configuration.	UNSET
2. Identify precisely which requirement and decision use they support and what remains to be evaluated.	UNSET
3. Include adverse results and restrictions.	UNSET
4. Another outcome shall not be declared equivalent solely from a similar title or scope label.	UNSET
5. Evidence reuse may reduce repeated document requests but cannot remove necessary local implementation, witnessing or independent decision.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Reuse matrix; authenticity/scope checks; residual gaps; controlled access to original evidence.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

12.1 – Planning from scope and consequence

Source: AF-AST-STD-001 / FIRST EDITION, p. 23; exact source subclause 12.1.

1. The plan shall begin with the requested object and requirement set, not a fixed commercial duration.	UNSET
2. Identify legal entities, technical methods, actual performers, sites, shifts, programme delivery modes, configurations, prior findings, changes and critical interfaces.	UNSET
3. Select representative routine and adverse work and assign specialists for every material domain.	UNSET
4. Define what evidence can support each conclusion and where sampling cannot establish the full claim.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Approved scope-led plan; coverage matrix; technical assignments; sample rationale.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

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12.2 – Sites and stations

Source: AF-AST-STD-001 / FIRST EDITION, p. 23; exact source subclause 12.2.

1. For initial and renewal operational-capability or CAB scopes, establish direct evidence at every included operating site, station or delivery location.	UNSET
2. Common governance evidence can be shared but local capability shall be demonstrated.	UNSET
3. Use physical visits where necessary work cannot be validly observed remotely.	UNSET
4. Surveillance sampling of genuinely homogeneous low-consequence activities requires an approved profile, justified eligibility, rotation and expansion triggers; no generic headquarters sample grants all stations.	UNSET
5. AF 9100 organisational cases retain the specific site rules of that standard.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Site-by-activity coverage; remote/on-site rationale; rotation and ineligible-site controls.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

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12.3 – Method-family witnessing

Source: AF-AST-STD-001 / FIRST EDITION, p. 23; exact source subclause 12.3.

1. Group methods only when common principles, equipment, competence, ranges and failure mechanisms justify representativeness.	UNSET
2. Witness each distinct method or capability family, including material extremes and high-consequence tasks.	UNSET
3. A single demonstration shall not cover unrelated techniques merely because one employee performs them.	UNSET
4. Include the whole relevant task from preparation and identity through data interpretation and reporting.	UNSET
5. Map any unobserved part to valid supplementary evidence or exclude it from the granted scope.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Witnessing plan; family grouping rationale; observed limits; supplementary evidence.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

12.4 – Time and productive work

Source: AF-AST-STD-001 / FIRST EDITION, p. 24; exact source subclause 12.4.

1. Use an activity-based work breakdown for non-organisational assessments, with necessary preparation, observation, data review, sites, shifts and rework.	UNSET
2. One evaluator-day is eight productive evaluation hours.	UNSET
3. Travel, breaks, sales, report preparation, translation delay and independent review/decision are separate resources.	UNSET
4. Do not count a trainee as a fully productive assessor or double-count two observers performing the same task without distinct technical work.	UNSET
5. AF 9100 organisational time remains governed by its Annex AC.	UNSET
6. Annex F provides a planning method and examples, not universal technical durations.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Task/time matrix; separate resources; actual productive time; approved additions.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

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15.1 – Review dossier

Source: AF-AST-STD-001 / FIRST EDITION, p. 26; exact source subclause 15.1.

1. The independent reviewer shall examine the exact scope and profile, lawful authority, assessor competence, conflicts, coverage, method validity, evidence, uncertainty, findings, corrections, limitations and proposed claim.	UNSET
2. All essential records shall be accessible through authorised means.	UNSET
3. Return incomplete or inconsistent files for correction rather than infer missing results.	UNSET
4. Evidence reuse shall remain traceable to its original scope and limitations.	UNSET
5. The reviewed dossier shall be versioned so that the decision can later be reconstructed.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Independent review checklist; versioned dossier; unresolved issues and returned files.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

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15.2 – Positive-decision gate

Source: AF-AST-STD-001 / FIRST EDITION, p. 27; exact source subclause 15.2.

1. A positive grant, renewal or extension requires valid scope, all applicable criteria fulfilled, adequate evidence, closed in-scope nonconformities, sufficient independent competence and actual authority.	UNSET
2. Required operating and mark permissions shall be effective before the associated claim is used.	UNSET
3. This is a conjunction of conditions, not a weighted score.	UNSET
4. A genuinely bounded unaffected scope may be granted only after independent evaluation; it shall not conceal a systemic deficiency or imply success in the refused scope.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Completed gate; exact granted/refused boundary; authority and permission checks.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

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15.3 – Panel and dissent

Source: AF-AST-STD-001 / FIRST EDITION, p. 27; exact source subclause 15.3.

1. Apply the three-member accreditation panel rule in Clause 3.4.	UNSET
2. Members shall receive adequate records and competent technical support and shall not delegate votes.	UNSET
3. Record attendance, conflicts, affirmative/adverse votes, abstentions, reasons and technical dissent.	UNSET
4. A two-to-one outcome is possible only when every mandatory gate is substantiated; unresolved essential technical uncertainty requires hold or further work.	UNSET
5. The chair has no casting vote that can replace absent technical evidence or an ineligible member.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Panel record; all-member participation; technical dissent resolution; actual decision.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

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29.1 – Internal audit

Source: AF-AST-STD-001 / FIRST EDITION, p. 46; exact source subclause 29.1.

1. Audit every active programme process at least annually, with additional attention to risk, changes, complaints and poor performance.	UNSET
2. Auditors shall be competent and independent of their own work.	UNSET
3. Examine real application-to-outcome trails, rejected cases, technical witnessing, conflicts, calculations, status changes and corrective effectiveness.	UNSET
4. A self-assessment or management statement shall not be presented as independent accreditation of the programme itself.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Risk-based audit programme; independent auditors; actual trails; verified follow-up.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

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29.2 – Management review and performance

Source: AF-AST-STD-001 / FIRST EDITION, p. 47; exact source subclause 29.2.

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|--|-------|
| 1. Review programme performance and risk quarterly and conduct a formal management review at least annually. | UNSET |
| 2. Inputs shall include technical reliability, impartiality, competence, resources, access, holder outcomes, adverse evidence, complaints, data, finances, emerging needs and prior actions. | UNSET |
| 3. Outputs shall identify decisions, owners, resources, due dates and effectiveness. | UNSET |
| 4. Commercial growth and certificate volume are not sufficient measures of programme quality or public benefit. | UNSET |

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Review inputs/minutes; balanced measures; actions and effectiveness.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

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29.4 – Consistency and technical learning

Source: AF-AST-STD-001 / FIRST EDITION, p. 47; exact source subclause 29.4.

