



# AF 9800

## Aerospace Maintenance & Personnel Competence

Space / Aviation / Defense

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FIRST EDITION

## Document identity and authority

FIRST EDITION MANUSCRIPT - Prepared for Aerospace Federation review

| Field              | Declared position                                                                        |
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| Identifier         | AF 9800                                                                                  |
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| Normative basis    | Main clauses and Annexes A-N contain proposed requirements; Annexes O-T are informative. |
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### Use of this publication

AF 9800 connects controlled aerospace maintenance with demonstrated personnel competence. It addresses maintenance programmes, configuration, task execution, independent checks, records and release, together with entry qualifications, learning, practical assessment, authorization and continuing currency. Asset-specific methods and locally approved values remain with their eligible technical owners.

The supporting set provides original implementation models, technical profiles, examination checklists and blank controlled records. It does not supply fabricated results, signatures, approvals or recognition.

Informative calculations and cases use synthetic values. They explain assumptions, reproducible methods and decision boundaries; they are not mandatory defaults or evidence from actual activities.

# Reader route and decision boundaries

## 1 Establish scope and maintenance capability

Use Clauses 0-11 and Annexes A-E for obligations, governance, programme, configuration, technical data and executable work packages.

## 2 Demonstrate competence and authorize people

Use Clauses 12-18 and Annex F for credentials, role criteria, training, practical evidence, assessment, authorization and recency.

## 3 Support safe work and reliable communication

Use Clauses 19-23 and Annexes G-H for fitness, supervision, handover, tools, parts and critical-task execution.

## 4 Inspect, test, release and preserve evidence

Use Clauses 24-29 and Annexes I-J for specialist inspection, defects, tests, release, digital records and external providers.

## 5 Apply the controls to the actual sector

Use Clauses 30-33 and Annex K for aircraft, engines, components, space, ground systems, restricted activities and training providers.

## 6 Monitor, improve and maintain continuity

Use Clauses 34-40 and Annexes L-N for assurance, reliability, events, change, recovery, storage, transfer and local adoption.

**Decision boundary:** Training, qualification, demonstrated competence, local authorization, task signoff, independent inspection, maintenance release and operational permission are separate states. Each requires its own applicable evidence and eligible decision.

# Contents - clauses and annexes

Entries and PDF bookmarks locate the controlled clauses and annexes. Page references apply to this file.

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# 0 Purpose and normative interpretation

## 0.1 Intended outcome

AF 9800 establishes requirements for controlled aerospace maintenance and demonstrable personnel competence. The organization shall connect each maintenance obligation to suitable data, resources, execution evidence and eligible decisions. It shall connect each assigned role to verified capability, current authorization and effective supervision. The intended outcome is an accurately known maintenance state supported by people competent for the actual work.

## 0.2 Requirement language

Shall identifies a proposed requirement; should identifies guidance; may identifies permission within applicable constraints. Clauses 0-40 and Annexes A-N are normative within an adopted scope. Annexes O-T are informative. Examples and supporting templates do not assign technical values, substitute for approved maintenance data or authorize a departure from applicable obligations.

## 0.3 Evidence and decision states

The organization shall distinguish PASS, FAIL, HOLD and approved N/A. PASS requires complete applicable criteria to be demonstrated; FAIL identifies a criterion not met; HOLD identifies an unresolved decision; N/A requires a supported applicability determination by an eligible authority. Missing records, blank fields, training attendance and elapsed waiting periods shall not be interpreted as positive evidence.

## 0.4 Controlled interpretation

Interpretation shall preserve the requirement's purpose, asset-specific constraints and responsible authority. Conflicting instructions shall be referred to their controlling owners before affected work proceeds. Local tailoring shall identify what changes, the supporting basis and downstream effects. A local interpretation shall not claim publisher approval or create a legal privilege that the organization does not possess.

**Required evidence:** Controlled applicability statement, interpretation log, evidence-state rules and adopted document hierarchy.

**Decision control:** An unresolved essential condition blocks the affected task or decision; it does not automatically block unrelated, demonstrably independent work.

# 1 Scope and maintenance responsibilities

## 1.1 Covered activities

The organization shall define its maintenance scope across aircraft, engines, components, space systems, launch equipment, aerospace ground systems and associated support facilities as applicable. Include inspection, servicing, diagnosis, repair, modification, restoration, storage, preservation and maintenance-related software/configuration changes. Distinguish preventive, corrective and condition-triggered work and identify responsibilities that remain after outsourcing.

## 1.2 Organizational boundaries

The declared scope shall identify sites, mobile teams, shifts, remote support, contracted functions, products and capability limitations. Interfaces with owners, operators, design authorities, training providers and releasing organizations shall specify who supplies data, approves changes, accepts records and resolves disputes. A contract shall not transfer a responsibility that the controlling obligation retains with the original organization.

### 1.3 Personnel population

Competence controls shall cover maintainers, planners, inspectors, specialists, certifying personnel, supervisors, instructors, assessors, technical-records staff and managers whose decisions affect maintenance. Temporary, agency, contractor and remote personnel shall be included according to assigned duties. Access credentials or employment status shall not be accepted as evidence of technical competence.

### 1.4 Scope exclusions

The organization shall document exclusions with an activity-based rationale and dependencies. A provider performing only training or records support shall retain requirements governing its actual contribution without claiming authority to release maintained assets. This publication does not supply aircraft servicing methods, spacecraft commands, repair designs, operating approvals or personal licenses.

**Required evidence:** Activity and personnel inventory, capability boundaries, interface allocation and justified exclusions.

**Decision control:** Scope wording shall not conceal an actual maintained product, delegated task or retained obligation.

## 2 Applicability, obligations and local parameters

### 2.1 Applicable basis

The organization shall determine the obligations governing the actual asset, jurisdiction, contract, site and activity. It shall retain authoritative source records, applicability dates and responsible interpreters. More restrictive or differently structured requirements shall be resolved explicitly. Adoption of AF 9800 shall not be represented as evidence that another authority's approval requirements have been satisfied.

### 2.2 Local parameter baseline

The organization shall complete the P01-P44 baseline in Annex B and the applicable discipline profiles. Each value shall identify its unit or category, source, affected scope, approver and change trigger. Parameters include maintenance intervals, working conditions, task criticality, assessment criteria, recency, inspection independence, record retention and release eligibility. Unknown values shall remain visible dependencies.

### 2.3 Applicability decisions

Each requirement shall be assigned an implementation owner and evidence route. N/A decisions shall explain why the underlying activity or duty is absent and identify conditions that would reopen applicability. Shared services shall name both the service provider and the owner retaining acceptance responsibility. Commercial inconvenience shall not justify omission of an applicable requirement.

### 2.4 Conflicts and changes

Changes to obligations, maintenance data, products or organizational privileges shall trigger impact review. The organization shall identify affected work packages, personnel authorizations, training, tools and records. Interim restrictions shall be communicated to the point of use. Work already completed under a superseded basis shall be evaluated for continuing validity where the change has retrospective significance.

**Required evidence:** Obligations register, full parameter baseline, clause dispositions and controlled change notifications.

**Decision control:** No universal interval, pass mark, experience duration or maintenance privilege is established by this standard.

## 3 Terms, competence and release states

### 3.1 Core terms

Competence means demonstrated ability to perform an assigned function under defined conditions, combining knowledge, practical skill, judgement and relevant human-factor behaviour. Qualification is a recognized attainment against a defined scheme. Authorization is the organization's bounded permission to exercise specified duties. Currency is the continued validity of supporting evidence under established recency and change rules. These states shall be recorded separately.

### 3.2 Maintenance states

A task signoff records performance of a defined work step and its result. Independent inspection records a distinct examination of specified attributes by an eligible person. Maintenance release records an authorized decision about the completed maintenance and its stated scope. Operational permission determines whether the asset may perform the intended operation. None of these states shall be silently substituted for another.

### 3.3 Evidence terms

A controlled baseline identifies the applicable object, configuration, data and criteria. Objective evidence is a retrievable observation or record sufficient for its intended conclusion. A critical criterion is a condition whose failure cannot be compensated by unrelated successes. An open item is an unresolved condition with a responsible owner, blocked scope and resolution basis, regardless of its planned completion date.

### 3.4 Identity and terminology

The organization shall define local terms, role titles, abbreviations and translations in a controlled glossary. Equivalent titles across organizations shall be compared by actual privileges and evidence, not by wording alone. Asset identity, person identity and authorization identity shall remain distinguishable. A digital account shall not obscure the individual who performed or approved the action.

**Required evidence:** Local glossary, decision-state definitions, role equivalence and identity conventions.

**Decision control:** A qualification certificate, training record or task signature shall not be treated as an unrestricted release authorization.

## 4 Governance, roles and retained authority

### 4.1 Accountable management

An accountable executive shall provide resources, appoint competent owners and ensure maintenance capability matches the accepted scope. Technical, production, competence, assurance and release responsibilities shall be allocated with workable escalation paths. Performance incentives shall not reward concealed defects, omitted inspections or premature authorizations. Management shall review whether declared capacity is achievable under actual conditions.

### 4.2 Decision authority

The organization shall maintain an authority matrix identifying who may approve programmes, technical departures, assessment outcomes, personnel privileges, independent inspections and maintenance releases. Delegation shall state scope, limitations, duration and substitutes. Where several approvals are necessary, the sequence and prerequisites shall be explicit. A commercial manager shall not override an unmet technical condition without eligible technical authority.

### 4.3 Independence and conflicts

Assessment and assurance arrangements shall identify conflicts of interest and apply independence proportionate to consequence. An assessor shall not be the sole approver of their own competence. Where small teams constrain separation, an approved alternative shall provide competent external or cross-team challenge, except where the governing obligation requires a specific separation that cannot be replaced.

### 4.4 Management review

Management review shall examine capability, workload, competence gaps, expired privileges, critical findings, reliability trends, record integrity and effectiveness of corrective action. Decisions shall allocate resources and owners and identify restricted activities. Review shall include confidential reporting trends without exposing unnecessary personal information. Completion shall be demonstrated through outcomes, not meeting attendance alone.

**Required evidence:** Accountable appointments, authority matrix, conflict controls, resource decisions and management-review actions.

**Decision control:** Delegation does not eliminate retained accountability or extend the delegator's own privileges.

## 5 Maintenance capability, facilities and working conditions

### 5.1 Capability definition

The organization shall maintain a capability list tied to product type, configuration, task class, process, site and available personnel. Addition of capability shall require evidence of data access, tooling, facilities, competence, supervision and release arrangements. Temporary restrictions shall be visible to work acceptance and planning. Historical performance of a similar task shall not establish capability for a materially different configuration.

## 5.2 Facilities and segregation

Facilities shall provide suitable access, lighting, ventilation, cleanliness, environmental control and protection for the intended work. Incompatible activities, serviceable and unserviceable items, hazardous materials and sensitive assemblies shall be separated as needed. Site conditions shall be monitored where they can affect results. Work shall stop or relocate when required environmental conditions cannot be maintained.

## 5.3 Resources and availability

Resource planning shall account for specialist availability, independent inspection, tooling conflicts, test capacity, consumables, technical support and staff absence. Shared resources shall have reservation and contingency arrangements. Available headcount shall not be equated to authorized capability. Minimum coverage shall reflect actual simultaneous work, supervision needs and credible disruptions rather than a nominal roster alone.

## 5.4 Capability surveillance

Capability shall be reviewed after staffing, equipment, premises, process or data changes and after prolonged inactivity. The owner shall verify that outsourced dependencies remain available. Restrictions shall identify affected tasks and recovery evidence. Restoration of capability shall require a fresh readiness decision proportionate to what changed, including demonstration work where documentary checks are insufficient.

**Required evidence:** Capability list, facility-condition records, resource model, dependency checks and readiness decisions.

**Decision control:** Acceptance of work is blocked when an essential capability is unavailable and no authorized alternative exists.

# 6 Risk, safety reporting and human factors

## 6.1 Maintenance risk assessment

The organization shall assess hazards arising from maintenance errors, latent defects, simultaneous work, access, energy sources, contaminated systems, workload and organizational interfaces. Assess credible combinations and consequences beyond the immediate task. Define prevention, detection and recovery controls, their owners and verification methods. Risk acceptance shall identify its eligible authority and shall not waive mandatory technical requirements.

## 6.2 Human-factor controls

Task design shall consider interruption, distraction, expectation, memory demands, ambiguous instructions, reach, visibility, communication and time pressure. Controls shall include clear work states, placekeeping, independent checks where required, practical access and protected handovers. Training shall complement suitable work design; it shall not be used as the sole response to defective instructions or impossible schedules.

## 6.3 Reporting and protection

Personnel shall have accessible means to report errors, near misses, competence concerns and fatigue without pressure to conceal them. The reporting policy shall distinguish inadvertent error from intentional misconduct through fair review. Reports shall receive acknowledgement, triage, proportionate investigation and feedback. Immediate protection of affected assets and people shall precede administrative classification.

## 6.4 Risk monitoring

The organization shall monitor whether controls function in actual work and whether new pressures undermine them. Repeated deviations, workarounds and delayed defect reporting shall trigger systemic review. Risk records shall link assumptions, evidence, restrictions and review triggers. A low numerical score shall not override a failed essential barrier or an uncertain potentially severe condition.

**Required evidence:** Maintenance hazard register, task human-factor assessment, reporting records and verified control effectiveness.

**Decision control:** Personnel shall have authority to stop affected work and escalate an unsafe or technically indeterminate condition.

# 7 Maintenance programme, tasks and interval control

## 7.1 Programme baseline

The maintenance owner shall establish a controlled programme applicable to the asset and operating context. Identify task sources, applicability, required inspections, life limits, repetitive actions and relevant configuration. Each task shall have an unambiguous accomplishment criterion and interval basis. Mandatory limitations shall remain distinguishable from organization-selected preventive tasks and reliability-driven recommendations.

## 7.2 Interval and due calculation

Due calculations shall use the correct calendar, operating-hour, cycle, event or condition basis, including starting point, reset rules and concurrent limits. The earliest applicable limit shall control when several limits apply. Forecasts shall use documented utilization assumptions and uncertainty. Missing usage history or an unresolved time origin shall not be converted into presumed remaining life.

## 7.3 Programme changes

Task deletion, substitution or interval escalation shall require eligible approval, technical justification and assessment of safety, reliability, configuration and operating conditions. Evidence shall distinguish random failure from age-related deterioration and include relevant exposure. A quiet reporting period, high availability or maintenance cost pressure shall not alone justify extending an interval. Implementation shall preserve previous and new due states.

## 7.4 Overdue and emergent work

The organization shall identify approaching and exceeded limits and control affected assets. Any permitted extension or deferral shall cite its specific authority, conditions and expiry basis. Unscheduled findings shall be assessed for additional affected tasks and common causes. Administrative rescheduling shall not reset elapsed exposure or legitimize an exceeded mandatory limit.

**Required evidence:** Controlled programme, task-source traceability, due calculations, utilization records and approved change or deferral decisions.

**Decision control:** Where required status cannot be established, the affected eligibility decision remains on HOLD.

## 8 Configuration, usage and life-limited status

### 8.1 Asset identity

Each maintained asset shall be identified at the level needed to control interchangeability, work history and limitations. Record assembly relationships, installed parts, software loads, modifications and repair states where relevant. Identity markings shall be checked against records before work and installation. A physically compatible item shall not be presumed configuration-compatible.

### 8.2 Usage capture

Usage data shall identify source, unit, period, time convention and collection responsibility. Transfers, counter changes, resets and corrected readings shall preserve an audit trail. Reconcile operational, maintenance and component records where exposure accumulates differently. Estimated usage shall be labelled and technically bounded; uncertainty shall be carried into remaining-life decisions.

