# The Role of the External EASA Part 145 Auditor

Sofema Aviation Considers the Challenges Facing the External Auditor.

**Introduction**

Under Regulation (EU) No 1321/2014 (including its Annexes: Part-M, Part-145, Part-CAMO, Part-CAO, Part-66, and Part-147), continuing airworthiness and maintenance organisations must establish a Compliance Monitoring Function / Organisational Review) to monitor compliance with applicable airworthiness requirements.

An organisation may subcontract or contract the independent audit element of its compliance monitoring system to an external auditor or external qualified entity under specific regulatory circumstances:

- **Small Part-145 Organisations** (up to 10 maintenance staff) may subcontract the independent audit function to an external qualified person or organisation, subject to competent authority agreement.
- **Part-CAMO Organisations** may contract external personnel to carry out independent audits under the responsibility of the Compliance Monitoring Manager (CMM).
- **Small Combined Airworthiness Organisations (Part-CAO)** or Part-M organisations may conduct regular Organisational Reviews supported or executed by external auditors.
- **Part-147 Maintenance Training Organisations** (small MTOs) may contract the independent audit function to external qualified persons, requiring at least two audits every 12 months (one unannounced).

**Impact of Specific Organisational Configurations on External Audit Tasks**

**Combined Compliance Monitoring Manager (CMM) & Safety Manager (SM)**

- **Regulatory Context**: Under AMC1 145.A.30(c); (ca) and AMC1 CAMO.A.305(a)(4);(a)(5), a single person may manage both the compliance monitoring function and safety management processes, subject to a risk assessment and competent authority agreement.
- **Audit Mandate**: Per GM1 145.A.200(a)(6) and GM1 CAMO.A.200(a)(6), *"the compliance monitoring function itself should be subject to independent monitoring of compliance"*. Because an individual cannot independently audit their own function, when CMM and SM are combined into one role, an external auditor is strictly necessary to perform an independent audit of both the CMM and SM functions.

- **Key Focus Areas for the External Auditor**:
  - Assessing whether the dual-role holder maintains adequate independence from operational/maintenance activities.
  - Auditing whether sufficient resources are allocated to both compliance monitoring and safety management without one function overshadowing the other.
  - Independently auditing safety risk management key processes (hazard identification, safety risk assessments, risk mitigations, and safety performance monitoring).
  - Evaluating the effectiveness of the Internal Safety Reporting Scheme, Just Culture policy, and occurrence investigations.

**Competence Management Sitting with the Compliance Manager**

- **Regulatory Context**: Point 145.A.30(e), point CAMO.A.305(g), and point CAO.A.035(e) require organisations to establish and control the competency of all personnel involved in maintenance, continuing airworthiness, safety management, and compliance monitoring.
- **Audit Mandate**: When the CMM administers competency assessments, initial/recurrent training, and qualification records, they cannot audit their own administrative work.
- **Key Focus Areas for the External Auditor**:
  - Independently sampling personnel files to verify that competency assessments are conducted prior to unsupervised work.
  - Auditing initial and 2-year recurrent training records for Safety/Human Factors, Fuel Tank Safety (FTS), Electrical Wiring Interconnection System (EWIS), and Critical Design Configuration Control Limitations (CDCCL).
  - Verifying certifying staff, support staff, and Airworthiness Review Staff (ARS) authorisations, Part-66 licence validity, 6-month recent experience in 2 years, and minimum age requirements.

**Documentation Management Sitting with the Compliance Manager**

- **Regulatory Context**: Point 145.A.70, point CAMO.A.300, and point CAO.A.025 require maintaining the exposition (MOE/CAME/CAE) and procedures, while 145.A.45 / CAMO.A.325 require controlling current maintenance data.