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|---|-------|
| 1. Use anonymised case comparisons and calibrated exercises to test whether different competent teams reach compatible interpretations and decisions. | UNSET |
| 2. Investigate material disagreement, including unclear criteria and evidence limitations. | UNSET |
| 3. Do not force uniform outcomes when objects or evidence genuinely differ. | UNSET |
| 4. Share lessons through controlled updates and training without exposing confidential information or changing requirements informally. | UNSET |
| 5. Significant method weaknesses shall trigger review of affected past work. | UNSET |

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Inter-evaluator exercises; disagreement analysis; lessons; affected-case correction.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

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54.4 – Occurrence, escape and affected population

Source: AF-AST-STD-001 / FIRST EDITION, p. 79; exact source subclause 54.4.

1. Investigation shall examine both why an event occurred and why existing controls failed to prevent or detect it.	UNSET
2. The organisation shall preserve original evidence, competing explanations and uncertainty.	UNSET
3. Population tracing shall include already delivered products, services, reports and decisions that share relevant causes.	UNSET
4. Replacing a person or issuing training shall not alone close a systemic weakness in work design, resources, interfaces or measurement.	UNSET
5. Later correction shall not be backdated to legitimise earlier unsupported work.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Occurrence/escape analysis; population and dependency trace; tested causes; historical impact and recipient action.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

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57.4 – Consistency without coerced agreement

Source: AF-AST-STD-001 / FIRST EDITION, p. 82; exact source subclause 57.4.

1. The programme shall use independent first responses to representative anonymised cases, followed by comparison of reasoning, evidence and outcome.	UNSET
2. Moderation shall distinguish unclear criteria, different facts, missing expertise and legitimate technical disagreement.	UNSET
3. A majority answer shall not become technical truth by itself.	UNSET
4. Quantitative agreement measures shall state their design and limitations and shall not be equated with correctness.	UNSET
5. Lessons affecting requirements shall follow controlled interpretation or version rather than informal instruction to produce uniform results.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Exercise design; independent responses; moderated reasoning; disagreement causes; controlled learning actions.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

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58.2 – Coverage and productive resources

Source: AF-AST-STD-001 / FIRST EDITION, p. 82; exact source subclause 58.2.

1. The plan shall provide competent coverage of necessary sites, methods, shifts, delivery modes, configurations and adverse cases.	UNSET
2. Resources shall follow actual work, not a commercial target.	UNSET
3. The eight-hour evaluator-day and separate reporting/review resources remain governed by Clause 12.4	UNSET
4. AF 9100 organisational rules apply only to their route.	UNSET
5. A trainee or second passive observer shall not be counted as additional productive technical coverage.	UNSET
6. Necessary omitted observations shall require more work or a restricted conclusion.	UNSET

Verify: Inspect the original evidence, actual implementation, method and configuration for each mandatory child condition. Work breakdown; person/task coverage; site/method witnesses; actual productive time and changes.

Acceptance: Apply the prospective child predicates and Annex AL. All applicable mandatory children must PASS; independent N/A approval is required; no positive closure with HOLD, FAIL or missing evidence.

Evidence / method / parameter / sample references and limits

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62.1 – Atomic requirement record

Source: AF-AST-STD-001 / FIRST EDITION, p. 88; exact source subclause 62.1.

1. Each assessed requirement shall have a stable identifier, one accountable owner, an applicability trigger, defined object and configuration, required behaviour or characteristic, observable conditions, verification method and acceptance predicate.	UNSET
2. Compound statements shall be separated into individually testable rows without deleting any condition.	UNSET
3. Terms such as adequate, suitable, promptly or representative shall be resolved through the explicit records in this clause before they support an acceptance decision.	UNSET

Verify: Inspect each requirement row and its linked method, boundary and predicate.

Acceptance: Every applicable row is evaluable without inventing an object, limit, observation or decision role. Unresolved essential terms result in HOLD.

Evidence / method / parameter / sample references and limits

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62.4 – Four requirement states

Source: AF-AST-STD-001 / FIRST EDITION, p. 88; exact source subclause 62.4.

1. A requirement state shall be PASS, FAIL, HOLD or N/A.	UNSET
2. PASS means the approved predicate is satisfied by valid evidence.	UNSET
3. FAIL means valid evidence demonstrates that the predicate is not satisfied.	UNSET
4. HOLD means applicability, method, evidence, uncertainty or authority is not sufficiently resolved.	UNSET
5. N/A means the trigger and retained responsibility are absent and independent approval of that exclusion is recorded.	UNSET
6. Missing equipment, budget, access or time shall not justify N/A.	UNSET

Verify: Execute the truth table in Annex AL using actual scope and evidence.

Acceptance: Exactly one current state is assigned with reason and traceable evidence. All earlier states are retained.

Evidence / method / parameter / sample references and limits

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62.5 – No compensation or favourable default

Source: AF-AST-STD-001 / FIRST EDITION, p. 89; exact source subclause 62.5.

1. A positive conformity decision shall require PASS for every applicable mandatory requirement, closure of every in-scope nonconformity, valid independent competence and actual authority.	UNSET
2. N/A rows shall have approved reasons	UNSET
3. HOLD and FAIL rows shall not contribute a favourable default.	UNSET
4. Weighted scores, averages, majority votes, programme membership or good results in another discipline shall not compensate for an unmet condition.	UNSET

Verify: Reconcile the complete requirement population with the decision dossier; test missing and negative cases.

Acceptance: The Boolean conjunction in Annex AL is true. Otherwise no positive grant, renewal or extension is permitted.

Evidence / method / parameter / sample references and limits

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62.7 – Decision replay and consistency

Source: AF-AST-STD-001 / FIRST EDITION, p. 89; exact source subclause 62.7.

- | | |
|--|------------------------------------|
| 1. A decision shall be reproducible from the same frozen requirements, parameter values, original evidence, calculation version, uncertainty model and role assignments. | <input type="text" value="UNSET"/> |
| 2. Two competent reviewers reaching different results shall identify the differing input, predicate, assumption or expertise before closure. | <input type="text" value="UNSET"/> |
| 3. Interpretation records may clarify a term but shall not change limits after results are known. | <input type="text" value="UNSET"/> |
| 4. Equation inputs shall retain unrounded values. | <input type="text" value="UNSET"/> |

Verify: Independently replay a selected boundary case and reconcile every difference.

Acceptance: The replay produces the same supported state, or the case remains HOLD pending a controlled technical resolution.

Evidence / method / parameter / sample references and limits

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63.1 – Domain selection without geographic omission

Source: AF-AST-STD-001 / FIRST EDITION, p. 90; exact source subclause 63.1.

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|--|------------------------------------|
| 1. The mission owner shall assess every domain in Annex AK and record applicable, not applicable or not yet determined. | <input type="text" value="UNSET"/> |
| 2. The scope shall include terrestrial preparation, launch and recovery interfaces as well as the in-space activity. | <input type="text" value="UNSET"/> |
| 3. Earth orbit, cislunar and libration-region operations, solar and planetary missions, small bodies, ocean-world exploration and interstellar precursor concepts shall not be excluded solely because they differ from conventional satellite operations. | <input type="text" value="UNSET"/> |

Verify: Compare the mission concept and responsibility map with all Annex AK domain rows.