### 8.3 Life-limited items

Life-limited items shall retain traceable identity, accumulated exposure, controlling limit, remaining allowance and applicable modifications. The organization shall prevent installation or continued use beyond the allowed basis. Incomplete history shall trigger technical disposition under the controlling rules. No local form or statistical average may restore consumed life or replace required individual history.

### 8.4 Configuration reconciliation

At work intake, major changes and release, reconcile the physical or verified digital state with the intended baseline. Discrepancies shall identify affected requirements, tasks, tools and authorizations. A configuration change shall be linked to its approved technical data and acceptance evidence. Records shall preserve both the removed state and the installed state without overwriting history.

**Required evidence:** Asset and component identity, usage ledger, life-status records and reconciled configuration baseline.

**Decision control:** An unresolved identity, configuration or life-limit discrepancy blocks affected installation or release.

## 9 Maintenance data, task cards and technical instructions

### 9.1 Data applicability

Current authorized maintenance data shall be available at the point of use in a form personnel can understand. The data controller shall verify product, configuration, effectivity, issue status and incorporated changes. Instructions from different sources shall be reconciled by eligible technical owners. An internet extract, remembered method or generative tool output shall not become approved maintenance data through use alone.

### 9.2 Task-card development

Derived task cards shall preserve all applicable technical requirements, warnings, prerequisites, limits, sequence dependencies, inspections and restoration steps. The derivation shall trace to source data and undergo competent verification before release. Simplification and translation shall not change technical meaning. Critical steps shall be clearly identified without omitting ordinary steps that support them.

### 9.3 Use and placekeeping

Personnel shall confirm the correct instruction before starting and record completed steps at the defined point of performance. Interruption controls shall preserve the exact work state, temporary configurations and next permitted action. Ambiguity, illegibility, missing steps and contradictory values shall be reported. Personnel shall not improvise a technical solution beyond their authority.

### 9.4 Data feedback and withdrawal

Reported data problems shall be assessed, communicated and corrected through controlled channels. Obsolete or invalid instructions shall be prevented from unintended use while remaining available as historical evidence. Corrections shall identify work already performed under affected data and the need for reinspection or other action. Local notes shall not bypass the technical approval process.

**Required evidence:** Data applicability checks, verified task-card derivations, translation controls and technical-query dispositions.

**Decision control:** Work dependent on missing or contradictory technical instructions shall remain stopped until an eligible resolution is available.

## 10 Work acceptance, scope and customer interfaces

### 10.1 Intake review

Before accepting work, the organization shall identify the requested scope, asset state, data package, customer responsibilities and expected outputs. Confirm capability, authority, access, personnel and required third-party support. Distinguish a quotation from technical acceptance. Unknown defects, incomplete history or uncertain configuration shall be recorded as intake conditions requiring resolution.

### 10.2 Work-package agreement

The agreed package shall state tasks, exclusions, inspections, technical queries, customer-supplied items and release expectations. It shall identify who may authorize additional work and how findings will be communicated. Commercial limits shall not suppress findings or required actions. Changes shall preserve the original request and the reason for the amended scope.

### 10.3 Interface evidence

The customer and maintenance organization shall agree the record handover, format, identity conventions, confidentiality and acceptance criteria. Required external approvals shall be obtained before the dependent action. For split work, define the boundary between each organization's signoff and the final release decision, including access to underlying evidence and unresolved defects.

### 10.4 Acceptance decision

An eligible owner shall approve, restrict or decline the package after reviewing dependencies. Conditional acceptance shall identify blocked activities and the evidence required to proceed. Receiving personnel shall verify actual asset condition on arrival. A signed contract or purchase order shall not establish physical readiness, technical completeness or entitlement to issue a maintenance release.

**Required evidence:** Intake assessment, agreed work scope, responsibility allocation and bounded acceptance decision.

**Decision control:** The accepted scope shall not exceed the organization's demonstrable capability or authorized privileges.

## 11 Production planning, capacity and shift resources

### 11.1 Executable plan

The planner shall sequence work using dependencies, access, required conditions, critical inspections and restoration tasks. The plan shall identify skill classes and authorized roles, not only total labour hours. It shall protect hold points and allow time for unexpected findings. Concurrent tasks shall be reviewed for interference, including energization, movement, contamination and loss of isolation.

### 11.2 Capacity assessment

Available capacity shall account for productive time, leave, supervision, assessment, breaks, fatigue controls and resource conflicts. Demand shall include planned and credible emergent work. A surplus in one skill class shall not offset a shortage in a non-substitutable privilege. Assumptions and contingency margins shall be documented and compared with actual performance.

### 11.3 Shift and work allocation

Supervisors shall allocate tasks to people whose competence, authorization and fitness match the task and conditions. Trainee work shall include an identified supervisor with realistic oversight capacity. Work started near a shift boundary shall include a safe interruption or completion plan. Allocation changes shall update the work package and communicate revised inspection and handover needs.

### 11.4 Plan adjustment

Delays, absenteeism, tool failure and new defects shall trigger replanning before they create uncontrolled pressure. The supervisor shall preserve technical prerequisites and revise delivery commitments where necessary. Overtime shall not be treated as unlimited recovery capacity. Management shall investigate recurring planning variance and distinguish estimate error, capability gaps and actual technical complexity.

**Required evidence:** Skill-based capacity model, sequenced work package, shift allocation and controlled replanning decisions.

**Decision control:** Delivery targets shall not remove required supervision, inspection, breaks or technical hold points.

## 12 Personnel entry, qualifications and credentials

### 12.1 Entry requirements

The organization shall define entry requirements for each role using actual duties, controlling obligations and prerequisites. Requirements may include education, experience, language, qualifications and specific permissions where applicable. The organization shall verify relevant credentials with reliable evidence and examine scope, restrictions, identity and validity. A copied certificate without a credible verification route shall remain unresolved.

### 12.2 Experience evaluation

Experience shall be evaluated for relevance to product, task complexity, technology, conditions and level of responsibility. Time employed shall not be equated with time competently performing a task. Prior-learning recognition shall compare evidence against the organization's required outcomes and identify gaps. Claimed experience that cannot be substantiated shall not support unrestricted privileges.

## 12.3 Onboarding and restrictions

Personnel shall receive role-specific induction covering local procedures, reporting, tools, records, human factors and authority limits before relevant assignment. New starters and transferred staff shall work under defined restrictions until required evidence is accepted. Familiarity with another organization's procedures shall not remove the need to demonstrate understanding of the receiving organization's work system.

## 12.4 Personnel information

Personnel records shall be accurate, access-controlled and limited to legitimate purposes. The organization shall distinguish credential verification, competence evidence, authorization status and employment information. People shall have a route to correct inaccurate records and challenge decisions fairly. Fitness information shall describe functional restrictions needed for safe assignment without unnecessary disclosure of sensitive medical details.

**Required evidence:** Role entry criteria, verified credential records, experience evaluation, induction and access controls.

**Decision control:** Credential validity is a prerequisite where required; it is not a substitute for demonstrated task competence.

# 13 Role and task competence framework

## 13.1 Competence specification

Each role shall have a competence specification linked to tasks, hazards and decisions. Define required knowledge, practical skills, judgement, communication, human-factor behaviours and limitations. Break broad titles into assessable functions. For critical work, identify observable performance criteria and conditions under which competence must be demonstrated, including abnormal situations and stop-work decisions.

## 13.2 Task grouping

Task families may share competence evidence only where the organization demonstrates relevant equivalence in equipment, complexity, failure consequences and methods. Differences shall produce explicit bridging requirements. A generic aircraft, software or workshop course shall not automatically qualify a person for every associated configuration or specialist process. Grouping decisions shall be reviewed after technology or data changes.

## 13.3 Proficiency and supervision

The framework shall distinguish learning, supervised performance, independent performance, inspection, assessment and release privileges. Each level shall define permitted actions, supervision, evidence and escalation. Competence shall not be reduced to a single score that conceals a failed essential criterion. The assigned level shall reflect demonstrated capability and the actual working environment.

## 13.4 Framework maintenance

The competence owner shall review specifications using events, performance observations, changed tasks, new hazards and assessor feedback. Changes shall identify affected people and whether bridging assessment or temporary restriction is required. Current and superseded frameworks shall remain traceable to decisions made under them. Personnel shall understand the criteria against which they are assessed.

**Required evidence:** Role-task matrix, observable competence criteria, task-equivalence rationale and controlled proficiency definitions.

**Decision control:** Unassessed critical criteria shall remain HOLD even when other competencies are satisfactory.

## 14 Training needs, design and knowledge learning

### 14.1 Needs analysis

Training needs shall derive from the gap between required competence and accepted existing evidence. The analysis shall consider product changes, events, recency, language and individual learning needs. It shall identify outcomes that require practical demonstration rather than classroom instruction alone. The owner shall distinguish lack of knowledge from deficient resources, unclear procedures or adverse work design.

### 14.2 Training design

Training shall specify objectives, prerequisites, syllabus, delivery method, instructor competence, learning materials and assessment arrangements. Content shall reflect current data and realistic error modes. Remote and self-directed learning shall include identity, participation and support controls appropriate to the outcome. Training duration shall be justified by learning objectives and applicable obligations, not assigned by this standard.

### 14.3 Knowledge examination

Knowledge assessment shall test understanding and application at the required level. The organization shall control examination security, item quality, permitted aids, language and accommodations that preserve the assessed construct. Pass criteria, critical questions and retest rules shall be set before assessment. Random selection alone shall not establish adequate coverage of the required knowledge domain.

### 14.4 Learning effectiveness

Attendance, completion, examination results and demonstrated transfer to work shall be recorded separately. The owner shall evaluate training through practical performance, later observations and relevant findings. Remedial learning shall address identified gaps. A high satisfaction score or attendance certificate shall not establish competence, and repeated unsuccessful attempts shall trigger diagnosis rather than automatic repetition of the same course.

**Required evidence:** Individual training-needs analysis, controlled syllabus, knowledge-assessment blueprint and effectiveness review.

**Decision control:** Training completion shall not be used to remove a practical competence or authorization prerequisite.

## 15 Practical training, OJT and supervised experience

### 15.1 Practical learning plan

On-the-job training shall identify task coverage, prerequisites, learning conditions, supervision, expected performance and record requirements. Select representative tasks covering complexity, risk, variation and relevant configurations. Planned opportunities shall be realistic. Simulated tasks shall be identified and their contribution justified; unavailable actual experience shall not be silently recorded as completed work.

### 15.2 Supervision and safety

A competent supervisor shall remain able to observe and intervene at the level required by task risk and trainee capability. The plan shall identify actions the trainee may perform and those reserved to authorized personnel. Critical hold points shall remain in force. Training shall not introduce uncontrolled risk to a service asset or use production pressure to bypass oversight.

### 15.3 Evidence of performance

Each practical record shall identify the trainee, supervisor, task, asset or simulator, data baseline, conditions, participation level and observed outcome. Repeated task numbers without observations shall not establish progression. The supervisor shall record mistakes, assistance and improvement constructively. Evidence shall distinguish observation, assisted performance and performance completed to the required independent standard.

### 15.4 Completion and transfer

The training owner shall verify coverage and quality before declaring practical training complete. Gaps shall be resolved through justified additional experience or approved equivalent demonstration. Completion shall feed an eligible competence assessment rather than automatically create authorization. When evidence transfers between organizations, the receiver shall check authenticity, relevance, recency and remaining differences.

**Required evidence:** Practical training plan, supervised task records, coverage review and completion recommendation.

**Decision control:** A trainee shall not certify their own supervised work or acquire privileges solely by collecting task signatures.

## 16 Competence assessment, independence and decisions

### 16.1 Assessment plan

Assessment shall use defined criteria, representative tasks, observable evidence and suitable conditions. Combine knowledge, practical demonstration, questioning and work records where each contributes to the required outcome. The assessor shall verify candidate identity, prerequisites and evidence authenticity. The plan shall identify critical criteria, allowed assistance, abnormal scenarios, decision rules and how uncertainty will be resolved.

## 16.2 Assessors and independence

Assessors shall be competent in the assessed function and in evaluating evidence fairly. Conflicts and previous training involvement shall be declared. Consequential or borderline decisions shall receive independent review as required by the approved scheme and risk. The organization shall calibrate assessors using shared criteria and case comparison without forcing agreement where evidence legitimately differs.

## 16.3 Decision and restrictions

Each criterion shall receive a supported result. Failure of a critical criterion shall prevent a competent conclusion for the affected privilege regardless of aggregate score. The decision shall state scope, conditions, limitations, evidence gaps and required remediation. Where performance is demonstrated only under restricted conditions, the decision shall retain those conditions rather than imply unrestricted capability.

## 16.4 Feedback, appeal and reassessment

Candidates shall receive specific feedback and a fair appeal route. Appeals shall be reviewed by an eligible person who was not solely responsible for the challenged decision. Reassessment shall address the original gap and any affected connected competencies. Preserve the initial result, remediation and new evidence; a later pass shall not erase the earlier finding or authorize intervening work retrospectively.

**Required evidence:** Assessment plan, criterion-level observations, assessor eligibility, decision rationale and appeal or reassessment record.

**Decision control:** Competence shall be demonstrated for the requested function; averaged scores shall not compensate for failed critical behaviour.

# 17 Personnel authorization, privileges and limits

## 17.1 Authorization prerequisites

Before issuing authorization, an eligible authority shall verify required qualifications, accepted competence, experience, recency, local-procedure knowledge and any applicable external privileges. The decision shall identify evidence versions and unresolved limitations. Assessment acceptance and authorization approval shall remain separately identifiable even when compatible roles are performed by the same eligible person under controlled arrangements.

## 17.2 Authorization content

Authorization shall identify the person, issuing organization, permitted products and tasks, sites or conditions, inspection and release privileges, limitations, validity basis and unique identifier. Privileges shall be expressed precisely enough for work allocation and system access. Broad role labels shall not substitute for scope. Personnel shall acknowledge their limits and the circumstances requiring self-escalation.

## 17.3 Status control

The organization shall maintain current authorization status accessible to planners, supervisors and releasing personnel. Suspension, restriction, expiry and withdrawal shall promptly affect assignment and relevant digital permissions. Temporary authorization shall have explicit scope, basis and end conditions. A future renewal appointment shall not extend an expired privilege.

## 17.4 Review and reinstatement

Authorization shall be reviewed following competence concerns, changed scope, lapsed currency, material events or changed prerequisites. Reinstatement shall require verified resolution and a new eligible decision. Work performed during a period of invalid or exceeded authorization shall be assessed for technical and reporting consequences. Administrative correction shall not retroactively manufacture valid authority.

**Required evidence:** Authorization dossier, privilege matrix, current status register and restriction or reinstatement decisions.

**Decision control:** Personnel shall exercise only the privileges currently valid for the actual task, product and conditions.

# 18 Recency, recurrent competence and return after lapse

## 18.1 Currency basis

The organization shall establish recency and recurrent-competence rules appropriate to task risk, frequency, complexity, change and controlling obligations. Define which activities count, the evidence required and the relevant look-back period. Mere presence at work or unrelated task performance shall not count as relevant exposure. This standard assigns no universal recency hours or calendar interval.

## 18.2 Continuing competence

Continuing competence shall use relevant work exposure, recurrent learning, observed performance and event feedback. Rare but consequential tasks shall receive suitable rehearsal or reassessment. The owner shall monitor both technical and human-factor capability. Absence of reported errors shall not prove current competence, particularly where opportunities to perform or observe the function are limited.