- **Audit Mandate**: If the CMM controls manual revisions, maintenance data subscriptions, and record retention systems, an external auditor must audit these document control processes.
- **Key Focus Areas for the External Auditor**:
  - Auditing CAME/MOE/CAE amendment procedures: verifying proper direct approval by the Competent Authority or valid use of indirect approval for minor amendments.
  - Auditing the change management procedure and tracking Alternative Means of Compliance (AltMoC).
  - Verifying that current maintenance data (AMM, IPC, SRM, ADs, SBs, ICAs) is maintained and accessible to staff.
  - Auditing record-keeping integrity, electronic database security/backups, and retention periods (3 years for maintenance/AR records; 5 years for management system/contracts).

**Comprehensive External Auditor Task Matrix**

Based on Regulation (EU) No 1321/2014, the tasks to be carried out by an external auditor are structured across seven operational domains:

1. Compliance Monitoring & Safety Management Systems (CMS / SMS)
2. Competence, Qualifications & Human Factors
3. Expositions, Manuals, Maintenance Data & Document Control
4. Continuing Airworthiness Management Tasks (CAMO / CAO-CAM)
5. Maintenance Execution, Production Planning & Workshop Controls
6. Contracting, Subcontracting & Supply Chain Oversight
7. Audit Process, Product Sampling, Reporting & Accountable Manager Feedback

**Domain 1: Compliance Monitoring & Safety Management System (CMS / SMS) Audits**

| Task Reference | Detailed External Audit Task | Applicable Regulation / AMC |
|---|---|---|
| **CMS-01** | Audit the Compliance Monitoring Function itself for independence, audit plan execution, and completeness | 145.A.200(a)(6) / CAMO.A.200(a)(6) / CAO.A.100 |
| **CMS-02** | Audit the dual-role structure (CMM + SM) for potential workload conflicts and proper reporting lines directly to the Accountable Manager. | AMC1 145.A.30(c);(ca) / AMC1 CAMO.A.305(a)(4);(a)(5) |
| **SMS-01** | Audit Hazard Identification & Risk Assessment processes (reactive, proactive, predictive hazard identification and risk control tolerability). | 145.A.200(a)(3) / CAMO.A.200(a)(3) |
| **SMS-02** | Audit the Internal Safety Reporting Scheme, Just Culture policy, reporter confidentiality, and closed-loop corrective action tracking. | 145.A.202 / CAMO.A.202 |
| **SMS-03** | Verify internal safety investigations, causal/contributing factor analysis, and root cause determination. | 145.A.95 / CAMO.A.150 / 145.A.202(c) |
| **SMS-04** | Audit the Management of Change process for organizational, operational, or key personnel changes. | 145.A.85, 145.A.200(a)(3) / CAMO.A.130, CAMO.A.200(a)(3) |
| **SMS-05** | Verify Emergency Response Plan (ERP) interface procedures and immediate safety action protocols. | 145.A.200(a)(3) / CAMO.A.200(a)(3) |
| **SMS-06** | Audit Safety Performance Monitoring & Safety Objectives progress reviews during Safety Review Board (SRB) meetings. | AMC1 145.A.200(a)(1) / AMC1 CAMO.A.200(a)(1) |

**Domain 2: Competence, Qualification & Personnel Management Audits**

| Task Reference | Detailed External Audit Task | Applicable Regulation / AMC |
|---|---|---|
| **HR-01** | Audit the Personnel Competency Assessment Procedure (initial assessment prior to unsupervised work, continuous evaluation, job descriptions, and logbook records). | 145.A.30(e) / CAMO.A.305(g) / CAO.A.035(e) |
| **HR-02** | Verify initial and 2-year recurrent Safety Training / Human Factors syllabi and attendance records for all staff. | AMC4 145.A.30(e) / AMC3 CAMO.A.305(g) |
| **HR-03** | Verify technical training records: Fuel Tank Safety (FTS Phase 1/2/recurrent), EWIS, and CDCCL training. | AMC5 145.A.30(e) / Appendix IV to AMC5 145.A.30(e) / App XII to M.A.706(f) |
| **HR-04** | Audit Certifying Staff & Support Staff authorisations: Part-66 licence validity, type ratings, age ≥21, and 6 months of actual maintenance experience in 2 years. | 145.A.30(g),(h),(i), 145.A.35 / CAO.A.040 |
| **HR-05** | Audit Airworthiness Review Staff (ARS) qualifications, formal acceptance (EASA Form 4 / CAME/CAE list), and 6 months experience in 2 years (or 1 AR in 12 months). | 145.A.37 / CAMO.A.310 / CAO.A.045 |
| **HR-06** | Audit one-off and limited flight crew certifying staff authorisations (145.A.30(j) / M.A.607(b) / CAO.A.040(b)), reporting within 7 days, and re-check records. | 145.A.30(j) / M.A.607(b) / CAO.A.040(b) |
| **HR-07** | Audit Specialised Tasks personnel qualifications (NDT Level 1/2/3 to EN 4179, welders to recognised standards). | 145.A.30(f) / M.A.606(f) / CAO.A.035(f) |

