



AF 9100:2026

Aerospace Quality Management System

CHECKLIST

Process Qualification and Controlled Use — PRC Checklist

AF-CL-9100-016

FIRST EDITION

30 September 2026 | English master text

Publication identity and application

Control	Publication value
Title	Process Qualification and Controlled Use — PRC Checklist
Document code	AF-CL-9100-016
Edition / language	FIRST EDITION / English master text
Companion edition identity	30 September 2026
Controlling source	AF 9100:2026 — FIRST EDITION — 29 September 2026
Responsible owner function	Independent route evaluator
Primary source anchors	25
Delivery status	Prepared implementation companion. Actual approval, adoption, effectivity and operational decisions are recorded separately.

Use and document-control boundary

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

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

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

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

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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 Checklist use and state definitions

Evaluate the whole source condition, including every joined sub-condition. Where different parts have different evidence, add separate continuation rows linked to the original identifier. Do not compress a compound requirement into a favorable summary.

Field state	Meaning
PASS	Conforming: valid evidence meets the approved applicable condition.
FAIL	Nonconforming: valid evidence demonstrates failure of the applicable requirement.
HOLD	Not yet demonstrated: applicability, criteria, evidence, validity, interpretation or authority remains unresolved.
N/A	Not applicable only with an approved absence-of-activity-and-responsibility rationale. Missing resources or access are not exclusions.

States in this companion map to the source’s requirement-status dictionary; operational record status and evidence validity remain separate. No prefilled state is supplied. A metric counts progress only and cannot override a mandatory failure.

Assessment / case / object / profile / evaluated version

Assessor / actual dates / route / sites / configuration / selected scope

Approved applicability and exclusions / continuation record location

2 Complete source-condition evaluation

25.1 — Process identity, scope and essential variables

25.1(a) | Source p. 44

The process owner shall define the purpose, inputs, outputs, sequence, equipment, software, materials, personnel, environment and interfaces. Essential variables that can affect conformity shall be identified with approved limits and monitoring methods. Boundaries shall include preparation and downstream steps where they influence hidden characteristics.

Process definition; essential-variable register; qualified family rationale; interface controls.

STATE

EVIDENCE / APPROVED N/A BASIS

REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.1(b) | Source p. 44

Process families may be grouped only through a justified relationship between operating conditions, failure mechanisms and relevant output properties. A machine, operator or material qualification alone shall not qualify every process or product made using it.

Process definition; essential-variable register; qualified family rationale; interface controls.

STATE

EVIDENCE / APPROVED N/A BASIS

REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.2 — Qualification strategy and demonstration

25.2(a) | Source p. 44

Before unrestricted use, qualification shall demonstrate that the actual process can achieve specified output criteria under the proposed operating conditions. The plan shall justify samples, extremes, repetitions, measurement capability, uncertainty and the treatment of failed or excluded runs.

Qualification plan; representative results; method suitability; failed-run disposition; approved process window.

STATE

EVIDENCE / APPROVED N/A BASIS

REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.2(b) | Source p. 44

Special processes shall meet Annex L. Service or digital processes shall use representative end-to-end trials appropriate to their failure modes. Simulation may supplement demonstration where its credibility is established, but convenience alone shall not justify removal of necessary physical or operational evidence.

Qualification plan; representative results; method suitability; failed-run disposition; approved process window.

STATE

EVIDENCE / APPROVED N/A BASIS

REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.3 — Capability, stability and statistical interpretation

25.3(a) | Source p. 45

The organization shall distinguish process stability, process capability and conformity of an individual output. A capability index shall be used only with sufficient suitable data, a defined estimator, justified grouping, measurement suitability and a distribution or model appropriate to the interpretation.

Study design; data and model assumptions; stability review; capability calculation; justified alternative evidence.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.3(b) | Source p. 45

Control-chart limits shall describe process behavior and shall not replace product specifications. Unstable or dependent data shall not be treated as independent normal observations merely to obtain a favorable index. Low-volume work shall use suitable engineering and verification evidence where statistical capability cannot be established.

