



AF 9100:2026

Aerospace Quality Management System

PROCEDURE

Objectives, Opportunities and Improvement Portfolio

AF-PR-9100-005

FIRST EDITION

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Publication identity and application

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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.

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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: Selection, reporting or alteration of an objective or improvement opportunity.

Accountable process owner: Process performance owner. 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 Define the benefit

Describe the intended outcome, affected users, baseline and causal hypothesis. Keep the opportunity record separate from the register accepting adverse risks.

3.2 Specify the measure

Fix numerator, denominator, units, time window, inclusion and exclusion rules, source records and aggregation method. Distinguish delivery due from delivery shipped and accepted output from reworked output.

3.3 Plan resources and protection

Allocate owner, resources, decision gates and evidence of success. Assess new safety, quality, security or continuity risks introduced by the proposal before implementation.

3.4 Collect and reconcile

Retain source population and configuration. Reconcile dashboards to actual records, including missing data and failed outcomes. Do not retrospectively change a denominator to meet the target.

3.5 Evaluate benefit and adverse effects

Compare compatible before-and-after conditions. Check changes in mix, volume, measurement and exposure before attributing improvement to the action.

3.6 Continue, correct or close

Record the decision and learning, update applicable plans and controls, and retain unsuccessful experiments. No favorable objective can override an unfulfilled conformity condition.

4 Decision, interruption and escalation

Undefined metrics or unassessed adverse effects prevent an achieved-benefit claim, not honest reporting of a shortfall.

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-9100-013	Context, Processes, Obligations and Objectives
AF-FR-9100-027	Metrics, Reliability and Customer Performance
AF-FR-9100-028	Internal Audit, Management Review and Improvement

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: On-time delivery rises after overdue orders are removed from the report.

Required reasoning: Reinstate the due-order population and apply the prospective cancellation rule. Report the corrected result and investigate data governance rather than advertise an unsupported improvement.

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.
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.

Challenge before local use	Expected behavior
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.

6.2 Opportunity planning as a distinct activity

SOURCE p. 16 | Normative when applicable

6.2(a) The organization shall identify and evaluate opportunities for improved capability, customer value, reliability, resilience, resource efficiency and knowledge. Each selected opportunity shall have a benefit hypothesis, feasibility assessment, resources, accountable owner, implementation milestones and a method for evaluating achieved benefit.

6.2(b) Opportunity decisions shall be recorded separately from adverse-risk acceptance. An opportunity may generate new risks, which shall be evaluated through the risk process. The expected benefit of innovation shall not cancel a nonconformity or justify bypassing qualification.

Required evidence: Opportunity register; selected initiatives; benefit evaluations; associated risk assessments.

6.3 Objectives and execution plans

SOURCE p. 17 | Normative when applicable

6.3(a) Measurable objectives shall be established at relevant organizational, process and program levels. Each objective shall identify the outcome, baseline, measure definition, target rationale, owner, resources, due date and evaluation frequency. Safety and quality objectives shall include leading and lagging indicators where useful.

6.3(b) Denominators, exclusions and data sources shall be defined before reporting. Targets shall not encourage concealment, selective deletion, denominator changes or shipment before completion of acceptance. Failure to meet an objective shall trigger analysis and appropriate action, not retroactive redefinition without disclosure.

Required evidence: Objective plans; metric definitions; baseline data; progress reviews and decisions.

9.1 Monitoring strategy and data credibility

SOURCE p. 26 | Normative when applicable

9.1(a) The organization shall define what will be monitored, why it matters, how it is measured, when it is evaluated and who acts on the result. Measures shall connect process performance to product conformity, delivery, reliability, safety, customer experience and evidence integrity.

9.1(b) Data shall retain configuration, exposure, time period and denominator information needed for interpretation. Automated dashboards shall be reconciled to source records. Missing, delayed or selectively excluded data shall be visible. Leading indicators shall be evaluated against outcomes to confirm their usefulness.

Required evidence: Monitoring plan; metric dictionary; source reconciliations; data-quality checks; action records.

10.3 Continual improvement and preventive learning

SOURCE p. 27 | Normative when applicable

10.3(a) The organization shall select improvement opportunities using performance evidence, user experience, lessons learned, technology developments and strategic needs. Improvement shall address system effectiveness, not only cost or administrative simplification.

10.3(b) Changes introduced as improvements shall undergo the same appropriate assurance as other changes. Benefits shall be verified against the baseline, while unintended adverse effects shall be monitored. Knowledge from unsuccessful experiments shall be retained without representing an unproven benefit as achieved.

Required evidence: Improvement portfolio; baseline and outcome evaluation; change assurance; retained learning.

Z.1 Metric definitions and numerical examples

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

Z.1(a) Each measure should have an owner, purpose, denominator, data source, reporting window, inclusion/exclusion rule and action threshold. Targets should be set before reporting. A favorable operational metric does not compensate for a mandatory conformity failure.

Z.1(b) The following examples are independent unless a shared dataset is explicitly stated. They should not be combined into a single invented organization's performance score.

Source tables — complete field and decision payloads

Table Z-1 — Calculated quality and delivery metrics

Source p. 101 | Illustrative or explanatory source table

Metric	Definition and synthetic inputs	Calculated result / limit
First-pass yield	940 units accepted without rework out of 1,000 entering the defined process.	$940/1,000 = 94.0000\%$.
Rolled throughput yield	Three sequential stage yields 0.98, 0.97 and 0.99, using compatible conditional stage definitions.	$0.98 \times 0.97 \times 0.99 = 94.1094\%$; not the arithmetic average.
On-time delivery	92 of 100 orders due in the period delivered in full by the agreed date; cancellation/partial rules fixed.	92.0000%; denominator is due orders, not only shipped orders.
Defective units per million	7 nonconforming units out of 20,000 inspected units; each unit counted once.	350 ppm; do not confuse units with number of individual defects.
Cost of poor quality	Scrap 18,000 + rework 12,000 + returns 9,000 + failure investigation 6,000 monetary units.	45,000; 3.0000% of an illustrative 1,500,000 revenue base.
Overall equipment effectiveness	Availability 0.90 × performance 0.95 × quality 0.98 under defined time and ideal-rate boundaries.	83.7900%; does not establish safe or conforming operation.
Earned-value cost index	Earned value 180,000 / actual cost 200,000.	CPI = 0.9000; financial progress is not technical readiness.
Earned-value schedule index	Earned value 180,000 / planned value 225,000.	SPI = 0.8000; does not measure calendar delay directly.
Evidence completion	Verified applicable requirement records / all applicable requirement records.	Report critical missing records separately; no aggregate conformity pass.
Corrective-action effectiveness	Actions meeting their pre-defined effectiveness test / actions evaluated.	State evaluation exposure; “closed on time” is a different measure.

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.