EMAR M Implementation Guide for National Military Airworthiness Authorities

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DOCUMENT STATUS

The status of the document can take 3 values:

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EDITION

The Edition Number will take the following format: **Edition X.YY**:

The **value of X** will change after a **major** revision of the document.

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NOTE

The Forms referred to in this document can be found in the EMAR Forms document.

TABLE OF CONTENTS

1. Scope

This EMAR M Implementation guide presents some highlights on how a NMAA can implement the section B of EMAR M and therefore provides additional guidance on how to carry out EMAR M NMAA activities in order to develop the associated procedures for the national implementation of EMAR M.

The content of the present guide is limited to general principles that highlight the following key functions performed by a NMAA:

- EMAR M initial approval and continuing oversight activities;
- Airworthiness Review (AwR) activities;
- Aircraft Continuing Airworthiness Monitoring (ACAM) activities.

Overarching topics not specific to EMAR M activities (e.g. creation of a NMAA with associated privileges, responsibilities, obligations, appeal process, recognition activities,…) will be addressed at a higher and generic level. Therefore, these topics will not be further developed in the present guide.

2. General considerations

2.1. Prerequisites

2.1.1. Regulation

The EMAR M should be nationally adopted.

2.1.2. NMAA empowerment

The authority and delegation of the NMAA within the existing national structure should be addressed.

In order to implement EMAR M a NMAA should be appropriately empowered to conduct the following activities:

- EMAR M approvals activities (e.g. issuance, continuing oversight, limitation, suspension, revocation of approvals);
- AwR activities (e.g. performing, issuance, management of Military Airworthiness Review Certificate (MARC));
- ACAM activities.

2.1.3. NMAA procedures

The NMAA should have clearly articulated procedures for:

- The issue of initial approvals;
- The continuing oversight of approvals;
- Performing AwR;
- Performing ACAM;
- Training its personnel;
- Verification and approval of Aircraft Maintenance Programme (AMP).

It is considered good practice to include organisational charts at both the higher level and the detailed organisational level.

It is also important that all the NMAA personnel have clear terms of reference which identifies their accountabilities and responsibilities for their post.

It is considered good practice that a NMAA has a quality system (or equivalent management system) to ensure compliance with EMAR M Section B requirements and NMAA's internal procedures.

2.1.4. Resources

The NMAA personnel should be appropriate to carry out the required assessments to perform all the EMAR M approval/oversight, AwR, ACAM and AMP approval activities. The number of NMAA personnel should be proportional, in particular, to the number of Continuing Airworthiness Management Organisations (CAMOs) to be EMAR M approved and the number of aircraft concerned.

NMAA personnel should be competent by being appropriately qualified and having all the necessary knowledge, experience and training to perform their allocated tasks. Considerations should be given to prevent loss of competence due to the NMAA personnel turn over.

Depending on their function, NMAA personnel should have received initial and continuation training on the EMAR M requirements, on the auditing techniques and specialized training when applicable (e.g. AwR, ACAM, AMP, etc.). This should also include a general understanding of the other EMAR requirements and relevant NMAA procedures.

2.2. Basic assumptions

It is assumed that the implementation of EMAR M is integrated in a holistic EMAR framework environment.

When a NMAA chooses to implement EMAR M it should also be the case for the other EMARs because they are all interlinked:

- EMAR 21: as the approved data used by an EMAR M CAMO to manage the fleet originate from the Initial/Continued Airworthiness activities (e.g. Type certificate, Military Certificate of Airworthiness (MCoA));
- EMAR 145: as the maintenance of the aircraft (including engines & components) managed by the EMAR M CAMO must be performed in EMAR 145 MOs;
- EMAR 147 & EMAR 66: as EMAR 145 Certifying & Support Staff involved in aircraft maintenance certification have to be EMAR 66 licence holders trained in EMAR 147 MTO and as EMAR M Airworthiness Review Staff performing Airworthiness review of aircraft may hold an EMAR 66 licence.

Therefore, to get benefits from this holistic EMAR framework environment and to ensure a global consistency, a NMAA should:

- Request the application of EMAR approvals to all concerned organisations that provide Initial/Continued and/or Continuing Airworthiness services related to the CAMO's scope of work, regardless whether these organisations are military or civil;
- Avoid, as far as practicable, mixing different Airworthiness Regulatory systems on a same fleet (e.g. PART, EMAR, legacy regulations).

2.3. Implementation strategy considerations

The NMAA should plan the EMAR M implementation based on the:

- Scope of the CAMOs to be EMAR M approved (e.g. number of fleets, Subpart "I" privilege for performing AwR, military and civil CAMOs, national and/or foreign);
- Constraints for EMAR M implementation (e.g. time line, resources,…);
- Training needs;
- Prioritization of the CAMOs to be EMAR M approved;
- Constraints for EMAR 145 implementation (e.g. in accordance with the time line for the EMAR 145 approvals to be delivered, resources).

2.3.1. Transition considerations

NMAAs should determine a transition period to migrate from their national current fleet management system towards the EMAR M environment. During this period transitional measures should be determined to ease this change:

- Transition period should be dependent on:
    - number and scope of CAMOs to be approved (closely linked to the variety of fleets managed);
    - number of available resources (possible utilization of contracted resources to increase rate of assessment);
    - desired time for completion.
- Action to be taken if EMAR M implementation exceeds desired deadline;
- Action to be taken if EMAR 145 implementation exceeds desired EMAR M implementation deadline;
- Approach to concurrent management of approved and non-approved organisations;
- Prioritization within EMAR approvals to be delivered (e.g. M vs 145 vs 147) and EMAR 66 licences to be issued.