**Domain 3: Expositions, Manuals, Maintenance Data & Document Control Audits**

| Task Reference | Detailed External Audit Task | Applicable Regulation / AMC |
|---|---|---|
| **DOC-01** | Audit MOE / CAME / CAE structure, content, and Accountable Manager signed commitment statement. | 145.A.70 / CAMO.A.300 / CAO.A.025 |
| **DOC-02** | Verify management of changes: Competent Authority prior approvals vs. indirect approval procedures for minor changes. | 145.A.70(c), 145.A.85 / CAMO.A.130, CAMO.A.300(c) / CAO.A.105 |
| **DOC-03** | Verify evaluation, documentation, and approval of Alternative Means of Compliance (AltMoC). | 145.A.120 / CAMO.A.120 / CAO.A.017 |
| **DOC-04** | Audit Maintenance Data control (AMM, IPC, SRM, CMM, ADs, SBs, ICAs): currency, distribution, and fast-track urgent update mechanisms. | 145.A.45 / CAMO.A.325 / CAO.A.055 |
| **DOC-05** | Audit modified maintenance instructions procedure (145.A.45(d)), ensuring no modification of CDCCL and feedback sent to author. | 145.A.45(d) & AMC1 145.A.45(d) |
| **DOC-06** | Audit Record-Keeping System: 3-year retention for maintenance/AR records; 5-year retention for SMS, compliance monitoring, and contracts. | 145.A.55 / CAMO.A.220 / CAO.A.090 |
| **DOC-07** | Verify electronic record & IT database safeguards: anti-tampering access controls, backup every 24 hours, and remote off-site backup storage. | 145.A.55(e)-(g) / CAMO.A.220(d)-(f) |

**Domain 4: Continuing Airworthiness Management Tasks Audits (CAMO / CAO-CAM)**

| Task Reference | Detailed External Audit Task | Applicable Regulation / AMC |
|---|---|---|
| **CAM-01** | Audit Aircraft Maintenance Programme (AMP) development, annual effectiveness review, reliability programme management, and competent authority approval / indirect approval. | M.A.302 / ML.A.302 / CAMO.A.315(b)(1) / CAO.A.075 |
| **CAM-02** | Audit Airworthiness Directives (AD) & Emergency AD processing, technical evaluation, maintenance work order integration, and closed-loop compliance tracking. | M.A.303 / CAMO.A.315(b) / CAO.A.075 |
| **CAM-03** | Audit Modification and Repair management: verification of approved Part 21 / CS-STAN data, STCs, and CDCCL impact assessments. | M.A.304 / CAMO.A.315(b)(3),(4) / CAO.A.075 |
| **CAM-04** | Audit Aircraft Continuing Airworthiness Record System & Technical Log System entries (flight hours/cycles, life-limited parts status, time-controlled components, mass & balance, deferred defects). | M.A.305, M.A.306 / CAMO.A.220, CAMO.A.315 |
| **CAM-05** | Audit Airworthiness Review (AR) processes: documented record review, physical aircraft survey, compliance report generation, and ARC (Form 15a/15b/15c) issuance or extension. | M.A.710, M.A.901 / CAMO.A.320 / CAO.A.085 |
| **CAM-06** | Audit Permit to Fly issuance procedures under CAMO/CAO privileges (conformity with approved flight conditions). | M.A.711(c) / CAMO.A.125(f) / CAO.A.095(d) |
| **CAM-07** | Audit Mandatory Occurrence Reporting (MOR) to Competent Authority, State of Registry, and Design Approval Holder within 72 hours. | 145.A.60 / CAMO.A.160 / CAO.A.085 |

