



AF 9100:2026

Aerospace Quality Management System

PROCEDURE

Metrology, Method Validation and Uncertainty Decisions

AF-PR-9100-009

FIRST EDITION

30 September 2026 | English master text

Publication identity and application

Control	Publication value
Title	Metrology, Method Validation and Uncertainty Decisions
Document code	AF-PR-9100-009
Edition / language	FIRST EDITION / English master text
Companion edition identity	30 September 2026
Controlling source	AF 9100:2026 — FIRST EDITION — 29 September 2026
Responsible owner function	Metrology authority
Primary source anchors	7.6, 7.7, 28.3, H, AD, AH.4
Delivery status	Prepared implementation companion. Actual approval, adoption, effectivity and operational decisions are recorded separately.

Use and document-control boundary

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

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

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

Contents and reading route

Publication identity and application	2
Contents and reading route	3
1 Scope, responsibility and source priority	4
2 Trigger, inputs and handover	4
3 Operating sequence	4
4 Decision, interruption and escalation	5
5 Required records and receiving checks	5
6 Worked case and adverse challenge	5
Appendix A — Controlling source and evidence	7
Source tables — complete field and decision payloads	12
Appendix B — Local implementation and release	14
Select actual scope → complete application criteria → use the applicable procedure and technical book → capture authentic evidence → evaluate every applicable condition → obtain the required independent decision. Document availability does not establish implementation or conformity.	

1 Scope, responsibility and source priority

Applies to the responsible function and exact evaluated object selected from the source. Use only the duties triggered by actual activity and retained responsibility.

Boundary	Required implementation decision
Object and route	Identify ORG, PRD, SVC, PRC, PER, SUB or CAB separately. Combined records do not merge outcomes.
Activity	Apply source technical modules by performed or retained responsibility, including relevant outsourced work.
Authority	Technical release, employer task permission, independent attestation and statutory authorization remain distinct.
Source priority	AF 9100:2026 and all compatible binding obligations control. This companion does not import ASTRA programme rules or external normative schemes.

2 Trigger, inputs and handover

Trigger: Use, change or review of a measurement method or uncertainty-sensitive acceptance result.

Accountable process owner: Metrology authority. Actual named appointments and deputies are maintained locally.

Input to verify	Required output / receiving function
Exact request, object and source profile	Accepted scope and controlled work package, or a reasoned hold/refusal.
Current people, authority, data and equipment	Authorized assignment and evidence-access boundary.
Original execution, adverse evidence and source history	Attributable result, identified limitations and required action.
Relevant source clocks and actual event times	Genuine due/completion history and timely recipient communication.

3 Operating sequence

3.1 Specify the measurand

Identify object, configuration, property, units, conditions, actual limits and decision purpose. Separate specification limits from instrument resolution, control limits and uncertainty.

3.2 Establish traceability and suitability

Verify equipment range, calibration at event time, corrections, reference chain, environment and software. A provider scope or calibration sticker is not proof of suitability for this result.

3.3 Validate the actual method

Use prospective performance criteria, representative specimens, relevant bias, precision, detection, range and robustness. Record transfer differences, failed trials and detection limitations.

3.4 Construct the uncertainty model

State inputs, correction terms, sensitivities, distributions, standard uncertainties and covariance. Use a justified coverage factor; do not hide known bias in a larger uncertainty allowance.

3.5 Apply the pre-agreed rule

For DR-A evaluate both unrounded coverage endpoints against the applicable inclusive limits. Use the approved DR-B or DR-C controls only within their authorized scope; keep indeterminate separate from proven defect.

3.6 Review, report and look back

Retain raw and corrected results, model, rule and technical approval. An out-of-tolerance instrument triggers affected-output review from the last demonstrated valid state, not just recalibration.

4 Decision, interruption and escalation

Invalid inputs, wrong units, unavailable calibration, unsupported uncertainty or an indeterminate essential result prevent acceptance.

State or event	Action and limit
Evidence valid and criteria met	Record the bounded result and pass it to the authorized receiving function; do not enlarge scope.
Evidence missing, invalid or inconclusive	Keep the dependent conclusion not yet demonstrated / HOLD, preserve the reason and define competent next work.
Valid evidence demonstrates failure	Record nonconformity and protect the affected population; follow actual technical disposition and source status controls.
Trigger genuinely absent	Record the exclusion and its approved responsibility basis. Resource shortages do not justify N/A.
Interrupted or changed work	Preserve prior state and actual configuration; complete impact and revalidation before claiming completion.