2.3.2. Aircraft in Operations / Deployed

The aircraft continuing airworthiness management to be performed during operations/deployments should be taken into consideration as part of the EMAR M implementation (e.g. AwR to be performed before the aircraft deployment, location considerations (management on/off government property, across foreign sites).

2.3.3. Industry specificities with regards EMAR M approvals

NMAAs should take into consideration the civil specificities when implementing the EMAR M, for example:

- Re-use of PART M approval to issue EMAR M approval:
    - EMAR M CAME with references to the PART M CAME (the PART M CAME approved by the CAA does not guaranty that the NMAA will accept the civil procedures for the EMAR M CAME);
    - Acceptance of Form 4 holders (reduced extent of the interviews).
- Location (e.g. on/off government property, across foreign sites).

For cases where CAMOs have both PART & EMAR M approvals, NMAAs can establish relations/exchanges with the CAAs to share information/resources for their mutual benefit (e.g. audit reports, joint audits).

Usually EMAR M approvals of civil organisations are required through contracts by national procurement agencies. Possible conflicts between contractual requirements and EMAR M requirements could be faced. In such cases, the NMAA should only be responsible for the EMAR M requirements and not for the contractual ones and the EMAR M requirements shall be satisfied despite of any other contractual agreement.

In addition, the NMAA could advise any procurement agency responsible for EMAR M related contracts.

2.4. Alternative acceptable means of compliance

In addition to the existing EMAR M AMC & GM, a NMAA may consider to define other criteria for specific topics (e.g. AwR, AMP, ACAM, etc.).

2.4.1. Re-use of external artefacts

A NMAA could decide to re-use artefacts (e.g. M approvals, MARC, etc.) issued by other authorities/organisations (e.g. NMAAs, CAAs, etc.).

The re-use of these artefacts presumes that appropriate recognition and/or arrangements have been established.

In the case of re-use of an EMAR M approval issued by another NMAA, particular attention should be given to the possible differences and peculiarities between national EMAR M approvals (e.g. type/model of aircraft, approved maintenance data, etc.).

The present guide does not address these recognitions and/or arrangements given that these activities are subject to specific documents (e.g. EMAD R and MARQ for NMAAs).

In order to ease the re-use of artefacts, it is considered as good practice that an English and/or bilingual version of the CAME can be provided since some NMAAs will have this as a national requirement for foreign CAMOs and this may facilitate mutual interactions.

2.5. Contracting of NMAA activities

A NMAA may consider contracting part of its activities to a competent entity (e.g. audits, AwR, ACAM, AMP, training, personnel, etc.). In any case, the NMAA remains responsible for the outputs of the contracted activities (e.g. recommendation issued to NMAA). Such contracted activities should be documented by the NMAA.

3. EMAR M approval and audits

3.1. General

The scope of this chapter is to enable an NMAA to process EMAR M approval applications and allocate internal / external resources as necessary in order to carry out the CAMO audit and issuance of an EMAR M approval following a satisfactory recommendation.

This chapter describes how a NMAA could handle the approval of EMAR M CAMOs.

The approval shall be delivered in accordance with the requirements of EMAR M Section A and Section B.

Rights and obligations from applicable national regulations and arrangements (e.g. Bilateral/ Multilateral arrangements for Mutual Recognition) should be taken into account.

3.2. Initial approval

3.2.1. Application

A new application for an EMAR M approval shall be made in accordance with Section A of EMAR M by using the EMAR Form 2. This application Form shall be sent directly to the NMAA.

The NMAA should acknowledge receipt of the application. The NMAA should check the application and its eligibility. When incorrect or incomplete information is supplied, the NMAA should notify the CAMO as soon as possible detailing the omissions and errors. In case of refusal of an application, the NMAA should notify this decision in writing to the CAMO together with the reasons thereto.

An initial application package should include:

- The EMAR Form 2;
- The EMAR Forms 4;
- The CAME (including related procedures/documents);
- The AMP;
- The Aircraft Technical Log (if IT based, access should be provided);

- The technical specification(s) of the maintenance contracts/taskings with the EMAR 145 AMO(s), where appropriate;
- Any additional document requested by the NMAA.

3.2.2. Audit team

The NMAA should nominate an audit team made up of a lead auditor/auditor to carry out the audit process.

The CAMO should be informed in writing about the allocated audit team by the NMAA. This writing should also specify the contact details of the NMAA (e.g. PoC).

The composition of the audit team (e.g. number, experience, skills) should be appropriate and based on the following criteria:

- Complexity of the CAMO (e.g. scope of approval, contracting of activities, etc.);
- Number and location of sites to be audited;
- Size of the CAMO;
- Any additional reason deemed necessary by the NMAA and justified by a specific situation.

It is considered as good practice to have a minimum of two auditors in the team and a number of audit trainees lower than the number of auditors.

3.2.3. Audit process

a. On desk Review

EMAR Form 2:

The audit team should ensure that the application package is consistent with the EMAR Form 2 (e.g. scope of work, locations, contract,…).