**Domain 5: Maintenance Execution, Production Planning & Workshop Audits**
**(Part-145 / Part-CAO / Subpart F)**

| Task Reference | Detailed External Audit Task | Applicable Regulation / AMC |
|---|---|---|
| **MNT-01** | Audit Production Planning & Man-Hour Planning: verification of man-hour availability vs. workload, shift patterns, fatigue risk management, and shift handover procedures. | 145.A.47 / 145.A.30(d) / CAO.A.035, CAO.A.060 |
| **MNT-02** | Audit Facility & Environmental Conditions: hangar availability, workshop segregation, clean working environment, lighting, temperature, noise control. | 145.A.25 / M.A.605 / CAO.A.030 |
| **MNT-03** | Audit Tooling & Test Equipment Controls: control register, calibration to national standards, validity labels, and alternate tooling approval procedures. | 145.A.40 / M.A.608 / CAO.A.050 |
| **MNT-04** | Audit Component & Material Acceptance: incoming physical inspection, EASA Form 1 / equivalent verification, standard parts, raw/consumable material conformity certificates. | 145.A.42 / M.A.501 / CAO.A.050 |
| **MNT-05** | Audit Component Segregation & Mutilation: secure store segregation for unserviceable items; permanent mutilation or non-flight marking for unsalvageable parts. | 145.A.42(c) / M.A.504 / CAO.A.050 |
| **MNT-06** | Audit In-House Part Fabrication Procedures (145.A.42 (b)(iii)): verifying approved design data, no external supply/EASA Form 1 issuance, and proper part marking. | 145.A.42(b)(iii) & AMC1 145.A.42(b)(iii) |
| **MNT-07** | Audit Performance of Maintenance & Error-Capturing Methods: general post-maintenance verification (clear of tools/extraneous parts), Critical Maintenance Tasks identification, and Independent Inspections / Re-inspections. | 145.A.48 / M.A.402 / CAO.A.060 |
| **MNT-08** | Audit Certificate of Release to Service (CRS) Issuance: verifying certifying staff sign-off, technical log entries, incomplete maintenance warnings, and temporary component fitting (30 FH limit). | 145.A.50 / M.A.801 / CAO.A.065 |

**Domain 6: Contracting, Subcontracting & Supply Chain Audits**

| Task Reference | Detailed External Audit Task | Applicable Regulation / AMC |
|---|---|---|
| **SUB-01** | Audit Subcontracted Maintenance Procedures (145.A.75(b) / 145.A.205 / CAMO.A.205 / CAO.A.095): pre-subcontract audits, subcontractor list in MOE/CAME/CAE, and verifying subcontractor works under the organisation's management system. | 145.A.75(b), 145.A.205 / CAMO.A.205 / CAO.A.095(a)(2),(b)(3) |
| **SUB-02** | Audit Contracted Maintenance Agreements: review of technical maintenance contracts (Appendix XI to AMC M.A.708(c) / Appendix IV to AMC1 CAMO.A.315(c)) between CAMO/Operator and Part-145/CAO maintenance organisations. | Appendix XI to AMC M.A.708(c) / App IV to AMC1 CAMO.A.315(c) |
| **SUB-03** | Verify Supplier Evaluation & Control Procedures: initial and recurrent quality assessment of parts suppliers, stockists, distributors, and brokers. | 145.A.42(b)(i) & GM3 145.A.42(b)(i) |
| **SUB-04** | Verify Competent Authority Access Clause: ensuring all contracts and subcontracts grant unrestricted access to competent authority inspectors. | 145.A.140 / CAMO.A.140 / CAO.A.110 |