Acceptance: Every domain has a reasoned disposition. Any unassessed domain that can affect a required outcome remains HOLD.

Evidence / method / parameter / sample references and limits

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63.3 – Environment, phase and mode matrix

Source: AF-AST-STD-001 / FIRST EDITION, p. 90; exact source subclause 63.3.

- | | |
|--|-------|
| 1. For each applicable domain, define mission phase, operating mode, intended duration, exposure, interfaces, repairability, accessible evidence and credible degraded states. | UNSET |
| 2. Include dormant storage, transport, separation, commissioning, routine service, communication outage, servicing, retirement and loss-of-mission conditions when relevant. | UNSET |
| 3. A qualification for one phase shall not automatically cover another phase with different loads, resources or observability. | UNSET |

Verify: Review the complete phase-by-mode matrix and its verification links.

Acceptance: Every safety-, mission- or claim-relevant cell has accepted evidence or an explicit restriction; no essential unexamined cell is passed by analogy.

Evidence / method / parameter / sample references and limits

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63.6 – Interface and lifecycle closure

Source: AF-AST-STD-001 / FIRST EDITION, p. 91; exact source subclause 63.6.

- | | |
|---|-------|
| 1. The scope shall include relevant upstream and downstream duties, including supplied design data, ground services, communications, receiving facilities, environmental custody and long-term records. | UNSET |
| 2. Transfers shall identify the sender, receiver, evidence and acceptance. | UNSET |
| 3. A contractor delivering one subsystem shall not be made responsible for unrelated mission duties, but an integrator shall not exclude duties it retains because they are performed by others. | UNSET |

Verify: Trace each interface to an accountable performer and retained owner.

Acceptance: No essential responsibility, evidence handover or terminal obligation is orphaned.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

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64.4 – Resource budgets and coupled margins

Source: AF-AST-STD-001 / FIRST EDITION, p. 92; exact source subclause 64.4.

1. Mass, power, energy, thermal rejection, timing, data, attitude-control resources and consumables shall have explicit allocation and reserve ownership.	UNSET
2. Account for concurrent loads, common reserves, environmental degradation, ageing, unavailable recharge and terminal obligations.	UNSET
3. The same reserve shall not be credited to two simultaneous needs.	UNSET
4. Positive scalar totals shall not replace transient, local or coupled analysis.	UNSET

Verify: Reconcile subsystem and system budgets by phase and condition; independently check Annex AM calculations used.

Acceptance: Each required margin meets its prospectively approved value under all selected bounding conditions; no reserve is double allocated.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

64.5 – Heritage and similarity

Source: AF-AST-STD-001 / FIRST EDITION, p. 92; exact source subclause 64.5.

1. A heritage argument shall compare actual design, materials, manufacturing source, mission exposure, software, interfaces and life history.	UNSET
2. Identify unchanged evidence, invalidated evidence and new demonstration.	UNSET
3. Successful service of a related design shall be accepted only for characteristics and mechanisms it actually supports.	UNSET
4. Lack of a recorded failure shall not prove performance of an unmonitored critical characteristic.	UNSET

Verify: Review a difference matrix and trace each retained conclusion to applicable original evidence.

Acceptance: Every material difference has a technical disposition and sufficient evidence before the new claim is accepted.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

72.1 – Time horizon and recoverability

Source: AF-AST-STD-001 / FIRST EDITION, p. 108; exact source subclause 72.1.

1. The mission basis shall define duration, distance-dependent communication, resource evolution, repairability, replacement feasibility and the period over which responsibility and evidence must remain usable. UNSET

2. A planned future repair, relay or supplier service shall not be credited as available without supported commitments and a demonstrated capability basis. UNSET

Verify: Review life and support assumptions against mission phases and credible loss cases.

Acceptance: Essential mission and protective functions remain supported for the declared duration; speculative future services are not favourable defaults.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

72.2 – Solar and extreme thermal exposure

Source: AF-AST-STD-001 / FIRST EDITION, p. 108; exact source subclause 72.2.

1. Solar, close-body and thermal-extreme missions shall define time-varying flux, geometry, shadowing, surface properties, degradation and transient response. UNSET

2. Protection shall be qualified at the relevant material, assembly and system levels. UNSET

3. Inverse-square screening and steady-state radiation equations are only applicable within their stated assumptions and do not close transient or coupled behaviour. UNSET

Verify: Review environment-specific models, uncertainty, qualified materials and correlated tests.

Acceptance: Required temperature, gradient, integrity and functional limits are met throughout the approved envelope; unexamined coupled effects remain HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

72.3 – Low-flux and limited-power missions

Source: AF-AST-STD-001 / FIRST EDITION, p. 108; exact source subclause 72.3.

1. Distant missions shall evaluate end-of-life generation, storage, conversion, thermal support, communication and command survival concurrently.	UNSET
2. Prioritised load shedding and dormant modes shall have validated authority and state-recovery rules.	UNSET
3. Average energy sufficiency shall not hide a time-local peak or thermal survival failure.	UNSET

Verify: Reconcile resource profiles and perform representative low-resource and recovery verification.

Acceptance: Every essential resource and protection predicate passes; unavailable generation or unsupported recovery is not treated as normal service.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

72.4 – Autonomy during long communication delay

Source: AF-AST-STD-001 / FIRST EDITION, p. 108; exact source subclause 72.4.

1. The mission shall identify decisions that cannot wait for ground response and bound the authority assigned to onboard functions.	UNSET
2. Validation shall account for delayed or unavailable external information, model mismatch, finite stored procedures and safe terminal behaviour.	UNSET
3. Ground approval received after the hazardous event would occur is not an effective preventive control.	UNSET

Verify: Evaluate latency arithmetic and scenario-based autonomous response evidence.

Acceptance: Protective authority is executable within the approved response time; otherwise redesign, restriction or additional evidence is required.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

72.5 – Ageing and long-term digital support

Source: AF-AST-STD-001 / FIRST EDITION, p. 108; exact source subclause 72.5.

1. The assurance plan shall address materials ageing, accumulated environment, clock stability, memory integrity, software dependencies, obsolete tools, lost expertise and cryptographic migration.	UNSET
2. Preserve executable or reconstructable models and interpretable data dictionaries.	UNSET
3. Availability of a signed file does not establish its future readability or the continued correctness of its engineering meaning.	UNSET

Verify: Review long-life evidence and test migration, recovery and independent reconstruction.

Acceptance: Essential historical and current evidence remains usable and required support has accepted continuity arrangements.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

72.6 – Scientific instruments and observation integrity

Source: AF-AST-STD-001 / FIRST EDITION, p. 109; exact source subclause 72.6.

1. Observation claims shall identify instrument calibration, alignment, background effects, processing, timing, uncertainty and data-loss conditions.	UNSET
2. Engineering acceptance of an instrument shall be separated from a scientific inference from its output.	UNSET
3. Changes in reduction software shall retain earlier processing and the reason for differences.	UNSET

Verify: Reprocess a representative observation from identified source data and calibration.