CAME:

The audit team reviews the CAME (including procedure(s) as applicable) to ensure full compliance with the applicable requirements and the relevant NMAA instructions. For this review, the audit team should refer to the expected content of the CAME, detailed in Appendix V to AMC M.A.704.

AMP:

The audit team reviews the AMP to ensure full compliance with the applicable requirements and the relevant NMAA instructions. For this review, the audit team should refer to the expected content of the AMP, detailed in Appendix I to AMC M.A.302 and AMC M.B.301(b).

Aircraft Technical Log:

The audit team reviews the Aircraft Technical Log to ensure full compliance with the applicable requirements and the relevant NMAA instructions. For this review, the audit team should refer to the expected content of the Aircraft Technical Log, detailed in EMAR M.A.306. There is no mandatory template for the Aircraft Technical Log.

EMAR Form 4:

The audit team verifies the compliance of each management personnel (EMAR Form 4 holders) with the applicable requirements by using the relevant instructions as reference material.

b. Internal audit report from the CAMO's quality system

It is strongly recommended that the internal quality system of the applicant CAMO conduct preliminary audits to ensure the CAMO compliance with the applicable EMAR M requirements.

Any finding raised during such internal audits should have been closed with appropriate corrective actions before applying to the NMAA for an EMAR M approval.

c. Audit preparation

After receipt of the application package and the internal quality system audit report (if requested by the NMAA) and if they are deemed acceptable, the lead auditor may initiate the on-site audit in accordance with Section B of EMAR M, associated Acceptable Means of Compliance (AMC) & Guidance Material (GM) and relevant NMAA procedures.
The NMAA should request that the CAMO provide any necessary administrative support for the audit.

The lead auditor should:

- Liaise with the CAMO for scheduling the audit;
- Prepare and notify the CAMO of the audit programme.

Note:

The NMAA shall be informed by the CAMO of any modification to the initial application (revised EMAR Form 2), before the audit takes place.

d. On-site audit

The on-site audit should start with an opening meeting with the CAMO's management and when possible with the Accountable Manager. The following points should be considered when carrying out this meeting:

- Introduction of the audit team;
- Clarification/confirmation of practical details (e.g. confidentiality, local rules, availability of resources requested by the audit team);
- Confirmation of the audit schedule including objectives and scope of the audit;
- Confirmation of the required interviews/availability of the personnel involved in the EMAR M process;
- Explanation of the audit methodology (e.g. classification and reporting of findings, sampling within all applicable EMAR M requirements);
- Confirmation of the applicable EMAR requirements (e.g. Subpart "I" privilege, development & control of the AMP, etc.);
- Any interaction with the quality system of the CAMO (e.g. daily debriefing, follow up of the audit by quality personnel, etc.);
- Information about conditions under which the audit may be terminated;

The Accountable Manager and all EMAR Form 4 holders should be met and interviewed by the audit team during the audit. As an example, the question set used by the FR MAA (DSAÉ) for Accountable Manager and Form 4 holders can be found in Annex 1.

The audit team should review the audit findings and evidences collected against the current/intended scope of work, agree on findings levels and corrective action time scales and prepare the audit conclusions for presentation to the CAMO. When a level 1 finding is suspected, it is strongly recommended that the lead auditor consults with the NMAA management level before informing the CAMO.

It is considered good practice to debrief the quality manager of the findings and conclusions of the audit in order to ensure there are no misunderstandings and that they are accepted by the quality manager of the CAMO before the closing meeting. It gives the quality manager the opportunity to discuss any non-compliance and timeframes.

A closing meeting chaired by the lead auditor should be held to present a summary of the audit findings and the conclusions to the CAMO's management, and when possible with the Accountable Manager, in order to ensure that they are understood and accepted.

The audit report (e.g. EMAR Form 13) should be sent by the NMAA to the CAMO. As an example, the EMAR M Audit report used by the FR MAA (DSAÉ) can be found in Annex 2.

Should the initial audit lead to significant and/or numerous findings, this would show insufficient understanding/compliance by the CAMO and a lack of effectiveness of the quality system. In that case the NMAA may take the decision and inform the CAMO accordingly:

- Should the CAMO wish to re-apply for an EMAR M approval a new application has to be submitted to the NMAA;
- To limit the requested scope of work;
- Not to accept the proposed EMAR Form 4 holders.

Findings made during the audit process should be managed by the audit team in accordance with Section B of EMAR M and associated AMC & GM.

Failure to close the audit findings during the agreed period without adequate justification could lead the NMAA to terminate the application.

Depending on the extent and nature of the findings and the delay of corrective actions implementation, an additional audit might be necessary.

Note:

Should the audit lead to NIL finding, an audit report is still to be sent to the CAMO.

e. Recommendation

Once the CAMO's compliance with EMAR M has been established and all findings are addressed as required by the NMAA, the lead auditor should make a recommendation to the NMAA to issue the EMAR M approval to the CAMO, which should include:

- The precise scope of work (e.g. Type/model of aircraft, authorized privileges (e.g. Airworthiness Review, AMP) in accordance with EMAR Form 14);
- The reference of the CAME (also covering the Aircraft Technical Log) to be approved;
- The EMAR Form 4 management personnel to be approved.

Note:

For the identification of the aircraft Type/model to be endorsed on the EMAR M approval certificate, the lead auditor shall refer to the Type/model mentioned in the Military Type Certificate and/or Military (Supplemental) Type Certificate, including engines.