**Domain 7: Audit Process, Product Sampling, Reporting & Accountable Manager Feedback**

| Task Reference | Detailed External Audit Task | Applicable Regulation / AMC |
|---|---|---|
| **AUD-01** | **Audit Plan Development**: Formulate an annual independent audit plan covering all branches, product lines, line stations, and subcontracted activities. | 145.A.200(a)(6) / CAMO.A.200(a)(6) / CAO.A.100 |
| **AUD-02** | **Product Audits**: Perform sample product audits (witnessing functional/operational tests, physical survey of aircraft/engine/component undergoing maintenance). | AMC2 145.A.200(a)(6) / AMC2 CAMO.A.200(a)(6) |
| **AUD-03** | **Unannounced Audits**: Conduct a percentage of unannounced audit visits, including off-hours/night shifts where applicable. | AMC2 145.A.200(a)(6) / AMC2 CAMO.A.200(a)(6) |
| **AUD-04** | **Remote Audits (ICT)**: If conducting remote audits, ensure compliance with GM1 145.A.200(a)(6) / GM1 CAMO.A.200(a)(6) (data security, video/audio quality, real-time access, auditee agreement). | GM1 145.A.200(a)(6) & 145.B.300 / GM1 CAMO.A.200(a)(6) |
| **AUD-05** | **Audit Reporting**: Raise formal audit reports detailing findings classified against regulatory requirements using standardized templates (EASA Form 6 / Form 13 / Form 613 format). | 145.A.200(a)(6) / CAMO.A.200(a)(6) / CAO.A.100 |
| **AUD-06** | **Root Cause & Action Plan Review**: Review the organisation's root cause analysis, contributing factors, and proposed corrective/preventive action plans. | 145.A.95 / CAMO.A.150 / CAO.A.115 |
| **AUD-07** | **Direct Feedback to Accountable Manager**: Provide direct audit reports and half-yearly summary reports to the Accountable Manager to ensure executive awareness and corrective action enforcement. | AMC4 145.A.200(a)(6) / AMC4 CAMO.A.200(a)(6) |

**External Audit Execution Workflow & Deliverables Summary**

1. Pre-Audit Preparation & Risk-Based Audit Schedule Development

(Review CAME/MOE/CAE, Previous Findings, Hazard Logs, Changes)

2. Execution of On-Site / Remote Audits & Product Sampling

(System Audits, Facility/Tooling Checks, Workcard Verification, Aircraft Sampling)|

3. Assessment of Dual-Role & Combined Responsibility Functions

(Independent verification of CMM/SM, Competence & Document Control Systems)

4. Audit Report Generation & Finding Categorisation (Level 1 / Level 2 / Obs.)

(Utilising EASA Form 6 / Form 13 / Form 613 Standards)

5. Root Cause & Corrective Action Plan Evaluation & Follow-Up

(Reviewing Causal Analysis, Preventive Mitigations, Closure Timelines)

6. Executive Feedback to the Accountable Manager & Safety Review Board

(Half-Yearly Summary Reports & Direct Escalation of Unresolved Safety Issues)

1. **Pre-Audit Planning**: The external auditor must establish a risk-based 12-month audit schedule covering 100% of applicable regulatory topics and functional areas.
2. **Execution & Sampling**: Audits must combine process audits with physical product sampling (aircraft/component inspections) and unannounced visits.
3. **Focus on Dual Roles**: Special attention must be given to independently auditing the CMM, SM, competency management, and document control systems when those roles are combined or held by the CMM, ensuring no self-auditing occurs.
4. **Formal Reporting & Root Cause Verification**: Audit reports must record findings clearly, evaluate root causes and contributing factors, and verify the timely implementation of corrective actions.
5. **Direct Escalation**: The external auditor must report findings and half-yearly compliance summaries directly to the **Accountable Manager** to ensure appropriate executive oversight and resource allocation.