Acceptance: The stated technical data-quality criteria are met; disputed scientific interpretation is not declared certain by an ASTRA engineering result.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

72.7 – Future-domain feasibility and responsible closure

Source: AF-AST-STD-001 / FIRST EDITION, p. 109; exact source subclause 72.7.

- | | |
|--|-------|
| 1. Very long-range or novel propulsion and infrastructure concepts shall identify what has actually been demonstrated and what remains theoretical or unvalidated. | UNSET |
| 2. Requirements may define a future scope, but no operational capability shall be granted from aspiration alone. | UNSET |
| 3. The final record shall preserve terminal-state uncertainty, remaining obligations and custody after active support ends. | UNSET |

Verify: Review demonstration-state claims, technical gaps and actual terminal evidence.

Acceptance: Only the demonstrated bounded capability is recognised; speculative performance and unknown final states remain clearly identified.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

77.1 – Requirement-to-method completeness

Source: AF-AST-STD-001 / FIRST EDITION, p. 118; exact source subclause 77.1.

- | | |
|--|-------|
| 1. The verification matrix shall include every applicable requirement, object/configuration, method, test or analysis purpose, criterion, uncertainty, evidence and authorised conclusion. | UNSET |
| 2. Inspection, analysis, demonstration and testing shall be selected for the actual failure mechanism. | UNSET |
| 3. Annex T domains guide coverage but are not ready-made methods. | UNSET |
| 4. A complete test list shall not replace requirement-level closure. | UNSET |

Verify: Reconcile the requirement population, test matrix and actual evidence using stable identifiers.

Acceptance: Every applicable requirement has a valid completed evidence path; any essential uncovered row remains HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

77.2 – Campaign design and article pedigree

Source: AF-AST-STD-001 / FIRST EDITION, p. 118; exact source subclause 77.2.

- | | |
|--|------------------------------------|
| 1. Define qualification articles, flight or service articles, specimens, representative differences, prior exposure, fixtures, operating modes and cumulative test sequence. | <input type="text" value="UNSET"/> |
| 2. Identify which conclusions may be transferred between articles and why. | <input type="text" value="UNSET"/> |
| 3. Failed tests, repairs and substitutions shall remain in the same historical chain. | <input type="text" value="UNSET"/> |

Verify: Review specimen-to-product and test-to-configuration equivalence records.

Acceptance: All material differences and accumulated effects are evaluated before evidence reuse; unrepresentative essential evidence is not accepted.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

77.8 – Independent campaign closure

Source: AF-AST-STD-001 / FIRST EDITION, p. 119; exact source subclause 77.8.

- | | |
|--|------------------------------------|
| 1. The final dossier shall reconcile configuration, criteria, valid results, adverse evidence, untested characteristics, uncertainty, concessions and open duties. | <input type="text" value="UNSET"/> |
| 2. Qualification, article acceptance, laboratory competence and ASTRA conformity shall retain separate decisions. | <input type="text" value="UNSET"/> |
| 3. A technical concession shall not be relabelled as fulfilment of the original criterion. | <input type="text" value="UNSET"/> |

Verify: Perform independent requirement-by-requirement closure with actual decision authority.

Acceptance: Every applicable gate for the exact claimed object passes; counts, percentages or programme completion dates alone cannot release the object.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

79.4 – Affected populations and historical decisions

Source: AF-AST-STD-001 / FIRST EDITION, p. 122; exact source subclause 79.4.

- | | |
|--|-------|
| 1. An event shall be traced to affected configurations, fleet members, materials, methods, software, personnel, reports and prior decisions. | UNSET |
| 2. Determine both occurrence and escape causes and test competing explanations. | UNSET |
| 3. Changing a supplier, restarting a service or training one person shall not by itself close a shared systemic cause. | UNSET |

Verify: Inspect end-to-end dependency and look-back analysis with actual notifications.

Acceptance: All materially dependent outputs are addressed; no valid adverse history is erased by later correction.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

79.6 – Learning and sustained accountability

Source: AF-AST-STD-001 / FIRST EDITION, p. 123; exact source subclause 79.6.

- | | |
|---|-------|
| 1. Lessons shall be translated into controlled requirements, methods, training, resources or interfaces and verified under representative conditions. | UNSET |
| 2. Protect good-faith reporting and distinguish allegation from substantiated misconduct. | UNSET |
| 3. Long-term archives shall retain technical meaning, access conditions and correction responsibility after staff, tools or institutions change. | UNSET |

Verify: Review corrective effectiveness and test retrieval by a receiving competent reviewer.

Acceptance: The affected controls demonstrably improve and the mission record remains interpretable; publication of a lesson alone is not closure.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

80.1 – One complete application schedule

Source: AF-AST-STD-001 / FIRST EDITION, p. 124; exact source subclause 80.1.

1. The schedule shall join the object tuple, F01–F08 selection, Annex AK domains, phase/mode matrix, required methods, parameter records, competence, evidence, independent decisions and continuing controls. UNSET

2. All triggers in Annex AO shall be resolved. UNSET

3. Shared records may be reused after relevance review, but shall not merge distinct objects, outcome classes or actual authority. UNSET

Verify: Reconcile the full schedule with Clauses 1, 4, 62 and 63 and Annex C.

Acceptance: No essential scope, parameter, responsibility or evidence field remains undefined before a positive decision.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

80.2 – Domain and verification completeness

Source: AF-AST-STD-001 / FIRST EDITION, p. 124; exact source subclause 80.2.

1. Map every applicable domain and requirement to valid verification and to an accountable conclusion. UNSET

2. Treat domain counts, test counts and completed checklist percentages as planning measures only. UNSET

3. Annex T is not exhaustive of all future methods; a newly discovered material mechanism shall create a controlled additional requirement and evidence task before the affected claim proceeds. UNSET

Verify: Perform forward and reverse traceability and inspect omitted-domain reasons.

Acceptance: Every applicable condition passes or has a justified approved N/A; no HOLD or FAIL is hidden by a coverage percentage.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

80.3 – Competent independent closure

Source: AF-AST-STD-001 / FIRST EDITION, p. 124; exact source subclause 80.3.

- | | |
|---|------------------------------------|
| 1. The independent reviewer shall have verified technical coverage, lawful evidence access and no prohibited case relationship. | <input type="text" value="UNSET"/> |
| 2. Technical dissent shall be resolved by evidence, corrected scope or further work. | <input type="text" value="UNSET"/> |
| 3. Where a three-person panel is required, all three eligible members shall participate and the established vote rule shall apply only after the technical gates are satisfied. | <input type="text" value="UNSET"/> |

Verify: Check competence, conflict, access, panel and reasoned decision records.

Acceptance: Both the technical conjunction and applicable authority/panel rules pass; a vote cannot cure absent evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

80.4 – Bounded claim and publication

Source: AF-AST-STD-001 / FIRST EDITION, p. 124; exact source subclause 80.4.