5 Required records and receiving checks

Document	Record purpose
AF-FR-9100-005	Technical Result and Decision Rule
AF-FR-9100-018	Calibration, Method Validity and Uncertainty Budget
AF-FR-9100-023	Sample, Verification Campaign and Technical Report

At handover the receiver checks object, scope, current version, original evidence, open conditions, true event chronology and the action they may authorize. An email sent, field marked complete or invoice paid is not acceptance of that handover.

6 Worked case and adverse challenge

Synthetic scenario: A nominal dimension is within tolerance but its uncertainty interval crosses the upper limit.

Required reasoning: Under the agreed DR-A rule hold acceptance. An independently justified improved measurement may resolve it; repeated favorable selection or retrospective rule switching cannot.

Challenge before local use	Expected behavior
Missing essential input	Dependent conclusion remains held; no favorable default.
Wrong configuration or performer	Detect the mismatch and reassess relevant evidence.

Challenge before local use	Expected behavior
Expired or conflicted authority	Block the prohibited assignment or decision; later renewal cannot validate earlier unauthorized work.
Failed mandatory condition with high total score	No compensation; preserve the failure and required action.
Correction without original history	Reject an apparent closure that erases relevant earlier evidence.

Appendix A — Controlling source and evidence

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

7.6 Measuring equipment and metrological traceability

SOURCE p. 18 | Normative when applicable

7.6(a) Measurement systems used to demonstrate conformity shall be suitable for the measurand, range, environment and decision risk. The organization shall maintain a register containing equipment identity, location, owner, range, calibration or verification method, interval, status and acceptance criteria.

7.6(b) Where traceability is required or necessary for confidence, calibration shall be linked through a documented chain to appropriate measurement references. Where an established reference does not exist, the technical basis of verification shall be documented. Equipment shall be protected from unauthorized adjustment and damage.

7.6(c) Out-of-tolerance, damaged, overdue or otherwise unsuitable equipment shall be removed or restricted from use. The organization shall assess the validity of prior results and trace affected outputs. An equipment recalibration certificate shall not, by itself, resolve the product disposition.

Required evidence: Equipment register; calibration chain; recall system; uncertainty suitability; impact and disposition records.

7.7 Measurement methods, uncertainty and decision rules

SOURCE p. 18 | Normative when applicable

7.7(a) Test and inspection methods shall be validated or verified as appropriate for their intended use. The organization shall establish an uncertainty model and decision rule where measurement uncertainty can affect conformity. Personnel shall understand the distinction between specification limits, instrument resolution, uncertainty and process-control limits.

7.7(b) Automated inspection, machine vision and in-process probing shall be evaluated against representative defects, surfaces, geometries and environmental conditions. False acceptance and false rejection shall be considered. Revalidation shall follow material changes to optics, algorithms, fixtures, software or decision thresholds.

7.7(c) Annex AD shall govern conformity decisions relying on measurement uncertainty. The informative examples in Annex H shall not be used to select favorable acceptance criteria after results become known. The decision rule and treatment of an indeterminate result shall be fixed before evaluation.

Required evidence: Method-validation records; uncertainty budgets; decision rules; automated inspection challenge results.

28.3 Valid methods, equipment and technical evidence

SOURCE p. 48 | Normative when applicable

28.3(a) The provider shall demonstrate that selected methods, equipment, personnel and environments are suitable for the intended conclusion. Testing and calibration shall address metrological traceability, uncertainty, method validation or verification and continuing validity of results. Inspection shall address detection capability and access limitations.

28.3(b) Technical records shall retain the actual subject, configuration, method, data, corrections, uncertainty where relevant and authorized conclusion. Subcontracted results shall be evaluated for relevance and credibility; a report from another body is not automatically sufficient evidence.

Required evidence: Method and equipment records; validity checks; raw and processed results; subcontracted-evidence evaluation.

H.1 Measurement model and components

SOURCE p. 65 | Definition, explanation or informative example; no new universal limit

H.1(a) Consider a corrected measurement y with four independent standard-uncertainty components expressed in millimetres. Known significant systematic effects have already been corrected; the remaining uncertainty of each correction is included. Standard uncertainty is not the same quantity as a known measurement error.