Study design; data and model assumptions; stability review; capability calculation; justified alternative evidence.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.4 — Operating approval and release for use

25.4(a) | Source p. 45

Process approval shall identify the qualified scope, equipment and site, authorized personnel, approved instructions, parameter limits, inspection requirements, monitoring and requalification triggers. Qualification conditions shall be available at the point of use.

Process approval record; released instructions; authorization and limitations; ongoing acceptance controls.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.4(b) | Source p. 45

The authority releasing a process for use shall verify closure of blocking deficiencies and adequacy of continuing controls. A process-qualification attestation does not certify every output; product or service release still requires the corresponding acceptance evidence.

Process approval record; released instructions; authorization and limitations; ongoing acceptance controls.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.5 — Monitoring, drift and excursions

25.5(a) | Source p. 45

Monitoring shall detect relevant drift, tool wear, environmental changes, material variability, software changes and loss of operator capability. Response plans shall identify the last demonstrated valid state, potentially affected output and conditions requiring immediate hold.

Monitoring records; reaction plan; affected-population trace; technically justified disposition and restart.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.5(b) | Source p. 45

An excursion shall be evaluated against the relevant failure mechanism. Additional inspection may support disposition only when it can detect the potential effect. Restoring process settings or obtaining one conforming sample shall not retrospectively demonstrate conformity of the affected population.

Monitoring records; reaction plan; affected-population trace; technically justified disposition and restart.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.6 — Changes, transfer and requalification

25.6(a) | Source p. 45

Requalification review shall follow changes to essential variables, material source, software, equipment, tooling, location, personnel arrangements or inspection method, and adverse trends or significant interruption. The review shall define whether full or partial demonstration is necessary.

Requalification trigger review; transfer readiness; retained-evidence rationale; actual receiving-site results.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.6(b) | Source p. 45

Work transferred to another source or site shall demonstrate receiving capability. Partial requalification shall identify evidence retained as valid and explain why unaffected characteristics remain covered. Commercial urgency shall not substitute for receiving-site evidence.

Requalification trigger review; transfer readiness; retained-evidence rationale; actual receiving-site results.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.7 — Process records, traceability and retirement

25.7(a) | Source p. 45

Execution records shall link actual inputs, parameters, personnel, equipment, time and output identity to the qualified configuration. Data used to support a process claim shall preserve unsuccessful runs and any authorized corrections. Automated collection shall be verified for completeness and correct mapping.

Traceable process history; automated-data verification; withdrawn approval controls; preserved lifecycle evidence.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

25.7(b) | Source p. 45

Withdrawal of process approval shall identify affected work, prohibit unauthorized reuse and preserve records needed for existing products or services. Obsolete tools, software and instructions shall be controlled so that they cannot silently re-enter production.

Traceable process history; automated-data verification; withdrawn approval controls; preserved lifecycle evidence.

STATE	EVIDENCE / APPROVED N/A BASIS	REVIEWER / ACTUAL EVENT

Gap / required action / continuation record:

4 Compound-condition continuation and final reconciliation

Duplicate these controlled continuation fields as needed. Each additional predicate retains its parent source identifier, object, criterion, evidence, actual result, gap and independent approval. The number of printed fields is not a limit on the required evidence.

Parent requirement / compound condition / applicable object

Separate criterion and approved technical basis

Method, actual configuration and original evidence

Result, uncertainty/rubric and PASS/FAIL/HOLD/N/A reason

Failed/held condition, owner, original due event and action

Approved exclusion and independent review reference

Final requirement population and unresolved conditions

Independent reviewer / decision authority / genuine approval reference

Initial grant, renewal and extension require closure of all in-scope nonconformities and the source's complete decision conditions. A separate authorized technical concession does not make a failed original criterion conforming. Preserve independent review, actual authority and precise scope.