- | | |
|---|------------------------------------|
| 1. The outcome shall identify legal holder, issuer, object, configuration, family/module, domain, site or remote responsibility, criteria, limitations, actual dates and ongoing or instance basis. | <input type="text" value="UNSET"/> |
| 2. Public wording shall not imply unrestricted coverage of all space, universal safety, statutory permission or external recognition without evidence. | <input type="text" value="UNSET"/> |
| 3. The approved cover and edition label do not change those boundaries. | <input type="text" value="UNSET"/> |

Verify: Compare the actual decision with credential, registry and all proposed public representations.

Acceptance: Published scope and status exactly match the authorised decision and preserve every material restriction.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

4 Retained subject controls and added R07–R12 extensions

F01-S01 – Design and production system

Organisational control of research, product and manufacturing-process design, build-to-print production, integration and release. Define design authority, actual manufacturing locations, remote engineering functions, suppliers and retained acceptance responsibilities across aviation, space, defense and supporting industry.

Claim boundary: An organisational system result does not approve every product, laboratory method, process, maintenance task or employee.

F01-S01-R01 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Identify who controls requirements and approves product design, manufacturing-process design, deviations and delivery; a build-to-print exclusion does not remove responsibility for data errors or process changes.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R02 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Trace mission or customer need into allocated requirements, configuration, hazard analysis, qualification, production and acceptance.

UNSET

2. Keep design gate decisions distinct from independent programme outcomes.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R03 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Demonstrate source qualification, material genealogy, critical-characteristic control, competent operators and actual point-of-use instructions across relevant shifts and outsourced stages.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R04 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Control software, models, AI, equipment programmes and supplied digital artefacts that influence acceptance; verify configuration, tool validity and actual target behaviour.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R05 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Examine internal audit, management review, adverse outputs, occurrence/escape causes and verified improvement using actual operating records rather than newly created backdated history.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R06 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Use the full applicable AF 9100 requirements when that standard is claimed; evaluate sites/time under its own rules and state a bounded organisational conclusion.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R07 — Mission and environment transfer

New implementation detail aligned with ASTRA 62.1–62.2; 63.2–63.6; 64.1–64.6

- | | |
|--|------------------------------------|
| 1. For design and production system, define the qualified or evaluated envelope for distributed design and production baselines. | <input type="text" value="UNSET"/> |
| 2. Compare the intended mission, material, site, configuration and phase/mode with the actual evidence. | <input type="text" value="UNSET"/> |
| 3. Identify material differences and allocate new demonstration before relying on heritage or terrestrial qualification. | <input type="text" value="UNSET"/> |

Verify: Inspect the difference matrix, environmental inputs, owner approvals and requirement-to-method links.

Acceptance: PASS only when every influential difference is either bounded by valid retained evidence or closed by accepted additional demonstration. Missing essential transfer evidence is HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R08 — Essential properties and observability

New implementation detail aligned with ASTRA 62.3–62.5; 77.1–77.6

- | | |
|--|------------------------------------|
| 1. Identify the failure and evidence risks specific to this subject: a local manufacturing change can invalidate an integrator's accepted configuration. | <input type="text" value="UNSET"/> |
| 2. State which critical properties are directly observed, measured, inferred using a validated model or unknown. | <input type="text" value="UNSET"/> |
| 3. Allocate separate child predicates for each hidden property and each essential protective function. | <input type="text" value="UNSET"/> |

Verify: Review detection capability, raw observations, model validity and limitations against each claimed property.

Acceptance: A valid observation supports only its demonstrated property and domain. An unobservable essential condition is HOLD, not a favourable default or a proven product defect.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R09 — Configuration and data identity

New implementation detail aligned with ASTRA 33.3–33.4; 56.1–56.5; 62.7; 78.7

1. Bind distributed design and production baselines to actual configuration, controlled technical data, source/lot or record identity, equipment and software state, authorised performer and actual event time. UNSET

2. Preserve failed runs, changed objects and prior evidence through any digital transfer. UNSET

Verify: Replay one result from original records and verify event-time authority, method version and the evaluated-to-delivered relationship.

Acceptance: PASS requires reproducible identity and valid links for the actual claim. Wrong configuration, stale state, inaccessible evidence or an unverified substituted record is HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R10 — Subject-specific adverse demonstration

New implementation detail aligned with ASTRA 62.6–62.7; 77.5–77.8; Annex AP

1. Challenge the following mechanism through a safe authorised test, independent record review or controlled simulation appropriate to this subject: trace one changed drawing into tools, source instructions, first-article evidence and mission acceptance. UNSET

2. Define the expected outcome before execution, retain original failures and repeat the failed case after correction. UNSET

Verify: Compare prospective expectations, actual observations, conditions, evidence, defect disposition and relevant regression.

Acceptance: Every essential adverse scenario must have valid accepted evidence. A scripted teaching example is not actual qualification; unavailable required observation remains HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R11 — Receiving interface and bounded output

New implementation detail aligned with ASTRA 32.5; 48.4–48.6; 63.6; 80.4

1. Deliver the bounded output to design authority and receiving integrator. UNSET

2. Reconcile identity, configuration, conditions, unresolved limitations, technical eligibility, remaining duties and readable evidence. UNSET

3. Identify the actual performer and the organisation retaining acceptance responsibility. UNSET

Verify: Check the sending manifest, actual recipient access, acknowledgement, restrictions and remaining action owners.

Acceptance: Transfer is complete only after the necessary receiving acceptance is authentic. Sending a file, reconciling quantity or generating a certificate does not establish technical eligibility.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S01-R12 — Independent release and continuing validity

New implementation detail aligned with ASTRA 15.1–15.5; 16.1–16.6; 62.4–62.7; 80.1–80.6

1. Evaluate F01-S01 independently within its declared object and outcome class.	UNSET
2. Reconcile the original R01–R06 controls with R07–R11, applicable source requirements, prospective parameters, findings and actual authority.	UNSET
3. Monitor the subject-specific changes stated in this profile and reopen affected conclusions when the evidence changes.	UNSET

Verify: Independently replay the final predicate and inspect scope, exclusions, competence, conflict clearance, findings closure and event history.

Acceptance: No positive grant, renewal or extension while any applicable mandatory child is FAIL, HOLD or UNSET. N/A requires independent scope justification; technical concessions remain separate from conformity.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02 — Maintenance system

The organisational management system supporting maintenance, repair, overhaul, engineering support and continuing asset evidence. Separate the management-system scope from each facility/type/task capability and actual release privilege.

Claim boundary: Management-system certification is not maintenance authorisation or a release-to-service instrument.