H.1(b) For a general model $y=f(x_1,...,x_m)$, use sensitivity coefficients $c_i=\partial f/\partial x_i$ and include covariance terms. The simplified root-sum-of-squares expression is appropriate only when the linear approximation and independence assumptions are suitable.

Source calculation note: (H-1) $u_c^2(y) = \sum c_i^2 u_{i,j}^2 + 2\sum(i<j)c_i c_j \text{cov}(x_i, x_j)$ For the additive independent example, all $c_i=1$ and covariance terms are zero. Units remain mm^2 before the square root.

H.2 Calculated combined and expanded uncertainty

SOURCE p. 65 | Definition, explanation or informative example; no new universal limit

H.2(a) The independent-component result is $u_c=\sqrt{0.0012^2+0.0015^2+0.0010^2+0.0005^2}=0.00222261$ mm. With illustrative coverage factor $k=2$, expanded uncertainty $U=0.00444522$ mm.

H.2(b) The coverage factor must be justified for the distribution, effective information and required coverage. $k=2$ is approximately 95% coverage under suitable normal/large-information conditions; it is not an exact universal 95% confidence rule. For limited degrees of freedom or nonlinear models, use an appropriate alternative analysis.

Source calculation note: (H-2) $U = k u_c$ Report the measurement, units, expanded uncertainty, coverage factor, basis of coverage and decision rule. Rounding must not make the stated uncertainty appear smaller than justified.

H.3 Guard-band example

SOURCE p. 65 | Definition, explanation or informative example; no new universal limit

H.3(a) For specification interval [49.970, 50.030] mm, an illustrative conservative acceptance rule requires $y-U \geq \text{LSL}$ and $y+U \leq \text{USL}$. The resulting acceptance interval for y is [49.97444522, 50.02555478] mm.

H.3(b) A corrected result of 50.0240 mm has its full stated interval inside specification and passes this particular rule. A result of 50.0280 mm is inside the nominal specification but its uncertainty interval extends beyond the upper limit; conformity is not demonstrated under this rule and the item is held for disposition. This does not prove the item is physically nonconforming.

Source calculation note: (H-3) Accept only if $\text{LSL} + U \leq y \leq \text{USL} - U$ This is one pre-agreed decision rule, not a universal requirement. A different rule must identify and justify its treatment of false- acceptance and false-rejection risk. Figure H-1 — Two synthetic measurement results with expanded-uncertainty intervals. Dashed specification limits and the narrower acceptance interval illustrate why nominal in-limit results can require further disposition.

H.4 Correlation sensitivity

SOURCE p. 66 | Definition, explanation or informative example; no new universal limit

H.4(a) If the calibration and temperature components have correlation coefficient 0.5, their covariance is $0.5 \times 0.0012 \times 0.0010$ mm^2 . Adding twice this covariance gives $u_c=0.00247790$ mm, larger than the independent result.

H.4(b) The example shows why shared reference or environmental influences should not be ignored. Correlation should be based on a defensible model or study, not selected to obtain a favorable uncertainty. Sensitivity analysis is useful where the dependence is poorly known.

H.5 Decision-rule report content

SOURCE p. 66 | Definition, explanation or informative example; no new universal limit

H.5(a) A report should identify the measurand, method, corrected result, uncertainty budget, significant assumptions, coverage factor, specification, chosen decision rule and resulting disposition. The rule should be agreed before results are evaluated.

H.5(b) When a decision is indeterminate under the chosen rule, available responses include a better measurement, additional relevant evidence or an authorized technical disposition. Repeated measurement until one reading passes is not a valid resolution unless a predefined statistical method controls that practice.

AD.1 Decision basis and non-compensable conditions

SOURCE p. 112 | Normative when applicable

AD.1(a) Before evaluation, the responsible authority shall define the object, applicable requirements, criterion for each characteristic or competence, evidence needed, uncertainty treatment, required independence and permitted outcomes. Criteria shall not be selected retrospectively to obtain a favorable result.

AD.1(b) Every applicable mandatory criterion shall be fulfilled for a positive initial conformity attestation. No aggregate score, favorable delivery performance, commercial benefit or passing result in an unrelated area shall compensate for an unmet mandatory requirement, missing critical evidence or unresolved unacceptable risk.

AD.1(c) A technical release may include a lawful, explicitly approved concession for a bounded departure where the underlying technical and contractual framework permits it. The record shall identify that departure; it shall not falsely state that the original requirement was fulfilled. A concession cannot waive a mandatory legal approval or alter the AF requirements for an attestation.