There should be a global consistency of the scope of work between the Form 2 received, the CAME, the lead auditor recommendation and the approval certificate to be issued. In case that part of the requested scope of work is not approved, it should be clearly justified in the lead auditor recommendation (e.g.; level 1 finding?,…).

f. Issuance of approval

The recommendation received from the lead auditor is reviewed by the NMAA for compliance and accuracy. Once satisfied the NMAA should prepare the following documents for signature by an authorized NMAA person, as applicable:

- The EMAR M approval certificate EMAR Form 14;
- The approval letter of the CAME (also covering the Aircraft Technical Log);
- The acceptance of EMAR Forms 4.

3.2.4. Time frame

A typical time frame to process an EMAR M approval is about 8 months from the reception of the complete application package. However, the amount of time taken is largely dependent on the ability of the CAMO to produce the documentation required and to rectify any finding that may be identified during the approval process.

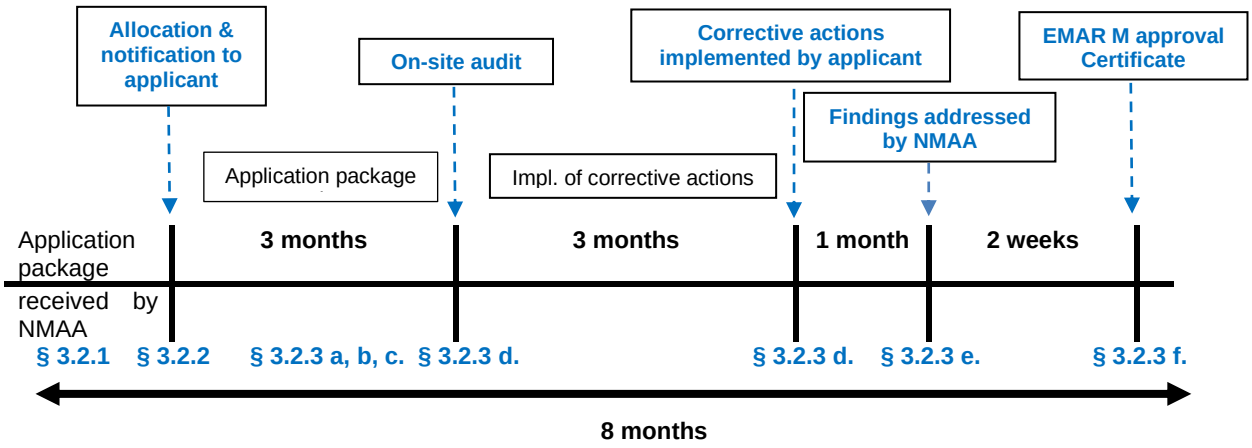


Figure 1. Typical time frame to process an EMAR M approval

Timeline is for reference purpose only (not at scale).

3.2.5. Initial approval flow chart

The flow chart for an initial EMAR M approval is identical to the flow chart for an initial EMAR 145 approval described in the EMAR 145 implementation guide for NMAA.

3.3. Continuing Oversight

3.3.1. Continuing oversight principles

a. Frequency of visits and number of auditors

As per EMAR M.A.715 the approval shall be issued for an unlimited duration. The approval is to be continued every 24 months and each EMAR M CAMO shall be audited as a minimum as once in this period. Nevertheless, it is considered as a good practice that the EMAR M CAMO is audited by the NMAA once a year. In all the cases, all the EMAR M requirements applicable to the scope of work shall be audited by the NMAA on the 24 months period.

However, the number of intermediate audits as well as the number of auditors may be adapted by the NMAA depending on the following criteria:

- Complexity of the CAMO (e.g. scope of work, contracting of management tasks);
- Number and location of sites to be audited;
- Size of the CAMO;
- Previous EMAR M audits results;
- Any additional reason deemed necessary by the NMAA and justified by a specific situation.

The oversight period to be considered starts from the date of issuance of the approval certificate or from its last continuation date. When a CAMO manages several fleets approved at different dates (extensions of approval) it is advised that NMAAs align the oversight cycles of these fleets (e.g. by shortening some oversight cycles,…). Possible changes of the approval certificate do not modify the continuation date of an approval.

It should be noted that an audit for change of the EMAR M CAMO does not replace an intermediate audit but both may be combined.

Moreover, the NMAA may require additional audit(s) for the following reasons (other inputs):

- EMAR M CAMO has shown weaknesses when formerly dealing with serious and / or numerous findings;
- EMAR M CAMO has shown difficulties to close former findings within the expected time frame;
- EMAR M CAMO is facing frequent changes of its management personnel which could jeopardize the EMAR M CAMO stability;
- The NMAA is informed about events that may affect the continuing airworthiness management of aircraft ;
- Any information coming from CAA audits for CAMOs having both PART M & EMAR M approvals;
- Any information coming from other open sources.

b. Allocation of the oversight audit team

It is preferable that the continuing oversight of an approval is performed by the all or most of the team assigned for the initial audit or for the previous oversight cycle.

It is considered as good practice that the NMAA provides the EMAR M CAMO with a PoC who will be in charge of the oversight management of the approval (e.g. management of findings, changes, audit plan).

3.3.2. Oversight audit

a. Audit process

The audit process for a continuing oversight is identical to the initial audit process described in the chapter 3.2.3 “audit process” of this guide.