F01-S02-R01 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Keep the approved capability list and actual task permissions consistent with contracts, planning systems and point-of-use instructions at every included maintenance location.	UNSET
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Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R02 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Demonstrate that current technical data, asset history, life limits, parts eligibility and customer requirements determine work-package contents and hold points.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R03 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Control competence, independent checks, fatigue, interruptions, shift handovers and contractor work through actual task records rather than general training attendance.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R04 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Connect tools, calibration, special processes, NDT and external technical evidence to the maintained asset and to the actual time of use.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R05 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Evaluate systemic learning from errors, repeated defects, release corrections, complaints and supplier failures; preserve both occurrence and escape causes.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R06 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Issue a system conclusion separate from F06 capability recognition and statutory maintenance release; use AF 9100 rules only when the actual claim is assessed.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R07 — Mission and environment transfer

New implementation detail aligned with ASTRA 62.1–62.2; 63.2–63.6; 64.1–64.6

1. For maintenance system, define the qualified or evaluated envelope for maintenance system and life-controlled assets.

UNSET

2. Compare the intended mission, material, site, configuration and phase/mode with the actual evidence.

UNSET

3. Identify material differences and allocate new demonstration before relying on heritage or terrestrial qualification.

UNSET

Verify: Inspect the difference matrix, environmental inputs, owner approvals and requirement-to-method links.

Acceptance: PASS only when every influential difference is either bounded by valid retained evidence or closed by accepted additional demonstration. Missing essential transfer evidence is HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R08 — Essential properties and observability

New implementation detail aligned with ASTRA 62.3–62.5; 77.1–77.6

- | | |
|---|-------|
| 1. Identify the failure and evidence risks specific to this subject: a common records migration can omit prior exposure while all stations use the same manual. | UNSET |
| 2. State which critical properties are directly observed, measured, inferred using a validated model or unknown. | UNSET |
| 3. Allocate separate child predicates for each hidden property and each essential protective function. | UNSET |

Verify: Review detection capability, raw observations, model validity and limitations against each claimed property.

Acceptance: A valid observation supports only its demonstrated property and domain. An unobservable essential condition is HOLD, not a favourable default or a proven product defect.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R09 — Configuration and data identity

New implementation detail aligned with ASTRA 33.3–33.4; 56.1–56.5; 62.7; 78.7

- | | |
|--|-------|
| 1. Bind maintenance system and life-controlled assets to actual configuration, controlled technical data, source/lot or record identity, equipment and software state, authorised performer and actual event time. | UNSET |
| 2. Preserve failed runs, changed objects and prior evidence through any digital transfer. | UNSET |

Verify: Replay one result from original records and verify event-time authority, method version and the evaluated-to-delivered relationship.

Acceptance: PASS requires reproducible identity and valid links for the actual claim. Wrong configuration, stale state, inaccessible evidence or an unverified substituted record is HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R10 — Subject-specific adverse demonstration

New implementation detail aligned with ASTRA 62.6–62.7; 77.5–77.8; Annex AP

- | | |
|---|-------|
| 1. Challenge the following mechanism through a safe authorised test, independent record review or controlled simulation appropriate to this subject: reconcile removed and installed parts against original life records and independent task checks. | UNSET |
| 2. Define the expected outcome before execution, retain original failures and repeat the failed case after correction. | UNSET |

Verify: Compare prospective expectations, actual observations, conditions, evidence, defect disposition and relevant regression.

Acceptance: Every essential adverse scenario must have valid accepted evidence. A scripted teaching example is not actual qualification; unavailable required observation remains HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R11 — Receiving interface and bounded output

New implementation detail aligned with ASTRA 32.5; 48.4–48.6; 63.6; 80.4

1. Deliver the bounded output to asset owner and authorised maintenance release function.	UNSET
2. Reconcile identity, configuration, conditions, unresolved limitations, technical eligibility, remaining duties and readable evidence.	UNSET
3. Identify the actual performer and the organisation retaining acceptance responsibility.	UNSET

Verify: Check the sending manifest, actual recipient access, acknowledgement, restrictions and remaining action owners.

Acceptance: Transfer is complete only after the necessary receiving acceptance is authentic. Sending a file, reconciling quantity or generating a certificate does not establish technical eligibility.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S02-R12 — Independent release and continuing validity

New implementation detail aligned with ASTRA 15.1–15.5; 16.1–16.6; 62.4–62.7; 80.1–80.6

1. Evaluate F01-S02 independently within its declared object and outcome class.	UNSET
2. Reconcile the original R01–R06 controls with R07–R11, applicable source requirements, prospective parameters, findings and actual authority.	UNSET
3. Monitor the subject-specific changes stated in this profile and reopen affected conclusions when the evidence changes.	UNSET

Verify: Independently replay the final predicate and inspect scope, exclusions, competence, conflict clearance, findings closure and event history.

Acceptance: No positive grant, renewal or extension while any applicable mandatory child is FAIL, HOLD or UNSET. N/A requires independent scope justification; technical concessions remain separate from conformity.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03 — Distribution system

Organisational control of procurement, storage, stockholding, brokerage, repackaging, kitting, split lots, returns and distribution. Identify actual handling sites and distinguish direct physical custody from an arranged supply transaction.

Claim boundary: A distribution system result is not product design approval, repair capability or certification of every supplied item.

F01-S03-R01 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Verify source identity, technical eligibility, actual certificates and current/historical restrictions; a supplier listing or recognisable logo is not independent authenticity evidence.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R02 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Maintain lot/serial, quantity, unit, condition and custody links through repackaging, splitting, kitting, return and shipment without multiplying the original quantity.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R03 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Control shelf life, out-time, environmental conditions, ESD/moisture-sensitive handling where relevant and response to transport/storage excursions.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R04 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Distinguish acceptable, suspect, unserviceable and scrap stock physically or through effective equivalent controls and prevent unauthorised re-entry.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R05 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Assess any repair, modification, inspection or value-added processing under the corresponding technical responsibilities; distribution status alone does not cover these activities.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R06 — Retained subject control

Retained operating subject control; latest core 17; 62 and Annex AL.

1. Provide customer evidence matching the actual delivered items, preserve original source records and trace downstream notifications after invalid or counterfeit supply findings.

UNSET

Verify: Trace each independently testable condition to its actual criterion, method, evidence, responsible performer and independent reviewer.

Acceptance: Every mandatory child predicate is satisfied by valid evidence. Unresolved applicability or evidence is HOLD; demonstrated unmet criteria are FAIL.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R07 — Mission and environment transfer

New implementation detail aligned with ASTRA 62.1–62.2; 63.2–63.6; 64.1–64.6

- | | |
|--|------------------------------------|
| 1. For distribution system, define the qualified or evaluated envelope for stock identity and distributed custody. | <input type="text" value="UNSET"/> |
| 2. Compare the intended mission, material, site, configuration and phase/mode with the actual evidence. | <input type="text" value="UNSET"/> |
| 3. Identify material differences and allocate new demonstration before relying on heritage or terrestrial qualification. | <input type="text" value="UNSET"/> |

Verify: Inspect the difference matrix, environmental inputs, owner approvals and requirement-to-method links.

Acceptance: PASS only when every influential difference is either bounded by valid retained evidence or closed by accepted additional demonstration. Missing essential transfer evidence is HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R08 — Essential properties and observability

New implementation detail aligned with ASTRA 62.3–62.5; 77.1–77.6

- | | |
|--|------------------------------------|
| 1. Identify the failure and evidence risks specific to this subject: matching shipment quantities can conceal substituted or life-unknown parts. | <input type="text" value="UNSET"/> |
| 2. State which critical properties are directly observed, measured, inferred using a validated model or unknown. | <input type="text" value="UNSET"/> |
| 3. Allocate separate child predicates for each hidden property and each essential protective function. | <input type="text" value="UNSET"/> |

Verify: Review detection capability, raw observations, model validity and limitations against each claimed property.