## 18.3 Lapse and return

After a lapse, long absence or major technology change, the organization shall assess knowledge decay, changed data, practical skill and local procedures. The return plan shall define restrictions, refresher learning, supervised work and reassessment proportionate to the gap. The person shall not resume full privileges until an eligible authority accepts the evidence and restores authorization.

## 18.4 Monitoring and alerts

Currency systems shall use reliable dates, exposure records and configured rules. Alerts shall provide enough notice for action and shall distinguish impending expiry from actual loss of eligibility. Exceptions shall require an explicit authorized basis; editing a date shall not create currency. System failures shall trigger a controlled manual status check before dependent assignment.

**Required evidence:** Recency rules, qualifying exposure records, recurrent programme and return-to-duty decision.

**Decision control:** When currency cannot be established, restrict the affected privilege pending assessment and authorized disposition.

## 19 Fitness for duty, fatigue and supervision

### 19.1 Fit assignment

The organization shall provide a process for identifying functional limitations affecting safe work, including fatigue, illness, medication effects where relevant, stress and environmental exposure. Personnel shall report concerns through a respectful route. Supervisors shall use competent support when required and assign restrictions according to the actual task. The process shall avoid unsupported medical judgements and unnecessary personal disclosure.

### 19.2 Fatigue controls

Rosters shall consider shift timing, consecutive duties, overtime, recovery opportunity, commuting and demanding work. Locally approved limits and escalation criteria shall reflect applicable obligations and risk. Fatigue models, where used, shall support rather than replace reports and supervisory judgement. Compliance with a planned roster shall not prove that an individual is fit for a critical task.

### 19.3 Supervisory effectiveness

Supervisors shall monitor workload, distraction, unfamiliar tasks, trainee progress and required independent checks. Their span of oversight shall allow timely intervention. Remote supervision shall be permitted only where visibility, communication and physical intervention arrangements are adequate for the task. A named supervisor who cannot meaningfully observe or intervene shall not satisfy the control.

### 19.4 Protective response

When fitness or fatigue concerns arise, the supervisor shall stop, reassign or modify affected work and preserve safe work states. Review tasks already performed where the concern may have affected quality. Return shall use an appropriate functional assessment and eligible decision. Personnel shall not face incentives to conceal fatigue to protect delivery targets.

**Required evidence:** Duty and fatigue controls, functional restriction records, supervisory allocation and protective action.

**Decision control:** A technically authorized person may still be unsuitable for a particular assignment under current conditions.

## 20 Communication, language and task handover

### 20.1 Technical communication

Personnel shall be able to understand applicable instructions and communicate task status, hazards and discrepancies in the working language. The organization shall assess language competence at the level needed for the function. Translations and interpretation shall preserve technical meaning and units. Familiarity with conversational language shall not be assumed to establish understanding of specialized instructions.

### 20.2 Handover content

Task handover shall identify asset and package, completed and incomplete steps, findings, isolations, temporary parts, open access, tooling, pending inspections and next permitted action. It shall include data changes and relevant verbal instructions converted into controlled records. Critical handovers shall use direct interaction or another validated method that permits questions and confirmation of understanding.

## 20.3 Receiving verification

The receiving person shall verify the actual work state against the handover record before continuing. Contradictory or missing information shall be resolved at the asset or controlled evidence source. A signed handover shall record what was checked and any remaining uncertainty. Transfer of custody shall not automatically transfer technical approval or erase the outgoing person's records.

## 20.4 Distributed teams

Remote and cross-organization communication shall control identity, time zones, file versions, response authority and connection loss. Visual evidence shall be suitable for its purpose and shall not substitute for required physical inspection. Critical instructions shall use confirmation techniques that detect misunderstanding. Unrecorded chat messages shall not be the sole basis for a consequential technical decision.

**Required evidence:** Language criteria, handover record, receiving checks and controlled remote-communication arrangements.

**Decision control:** Continuation is blocked when the physical work state or next authorized action cannot be established.

# 21 Tools, equipment, calibration and test software

## 21.1 Suitability and control

Tools and equipment shall be suitable for the task, range, accuracy, configuration and environment specified by the technical data. The organization shall control identification, availability, condition, storage and issue. Alternative tooling shall receive the required engineering approval and equivalence demonstration before use. Appearance or nominal capacity alone shall not establish equivalence to a specified tool.

## 21.2 Calibration and verification

Measuring equipment shall have traceable calibration or justified verification appropriate to its use. Records shall include range, uncertainty, results, limitations and due basis. Before use, personnel shall check status and suitability for the actual tolerance. A calibration label shall not prove that measurement uncertainty is adequate for the decision or that the equipment has remained undamaged.

## 21.3 Out-of-tolerance response

Suspect or out-of-tolerance equipment shall be identified, isolated and assessed. Determine the potentially affected period, tasks, measurements and released assets using technical evidence. Evaluate direction and magnitude of error rather than assuming all prior results are valid or invalid. Required remeasurement, inspection, notification and release reconsideration shall be recorded and tracked to closure.

## 21.4 Software and test configurations

Test software, automated sequences, adapters, reference files and configuration settings shall be controlled as part of the measurement system. Validate intended functions, units, limits, data capture and failure response before use and after relevant change. Access controls shall prevent unauthorized alteration. A passing display shall be supported by the correct test configuration and retained results.

**Required evidence:** Tool register, suitability and calibration records, test-system baseline and retrospective impact assessment.

**Decision control:** An unavailable, unsuitable or invalid measurement system blocks the dependent acceptance decision.

## 22 Parts, materials, stores and traceability

### 22.1 Receiving acceptance

Receiving personnel shall verify item identity, quantity, condition, source documentation and applicable eligibility. Examine inconsistencies, damaged packaging, suspicious markings and broken traceability. Acceptance shall distinguish physical receipt from technical suitability for installation. Unresolved items shall be quarantined with access and status controls that prevent accidental issue.

### 22.2 Storage and shelf life

Storage shall preserve required temperature, humidity, cleanliness, segregation and protection. Materials with shelf-life or life-after-opening limits shall retain the correct starting event and environmental history. Split containers shall preserve identity and expiry information. Extensions shall require the approved technical basis; relabelling or stock-system editing shall not renew a material's eligibility.

### 22.3 Installation and consumption

Before installation or use, personnel shall confirm configuration compatibility, applicable release evidence, remaining life and condition. Record installed and removed identities at the required level and account for controlled consumables. Substitution shall follow authorized technical data. A supplier's general conformity statement shall not resolve missing asset-specific applicability or traceability.

### 22.4 Suspect and removed items

Removed, rejected, borrowed, cannibalized and customer-supplied items shall retain clear status and custody. Suspect items shall be contained and investigated across affected stock and installed assets. Unserviceable or scrapped items shall be prevented from unauthorized return to use. Final disposition shall retain evidence of the actual route and any continuing investigation obligation.

**Required evidence:** Receiving checks, custody and storage records, installation traceability and quarantine dispositions.

**Decision control:** Unknown origin, status or remaining eligibility shall not be resolved by assuming a part is serviceable.

## 23 Maintenance execution, critical tasks and error capture

### 23.1 Work readiness

Before starting, the responsible person shall confirm asset identity, work scope, data, authorization, tooling, parts, access, isolation and environmental conditions. Required protective measures shall follow applicable technical instructions and site controls. Record the starting configuration and temporary conditions. Readiness checks shall be repeated after a material interruption or changed prerequisite.

## 23.2 Controlled performance

Tasks shall be performed in the required sequence with contemporaneous records of results and relevant measurements. Deviations and unexpected findings shall be escalated before concealed work is closed. Personnel shall not sign work they did not perform or verify within their permitted role. Group signoffs shall preserve individual accountability and the exact covered steps.

## 23.3 Critical tasks and independent checks

Critical tasks shall be identified using the controlling basis and consequences of error. Required independent inspection shall define what is examined, when access is available, who is eligible and what evidence is retained. Reinspection or another error-capture method shall be used only where expressly permitted and technically justified. It shall not silently replace mandated independence.

## 23.4 Restoration and completeness

Completion shall include tool and foreign-object control, reinstatement of connections and protections, configuration reconciliation, closure of access and required inspections or tests. Temporary modifications, blanks, locks, jumpers and disturbed interfaces shall be positively accounted for. Where full restoration is intentionally deferred, the asset status and blocked uses shall be unmistakable.

**Required evidence:** Readiness record, step signoffs, measurements, independent-check evidence and restoration reconciliation.

**Decision control:** An unverified critical step or unexplained missing tool blocks the affected closure or release pending technical disposition.

# 24 Inspection, NDT and special-process competence

## 24.1 Defined inspection capability

Inspection functions shall identify required methods, sensitivity, coverage, access, acceptance criteria and personnel privileges. Visual inspection shall specify the relevant conditions, aids and limitations where necessary. Specialist processes shall have qualified instructions, controlled equipment and competent personnel appropriate to the technique and application. A general maintenance authorization shall not automatically include specialist privileges.

## 24.2 Method and personnel qualification

Nondestructive testing and other special-process methods shall be qualified or otherwise accepted under the applicable technical basis. Personnel eligibility shall include technique-specific competence, relevant experience and required functional capabilities. Qualification shall identify limitations in material, geometry, defect type and equipment. Changes outside the demonstrated range shall trigger technical review and additional evidence.

## 24.3 Execution and interpretation

Inspection records shall identify object, method, coverage, settings, reference standards or specimens, conditions and observed indications. Interpretation shall use the correct acceptance criteria and an eligible decision maker. Uninspectable areas and detection limitations shall remain visible. Absence of an observed indication shall not prove absence of all possible defects beyond the method's supported capability.

## 24.4 Independent review and release interfaces

Consequential or ambiguous findings shall receive the specified technical review. Inspection acceptance shall be linked to repair, maintenance and release decisions without overstating its scope. Process drift, failed reference checks or personnel concerns shall trigger an assessment of affected prior work. Specialist records shall remain accessible to the organization retaining final acceptance responsibility.

**Required evidence:** Method capability, personnel qualification, inspection results, coverage limitations and eligible interpretation.

**Decision control:** A specialist result outside qualified method or personnel limits shall not support an unqualified acceptance decision.

# 25 Defect diagnosis, repair and modification control

## 25.1 Defect definition

Defect records shall describe actual symptoms, conditions, configuration and evidence without converting an unverified hypothesis into a confirmed cause. Diagnosis shall use current technical data and preserve intermittent-fault information. Repeated replacement without supported diagnosis shall trigger review. No-fault-found outcomes shall retain the original report and the conditions under which tests were performed.

## 25.2 Technical disposition

Repair, modification, continued use or deferral shall be authorized through the applicable technical basis. Record limits, effectivity, inspections, operational restrictions and expiry conditions. Maintenance personnel shall not create repair design approval through a task signoff. If the organization lacks the required authority, the decision shall be referred to the eligible owner.

## 25.3 Implementation and interactions

Implementation shall identify affected structures, systems, software, interfaces and maintenance tasks. Assess interactions with prior repairs and modifications and with life limits or inspection access. Required materials, tooling, competence and tests shall be available. The completed configuration shall be reconciled with records and programme changes before the applicable release decision.

## 25.4 Repeat defects and deferred items

The organization shall monitor recurrence, deferral accumulation and adverse combinations. Repeated defects shall be assessed for common causes, inadequate diagnosis and ineffective corrective action. A deferral shall retain its controlling permission, conditions and due basis. Closure shall require verified accomplishment or another eligible disposition, not expiry of the tracking record.

**Required evidence:** Defect description, diagnosis trail, approved disposition, implementation evidence and recurring-defect review.

**Decision control:** A permitted deferral does not authorize unrelated deviations or remove required monitoring and restrictions.

## 26 Functional tests, ground runs and restoration checks

### 26.1 Test planning

Required post-maintenance tests shall be identified from the technical basis and actual disturbed functions. Define configuration, prerequisites, measured parameters, acceptance criteria, personnel, equipment and stop conditions. Include interfaces and protective functions affected by the work. A convenient available test shall not replace a required test without eligible approval and equivalence evidence.

### 26.2 Test readiness and safety

Before tests, ground runs or energized checks, confirm eligible personnel, controlled area, communication, protective arrangements and response capability. Readiness shall consider stored energy, movement and simultaneous work. Asset-specific operating methods shall come from approved instructions. Personnel shall understand who controls start, stop, emergency response and restart authority.

### 26.3 Results and anomalies

Retain actual results, conditions, software or equipment baseline, observed anomalies and aborted tests. Acceptance shall apply the predetermined criteria, including measurement uncertainty where material. Failed runs shall not disappear from the record when a later run passes. Diagnose and disposition changes between runs so that repeated testing does not conceal an unresolved intermittent condition.

### 26.4 Restoration and acceptance

After testing, verify the intended final configuration and removal of temporary test arrangements. An eligible reviewer shall accept the complete evidence and identify residual restrictions. Test success shall be limited to the demonstrated function and conditions. Maintenance release shall separately confirm that all required work, records and privileges are satisfied.

**Required evidence:** Approved test plan, readiness decision, complete result history and verified final configuration.

**Decision control:** A successful test does not compensate for missing mandatory work or an invalid release authorization.

## 27 Maintenance release and operational handover

### 27.1 Release prerequisites

Before release, an eligible person shall establish that the defined maintenance scope is complete or has an expressly permitted bounded disposition. Review applicable task signoffs, critical inspections, test results, configuration, life status, parts traceability and open defects. Required records shall be sufficient to support the decision. The releasing person shall not rely solely on a package completion percentage.

### 27.2 Release statement

The release shall identify asset, organization, work scope, applicable basis, date, eligible person and authorization reference. State limitations, exclusions and unresolved items in the permitted form. Where release of a component differs from release of the installed system, make that boundary explicit. A local template shall not invent a certificate status recognized by an external authority.

## 27.3 Operational handover

The receiving owner or operator shall receive the maintenance status, restrictions, deferred items, changed configuration and next due actions. Confirm understanding of conditions affecting operation. Maintenance release and operational dispatch or mission permission shall remain distinct decisions with their own prerequisites. A receiving signature shall not erase a missing maintenance requirement.

## 27.4 Invalid or questioned release

Evidence that undermines an issued release shall trigger prompt containment, technical assessment and notification through applicable channels. Identify affected assets, periods and decisions. Correction shall preserve the original record and reason for change. A replacement statement shall not conceal the initial error or assume that affected operation was acceptable without examination.

**Required evidence:** Release-readiness review, exact release statement, valid authorization and acknowledged operational handover.

**Decision control:** Release shall be withheld where an essential condition or the releasing person's eligibility remains unresolved.

# 28 Technical records and digital evidence integrity

## 28.1 Record payload

Records shall identify asset, task, applicable data, actual work, results, personnel, time, configuration and decisions at the level required for traceability. Entries shall be legible, attributable and linked to supporting evidence. Corrections shall preserve the original entry, reason, author and time. Pre-signing, shared identities and invented retrospective observations shall be prohibited.

## 28.2 Digital controls

Digital systems shall control identity, privileges, authentication, time conventions, audit trails, data validation and change history. Electronic approval shall be associated with the exact record version and authorized action. System roles shall reflect current personnel privileges. Typed names alone shall not be treated as authenticated signatures without the approved identity and integrity controls.

## 28.3 Retention, exchange and recovery

Retention periods, formats and access shall derive from applicable obligations and continuing asset needs. Records shall remain readable and retrievable after personnel departure, system migration or contract closure. Exchanges shall preserve units, identifiers, attachments and decision states. Backups shall be supported by restoration tests; a successful backup job shall not prove usable recovery.