The process to manage the level 1 and level 2 findings is described in the following paragraphs.

b. EMAR M audit product

The NMAA should establish a policy and processes to sample the output of the EMAR M CAMO including an audit product survey plan to validate the proper operation of the entire system, where appropriate. Audit product sampling is most effectively completed during routine oversight audits. As an example, an audit product typically consists of the assessment of the whole continuing airworthiness management procedures (e.g. assessment of ADs implementation process).

The NMAA should establish the competence of its auditors undertaking audit product samples to ensure that they are able to make judgements about the compliance of the continuing airworthiness management procedures.

c. Level 1 finding

In case of Level 1 finding, it is strongly recommended that the lead auditor consults with the NMAA management level before informing the EMAR M CAMO due to the direct impact on the approval. When the level 1 finding is confirmed, the NMAA should formally notify the EMAR M CAMO and the Operating Organisation with the finding(s) using the EMAR Form 13 together with the decision against the approval.

It is the responsibility of the EMAR M CAMO to take the appropriate and immediate corrective action as specified in the chapter 3.9 “Limitation, suspension and revocation of an approval” of this guide.

d. Level 2 finding

Level 2 findings are notified to the EMAR M CAMO by the NMAA.

The corrective action period granted by the NMAA depends on the nature and the gravity of the finding. In any case the initial due date should not exceed the date agreed with the NMAA.

The NMAA oversight PoC should monitor that the EMAR M CAMO provides:

- Within 1 month after the receipt of the finding notification or within the finding due date, whichever is the earlier date: an acknowledgement of the findings, a corrective action plan and confirmation that a root cause analysis has been started together with the associated proposed timescales;
- Corrective action evidence as per the agreed corrective action plan to allow the review by the NMAA oversight PoC within the finding due date. Findings made during the oversight cycle should be managed by the NMAA oversight PoC in accordance with Section B of EMAR M and associated AMC / GM.

Should the EMAR M CAMO need an extension of the initial due date agreed for a finding, such an extension shall be justified and requested in writing to the NMAA oversight PoC. Such a justification shall consist in a corrective action plan detailing the corrective action(s) with the associated time frame and any intermediate actions as necessary. The NMAA oversight PoC should notify his/her decision to the EMAR M CAMO. Such an extension is not automatically granted.

According to EMAR M.B.705 (b), when the EMAR M CAMO cannot meet the timescales specified for Level 2 findings and no request for an extension has been made, the NMAA can decide to suspend in whole or part the approval.

e. Corrective action

To be acceptable a proposed corrective action shall address at least the following issues for each finding:

- The results of the root cause(s) analysis;
- Corrective action based upon the identified root cause(s) which shall detail:
    - Immediate or short-term corrective action;
    - Long term corrective action preventing reoccurrence of such non-conformity.

The implementation of the whole corrective action shall not exceed the time frame agreed with the NMAA to close the finding. This implies that the NMAA oversight PoC has received the agreed corrective actions and the relevant evidence[1] with enough anticipation to review them as necessary and to formally close the related findings at the due date.

An on-site audit by the NMAA may be needed to ensure the effectiveness of corrective action(s) implemented prior to formal closure of the related finding(s). When the NMAA oversight PoC is satisfied with the corrective action(s) that have been implemented by the EMAR M CAMO, the NMAA oversight PoC notifies in writing the EMAR M CAMO that the finding(s) is(are) closed.

Note:

A voluntary reduction of the scope of approval cannot be systematically considered as an appropriate corrective action to a finding.

3.3.3. Recommendation for continuation

Every 24 months the NMAA oversight PoC should summarize the oversight performed and if satisfied, should recommend the NMAA to continue the approval. For that purpose, he/she

[1] Promises, drafts, statements, wishes, hopes, plans, etc. cannot be accepted as evidence

should prepare a recommendation (e.g. EMAR Form 13) and an oversight plan for the new cycle. The oversight plan may be sent by the NMAA oversight PoC to the EMAR M CAMO upon request. At the time of the continuation recommendation, recent level 2 findings having not yet reached their deadline may be still open. In this case the EMAR M CAMO must provide the NMAA oversight PoC with an acceptable corrective action plan for those findings that are still open. The formal corrective action plan submitted by the EMAR M CAMO must be formally accepted by the NMAA oversight PoC. Findings made during the oversight cycle should be managed by the NMAA oversight PoC in accordance with Section B of EMAR M and associated AMC & GM.

3.3.4. Continuation of approval

At the end of each oversight cycle, the approval needs to be continued according to EMAR M.B.704 provision. The continuation of an approval is a process not requiring any application from the approval holder and it is entirely managed by the NMAA with the support of NMAA oversight PoC. Therefore, considering that the approval is valid for an unlimited duration under the provision of EMAR M.A.715, the NMAA is not supposed to issue any formal continuation communication to the EMAR M CAMO.

3.3.5. Continuing oversight flow chart

The flow chart for the continuing oversight of an approved EMAR M CAMO is identical to the flow chart for the continuing oversight of an approved EMAR 145 MO, described in the EMAR 145 implementation guide for NMAA.

3.4. Audit plan by NMAA

The NMAA should establish an audit plan in order to match the workload with its available resources and the readiness of the CAMOs.
When rolling out the audit plan over a large number of CAMOs/EMAR M CAMOs this plan should be spread over time. This rollout plan shall be agreed between the NMAA and the CAMOs/EMAR M CAMOs with sufficient notice (e.g. 6 months). Therefore, a good communication should be established between the CAMOs and the NMAA.