Required evidence: Pre-agreed decision basis; complete criterion register; blocker review; concession and release distinctions.

AD.2 Measurement decision preparation

SOURCE p. 112 | Normative when applicable

AD.2(a) The measurement decision shall use the corrected result, applicable specification, validated method, justified uncertainty model and pre-agreed rule. Known significant systematic effects shall be corrected or otherwise treated through an approved model; an uncertainty allowance shall not conceal an ignored known bias.

AD.2(b) The record shall distinguish specification limits, control limits, resolution, uncertainty and acceptance limits. Units, significant figures, confidence or coverage interpretation and treatment of correlation shall be stated. The uncertainty shall be appropriate to the actual result and conditions, not copied from an unrelated calibration capability.

AD.2(c) Decisions shall use sufficient unrounded precision. Rounding is applied to reported values after the decision and shall not turn a failing or indeterminate result into a pass. When both lower and upper limits apply, both shall be evaluated; one favorable characteristic shall not substitute for another.

Required evidence: Measurement model; corrections; uncertainty budget; specification and acceptance limits; recorded rule and precision.

AD.3 DR-A — Full-interval decision rule

SOURCE p. 112 | Normative when applicable

AD.3(a) For a two-sided numerical specification [L, H], DR-A shall conclude “conformity demonstrated” only when the entire stated uncertainty interval lies within the inclusive specification limits. It shall conclude “nonconformity demonstrated under DR-A” when the entire interval lies outside one specification limit. All other results are indeterminate and shall be held from acceptance pending valid disposition.

AD.3(b) For C2 or C3 acceptance characteristics whose uncertainty can materially change the decision, DR-A shall be the default unless a documented alternative is approved under AD.5 by the metrology and relevant independent technical authorities. Applicable binding rules take precedence where they mandate another lawful rule.

AD.3(c) A one-sided specification shall use the corresponding single bound. For asymmetric uncertainty, the actual lower and upper coverage endpoints shall replace $y - U$ and $y + U$. The interpretation remains conditional on the stated measurement model and coverage; it is not an absolute guarantee of physical truth.

Required evidence: Declared DR-A application; actual result and coverage endpoints; criterion-by-criterion disposition; independent alternative approval where used.

Source calculation note: (AD-1) Conform: $y - U \geq L$ and $y + U \leq H$. Nonconform: $y + U < L$ or $y - U > H$. Otherwise: indeterminate. y is the corrected result and U the justified expanded uncertainty for the symmetric case. Equality at a specification boundary is inside the limit. An interval overlapping a limit is not automatically a proven physical defect, but conformity has not been demonstrated by this rule.

AD.4 DR-B — Simple acceptance with disclosed decision risk

SOURCE p. 112 | Normative when applicable

AD.4(a) Simple acceptance compares the corrected result directly with the specification limits. It may be used for C0 or C1 characteristics only where the rule is agreed before evaluation, the method is suitable, uncertainty and decision risk have been reviewed, and no binding obligation requires a more protective rule.

AD.4(b) The report shall disclose that acceptance does not use a guard band and that uncertainty can create false acceptance or false rejection near a limit. The operator shall not describe simple acceptance as zero risk. C2 or C3 use requires the independent alternative-rule approval in AD.5; it shall not be selected solely to accept a result that failed DR-A.

Required evidence: Prior agreement; uncertainty and risk review; scope and criticality; clearly disclosed acceptance rule.

AD.5 DR-C — Risk-targeted or other justified alternative

SOURCE p. 113 | Normative when applicable

AD.5(a) An alternative rule shall define the decision objective, allowable risks, statistical or physical model, prior information where used, distribution, dependence, measurement uncertainty, acceptance region and validation. Consumer and producer risks shall be distinguished. Approval shall occur before results are evaluated.

AD.5(b) A posterior probability of nonconformity conditional on a result shall be reported only when the underlying prior and likelihood are specified and justified. A coverage interval shall not automatically be reinterpreted as that posterior probability. Likewise, a sampling plan's operating characteristic shall not be interpreted as the probability that an accepted particular lot is conforming.

AD.5(c) For a C2/C3 alternative, the independent technical reviewer shall evaluate consequences, model limitations, sensitivity and whether the rule provides the required protection. The metrology authority, relevant safety or mission authority and contractual authority where required shall approve its exact scope. The rule shall be reviewed after a material model or process change.