## 28.4 Data quality and automated assistance

Automated checks and AI-assisted maintenance information shall be validated for intended use, monitored and subject to competent human review where consequential. Outputs shall remain traceable to source data and configuration. Missing values, model uncertainty and incompatible versions shall be visible. Automation shall not create a release, competence or technical approval beyond the organization's authorized process.

**Required evidence:** Record schema, access and audit controls, retention plan, migration validation and tested recovery.

**Decision control:** If evidence integrity is insufficient for a consequential decision, retain HOLD and recover or re-establish the required evidence.

## 29 Contracted, remote, mobile and cross-organization maintenance

### 29.1 Provider acceptance

The contracting organization shall evaluate provider capability, relevant privileges, competence, facilities, data and record access before assigning work. The contract shall specify technical scope, quality expectations, interfaces, reporting and acceptance responsibilities. Commercial accreditation or prior use shall not replace task-specific capability evidence. The retained owner shall remain able to challenge inadequate work.

### 29.2 Personnel and task interfaces

Borrowed or contracted personnel shall operate under clearly identified supervision, procedures and authorization. Credentials from another organization shall be evaluated before local privileges are granted or recognized as permitted. For split tasks, identify who performs, inspects, records and releases each segment. No task shall fall into an unowned gap between organizations.

### 29.3 Remote and mobile conditions

Remote or mobile work shall have a site-readiness assessment covering facilities, environment, communications, tools, parts, data, emergency support and records. Define limits on tasks and remote verification. Loss of communication or evidence visibility shall trigger predetermined restrictions. Remote advice shall not be misrepresented as a physical inspection or an on-site release.

### 29.4 Surveillance and return of evidence

Provider performance shall be monitored through evidence review, sampled work and findings proportionate to risk. Changes in subcontractors or capability shall be communicated before affected work. Complete records and unresolved items shall be returned in an agreed format. Termination shall preserve access, continuing obligations and responsibility for affected assets.

**Required evidence:** Provider evaluation, interface agreement, mobile-site readiness and accepted work records.

**Decision control:** Outsourcing shall not be used to bypass required competence, independence, technical authority or record availability.

## 30 Aircraft, engine and component maintenance applications

### 30.1 Application profile

The organization shall define aircraft, engine and component responsibilities separately where their release bases differ. Identify relevant fleet, type, configuration, operating environment and maintenance level. Line, base and workshop activities shall have explicit capability boundaries. An authorization appropriate to one context shall not automatically extend to another with different tasks or evidence requirements.

## 30.2 Integrated status

Aircraft-level status shall reconcile installed components, life limits, repetitive tasks, defects, modifications and software configuration. Engine and component records shall preserve exposure histories needed after transfer. Differences in hour, cycle and event counting shall be resolved. Serviceability of an individual component shall not prove the eligibility of the installed combination.

## 30.3 Maintenance interface controls

Operators, maintenance organizations and technical authorities shall exchange defect information, programme changes and required actions. Incoming information shall be screened for fleet-wide significance and linked to individual effectivity. Maintenance planning shall consider actual utilization and environment. The organization shall preserve the distinction between maintenance completion, component release, aircraft release and operational dispatch.

## 30.4 Application-specific personnel

Personnel privileges shall match the applicable product, maintenance level and specialist functions. Training and practical assessment shall cover configuration differences, critical tasks, digital systems and human-factor conditions of the actual environment. A general qualification shall be supplemented by the local evidence required for the assigned function. Changes shall trigger targeted bridging rather than assumed equivalence.

**Required evidence:** Aircraft/engine/component profile, integrated status, interface records and product-specific personnel authorization.

**Decision control:** Release eligibility shall be established for the actual installed configuration and intended maintenance scope.

# 31 Space, launch and ground-system maintenance

## 31.1 System and mission boundary

The organization shall define maintainable space, launch and ground assets, mission phases, access constraints and responsible authorities. Distinguish physical maintenance, remote reconfiguration, servicing, health monitoring and mission operations. Maintenance-related actions shall use approved technical and mission procedures. This standard does not prescribe command sequences, launch operations or hazardous servicing methods.

## 31.2 Preservation and inaccessible assets

Storage, transport and long standby shall have defined inspection, preservation, monitoring and reactivation controls. For inaccessible assets, uncertainty in condition and diagnostic coverage shall be explicitly assessed. Remote telemetry may support a bounded conclusion but shall not be presented as physical inspection evidence. Residual unknowns shall inform mission and maintenance decisions by their eligible owners.

## 31.3 High-consequence interfaces

Maintenance planning shall identify interfaces with energy, pressure, contamination-sensitive hardware, software configuration and mission-critical ground services. Controls shall address simultaneous activities, restoration and independent verification where required. Testing shall demonstrate the relevant maintained function within a defined envelope. Mission schedule pressure shall not waive required technical or personnel prerequisites.

## 31.4 Personnel and handover

Personnel shall demonstrate competence for the actual equipment, mission phase and permitted role. Remote operations and maintenance teams shall exchange exact configuration, anomalies, temporary conditions and authority boundaries. Release of maintained ground equipment shall not constitute flight or mission authorization. End-of-support transitions shall preserve data, expertise and continuing responsibilities.

**Required evidence:** Space/ground application profile, preservation plan, bounded health evidence and mission-interface handover.

**Decision control:** A successful command acknowledgement does not establish the intended physical state without suitable verification.

# 32 Defense and restricted aerospace activities

## 32.1 Controlled applicability

Restricted activities shall identify the applicable technical governance, authorized scope, security constraints and maintenance responsibilities. The organization shall maintain the same evidence and competence principles within approved access arrangements. Restricted status shall not serve as a rationale for undocumented maintenance decisions or unverified personnel eligibility.

## 32.2 Access and evidence

Access rights shall be separated from technical privileges. A security clearance shall not establish competence; technical authorization shall not grant unrestricted information access. Evidence may be partitioned where necessary, but eligible reviewers shall receive enough information to determine compliance. References to inaccessible evidence shall include a valid verification route and accountable custodian.

## 32.3 Deployment and continuity

Deployed or constrained sites shall define minimum capability, temporary limitations, supervision and records continuity. Changes in personnel, support or environment shall trigger reassessment. Exceptional arrangements shall identify their specific eligible authority and expiry conditions. Urgency shall not silently convert an unsupported action into a routine approved method.

## 32.4 Transfer and personnel changes

Transfers shall preserve asset status, limitations, restricted evidence access and continuing obligations. Departing personnel shall hand over technical knowledge and controlled work state without unauthorized disclosure. Receiving organizations shall verify their own capability and privileges. Documentation shall support maintenance assurance without including unnecessary operationally sensitive content.

**Required evidence:** Restricted-activity profile, dual access/privilege matrix, controlled verification route and transfer record.

**Decision control:** Restricted evidence shall remain verifiable by an eligible authority; secrecy shall not be treated as proof.

## 33 Training organizations, instructors, assessors and simulators

### 33.1 Provider capability

A training or assessment provider shall define its products, learning outcomes, delivery modes and recognized scope where applicable. The customer shall verify capability and agree the evidence needed for local competence decisions. Marketing descriptions and course certificates shall not imply privileges beyond the provider's actual authority or the receiving organization's acceptance.

### 33.2 Instructor and assessor competence

Instructors shall demonstrate subject competence and ability to teach the intended outcomes. Assessors shall demonstrate technical judgement, evidence evaluation and fair application of criteria. Currency shall include subject and delivery changes. The organization shall observe performance, review feedback and calibrate assessment decisions. Specialist expertise alone shall not establish assessment competence.

### 33.3 Simulation suitability

Simulators, training rigs and virtual environments shall be evaluated against the competencies they are intended to teach or assess. Record fidelity, cues, response timing, limitations and differences from actual equipment. Fault scenarios shall be controlled and repeatable where needed. Simulation credit shall be bounded; a visually realistic interface shall not prove tactile, diagnostic or operational equivalence.

### 33.4 Training records and integrity

Providers shall control candidate identity, course versions, attendance, examination materials, practical evidence and results. Remote assessment shall address authenticity, visibility and permitted assistance. Certificates shall accurately describe what was completed or demonstrated. Evidence transfers shall preserve limitations and allow the receiver to verify authenticity and continuing relevance.

**Required evidence:** Provider capability, instructor/assessor records, simulator suitability and authentic learning/assessment outputs.

**Decision control:** A provider's certificate shall not automatically grant the receiving organization's maintenance or release privileges.

## 34 Internal assurance and competence-system effectiveness

### 34.1 Assurance programme

The organization shall plan assurance across maintenance execution, personnel competence, authorizations, suppliers and records. Sampling shall consider consequence, change, past findings and exposure; it shall include actual work and decisions rather than documents alone. Reviewers shall have suitable competence, independence and access. Scope and sampling limitations shall be recorded.

### 34.2 Evidence examination

Assurance shall trace selected tasks from obligation and data through personnel eligibility, execution, inspection and release. It shall also trace selected authorizations back to genuine competence evidence. Examine whether controls operate at the point of use and whether digital status matches reality. A complete form shall not be accepted without checking the underlying evidence.

### 34.3 Findings and escalation

Findings shall state the condition, criterion, evidence, affected scope and consequence. Severity and urgency shall use defined criteria. Immediate containment shall precede routine correction where assets or privileges may be affected. Disagreement shall be resolved through eligible technical review without deleting the original observation. Reviewers shall not close their own unresolved conflicts by assumption.

### 34.4 Effectiveness and learning

The assurance owner shall verify corrective-action effectiveness and recurrence over a relevant period or exposure. Aggregate completion rates shall not conceal persistent critical findings. Management shall review systemic gaps, assessor consistency and barriers to reporting. Closure shall identify residual risks and continuing monitoring rather than merely confirm that an action was assigned.

**Required evidence:** Risk-based assurance plan, sampled evidence trails, findings and verified effectiveness.

**Decision control:** A positive audit conclusion shall be bounded by its actual scope and shall not replace task-level release evidence.

## 35 Reliability, maintenance performance and recurring findings

### 35.1 Indicator definitions

Each indicator shall define numerator, denominator, population, exposure, period, exclusions and data-quality rules. Distinguish technical reliability, maintenance effectiveness, planning performance and personnel-system performance. Report absolute counts alongside rates where needed. Combining unlike assets, task families or operating contexts shall require justification and shall not obscure adverse subgroups.

### 35.2 Reliability analysis

Reliability analysis shall examine failure modes, recurrence, operating context, detection and maintenance history. Rates and time-between-event estimates shall state assumptions and uncertainty. No-event periods shall retain exposure and confidence limitations. A point estimate from a small sample shall not alone justify reduced maintenance or expanded privileges.

### 35.3 Competence-system indicators

Monitor overdue assessments, restricted privileges, unsuccessful critical criteria, assessor disagreement, task exposure and post-training performance. Indicators shall support improvement without encouraging concealment or indiscriminate authorization. A high pass rate may reflect effective learning or weak assessment; the organization shall examine evidence before drawing conclusions. Personal information shall be used proportionately.

### 35.4 Review and programme feedback

Adverse trends shall trigger technical review and action appropriate to consequence, including work-package changes, data correction, training, supervision or programme change. Improvement shall be verified against a comparable baseline. Changes in reporting practice or exposure shall be distinguished from actual reliability change. Maintenance-interval decisions shall retain the separate approval process in Clause 7.

**Required evidence:** Indicator definitions, exposure data, analytical assumptions, trend reviews and verified responses.

**Decision control:** A favourable aggregate rate shall not override an unresolved severe event or a failed mandatory condition.

## 36 Events, investigation, correction and learning

### 36.1 Immediate response

The organization shall protect people and affected assets, preserve evidence and notify eligible parties when an event or suspected maintenance error is identified. Determine whether other assets, tasks, tools, data or personnel privileges may be affected. Initial containment shall be proportionate and shall not wait for final cause determination where credible risk requires action.

### 36.2 Investigation

Investigation shall examine the actual work system, technical conditions, instructions, resources, supervision, communication and human factors. Separate observations, hypotheses and supported conclusions. Personnel shall be heard fairly. Labelling an event as human error shall not end the inquiry where organizational or technical contributors remain unexplored.

### 36.3 Corrective action

Actions shall address immediate defects, extent of condition and contributing causes. Each action shall have an owner, due basis and verification method. Retraining shall be selected only when it addresses an evidenced learning or competence gap. Changed procedures, tools or workload arrangements shall be validated before being credited as effective controls.

### 36.4 Learning and closure

Lessons shall reach affected people and update competence criteria, task cards, programmes and risk controls where relevant. Closure shall require evidence of implementation and effectiveness over suitable conditions or exposure. Outstanding technical, reporting or personnel consequences shall remain traceable. Administrative case closure shall not erase unresolved asset eligibility or continuing obligations.

**Required evidence:** Containment record, investigation evidence, cause-based actions and effectiveness review.

**Decision control:** A completed training course alone shall not close a finding caused by defective data, equipment or organizational conditions.

## 37 Change, new technology and condition-based maintenance

### 37.1 Change assessment

Changes to products, software, data, tooling, facilities, staffing or organization shall identify affected tasks, competence, authorizations, records and interfaces. The change owner shall compare old and new baselines and define verification, training and transition controls. Temporary arrangements shall have end conditions and recovery plans. Routine categorization shall not conceal a consequential change.

## 37.2 Condition-monitoring validity

Condition-based maintenance shall define the measured feature, failure mechanism, sensor coverage, model limits and decision threshold. Validate detection, false alarms, missed detections, data quality and degradation under relevant conditions. Sensor health and missing data shall be monitored. A model score shall not automatically replace a mandated task or life limit.

## 37.3 Automated decision support

AI or automated diagnosis shall have a defined intended use, accountable owner and evidence of performance for that use. Personnel shall understand limitations and retain eligible review of consequential outputs. Changes in data distribution, model version or configuration shall trigger reassessment. Generated instructions shall not be promoted to approved maintenance data without the normal technical control process.

## 37.4 Introduction and monitoring

Introduction shall use controlled trials where appropriate, explicit readiness criteria and staged privileges. Verify actual operational performance and unintended effects before broader use. Failures shall trigger rollback or restrictions according to the approved plan. Interval changes and personnel authorization changes shall each receive their own eligible approval rather than being implied by technology acceptance.

**Required evidence:** Change-impact analysis, validated intended use, transition training, readiness and post-introduction monitoring.

**Decision control:** New technology shall not waive technical, personnel or release prerequisites that remain applicable.

# 38 Emergency response, recovery and continuity

## 38.1 Continuity planning

The organization shall identify essential maintenance, competence and record functions and credible disruptions. Plans shall address loss of premises, tooling, specialist personnel, digital systems, communications and suppliers. Define protected work states, alternate resources, decision authority and minimum evidence. Emergency arrangements shall not claim unlimited capability outside approved scope.

## 38.2 Controlled degraded operation

Temporary manual or alternate processes shall preserve identity, authorization checks, data currency, records and hold points. Personnel shall know which activities remain permitted and which are blocked. Reconcile transactions when normal systems return. Missing digital access shall not be bypassed through shared accounts, unverified instructions or undocumented releases.

## 38.3 Recovery verification

Recovery shall verify asset state, data integrity, equipment validity, personnel availability and outstanding work. Restoration of power or software availability shall not alone establish readiness. Reconcile records created during disruption and assess any affected releases. Restart shall be authorized by the eligible owner against defined criteria.

## 38.4 Exercises and improvement

Exercises shall test realistic dependencies, communications, recovery and decision boundaries without introducing uncontrolled asset risk. Record observations, gaps and actual recovery performance. Corrective actions shall be verified and incorporated into plans and training. Claimed continuity capability shall be supported by demonstrated arrangements, not an untested document alone.