3.5. Management of changes

3.5.1. Application

This chapter applies only once the approval is granted. All changes as detailed in the EMAR M.A.713 require an EMAR Form 2. An application for change of an EMAR M CAMO shall be made in accordance with Section A of EMAR M by using the EMAR Form 2 and its associated filling instruction. This application Form shall be sent to the NMAA.
In order to keep the administrative workload at a reasonable level and to minimize the possible associated costs, the EMAR M CAMO is recommended to combine change requests as much as possible instead of submitting several requests in the same short period of time (e.g. several applications within one month).

3.5.2. Audit team

The allocation of the audit team for a change of approval is identical to the initial audit process described in the chapter 3.2.2 “Audit team” of this guide.

3.5.3. Audit team composition

The audit team composition for a change of approval is identical to the initial audit process described in the chapter 3.2.3 “Audit team composition” of this guide.

3.5.4. Audit process

The audit process for a change of approval as listed in EMAR M.A.713 is identical to the initial audit process described in the chapter 3.2.3 “audit process” of this guide. However, the following peculiar points shall be considered:

- The internal quality audit shall cover at least all areas impacted by the requested change(s);
- Changes cannot be implemented prior to the NMAA formal approval.
- Should the audit for change lead to significant and/or numerous discrepancies, this would show insufficient understanding /compliance of the EMAR M CAMO and a lack of effectiveness of the quality system. In that case the NMAA should terminate the application for change and raise a finding against the quality system. In that case the requested change shouldn't be approved and moreover, such a lack of effective implementation of quality system could lead the NMAA to limit or suspend the current approval;
- All findings that have an impact on the requested change must be listed and addressed prior to the NMAA oversight PoC making the recommendation for the approval of the change to the NMAA. The other findings, not directly related to the change, should be managed as part of the on-going regular oversight cycle.
- Changes of management personnel may not necessarily require an on-site audit and can be managed in accordance with the EMAR Form 4 instructions.

3.5.5. Time frame

The time frame related to the approval of a change is highly variable depending on the nature of the change. The time frame provided in § 3.2.4 for the process of initial approval may be considered as the upper limit.

3.5.6. Management of changes flow chart

The flow chart for the management of changes of an approved EMAR M CAMO is identical to the flow chart for the management of changes of an approved EMAR 145 MO, described in the EMAR 145 implementation guide for NMAA.

3.6. Findings management

3.6.1. General

The finding level should be defined in accordance with EMAR M.A.716.

It may be necessary for the NMAA to ensure that further continuing airworthiness management tasks are performed on all impacted aircraft, dependent upon the nature of the finding.

Where the CAMO/EMAR M CAMO has not implemented the necessary corrective action within the period agreed by the NMAA it may be appropriate to accept a further period requested by the CAMO/EMAR M CAMO.

3.6.2. Drafting methodology

The way of drafting a finding is crucial as a finding shall be understandable by anybody (and not only by the redactor), clear, concise, factual (based on evidences, no sensation nor impression, etc.), explained and justified with regard to the EMAR M requirement and/or the CAME procedure impacted. Therefore, the NMAA auditors should be trained to draft findings.

It is considered as a good practice to use the following drafting methodology for findings:

Drafting of findings, the Key points & Key words:

- **Structured**: clear and comprehensible presentation;
- **Factual & documented**: a clear evidence, no subjectivity;
- **Reminder of the impacted requirement and/or CAME procedure**: an audit is a compliancy check regarding a reference frame;

- **Concise & understandable to anybody at first reading**: avoid using acronyms or make them explicit, avoid calling the audit team back for additional information.

Therefore, the drafting of any finding should be structured as follows:

- **Reminder of the impacted requirement** (and/or any CAME procedure);
- **Description of the non-compliance found (e.g. the CAMO … is not able to demonstrate compliance with…);**
- **Evidence: describe what was found…;**
- **Conclusion**: (e.g. … non-compliance with EMAR M.A.XX and/or CAME § Y.Y).

Note:

Reporting a finding means that there is an impacted requirement and a related evidence. In case of lack of one of these two elements (requirement and/or evidence), there is no finding to report.

3.7. Record keeping

The present guide does not provide further guidance for record keeping considering that the EMAR M.B.104 and associated AMC & GM are sufficiently clear.

3.8. Exemptions for an EMAR M CAMO

3.8.1. Introduction

There may be occasions when the EMAR M CAMO is unable to comply with the EMAR M requirements and/or CAME procedures. In such circumstances, a requirement/CAME procedure exemption may be applied for, to seek the granting of exemptions from extant requirements and/or CAME procedures. When granting an exemption, the NMAA must be satisfied that any consequences of non-compliance have been fully considered and assessed.
Exemptions from extant requirements and/or CAME procedures may be employed at the request of an EMAR M CAMO within the regulated environment and when agreed by the NMAA. Exemptions should be periodically reviewed by the NMAA.
Exemptions should be approved or rejected at the appropriate level within the NMAA. This signatory level should be dependent upon type, complexity or whether the request is novel and/or contentious.

3.8.2. Process

When the need for a requirement and/or CAME procedures exemption is identified, an application should be made to the NMAA. It is suggested that the application should include the following material as a minimum:

- The details of any previous exemption, if relevant;
- The requirement and/or CAME procedure that causes difficulty for compliance and a description of why the application for an exemption is sensible;
- A risk assessment and mitigation measures;
- Supporting comments and documents should be annotated as references;
- An overall statement about the request; this may not be required if it is a simple request, but if there are multiple issues it can help to clarify the detail.