Acceptance: A valid observation supports only its demonstrated property and domain. An unobservable essential condition is HOLD, not a favourable default or a proven product defect.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R09 — Configuration and data identity

New implementation detail aligned with ASTRA 33.3–33.4; 56.1–56.5; 62.7; 78.7

1. Bind stock identity and distributed custody to actual configuration, controlled technical data, source/lot or record identity, equipment and software state, authorised performer and actual event time. UNSET

2. Preserve failed runs, changed objects and prior evidence through any digital transfer. UNSET

Verify: Replay one result from original records and verify event-time authority, method version and the evaluated-to-delivered relationship.

Acceptance: PASS requires reproducible identity and valid links for the actual claim. Wrong configuration, stale state, inaccessible evidence or an unverified substituted record is HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R10 — Subject-specific adverse demonstration

New implementation detail aligned with ASTRA 62.6–62.7; 77.5–77.8; Annex AP

1. Challenge the following mechanism through a safe authorised test, independent record review or controlled simulation appropriate to this subject: follow a split lot, a returned part and an exceptional source purchase into recipient notifications. UNSET

2. Define the expected outcome before execution, retain original failures and repeat the failed case after correction. UNSET

Verify: Compare prospective expectations, actual observations, conditions, evidence, defect disposition and relevant regression.

Acceptance: Every essential adverse scenario must have valid accepted evidence. A scripted teaching example is not actual qualification; unavailable required observation remains HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R11 — Receiving interface and bounded output

New implementation detail aligned with ASTRA 32.5; 48.4–48.6; 63.6; 80.4

1. Deliver the bounded output to warehouse custodian and accepting customer. UNSET

2. Reconcile identity, configuration, conditions, unresolved limitations, technical eligibility, remaining duties and readable evidence. UNSET

3. Identify the actual performer and the organisation retaining acceptance responsibility. UNSET

Verify: Check the sending manifest, actual recipient access, acknowledgement, restrictions and remaining action owners.

Acceptance: Transfer is complete only after the necessary receiving acceptance is authentic. Sending a file, reconciling quantity or generating a certificate does not establish technical eligibility.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

F01-S03-R12 — Independent release and continuing validity

New implementation detail aligned with ASTRA 15.1–15.5; 16.1–16.6; 62.4–62.7; 80.1–80.6

1. Evaluate F01-S03 independently within its declared object and outcome class.	UNSET
2. Reconcile the original R01–R06 controls with R07–R11, applicable source requirements, prospective parameters, findings and actual authority.	UNSET
3. Monitor the subject-specific changes stated in this profile and reopen affected conclusions when the evidence changes.	UNSET

Verify: Independently replay the final predicate and inspect scope, exclusions, competence, conflict clearance, findings closure and event history.

Acceptance: No positive grant, renewal or extension while any applicable mandatory child is FAIL, HOLD or UNSET. N/A requires independent scope justification; technical concessions remain separate from conformity.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

5 Triggered domain and parameter selection

AK01 — Terrestrial engineering and supply

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Actual site, source, configuration, delegated responsibilities and released technical data.	UNSET
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Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Every delivered characteristic and essential supplier interface is traceable to accepted evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK02 — Test facilities and technical providers

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Method, range, uncertainty, environment, site, signatory and provider relationship.	UNSET
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Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Actual method competence and valid result evidence are separately demonstrated.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK03 — Launch sites and spaceports

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Named site/operator, vehicle and payload classes, utilities, restrictions and receiving parties.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: No site outcome is used as vehicle, launch or mission permission.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK04 — Launch and deployment interfaces

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Article pedigree, qualification envelope, interfaces and distinct readiness/permission decisions.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Every required integration and protective condition is met before the actual commitment.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK05 — Reusable launch and return articles

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Serial identity, use history, inspection detectability, qualified repair and current limits.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Reuse is based on actual history and accepted condition, never a reset life.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK06 – Low Earth orbit systems

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Actual orbit and duration, drag/atmosphere, atomic oxygen where material, radiation and terminal duties.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Environment-specific qualification and end-of-life capability support the bounded mission.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK07 – Medium, geosynchronous and high Earth orbits

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Actual geometry, radiation/charging, links, clocks, service bounds and disposal assumptions.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: No lower-orbit or nominal-link evidence automatically covers a different environment.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK08 – Highly elliptical and transfer regions

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Phase-dependent environment, cumulative exposure, timing, resources and state confidence.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Every phase and transition has a supported envelope and verification path.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK09 – Cislunar and libration-region systems

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Reference frames, communication constraints, resources, users and external support.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: The exact operating domain and service dependencies are technically complete.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK10 – Constellations and formation services

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Member configuration, collective service, common causes, coordination and degraded modes.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Distributed performance and independent redundancy assumptions are validated.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK11 – Orbital traffic and tracking support

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Source age, epoch/frame, covariance, model suitability, decision thresholds and authority.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: A metric is accepted only for its validated data/model scope; missing data are not zero risk.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK12 – Cooperative docking and servicing

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Consent, actual assets, relative-state evidence, compatible interfaces and protected states.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: All essential interface and completion states are independently supported.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK13 – On-orbit assembly and manufacture

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Inputs, essential variables, environment, sensor/model validity and product acceptance.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Process execution is not substituted for evidence of required output properties.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK14 – Stations and inhabited orbital platforms

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Occupancy/duration, life support, emergency, consumables, human tasks and docking interfaces.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Integrated human protection and resources are accepted independently of mission success.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK15 – Extravehicular and isolated crew work

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Actual equipment configuration, essential skills, consumables, communications and authority.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Essential individual and integrated protective tasks pass without averaging.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK16 – Lunar surface systems

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Dust, local terrain, illumination, temperature, gravity, radiation and communication assumptions.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Destination-specific evidence bounds the actual region, phase and operating mode.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK17 – Planetary landers and surface vehicles

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Environment/region, terrain, access, autonomy, supportability and contamination control.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Terrestrial analogy is justified; unknown critical surface conditions remain restricted.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK18 – Atmospheric and buoyant exploration

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Atmosphere, pressure, chemistry, thermal conditions, flight/buoyancy functions and terminal state.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: All relevant environment-specific structural and functional predicates pass.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK19 – Small-body and comet operations

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Body uncertainty, surface interaction, contamination, autonomy and sample custody.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Uncertain body/interaction properties are not treated as established terrestrial conditions.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK20 – Subsurface and ocean-world exploration

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Pressure/chemistry, thermal state, containment, access, communication and protection duties.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Specialist boundary and contamination evidence precedes dependent use.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK21 – Interplanetary cruise and deep-space missions