**Required evidence:** Continuity plan, degraded-operation controls, exercise records and authorized recovery decision.

**Decision control:** Urgency does not create missing technical authority or personnel competence.

# 39 Transfer, storage, preservation and retirement

## 39.1 Transfer of responsibility

Asset or contract transfer shall identify current configuration, maintenance status, life limits, defects, records and continuing obligations. The receiving owner shall confirm capability to retain and act on the information. A commercial transfer date shall not establish technical acceptance. Unresolved gaps shall remain visible with a named owner and blocked uses.

## 39.2 Storage and preservation

Storage plans shall define environment, preservation tasks, inspection intervals, usage assumptions and reactivation requirements from the applicable technical basis. Record entry condition and temporary configurations. Monitoring shall identify deterioration and expired preservation actions. A stored asset shall not be presumed to have zero aging or unlimited remaining eligibility.

## 39.3 Reactivation

Reactivation shall reconcile storage history, configuration, life status, overdue work and changes in applicable data. Required inspections, tests and personnel readiness shall be completed before release. Missing preservation evidence shall receive technical disposition. Restoration shall verify the actual condition rather than rely solely on the planned storage programme.

## 39.4 Retirement and retained knowledge

Retirement shall prevent unauthorized return of ineligible items and preserve required records, investigations and continuing duties. Personnel departure and capability closure shall include knowledge transfer and access continuity. Destruction or disposal shall use authorized routes appropriate to the asset. Closure shall distinguish completed physical action from remaining record or reporting obligations.

**Required evidence:** Transfer dossier, preservation history, reactivation evidence and controlled retirement record.

**Decision control:** Ownership change or inactivity shall not reset accumulated life, remove defects or erase required records.

## 40 Local adoption, publication and continuing review

### 40.1 Adoption decision

The adopting organization shall review scope, obligations, parameter completeness, resources, competence and document routes before local use. The adoption record shall identify approved procedures, responsible authorities, effective conditions and unresolved dependencies. Local adoption shall be bounded to the organization's actual authority and shall not imply publication approval by Aerospace Federation.

### 40.2 Publication state

This FIRST EDITION manuscript is prepared for Aerospace Federation review. Publisher approval, publication authority and effective date are not assigned in this manuscript. Any later published issue shall have authenticated identity and status. Users shall distinguish this prepared text from an approved external certification scheme or formally recognized regulatory instrument.

### 40.3 Supporting documents

The supporting set shall be controlled through the master document list and coverage matrix. Local procedures and completed records shall identify their parent requirements, version and authority. Templates may be extended where technical evidence exceeds the available fields, while preserving required payload and traceability. Completion of the set shall not be represented as demonstrated operational conformity.

### 40.4 Continuing review

Review shall consider technical changes, experience, evidence quality, personnel outcomes and identified ambiguities. Proposed changes shall retain rationale, impact and disposition. Organizations shall monitor whether their implementation remains suitable and revoke obsolete local permissions. Claims of AF recognition or certification shall require a separate valid basis that is not supplied by possession or use of these documents.

**Required evidence:** Local adoption record, controlled publication status, document register and continuing-review actions.

**Decision control:** Blank approvals, illustrative examples and prepared documents shall not be presented as completed operational evidence.

## Annex A Applicability and responsibility routes

Status: Normative. Use with Clauses 0-4 and 40.

### A.1 Activity selection

The organization shall select applicable routes from actual activities and retained responsibilities. Several routes may apply to one organization. The table identifies emphasis, not permission to omit other applicable clauses. Shared duties shall name the accepting owner and the party supplying evidence.

**Table A1 - Activity routes and retained decisions**

| Activity or responsibility        | Principal focus                | Required boundary decision                                     |
|-----------------------------------|--------------------------------|----------------------------------------------------------------|
| Maintenance provider              | 5-11, 19-30, 34-39             | Capability, performed work, inspection and eligible release    |
| Asset owner or programme manager  | 7-10, 25-31, 35, 39            | Programme, configuration, life status and retained acceptance  |
| Personnel competence owner        | 12-20, 33-36                   | Entry, learning, assessment, authorization and currency        |
| Training or assessment provider   | 12-16, 28-29, 33-34            | Demonstrated learning outcomes; no implied employer privileges |
| Specialist inspection provider    | 21, 24, 28-29                  | Method capability, personnel scope and bounded interpretation  |
| Space or ground-system maintainer | 5-29, 31, 37-39                | Maintained state versus mission or operating permission        |
| Restricted activity               | 32 plus all relevant functions | Accessible assurance within authorized information boundaries  |
| Remote or mobile team             | 5, 19-21, 27-29, 38            | Site readiness, supervision and evidence limitations           |

### A.2 Applicability record

For every requirement, record applicable, shared or proposed N/A status, rationale, owner and evidence route. Identify the affected asset, site, function and period. Approval shall come from an eligible authority who understands the underlying duty. A missing template or contractor assignment shall not make a requirement inapplicable.

### A.3 Interface allocation

The interface record shall identify data supplier, performer, inspector, technical decision maker, release authority and receiving operator. Specify how differences and incomplete records are resolved. No interface shall leave inspection, restoration, defect communication or life-status update without a responsible owner.

### A.4 Reopening applicability

New assets, new sites, changed privileges, technology changes and transferred responsibilities shall reopen the relevant applicability decisions. Preserve earlier decisions and their basis. Restrict affected activity until changed requirements have suitable implementation and evidence.

## Annex B Local parameter baseline

Status: Normative. Complete before the dependent activity or decision.

### B.1 Parameter control

Every P01-P44 entry shall state the approved value, rule or controlled source; units and range where relevant; applicability; owner; approving authority; effective conditions; and change triggers. A controlled document reference may supply detail if accessible at the point of use. N/A requires a supported applicability decision. Unresolved parameters shall identify blocked scope.

### B.2 Required parameter catalogue

**Table B1 - Mandatory local parameter subjects**

| ID  | Parameter subject    | Required local determination                                       |
|-----|----------------------|--------------------------------------------------------------------|
| P01 | Scope and sites      | Assets, tasks, sites, remote/mobile boundaries and retained duties |
| P02 | Obligations          | Applicable sources, dates, interpretation and authority            |
| P03 | Governance           | Role allocation, delegation, independence and escalation           |
| P04 | Capability           | Product/task limits, facility needs and readiness criteria         |
| P05 | Risk and criticality | Consequence criteria, critical tasks and essential controls        |
| P06 | Programme basis      | Task sources, effectivity and mandatory limitations                |
| P07 | Due calculations     | Time origins, units, concurrent limits and forecasts               |
| P08 | Programme changes    | Change authority, evidence and permitted deferral rules            |
| P09 | Configuration        | Identity levels, software states and reconciliation rules          |
| P10 | Usage and life       | Exposure sources, uncertainty and life-limit controls              |
| P11 | Technical data       | Approved sources, currency, translation and query process          |
| P12 | Work acceptance      | Intake criteria, scope change and customer interfaces              |
| P13 | Capacity             | Skill demand, productive time, contingencies and resource limits   |
| P14 | Entry credentials    | Role prerequisites, verification and prior-learning rules          |

| ID  | Parameter subject     | Required local determination                                 |
|-----|-----------------------|--------------------------------------------------------------|
| P15 | Competence criteria   | Task families, proficiency levels and critical behaviours    |
| P16 | Knowledge learning    | Objectives, syllabus, delivery and examination rules         |
| P17 | Practical training    | Coverage, supervision, allowed simulation and task evidence  |
| P18 | Assessment            | Methods, representative tasks, criteria and decision rules   |
| P19 | Assessor eligibility  | Technical competence, independence and calibration           |
| P20 | Authorization         | Privilege scope, issuer, restrictions and status controls    |
| P21 | Recency               | Qualifying exposure, look-back period and lapse response     |
| P22 | Recurrent competence  | Learning, observation and reassessment triggers              |
| P23 | Fitness and fatigue   | Functional restrictions, roster controls and reporting       |
| P24 | Supervision           | Oversight capacity, presence, intervention and substitutes   |
| P25 | Communication         | Working language, translation and confirmation methods       |
| P26 | Handover              | Required work-state payload and receiving verification       |
| P27 | Tooling               | Suitability, alternatives, issue and foreign-object control  |
| P28 | Measurement           | Calibration, uncertainty, decision rules and impact review   |
| P29 | Parts and stores      | Eligibility, traceability, environment and shelf-life rules  |
| P30 | Execution             | Readiness, placekeeping, critical checks and restoration     |
| P31 | Specialist inspection | Method scope, personnel eligibility and interpretation       |
| P32 | Defect disposition    | Diagnosis, repair/modification authority and deferral limits |
| P33 | Testing               | Configuration, criteria, stop conditions and restoration     |

| ID  | Parameter subject      | Required local determination                                |
|-----|------------------------|-------------------------------------------------------------|
| P34 | Maintenance release    | Prerequisites, eligible roles, statement and limitations    |
| P35 | Operational handover   | Receiving decision, restrictions and next due actions       |
| P36 | Records and identity   | Payload, authentication, access, retention and recovery     |
| P37 | External work          | Provider acceptance, split tasks and remote-site criteria   |
| P38 | Sector applications    | Aircraft/component, space/ground and restricted profiles    |
| P39 | Training providers     | Instructor, assessor, simulator and integrity controls      |
| P40 | Assurance              | Review scope, sampling, findings and effectiveness criteria |
| P41 | Performance            | Indicators, exposure, uncertainty and trend-action rules    |
| P42 | Events and change      | Containment, investigation, validation and transition       |
| P43 | Continuity and storage | Degraded operation, restart, preservation and transfer      |
| P44 | Adoption and review    | Local approval, publication status and continuing review    |

### B.3 Completeness and use

The parameter owner shall check all catalogue subjects and resolve conflicts between discipline profiles. The complete baseline shall be available to affected owners. A numerical value without its unit, source, scope or authority shall not be treated as a complete parameter. Synthetic values in Annex O shall not populate the operational baseline by default.

### B.4 Change propagation

Changed parameters shall identify affected task cards, work packages, personnel authorizations, digital rules and released decisions. Verify implementation at the point of use. Preserve prior values and effective periods so that historical work can be evaluated against the correct basis.

## Annex C Governance, capability and risk dossier

Status: Normative. Minimum payload for Clauses 4-6.

### C.1 Governance record

Record accountable appointments, role descriptions, delegations, substitutes and reserved decisions. Identify conflicts and independence controls. Each consequential decision shall trace to an eligible authority whose privileges encompass the actual scope. Management review shall retain resource decisions and affected restrictions.

### C.2 Capability dossier

Identify product/task/site combinations and their personnel, data, facility, tooling and supplier dependencies. Retain readiness evidence and limitations. Capability changes shall identify the demonstrated difference from the prior state. Temporary loss of a critical dependency shall update the capability list and work-acceptance controls.

### C.3 Risk and human-factor record

For each material scenario, record initiating conditions, consequences, exposed people or assets, controls, owners and verification evidence. Include interruption, access, communication, fatigue and simultaneous work where relevant. Residual uncertainty and failed essential barriers shall remain visible regardless of the chosen risk-ranking method.

### C.4 Role separation

**Table C1 - Decisions that require explicit authority**

| Decision                          | Evidence owner                  | Authority boundary                                     |
|-----------------------------------|---------------------------------|--------------------------------------------------------|
| Technical task or repair approval | Technical owner                 | Approved data and design authority as applicable       |
| Competence assessment             | Eligible assessor               | Demonstrated criteria; no automatic employer privilege |
| Personnel authorization           | Authorization issuer            | Verified prerequisites and bounded local scope         |
| Independent inspection            | Eligible inspector              | Defined inspected attributes and actual independence   |
| Maintenance release               | Eligible releasing person       | Complete maintenance evidence and valid privileges     |
| Operational permission            | Receiving operational authority | Intended operation and its separate prerequisites      |

# Annex D Programme, configuration and technical data

Status: Normative. Minimum payload for Clauses 7-9.

## D.1 Task and due record

Each controlled task shall identify source, applicability, accomplishment criterion, interval basis, start/reset event, last accomplishment and next due state. Record each concurrent limit separately and identify the controlling one. Forecasts shall show utilization assumptions. Deferral or extension records shall cite the specific permitted basis and bounded conditions.

## D.2 Configuration and life record

Record asset and component identities, installed relationships, relevant software, modifications, repairs and accumulated exposure. Life-limited status shall include controlling limits, source history and uncertainty. Reconcile physical or verified state against records. Unknown history shall remain an explicit technical issue with a blocked decision.

## D.3 Technical-data record

Identify authoritative source, document version, effectivity, access, translation and derived task-card mapping. Record verification of derived instructions and resolution of discrepancies. Changes shall identify affected work in progress and prior work requiring review. Retained historical data shall be clearly separated from current point-of-use instructions.

## D.4 Programme review

Retain reliability evidence, exposure, failure modes, rationale, independence where required and eligible approval for programme changes. State implementation date, affected assets and transition due calculations. Administrative convenience shall not be recorded as technical evidence that a required task or interval can be changed.

## Annex E Work acceptance and executable planning

Status: Normative. Minimum payload for Clauses 10-11.

### E.1 Intake dossier

Record customer, asset, requested work, received condition, known defects, history completeness, data and expected release. Identify capability and authority checks, customer-supplied items and external dependencies. Conditional acceptance shall specify blocked work and the evidence needed to proceed.

### E.2 Work-package baseline

The package shall list tasks, sequence dependencies, access, isolations, critical inspections, test requirements and restoration. Assign responsible roles and identify required authorizations. Preserve scope changes, additional findings and customer decisions without allowing commercial approval to substitute for technical authority.

### E.3 Capacity and shift record

Calculate demand and available productive capacity by non-substitutable skill or privilege. Include supervision, independent inspection, leave, fatigue controls and shared tooling. Record contingencies and the response to shortfalls. Update the plan when actual conditions invalidate assumptions.

### E.4 Acceptance and handoff

The planning owner shall communicate the approved package and constraints to execution personnel. Receiving supervisors shall confirm resource readiness and resolve contradictions. Delivery commitments shall be revised where technical prerequisites cannot be met. The package shall retain the actual plan used and significant changes during performance.

# Annex F Personnel competence and authorization dossier

Status: Normative. Minimum payload for Clauses 12-18 and 33.

## F.1 Individual evidence chain

Maintain a person-specific dossier linking verified identity and credentials, role-task criteria, prior-learning evaluation, training needs, knowledge results, practical experience and assessment. Evidence shall identify source, date, scope and authenticity. Sensitive information shall be access-controlled and separated where appropriate from the operational privilege display.

## F.2 Criterion-level assessment

For each criterion, record expected performance, task and conditions, observation, assistance, evidence ID and result. Identify critical criteria before assessment. Record assessor eligibility and conflicts. Failed or unobserved critical criteria shall block the affected competent conclusion. Retain feedback, remediation, appeal and reassessment without overwriting earlier results.

## F.3 Authorization and currency

The authorization dossier shall identify the issuer's decision, scope, products/tasks, sites, limitations, validity basis and supporting evidence. Maintain status history and relevant digital permissions. Currency records shall identify qualifying activities, look-back rules, recurrent learning and lapse response. Reinstatement shall reference a fresh eligible decision.