Required evidence: Alternative-rule model; risk constraints; validation and sensitivity; independent approvals; application limits.

AD.6 Indeterminate results, repeat testing and multiple criteria

SOURCE p. 113 | Normative when applicable

AD.6(a) An indeterminate result shall remain held until a validated improved measurement, relevant additional evidence or a lawful technical disposition resolves it. Repeating observations until a favorable reading appears is prohibited. A repeat or pooled-result method shall be specified in advance or independently justified with the original results retained.

AD.6(b) Where a guard band leaves an empty acceptance region, the method cannot demonstrate conformity under that rule. The response shall improve the method or obtain an approved technically justified alternative, not quietly widen the product specification. Known nonconforming material shall remain controlled under Clause 8.7.

AD.6(c) For many characteristics or repeated decisions, the plan shall consider cumulative false-decision risk, dependence and the consequences of multiple comparisons. A nominal interval for each characteristic shall not be represented as the same confidence for all characteristics jointly without a justified analysis.

Required evidence: Hold and disposition record; repeat-test plan; retained original results; cumulative-risk review.

AD.7 Finding classification and immediate action

SOURCE p. 113 | Normative when applicable

AD.7(a) A finding shall identify the exact requirement, objective evidence, affected scope and gap. The evaluator shall classify the finding using Table AD-2 and separately decide whether an immediate technical hold or protective action is necessary. Administrative classification shall never delay protection.

AD.7(b) Related localized findings shall be reviewed together for evidence of systemic breakdown. An opportunity for improvement shall not replace a nonconformity where a requirement is unmet. A mere preference for a different method, where the actual requirement is fulfilled, shall not be raised as a nonconformity.

Required evidence: Requirement-evidence-gap statement; classification rationale; systemic extent; immediate technical action.

AD.8 Attestation decisions and open findings

SOURCE p. 114 | Normative when applicable

AD.8(a) Initial grant, renewal and extension shall require all nonconformities in the granted scope to be closed, adequate evidence for all mandatory criteria and independent review. A restricted scope may be granted only where its boundary is real, independently evaluated and unaffected by unresolved systemic deficiencies; it shall not conceal the failed scope.

AD.8(b) An existing attestation may be maintained with a localized minor finding only when immediate correction or containment is adequate, cause and extent are reviewed, a corrective plan is accepted within the Annex AG time limit, and no essential control or mandatory output criterion is compromised. The decision maker shall record why continued status is justified and verify closure within the required period.

AD.8(c) An existing major finding shall trigger an immediate assessment of continuing conformity. Where the underlying ability to meet requirements is not demonstrated, the affected status shall be suspended. Limited continuation is permitted only for a specifically evidenced unaffected scope, through a documented restriction decision. A planned future correction alone is not evidence of current conformity.

AD.8(d) A conditional lifecycle gate or conditional supplier-development approval may permit bounded non-dependent work. Neither is a conditional conformity certificate. Annex AG controls closure, suspension and restoration deadlines; an expired deadline shall not be reset by reissuing the same finding.

Required evidence: Independent grant or continuation decision; closed findings; real scope boundaries; verified corrections and corrective action.

Source calculation note: (AD-2) Grant = scope valid AND all applicable criteria fulfilled AND evidence adequate AND findings closed AND independent decision authorized This is a logical conjunction, not a weighted score. "Findings closed" refers to nonconformities in the scope being granted; observations do not create a mandatory failure.

AD.9 Decision record and challenge

SOURCE p. 114 | Normative when applicable

AD.9(a) The record shall identify the applicant and object, route, profile, evidence package, evaluator and reviewer, findings and closure, independence, limitations, decision, reasons, actual date and signatory. Automated workflow may enforce checks, but an accountable authorized person shall approve the conformity decision.

AD.9(b) Technical dissent shall remain in the record with its resolution. An appeal shall follow Annex AI. A revised decision shall preserve the earlier decision and explain the new evidence or corrected interpretation. No record shall be backdated or altered to make the earlier basis appear stronger than it was.

Required evidence: Complete decision record; documented dissent; accountable signatory; preserved history and appeal disposition.

AH.4 Test and calibration method validity

SOURCE p. 123 | Normative when applicable

AH.4(a) The laboratory shall select methods suitable for the actual measurand, item, range, environment and decision. A new or materially modified method shall be validated; an established method shall be verified for the laboratory's actual implementation. Performance characteristics shall address bias, precision, selectivity, range, detection capability and robustness where relevant.