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Duration, communications, resources, remote autonomy, radiation and repairability.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Human and autonomous actions are feasible within actual timing and resource limits.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK22 – Solar and heliophysics missions

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Time-varying flux, geometry, surface degradation, charged environment and instrument calibration.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Protection and data-quality evidence cover the actual mission envelope, not a screening equation alone.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK23 – Outer-system and distant observatories

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. End-of-life power, thermal survival, data return, ageing and long-term support.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Required lifetime and survival margins are met with credible continuity and data integrity.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK24 – Interstellar precursor and future distant systems

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Validated physics/model domain, actual demonstration state, gaps, authority and terminal duties.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Research promise is not an operational grant; unsupported capability stays in development.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK25 – Human exploration and surface habitats

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Users, tasks, duration, life support, radiation/environment, health-support and safe-return assumptions.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Every essential human protection and feasibility predicate is supported by specialists.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK26 – Planetary protection and sample return

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Destination, pathway, applicable protection duties, containment, custody and receiving readiness.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: No dependent commitment precedes complete protection and receiving evidence.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK27 – Resource utilisation and remote processing

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Input variability, environmental qualification, quantity/quality, rights and disposition.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Resource yield, product eligibility and permission remain distinct.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK28 – Space logistics and distributed supply

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Actual items, life, environment, compatible interfaces and arrival/acceptance states.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Only physically or otherwise validly confirmed accepted usable inventory supports mission budgets.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK29 – Specialised energy infrastructure

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Architecture, margins, protection, specialist permissions, heat rejection and terminal inventory.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Performance never substitutes for safety, source authority or terminal accountability.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK30 — Ground, communication and navigation services

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Deployed configuration, authority, source-to-user integrity, delay, uncertainty and recovery.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Availability, correctness, authority and completion are separately demonstrated.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK31 — Digital and autonomous space systems

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Intended use, domain, source/build/model identity, data, validation, human authority and support.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: All essential behaviours and prohibited transitions are verified for the actual deployment.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

AK32 — Retirement and long-term stewardship

ASTRA Annex AK; apply when relevant to actual family responsibility.

1. Terminal criteria, actual evidence, unknowns, remaining inventories, notifications and custody.

UNSET

Verify: Check domain, phase/mode, exact object and source-to-receiver responsibility.

Acceptance: Final-state claims are truthful and every unresolved duty has an accepted owner.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

P01 — Mission and scope

ASTRA Annex AO; P01

1. Legal owner, performer, family/module, object, domain, configuration, location, duration and modes.

UNSET

Verify: Review prospective derivation: Scope tuple and mission concept; approved applicability matrix.

Acceptance: No undefined essential object, duty, phase or exclusion.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

P02 — Environment and exposure

ASTRA Annex AO; P02

1. Quantity, spatial/temporal boundary, distribution or bound, source/model, uncertainty and coupled effects.

UNSET

Verify: Review prospective derivation: Mission environment baseline and qualified specialist rationale.

Acceptance: Selected conditions bound each claimed use; unknown critical mechanisms remain HOLD.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

P03 — Requirements and acceptance

ASTRA Annex AO; P03

1. Stable ID, owner, characteristic, units, bound inclusivity, predicate, observation and essential-step marker.

UNSET

Verify: Review prospective derivation: Requirement baseline and Annex AL decision rule.

Acceptance: Every condition is evaluable before observations are judged.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

P05 — Materials and process qualification

ASTRA Annex AO; P05

1. Material type/condition, geometry, sources, variables, qualified window, machine/tool state and hidden properties.

UNSET

Verify: Review prospective derivation: Actual representative qualification; lot/build genealogy.

Acceptance: All influential variables and required product properties are supported.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

P14 — Software, AI and models

ASTRA Annex AO; P14

1. Purpose/domain, source/build/weights/data, dependencies, target, errors, uncertainty, prohibited behaviour and change limits.

UNSET

Verify: Review prospective derivation: Independent verification and model/use validation.

Acceptance: Essential scenarios and target conditions pass; experimental outputs remain separate.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

P16 — Reliability and availability

ASTRA Annex AO; P16

1. Population, exposure, failure definition, observation, dependencies, confidence model, downtime and maintenance exclusions.

UNSET

Verify: Review prospective derivation: Prospective statistical design plus engineering mechanism evidence.

Acceptance: The actual demonstrated bound meets the approved claim; zero failures is not zero risk.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

P18 — Decision, continuity and terminal duties

ASTRA Annex AO; P18

1. Closed findings, reviewer competence, independence, authority, status clocks, final-state criteria, custody and open obligations.

UNSET

Verify: Review prospective derivation: Authenticated decisions and verified terminal/transfer evidence.

Acceptance: Every mandatory gate is complete; incomplete or unknown terminal state remains explicit.

Evidence / method / parameter / sample references and limits

Reviewer / actual event time

Finding / action / child-condition ledger

Final independent closure and continuing duties

Closure element	Required conclusion
Requirement population	All applicable source and annex child conditions reconciled; no missing test, station, phase or outcome hidden by counts.
Results and findings	Mandatory PASS and independently approved N/A only; every in-scope nonconformity verified closed before grant, renewal or extension.
Authority and independence	Current competent evaluator, reviewer and decision roles; conflict clearance; all required panel participation.
Claim and receiving duty	Exact permitted scope, configuration, domain, dates and limitations; authentic recipient acknowledgement and custody.

Full child ledger and population reconciliation

References to all source clauses, normative annex rows, selected technical subjects, domains, parameters and complete instantiated child predicates.

Independent result and rejected / held scope

Record the reasoned decision, unmet conditions, restrictions and preserved adverse evidence; separate technical release from ASTRA outcome.

Actual authority and approval record

Named function, authentic approval instrument, panel participants and genuine decision time; no pre-filled approval.

Continuing monitoring and receiving custody

Original surveillance / expiry clocks, change triggers, open terminal duties, recipient notices and accepted record custodian.

Appendix B — Local adoption, validation and receiving acceptance

Gate	Required evidence	Outcome when incomplete
Authority and identity	Actual operator, scoped mandate, permissible result class, named owner, independent decision and remedy functions.	No live scope release.
Requirement population	All applicable clauses and annexes mapped to child conditions, with reasons and independent approval for exclusions.	HOLD the affected conclusion.
Parameters and methods	Prospective values/attributes; technical basis; valid methods; representativeness; calibration, uncertainty and approved predicates.	No dependent acceptance.
People and evidence	Current demonstrated competence; conflict clearance; original usable source evidence; actual configuration and event times.	Reassign or obtain sufficient evidence.
Local tools and tests	Actual deployment tested with positive, boundary, missing, invalid and prohibited inputs; original failed cases retested.	No consequential reliance on unaccepted tools.
Independent closure	Every mandatory requirement PASS, approved N/A, all in-scope nonconformities verified closed, panel rules where required.	No grant, renewal or extension.
Claims and continuity	Decision-linked scope/status; source history; genuine custody, receiving access, retention, urgent notices and terminal duties.	Restrict publication or transfer until resolved.

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