## F.4 Decision logic

**Table F1 - Personnel evidence and decision boundaries**

| Evidence state              | Permitted conclusion                                  | Remaining dependency                                |
|-----------------------------|-------------------------------------------------------|-----------------------------------------------------|
| Training attended           | Participation recorded                                | Learning and practical performance                  |
| Knowledge test passed       | Defined knowledge demonstrated                        | Practical skill, judgement and role criteria        |
| Practical training complete | Required learning coverage accepted                   | Eligible competence assessment                      |
| Competence accepted         | Defined function demonstrated under stated conditions | Authorization prerequisites and issuer decision     |
| Authorization current       | Stated local privileges available                     | Actual task, configuration, fitness and readiness   |
| Task completed              | Specified work evidence available                     | Required inspections, tests and maintenance release |

# Annex G Fitness, communication and handover

Status: Normative. Minimum payload for Clauses 19-20.

## G.1 Fitness and fatigue record

Record the functional concern, affected assignment, protective action and eligible disposition. Limit personal details to what is necessary. Duty records shall support review of roster assumptions and actual work. A model prediction shall be labelled and considered with observed conditions and individual reports.

## G.2 Supervisory plan

Identify supervised personnel, tasks, risk, oversight method, physical availability and intervention arrangements. State reserved actions and critical hold points. Review whether concurrent duties undermine effective supervision. Remote oversight shall include connection-loss response and the limits of what can be observed.

## G.3 Handover payload

Record asset, package, exact completed and pending steps, defects, isolations, temporary configurations, tools, open access, required inspections and next permitted action. Identify outgoing and receiving personnel, time convention and supporting records. Verbal information affecting the decision shall be captured in the controlled handover.

## G.4 Receiving confirmation

The receiver shall reconcile the handover with the actual or reliably verified work state and resolve discrepancies before continuation. Record checks and remaining restrictions. Language or communication uncertainty affecting a critical action shall trigger clarification and confirmation, not assumption.

# Annex H Tooling, parts and execution evidence

Status: Normative. Minimum payload for Clauses 21-23.

## H.1 Equipment record

Record tool identity, purpose, range, accuracy or uncertainty, configuration, calibration/verification status and limitations. Link actual use where needed for retrospective impact assessment. Suspect equipment shall have quarantine status and an affected-work review, including prior acceptance decisions and required notifications.

## H.2 Part and material record

Retain identity, source, release/eligibility evidence, batch or serial, quantity, condition, storage history, shelf-life basis and installation/removal links. Split, returned and borrowed items shall preserve traceability. Quarantine disposition shall identify actual technical acceptance, return, investigation or controlled retirement.

## H.3 Execution record

Each work package shall retain readiness, applicable data, performer, actual steps, results, measurements, discrepancies and interruptions. Critical steps shall link the required inspection or error-capture record. A signature shall identify the covered work and role; it shall not conceal unfinished steps within a broad package signoff.

## H.4 Restoration record

Reconcile tools, foreign-object checks, temporary fittings, test connections, isolations, disturbed interfaces and final configuration. Identify incomplete restoration and prohibited uses. Closure shall be confirmed at the required level of independence before inaccessible work is sealed or the asset proceeds to testing or release.

# Annex I Inspection, defect, test and release dossier

Status: Normative. Minimum payload for Clauses 24-27.

## I.1 Inspection dossier

Record method, coverage, conditions, equipment, settings, reference checks, personnel eligibility, indications and acceptance criteria. Retain images or traces where required. Identify uninspectable areas and method limitations. Interpretation shall be attributable to an eligible person and linked to the applicable technical disposition.

## I.2 Defect and repair dossier

Record symptoms, circumstances, diagnostic hypotheses, tests and supported conclusions. Link repair/modification data, authority, effectivity, materials, implementation and configuration change. Deferrals shall retain explicit permission, restrictions and due basis. Repeated or intermittent defects shall preserve earlier observations and review of wider extent.

## I.3 Test dossier

Retain the approved plan, configuration, prerequisites, readiness, personnel, complete result history and anomalies. Identify aborted and failed runs, changes between runs and final accepted evidence. Verify restoration after testing. Acceptance shall state the demonstrated envelope and shall not claim untested functions.

## I.4 Release dossier

The release decision shall link completed work, inspections, tests, life/configuration status, parts evidence and valid releasing privileges. State exact scope, limitations and open items using the applicable permitted form. Handover shall identify receiving responsibilities and next due actions. Operational permission shall remain a separate decision.

# Annex J Records, providers and distributed work

Status: Normative. Minimum payload for Clauses 28-29.

## J.1 Record architecture

Define stable identifiers and links among asset, person, authorization, task, evidence and decision. Record versions and timestamps shall be sufficient to reconstruct the sequence. Authentication shall bind an eligible person to the exact approved record. Correction shall preserve original content and reason for change.

## J.2 Digital assurance

Retain access rules, audit trails, validation, migration checks, backup and restoration tests. Test missing values, units, identity collisions, expired privileges and incomplete exchanges. Automated outputs shall show their source and limitations. Degraded modes shall preserve required control without invented or pre-entered approvals.

## J.3 Provider agreement

The agreement shall specify technical scope, capability, personnel, data, inspection, release, records and retained responsibilities. Identify subcontracting limits, change notification, audit access and event reporting. The receiving owner shall verify actual outputs rather than equate invoice acceptance with technical acceptance.

## J.4 Distributed-work dossier

Record site readiness, communications, time conventions, remote-support limits, physical supervision and response to lost visibility. Maintain a unified work state across teams. Transfer shall preserve incomplete steps, restrictions and evidence access; remote advice shall be labelled according to its actual role.

## Annex K Sector and training-provider profiles

Status: Normative. Apply the relevant profiles with shared requirements.

### K.1 Aircraft, engine and component profile

State products, configurations, maintenance level, programme owner, release basis and installed-system interfaces. Identify life/usage counting conventions and component-transfer requirements. Personnel privileges shall map to actual products and task families. Component serviceability shall not be treated as acceptance of the complete installed system.

### K.2 Space and ground-system profile

State system, mission phase, maintainability, access, preservation, health-monitoring limits and remote-action authority. Identify consequential interfaces and required restoration evidence. Separate maintenance acceptance from mission or launch permission. Uncertain inaccessible conditions shall remain explicit in decisions and handover.

### K.3 Restricted-activity profile

Identify technical governance, authorized scope, access constraints, eligible reviewers and evidence custodians. Maintain separate access and competence decisions. Restricted records shall have a workable verification route. Deployment or transfer shall preserve limitations, continuity and responsibility without unnecessary disclosure.

### K.4 Training-provider profile

Identify learning/assessment scope, instructors, assessors, curricula, practical resources and simulation credit. Retain fidelity limitations, candidate identity, examination integrity and authentic results. State precisely what certificates establish and what remains for the receiving employer to assess and authorize.

# Annex L Assurance, performance and event learning

Status: Normative. Minimum payload for Clauses 34-36.

## L.1 Assurance evidence

Record review scope, criteria, reviewer competence, independence, sampling basis and examined records. Trace actual work and authorizations to their supporting evidence. Findings shall identify condition, criterion, consequence, affected scope, containment and owner. Positive conclusions shall state sampling and access limitations.

## L.2 Performance evidence

Each metric shall have a controlled definition, denominator, exposure, period, population and quality checks. Record calculation method, uncertainty and material exclusions. Compare like populations and identify reporting changes. Indicators shall not be used to reward hidden errors or inflate competence through easier assessments.

## L.3 Investigation evidence

Retain chronology, factual observations, sources, hypotheses, supported causes and system contributors. Separate immediate correction from prevention of recurrence. Evaluate extent across other tasks, assets, tools, data and personnel. Personnel conclusions shall follow fair evidence review and shall not substitute blame for technical investigation.

## L.4 Effectiveness decision

Actions shall have implementation evidence and a defined effectiveness test over relevant conditions or exposure. The closing authority shall identify remaining duties and any reopened release or authorization decisions. A due date, training attendance or an untested procedure update shall not establish effectiveness by itself.

# Annex M Change, continuity and lifecycle transitions

Status: Normative. Minimum payload for Clauses 37-39.

## M.1 Change dossier

Record old/new baseline, rationale, affected assets, tasks, data, personnel, privileges and interfaces. Specify validation, transition learning, readiness, monitoring and rollback. Technology outputs shall be accepted only for their demonstrated intended use. Maintenance intervals and personnel privileges shall receive their own eligible decisions.

## M.2 Continuity dossier

Identify disrupted functions, protected work states, alternative resources, degraded-mode limits and recovery criteria. Retain exercise evidence and observed gaps. Recovery shall reconcile data, work status and privileges before restart. Record actual restart authorization and unresolved restrictions.

## M.3 Storage and reactivation dossier

Record entry state, preservation basis, environment, inspections, elapsed exposure and temporary configuration. Reactivation shall reconcile history, applicable changes, overdue work and required tests. Unknown preservation history shall receive explicit technical disposition; inactivity shall not be credited as renewed life.

## M.4 Transfer and retirement dossier

Record asset and evidence transfer, receiving acceptance, unresolved gaps, retained duties and access arrangements. Retirement shall prevent unauthorized return of ineligible items and preserve required history. Knowledge transfer shall identify expertise at risk and the recipient responsible for continuity.

# Annex N Adoption and decision completeness

Status: Normative. Apply at local adoption and continuing review.

## N.1 Adoption payload

Record organization, accountable owner, scope, applicability, obligations, P01-P44 baseline, adopted procedures and supporting document versions. Identify resource and competence readiness, unresolved dependencies and blocked activities. Authenticate the eligible local adoption decision and state its effective conditions.

## N.2 Decision completeness review

**Table N1 - Minimum checks before a consequential decision**

| Check              | Required question                                 | Consequence of unresolved evidence        |
|--------------------|---------------------------------------------------|-------------------------------------------|
| Identity and scope | Is the exact person, asset, task or record known? | Restrict the affected decision            |
| Current basis      | Are data, criteria and obligations applicable?    | Resolve the basis before acceptance       |
| Evidence           | Are all essential conditions demonstrated?        | FAIL or HOLD as appropriate               |
| Authority          | Is the decision maker eligible for this scope?    | Refer to an eligible authority            |
| Limitations        | Are exclusions and continuing duties explicit?    | Bound the decision and handover           |
| Integrity          | Is the decision attributable and retrievable?     | Restore valid evidence and authentication |

## N.3 Claims and publication

The organization shall describe adoption and results accurately. Prepared documents, completed templates or a positive internal review shall not imply AF certification, recognition or publisher approval. Publication approval and effective date remain unassigned in this manuscript. Any externally claimed status shall have its own verifiable authorization.

## N.4 Continuing review record

Record review triggers, issues, proposed changes, impact, responsible owners and decisions. Preserve superseded baselines and notify affected users. Verify that changed requirements reach actual work and personnel controls. Close review actions only when their intended outcome has been demonstrated.

# Annex O Quantitative methods and worked calculations

Status: Informative. All values are synthetic teaching examples, not operational limits, mandated intervals or evidence of actual performance.

## O.1 Concurrent maintenance limits

Assume an illustrative task has 120 operating hours remaining, 45 cycles remaining and 12 calendar days remaining. Forecast use is 6 hours and 3 cycles per day. The calculations use constant utilization only for planning; actual exposure still controls.

Hours-based forecast =  $120 / 6 = 20$  days

Cycles-based forecast =  $45 / 3 = 15$  days

Planning due point =  $\min(20, 15, 12) = 12$  days

The calendar limit controls this forecast. Increased utilization can make another limit controlling sooner. A planned date does not extend any limit, and the organization must use the actual approved time origins and counting rules.

## O.2 Skill-based production capacity

Eight staff each have 7 scheduled hours; a justified planning factor of 0.75 represents productive availability after identified non-production duties. Demand is 30 hours of execution, 10 of preparation and 6 of restoration. Separately, an inspection skill requires 8 hours but has only 6 available.

General capacity =  $8 \times 7 \times 0.75 = 42$  staff-hours

General demand =  $30 + 10 + 6 = 46$  staff-hours

General shortfall =  $46 - 42 = 4$  staff-hours

Inspection shortfall =  $8 - 6 = 2$  inspector-hours

Both constraints require resolution. Extra general labour cannot fill an authorization-specific inspection gap. The availability factor is an example assumption, not a prescribed efficiency target or permission to remove breaks.

## O.3 Practical-training coverage

A learning plan requires 20 distinct task outcomes. Eighteen have valid evidence; the other two are critical outcomes. Repeated performance of already-covered tasks does not add new outcomes to the numerator.

Coverage =  $18 / 20 \times 100 = 90$  percent

Coverage measures evidence completeness, not overall competence. The missing critical outcomes keep the affected completion decision on HOLD. Weighting or rounding the percentage cannot make them demonstrated. The reviewer must also examine evidence quality, assistance and representative conditions.

## O.4 Aggregate assessment versus critical criteria

An illustrative assessment gives 95 points out of 100, but the candidate fails the predetermined critical criterion to stop when instructions conflict. The scheme requires every critical criterion to pass, in addition to its locally set aggregate rule.

Aggregate result =  $95 / 100 \times 100 = 95$  percent

Critical criteria passed =  $3 / 4 = 75$  percent

The affected competence decision is FAIL despite the high aggregate result. Remediation and reassessment must address the failed behaviour and connected judgement. No universal numerical pass mark is established here.

## 0.5 Recency counting with task relevance

For illustration only, a local rule requires four qualifying activities within a 180-day look-back period for one task family. Records are 10, 30, 90 and 120 days old. All are within the time window, but only three belong to the required family; one is unrelated.

In-window records = 4

Relevant qualifying records = 3; required = 4

Evidence shortfall =  $4 - 3 = 1$  activity

The role is not current under this synthetic rule. The response follows the actual approved lapse/return process; adding an unsupported activity or changing its date cannot restore currency. Other obligations may require a different basis entirely.

## 0.6 Measurement uncertainty and acceptance

Suppose a synthetic dimensional requirement is 10.00 +/- 0.20 mm. A result is 10.14 mm with expanded uncertainty  $U = 0.08$  mm. The locally selected conservative decision rule requires the entire stated uncertainty interval to lie within the specification interval.

Specification interval = [9.80, 10.20] mm

Result interval = [10.14 - 0.08, 10.14 + 0.08]

Result interval = [10.06, 10.22] mm

The central value lies inside the specification, but the interval crosses the upper limit. Under this illustrative rule, acceptance is not demonstrated and remains HOLD pending an eligible resolution. This is not proof that the physical dimension is necessarily nonconforming. State the uncertainty basis and approved decision rule before measuring.

## 0.7 Retrospective tooling impact

An out-of-tolerance tool has 42 candidate work-package uses since its last established acceptable state. Traceable technical screening excludes 26 uses because the affected range/function was not used. Sixteen remain potentially affected. Rechecks find 8 acceptable, 5 unacceptable and 3 pending.

Potentially affected =  $42 - 26 = 16$  packages

Reconciled disposition =  $8 + 5 + 3 = 16$

The five unacceptable results require correction and affected-release review; the three pending cases remain HOLD. The 26 exclusions need individual technical rationale. An arithmetically balanced list does not establish the quality of the screening or rechecks.

## 0.8 Event rate and time-between-event estimate

Three defined events occurred over 12,000 comparable asset-hours. Assume complete reporting and a homogeneous population for this descriptive calculation. The reciprocal exposure estimate is meaningful only for the defined event and population.

Event rate =  $3 / 12,000 \times 1,000 = 0.25$  per 1,000 h

Exposure per event =  $12,000 / 3 = 4,000$  h

These are point estimates, not guaranteed intervals between failures for an individual asset. Examine uncertainty, failure modes, censoring, age and operating context before any programme decision. The result alone cannot authorize interval escalation.