AH.4(b) Measurement traceability shall use an appropriate documented chain of calibrations, reference materials or other justified references with their uncertainty contributions. Equipment shall be identified, maintained and verified after relevant change. An expired calibration or unsuitable range shall trigger assessment of affected previous results, not only a new calibration.

AH.4(c) Uncertainty shall be evaluated to the extent needed for the report and intended decision. Sampling contributions shall be addressed when sampling belongs to the laboratory's responsibility. Tests reporting qualitative outcomes shall still evaluate the relevant capability to distinguish conditions and avoid false conclusions.

Required evidence: Method validation/verification; measurement traceability; equipment status; uncertainty and detection capability; previous-result impact reviews.

Source tables — complete field and decision payloads

Table H-1 — Synthetic uncertainty budget

Source p. 65 | Illustrative or explanatory source table

Component	Standard uncertainty, mm	Basis and treatment
Calibration correction	0.0012	Assumed standard uncertainty after applying the correction.
Repeatability of reported result	0.0015	Assumed applicable to the actual reported result, not automatically divided by sample size.
Temperature correction	0.0010	Residual standard uncertainty after compensation.
Resolution / quantization	0.0005	Assumed already converted from its distribution to standard uncertainty.

Table AD-1 — Illustrative DR-A outcomes for the Annex H example

Source p. 113 | Illustrative or explanatory source table

Corrected result y, mm	Expanded uncertainty U, mm	Outcome under the stated example rule
50.0240	0.00444522	Conformity demonstrated: the full interval is inside [49.970, 50.030] mm.
50.0280	0.00444522	Indeterminate: nominal result is inside the specification, but the interval overlaps the upper limit. Hold acceptance.
50.0360	0.00444522	Nonconformity demonstrated under DR-A: the full interval is above the upper limit.
50.02555478	0.00444522	Upper interval endpoint equals 50.03000000 mm: inside the inclusive limit using these stated numbers. Actual decisions use unrounded inputs.

Table AD-2 — Finding categories and minimum consequences

Source p. 113, 114 | Required structure when applicable

Class	Decision definition	Required consequence
Critical	Evidence of an uncontrolled unacceptable safety/mission risk, deliberate material falsification, serious compromise of essential evidence, or another condition requiring immediate protection.	Stop or contain the affected activity immediately. Block grant/renewal. For an existing affected attestation, suspend or impose an effective evaluated restriction without delay; apply Annex AG notifications.

Class	Decision definition	Required consequence
Major	Absence or breakdown of a required control, or a group of deficiencies, materially undermining the ability to fulfill requirements; not necessarily an immediate hazard.	Block initial grant/renewal/extension until verified closure. Assess existing scope promptly; suspend when continuing conformity cannot be demonstrated.
Minor	Localized failure to fulfill a requirement where evidence does not show a material system breakdown or loss of essential control.	Correct and address cause. No open minor at initial grant, renewal or extension. Existing status may continue only under the bounded AD.8 decision.
Observation / improvement	No demonstrated failure of an applicable requirement; a documented possibility to improve effectiveness.	May support improvement. Shall not be used to conceal nonconformity or require uncontracted consultancy.

Appendix B — Local implementation and release

Readiness condition	Evidence before consequential use
Authority and responsibility	Actual legal operator, owner, competent technical authority, independent reviewer and permitted result class are recorded.
Scope and criteria	Object, configuration, site, period, trigger, every technical value or observable attribute, units and prospective approval are complete.
Evidence and methods	Original accessible evidence, representative observations, valid methods, uncertainty, adverse cases and limitations support the intended conclusion.
People and independence	Competence is current for each task; genuine conflicts, relevant prior work and needed separation have been checked.
Records and tools	Field meanings, unique IDs, original history, access, retention, recovery and actual deployed workflows have passed local validation.
Decision and public use	All relevant blockers are resolved; required independent decision and written permissions precede the exact public claim.
Continuity and handover	Receiving custody, unresolved duties, corrections and historical decisions survive transfer, retirement or provider closure.

Record the completed local readiness and actual authorization in AF-FR-9100-032 or an equivalent controlled record. Preserve the unchanged source standard and each earlier decision basis. A blocked activity may continue only within a genuinely permitted development boundary, not as a provisional conformity certificate.