The application should be approved by the Accountable Manager.

3.8.3. Initial Action

When the NMAA receives an application, it should be allocated a reference number and this number should be forwarded to the originator to confirm receipt. The NMAA should then establish if the exemption contains the required information to progress the application.

It is recommended that from the time of receipt of all the required information to releasing a response back to the originator should take no longer than 30 working days. If it is likely that the 30-day timescale should not be met, then the originator should be informed and regularly updated until the exemption is approved and issued or rejected.

3.8.4. Closure Action

The exemption should ultimately be approved/rejected. Once completed, the NMAA's response should be sent to the originator with details of the agreement and any conditions/requirements such as enhanced recording/monitoring activity.

3.8.5. Validity of exemptions

NMAA exemptions should be valid for the stipulated timescale. If a renewal is required, then this should be applied for at least 1 month before the exemption expiry date. Submission of an exemption request does not constitute compliance or guarantee that it will be approved. EMAR M CAMOs no longer requiring an exemption should submit a cancellation request to the NMAA.

Exemptions should remain valid unless the specified conditions/requirements change.

3.9. Limitation, suspension and revocation of an approval

3.9.1. Notification of NMAA decision

Based upon a recommendation to limit, suspend or revoke the approval of an EMAR M CAMO, the NMAA should make a decision in relation to the approval and formally notify the CAMO approval holder about:

- The NMAA decision to limit, suspend or revoke the EMAR M approval;
- The audit report (e.g. EMAR Form 13) showing the level 1 and level 2 finding(s).

3.9.2. CAMO action and response

The CAMO is expected to:

- Acknowledge receipt of the letter, confirming that the CAMO has put in place the restrictions required by the NMAA;
- Take immediate corrective action to the level 1 finding(s) based upon the results of the root cause analysis and informed the NMAA accordingly;
- Identify - if applicable - the EMAR M Continuing Airworthiness Management tasks performed, as well as the aircraft impacted, that are relevant to the significant non-compliance (e.g. Airworthiness Review on aircraft X, etc.);
- Ensure - when necessary - that all impacted aircraft are appropriately "corrected", dependent upon the nature of the finding;
- Inform - when necessary - the impacted Operating Organisation(s) and/or EMAR 145 MOs, the relevant organisations and any concerned Airworthiness Authority (e.g. NMAA, CAA, etc.) about the significant non-compliance and the results of the associated non-compliance investigation;
- Propose the NMAA with a corrective action plan (CAP) for the level 2 findings within the defined time frame. This CAP can include the long-term corrective action related to the level 1 finding(s).

Where the EMAR M CAMO fails to comply with any of the above-mentioned actions, the NMAA should reevaluate the impact on the EMAR M approval (e.g. revocation of the EMAR M approval).

In case of revocation of an approval, the CAMO shall immediately send the original approval certificate back to the NMAA.

4. EMAR M specific activities

4.1. Aircraft Maintenance Programme (AMP)

4.1.1. General

In addition to Appendix I to AMC M.A.302 and AMC M.B.301(b) that further detail the content of the AMP, the present chapter provides additional information about the purpose of the AMP, its structure and its approval by the NMAA.

4.1.2. Purpose of an AMP

The AMP is the essential element of the preventive maintenance baseline applicable to each aircraft (tail number). This document gathers all the essential data required to ensure the management of preventive and scheduled maintenance.

The AMP corresponds to a set of information that evolves among others in accordance with the applicable approved data published and is therefore periodically revised.

The AMP lists all scheduled maintenance operations to be carried out, including their frequency and the tasks relating to specific maintenance operations.

An AMP is established for each aircraft Type/model as defined by its Type Certificate/ Supplemental Type Certificate and associated Type Certificate Data Sheet. For the same Type/model of aircraft, the AMP may be tailored to take into account some tail number specificities (e.g. historical background of the aircraft, particular type of operations, etc.). The AMP is a stand-alone document used by the CAMO to order all preventive maintenance operations to be performed on the aircraft, including those products/components fitted to the aircraft and subject to life limit or periodic maintenance.

The AMP is based on:

- recommended maintenance programs defined by the Type Certificate Holder/ Supplemental Type Certificate Holder, and;
- documentation specifying maintenance limits/schedules for products / components fitted to the aircraft.

The AMP is not a document that defines the maintenance of uninstalled products/components.

The purpose of the AMP is to provide the CAMO with the necessary and sufficient information to plan the maintenance of the (complete) aircraft.

It allows the CAMO to order preventive maintenance to EMAR 145 MO, based on:

- flight hours: number of cycles and landings;
- the elapsed calendar time (especially for low-flying aircraft) and particular conditions of use (e.g. saline atmosphere, etc.);
- specific counters (accelerometer, etc.).

The AMP shall be a summary document of the:

- aircraft (M)TC/(M)STC holder’s basic documentation (maintenance manual and maintenance manual supplement);
- requirements of the (M)TC/(M)STC holders of the engines, propellers and components installed on the aircraft;
- specific preventive maintenance actions of a repetitive nature introduced by (M)TC/(M)STC holder’s technical directives or Airworthiness Directives [ADs];
- maintenance operations related to the operating mode of the aircraft and its particular conditions of use;

- lessons learnt from the experience gained by the CAMO in relation with the NMAA and/or the Type Certificate/Supplemental Type Certificate Holder.