## 0.9 Zero events and an upper statistical bound

Assume zero events in 6,000 independent, comparable exposure hours and a constant-rate Poisson model. A one-sided 95 percent upper rate bound solves  $\exp(-\text{rate} \times \text{exposure}) = 0.05$ . The confidence statement depends on the model and complete observation.

Upper rate =  $-\ln(0.05) / 6,000$

Upper rate = 0.0004992887 events per hour

Upper rate = 0.4993 events per 1,000 hours

Zero observed events does not establish zero risk. Dependence, under-reporting or changing hazard rates can invalidate this simple model. This calculation illustrates uncertainty and supplies no mandatory reliability acceptance threshold.

### **O.10 On-time completion and missing records**

Of 80 packages with known status, 72 were completed within the approved planning target. Five additional eligible packages have unknown completion status. Reporting only the known subset can overstate the complete population's demonstrated performance.

Known-subset rate =  $72 / 80 \times 100 = 90$  percent

Full eligible population =  $80 + 5 = 85$

Demonstrated on-time share =  $72 / 85 = 84.71$  percent

Report the 5 unknown cases separately; do not label them late without evidence or silently exclude them. A delivery metric does not establish technical quality or release validity. Define denominator rules before comparing periods.

### **O.11 Simulator comparison and critical mismatch**

A simulator validation compares 40 predetermined scenario outcomes with the accepted reference. Thirty-nine agree, but the mismatch concerns a critical warning cue needed for the intended assessment.

Overall agreement =  $39 / 40 \times 100 = 97.5$  percent

The high overall agreement does not validate the affected critical competency. Restrict that use, investigate the mismatch and demonstrate correction. Scenario selection, fidelity and observation quality matter; the percentage alone is not a complete validation argument.

### **O.12 Recurring-defect improvement**

A comparable task population has 8 recurring defects in 2,000 work orders before an intervention and 3 in 1,500 afterwards. Assume consistent definitions, complete reporting and comparable work mix for the descriptive comparison.

Before =  $8 / 2,000 \times 1,000 = 4$  per 1,000 orders

After =  $3 / 1,500 \times 1,000 = 2$  per 1,000 orders

Observed relative reduction =  $(4 - 2) / 4 = 50$  percent

The observed rate fell, but small counts and changed conditions may explain some difference. Establish suitable uncertainty and causal evidence before claiming sustained effectiveness. Continue monitoring the relevant failure mechanism rather than declaring success from a single percentage.

## Annex P Worked application cases

Status: Informative. Cases are fictional and demonstrate decision logic rather than asset-specific maintenance methods.

### P.1 Qualified recruit with unfamiliar local procedures

A recruit holds a verified relevant qualification and substantial experience. The receiving workshop identifies gaps in its digital records and critical-task handover process. It accepts the credential, assigns targeted induction and supervised work, then assesses the missing outcomes. Only after evidence acceptance does an eligible issuer grant bounded privileges. The qualification remains valid evidence, but it never substitutes for the local authorization decision.

### P.2 High assessment score with unsafe continuation

A candidate achieves strong technical results but continues after finding contradictory instructions. The predeclared critical criterion requires stop and escalation. The assessor records FAIL for the affected function, gives specific feedback and arranges remediation. Reassessment uses a different representative ambiguity scenario. The earlier result remains in the dossier, and no privilege is granted for the intervening period.

### P.3 Interrupted critical maintenance task

A shift ends with a disturbed interface awaiting required inspection. The outgoing team records the exact work state, temporary configuration and blocked closure. The incoming team verifies the asset and discovers a mismatch in the handover. It stops the affected sequence, resolves the discrepancy and obtains the required independent inspection before restoration. The handover signature alone would not have established completion.

### P.4 Calibration finding after release

A measurement device is found outside tolerance. The owner identifies candidate uses and screens them against the affected range, direction of error and decision margins. Several released packages require re-examination. The organization notifies responsible recipients, preserves original records and reassesses release validity. Recalibrating the tool resolves future availability but does not close the retrospective asset impact.

### P.5 Remote advice at an unsupported site

A mobile team requests specialist advice from a remote expert. The connection supports document review but not reliable observation of a required physical inspection. The expert provides bounded advice and records the visibility limitation. The organization arranges eligible local inspection or holds the work. Remote participation is not described as having performed the unavailable physical check.

### P.6 Return after long absence

A maintainer returns after a period with no qualifying task exposure and several software/data changes. The organization restricts affected privileges, checks new procedures, arranges practical refresh and observes representative work. The authorization issuer reviews the new evidence and restores only demonstrated scope. Employment continuity and the original certificate do not establish current readiness.

### P.7 Suspect part with convincing paperwork

Receiving staff find that a part's physical identity conflicts with its supplied traceability. The item is quarantined and related stock is screened. Supplier assurances are retained as inputs but do not resolve the discrepancy. Technical acceptance remains HOLD until an eligible investigation establishes identity and eligibility. Procurement urgency does not convert receipt into installation permission.

## **P.8 Condition-monitoring model proposes an interval change**

A model predicts low degradation and suggests postponing a scheduled inspection. The programme owner verifies sensor quality and model limits but finds that the inspection is controlled by a mandatory basis outside the model's authority. The inspection remains due. The model may inform diagnosis or future evidence collection; interval change requires its own permitted technical process.

## **P.9 Stored ground equipment returns to service**

Ground equipment has been inactive through a prolonged storage period. Some preservation records are missing. The receiving team records uncertainty, reviews applicable data and completes an authorized reactivation plan with inspections and tests. It reconciles temporary connections and software configuration before release. An earlier serviceable tag and low operating hours do not prove current condition.

## **P.10 Shared contractor and employer privileges**

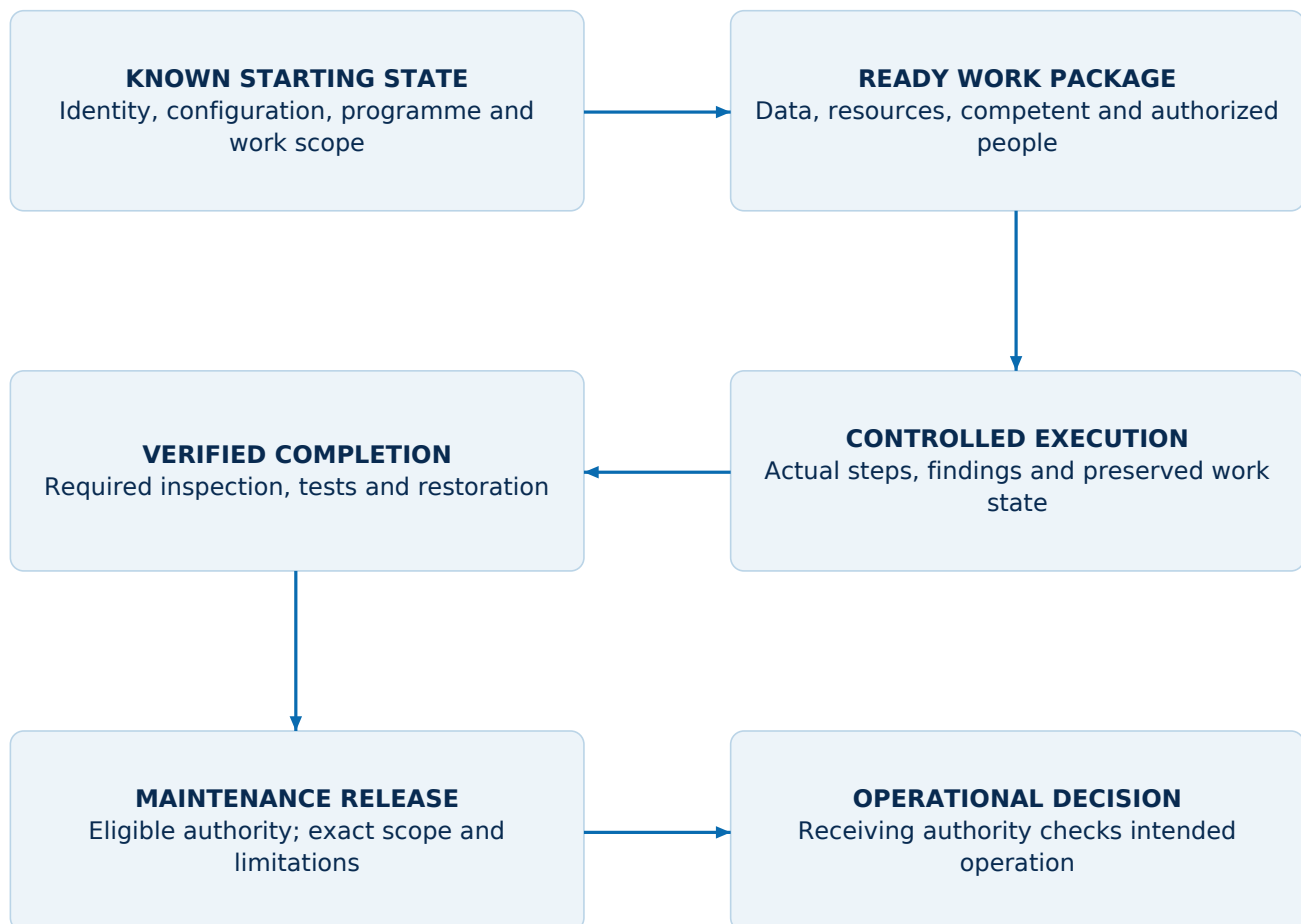
A contractor's specialist arrives with valid external credentials. The host verifies technique, application and limits, agrees record and supervision arrangements and establishes the required local authorization or permitted recognition. The contractor performs only the accepted scope. The final releasing person reviews the bounded specialist result together with the remaining maintenance evidence; neither organization's title alone determines the other's authority.

## Annex Q Process and decision diagrams

Status: Informative. Diagrams summarize relationships; complete requirements remain in the main clauses.

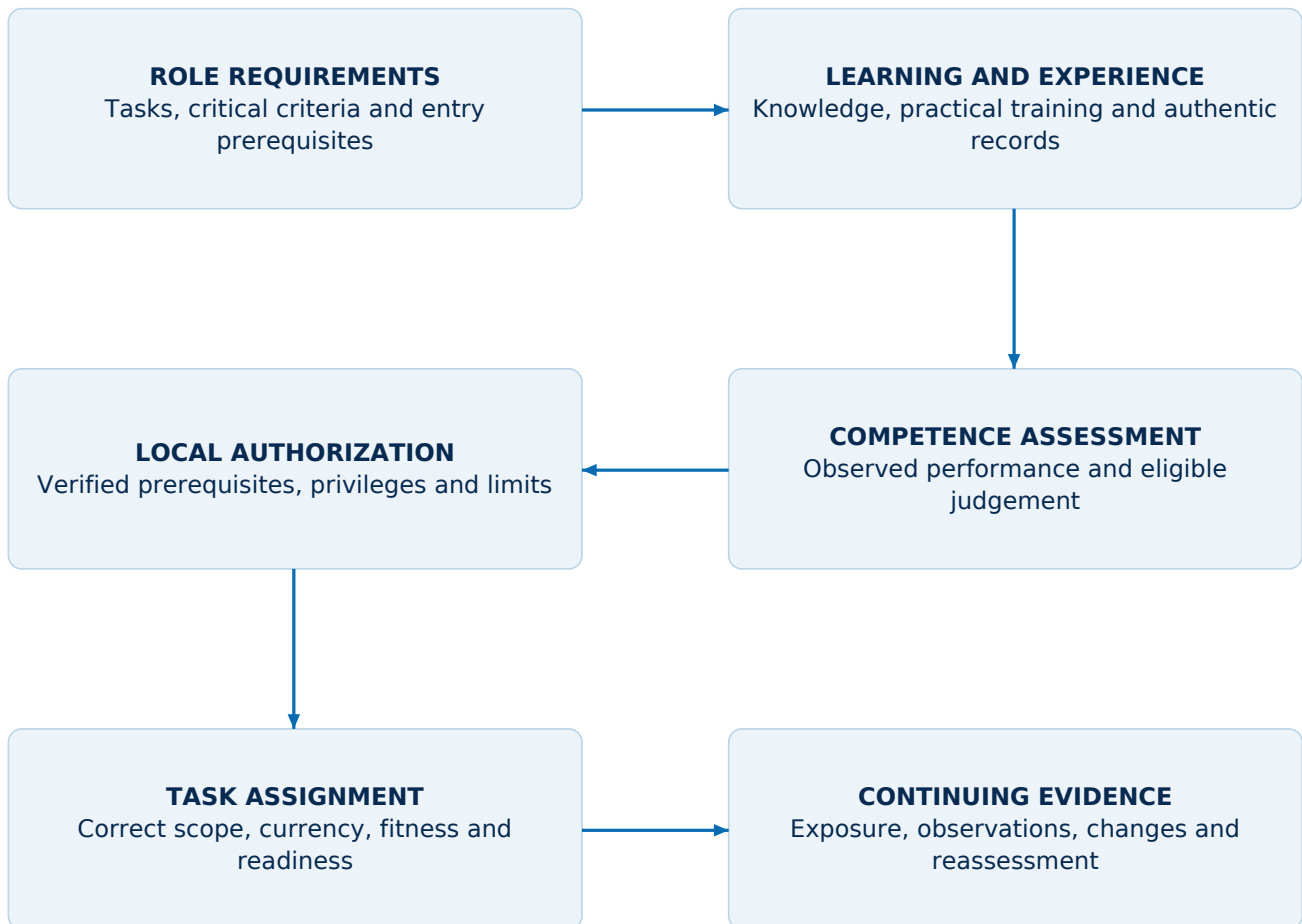
### Q.1 Maintenance evidence chain

The work package connects a known starting state to verified work and a bounded release. Operational permission remains the receiving authority's separate decision. Each transition requires the actual evidence identified in the main clauses.



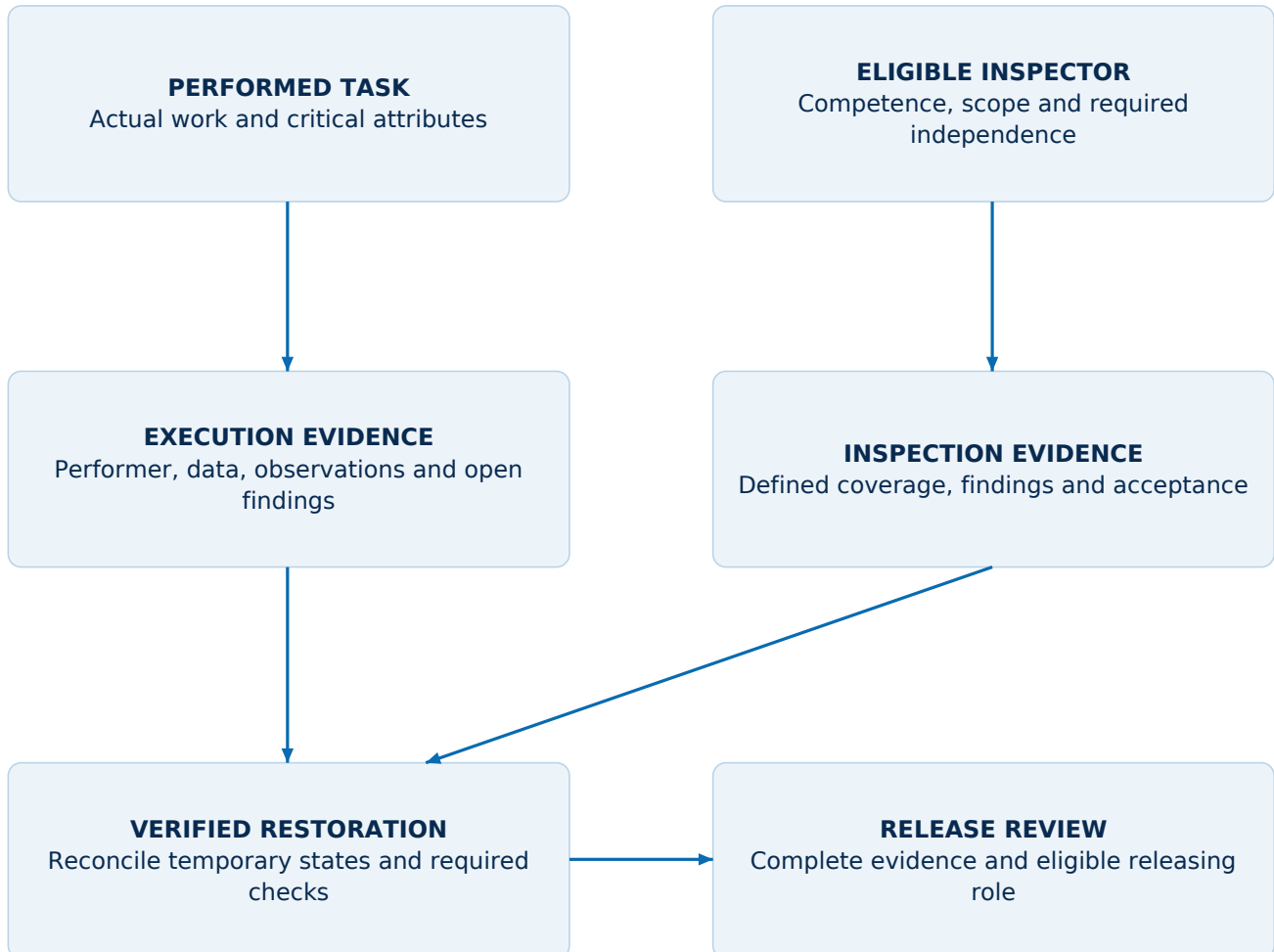
## Q.2 Competence and authorization chain

Learning and evidence evaluation support a competence conclusion; authorization then establishes local privileges. Assignment additionally depends on the actual task and current conditions. A downstream state cannot be inferred solely from an upstream certificate.



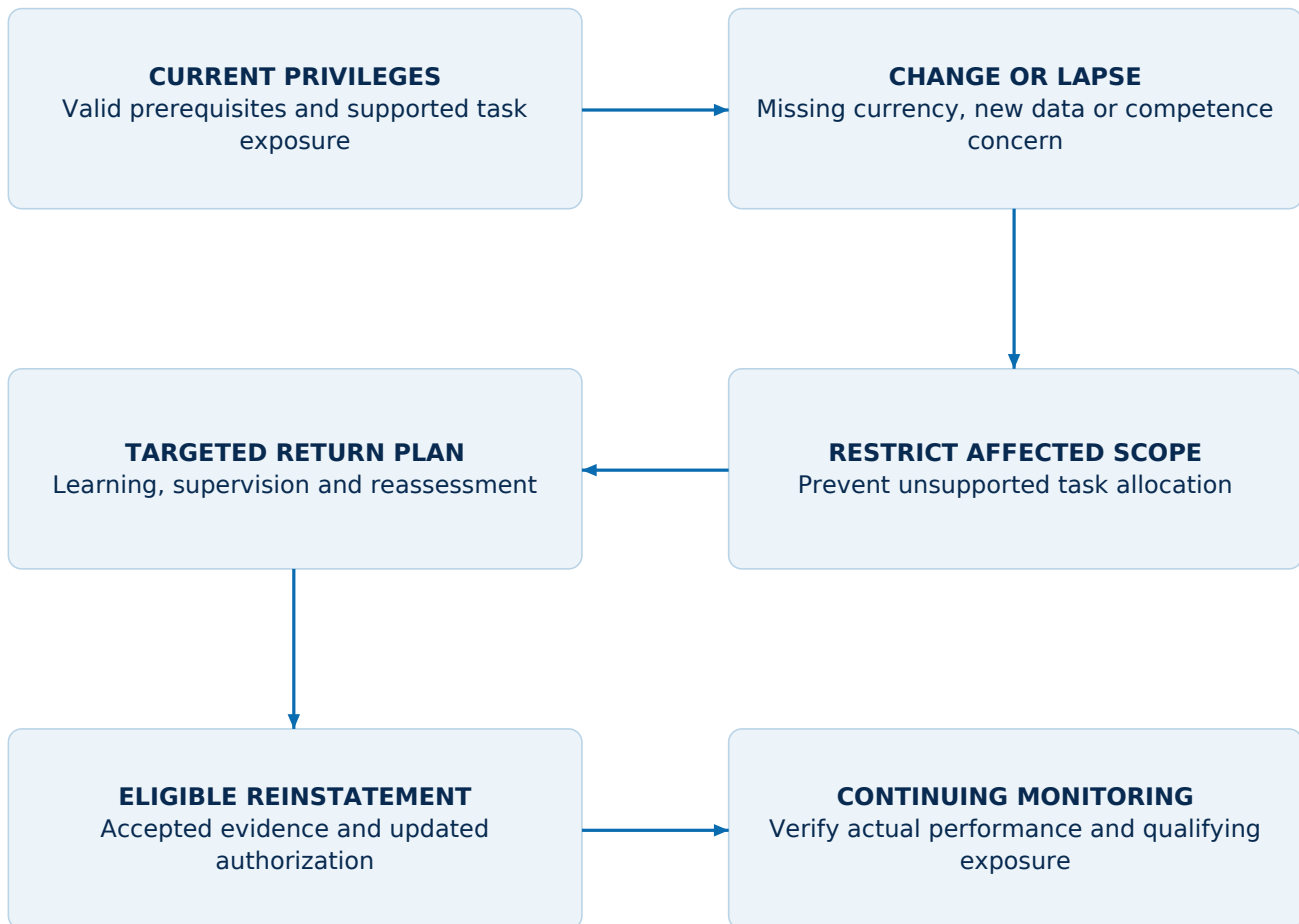
### Q.3 Critical-task verification

Execution evidence and required independent inspection converge before restoration and release review. Inspection independence and timing are defined by the controlling basis. Unresolved findings return to technical disposition rather than disappearing into package completion.



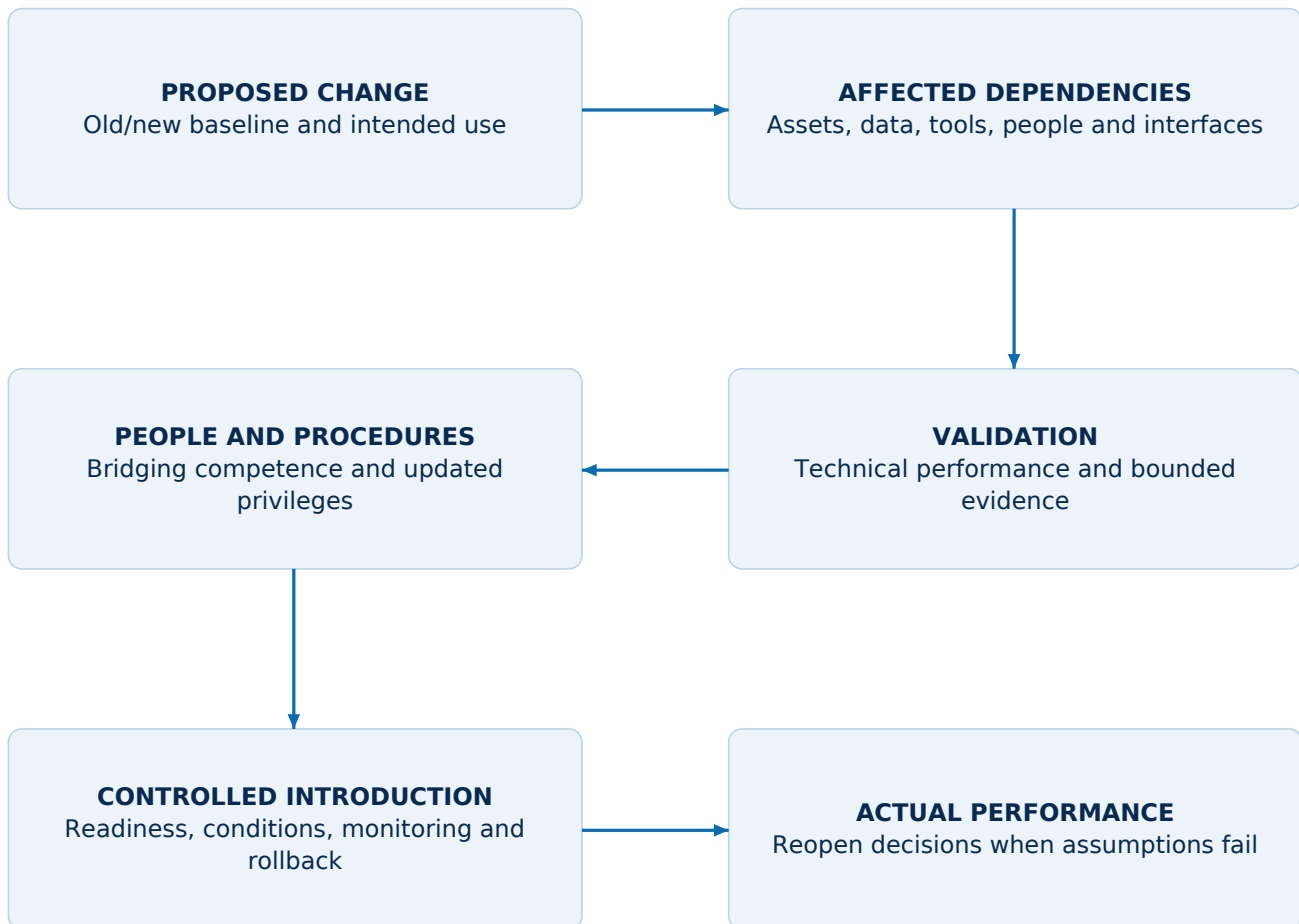
## Q.4 Currency and return after lapse

Current exposure and recurrent evidence support continued privileges. A lapse or changed requirement restricts affected scope and starts a targeted return process. Reinstatement requires an eligible decision after the required evidence is accepted.



## Q.5 Change and affected evidence

Change review connects asset, data and personnel impacts. Validation, learning and updated privileges must converge before introduction. Monitoring can reopen the decision when assumptions or performance are invalidated.



## Annex R Implementation routes

Status: Informative. Select routes according to actual responsibility and use Annex A for formal applicability.

### R.1 New maintenance organization

Define scope and obligations, establish capability and authority, complete the parameter baseline and build the first controlled work package. Demonstrate the maintenance and personnel evidence chains through representative work before claiming readiness for the declared scope.

### R.2 Established maintenance provider

Map existing controls to the requirements and inspect actual evidence. Prioritize gaps in critical-task checks, authorization status, programme due calculations and release records. Preserve valid existing systems while correcting unsupported assumptions and interface gaps.

### R.3 Component or specialist workshop

Define process and product limits, incoming status, specialist competence, tooling and acceptance criteria. Preserve item identity and bounded release. Explain what the workshop result establishes for the receiving installation and what remains to be checked.

### R.4 Owner or maintenance-programme manager

Focus on programme authority, configuration, usage, life status, recurring defects and provider interfaces. Require complete evidence from contracted work and preserve retained decisions. Do not assume that outsourcing transfers all continuing responsibilities.

### R.5 Training or assessment organization

Define learning outcomes and assessment scope, qualify instructors and assessors, validate simulation and protect result integrity. State certificate meaning precisely and provide evidence that the receiving employer can evaluate against its role criteria.

### R.6 Mobile or remote operation

Establish site readiness, task limits, supervision, communications and evidence routes before deployment. Plan the response to missing data, loss of connection or unavailable inspection. Keep remote advice distinct from physical performance and release authority.

### R.7 Space and ground-system team

Map assets and mission phases, preservation and access limitations. Define maintenance/mission interfaces and personnel scope. Treat remote health evidence as bounded information and preserve verification of intended final state.

### R.8 Restricted or deployed activity

Combine technical and competence controls with approved information access. Establish eligible evidence review and continuity despite personnel or site changes. Maintain a clear boundary between urgency, exceptional authorization and routine capability.

### R.9 New technology introduction

Define intended use, affected tasks and human decisions. Validate tool or model performance, bridge personnel competence and update procedures and privileges. Introduce under controlled conditions and monitor actual outcomes before broadening scope.

## Annex S Interpretation questions

Status: Informative. Answers explain boundaries and supply no missing local approvals.

### **S.1 Does a licence or qualification grant local release authority?**

No. Verify the credential, demonstrate relevant competence and satisfy the organization's applicable authorization prerequisites. The exact privilege and scope require an eligible decision.

### **S.2 Is course attendance evidence of competence?**

It demonstrates participation. Knowledge, practical performance and judgement require the evidence specified by the role criteria.

### **S.3 Can a high score compensate for a failed critical criterion?**

No. The affected function remains failed or unresolved according to the observed evidence and predeclared decision rules.

### **S.4 Can experience at another organization be accepted?**

Yes, when authentic and relevant. Evaluate differences in products, tasks, data, local procedures and recency before crediting it.

### **S.5 Does this standard set universal recurrent-training intervals?**

No. The organization establishes justified values from applicable obligations, task risk, exposure and change, and records them in its parameter baseline.

### **S.6 Can a supervisor sign for unobserved trainee work?**

Only evidence actually verified within the permitted role may support a signoff. A supervisor's title does not establish that required oversight occurred.

### **S.7 Can a second check replace independent inspection?**

Only where the controlling basis expressly permits the alternative and its conditions are met. Do not silently substitute one control for another.

### **S.8 Does a passing test make the complete asset releasable?**

No. Required work, records, configuration, inspections and eligible release authority must also be satisfied.

### **S.9 Does maintenance release authorize the next operation?**

It establishes the bounded maintenance decision. Operational dispatch, mission or other operating permission retains separate prerequisites and authority.

### **S.10 Can condition monitoring extend a mandatory interval?**

Only through a permitted, technically supported and eligible programme-change process. A favourable model output alone has no such authority.

### **S.11 Are typed names in the forms authenticated signatures?**

Not by themselves. Use the adopting organization's approved identity, record-integrity and approval process.

### **S.12 Does use of the document set establish AF recognition?**

No. The set supports implementation and evidence collection. Recognition, certification and publisher approval require a separate valid basis.

# Annex T Document architecture and crosswalk

Status: Informative. The complete supporting index and subclause map are supplied in the Foundation folder.

## T.1 Controlled hierarchy

The main standard states requirements. Policies express management commitments; manuals describe operating systems; companions explain use. Procedures define triggers, roles, outputs and decisions. Technical profiles establish local parameters. Checklists examine actual evidence. Forms, registers and schedules capture controlled records. Work instructions guide bounded administrative and evidence tasks without replacing asset-specific maintenance data.

## T.2 Document identifiers

Use AF-ML-9800-001 for the Master Document List and AF-CM-9800-001 for the Standard-to-Document Coverage Matrix. AF-TP-9800-001 establishes the common parameter baseline. Every supporting PDF has a stable code, title, parent references, suggested owner and edition identity. The main standard is a separate publication and is not duplicated inside the supporting ZIP.

## T.3 Evidence and adoption

Select documents by actual activity and retained duty, not by matching numbers alone. Each completed record shall identify its asset/person, data baseline, evidence and eligible decision. Extend fields through controlled continuation sheets where needed. The proposed requirements and blank models become an operational system only through authorized local adoption, competent execution and retained evidence.