Note:

The AMP may be implemented in an IT system.

4.1.3. Structure of an AMP

An AMP should be structured in a minimum of six sections, including a header that constitutes a section by its own (section 0):

- Section 0: Introduction
- Section 1: General instructions
- Section 2: Periodicity of maintenance visits
- Section 3: Maintenance methods - use and storage of components, equipment or assemblies
- Section 4: Special maintenance tasks
- Section 5: Maintenance check flights
- Section 6: Table of maintenance operations
- Section 7: Reliability programme (refer to §6 of Appendix I to AMC M.A.302 for further details)

An additional section (Section 8) may be added to describe specific Operating Organisation's instructions that do not fit into one of the afore described sections (e.g. special maintenance instructions that do not fit within the approved maintenance data or for the description of certain flights that do not fit within Section 5).

4.1.4. Management of AMP evolutions

As examples, the following changes in the AMP should be considered as "major" when related to:

- changes in the maintenance concepts applied;
- significant changes in the aircraft maintenance cycle and tasks (e.g. frequency and nature of visits, evolution of ICA based tasks,…);
- changes in regulations;
- replacements of the AMP source documents (this does not concern changes / updates to the initial documents).

Any other change in the AMP should be considered as "minor".

The AMP must include a summary of all successive changes to the AMP and the reasons for those changes.

All changes since last update must be clearly identifiable in the AMP (e.g. an additional sheet in a particular colour as part of an amendment, a particular colour, a vertical line, etc.). It is considered good practice in order to enable the maintenance task revision status to be identified, a code (N = New item, R = Revised item, D = Deleted item) or similar is printed in the left margin opposite each task affected by the revision.

The update of the AMP shall be carried out in accordance with the procedure described in the CAME.

4.1.5. AMP approval

a. Principles

After being established by the CAMO (or competent organisation), the AMP shall be approved by the NMAA.

Note:

In particular cases (e.g. CAMO contracted to civil company,…) the AMP may need first to be validated by the Operating Organisation, before it is submitted for approval to the NMAA.

The latest information available at the date of edition of the AMP shall be taken into account by the NMAA, when approving the AMP.

The NMAA approval of an AMP is based on a sample review of the AMP content but does not represent a complete verification of the accuracy of all the AMP data. The control of this accuracy is part of the definition process of the AMP by the CAMO (or competent organisation). Therefore, this sample review does not guarantee the CAMO that the AMP does not contain any non-compliance with the applicable regulations.

However, the AMP approval by the NMAA attests that during the AMP review, within the limits of NMAA's resources and taking into account the regulations in force, no non-conformities likely to compromise safety were found. After approval of the AMP, if NMAA finds a non-conformity in the context of continuing oversight, audits or airworthiness reviews, it may lead to recheck the data in the relevant AMP. If the NMAA detects non-compliances during this additional review, the approval of the AMP may be questioned and an action plan will be requested, if necessary, to correct the AMP.

The approval of an AMP can be achieved in two ways, directly or indirectly.

b. Direct approval

The direct approval concerns:

- the initial approval of an AMP;
- any major change to an approved AMP.

The direct approval is pronounced by the NMAA.

The NMAA assess the application and may issue comments to the CAMO (or competent organisation) in the form of :

- non-compliance: comment that hampers the approval of the AMP;
- observation: any remark which does not fall within the scope of non-compliance.

Together with the application for approval, all source data used for drafting the AMP or, ensure that this data is available and can be easily retrieved (in particular with regard to access to the website) and should be provided/made available to the NMAA.

A transfer matrix allowing the identification of any airworthiness limits that do not comply with those approved by the Type Certificate Holder (TCH) / Supplemental Type Certificate Holder (STCH) shall include the elements justifying the evolution of these data.

The AMP approval or refusal is pronounced by the NMAA at the end of this assessment.

When the NMAA approves the AMP, a letter is sent to the CAMO and the stamp of this letter serves as the approval reference of the document.

c. Indirect approval

In accordance with EMAR M.A 708 (b)2(ii), an indirect approval privilege may be granted to an EMAR M CAMO providing that a specific procedure is in place and described in the CAME. This procedure is approved by the NMAA through the approval of the CAME.

The indirect approval does not concern major changes to the AMP.

4.2. Airworthiness Review (AwR)

4.2.1. General

The scope of this chapter is to enable an NMAA (or a CAMO "G+I" approved to conduct AwR) to process AwR applications and allocate internal / external resources, as necessary, in order to carry out the AwR of the aircraft and issue/renew the Military Airworthiness Review Certificate (MARC) following a satisfactory recommendation.

This chapter describes how a NMAA could handle the performance of AwR.

The MARC shall be issued/renewed in accordance with the requirements of EMAR M Section A and Section B.

4.2.2. Key principles

An AwR is a process that comprises all the tasks and activities for determining the airworthiness status of an aircraft based on a documented review of its records and a physical survey.

During an AwR the Airworthiness Review Staff (ARS) shall assess the technical status/condition of an aircraft as regards its control baseline documents to ensure about the appropriate management of its Continuing Airworthiness by the CAMO and verify that it is still compliant to its Type Design.

Even if the outcome of the AwR is satisfactory, the AwR is not intended to release the aircraft for flight. The return to flight remains subject to the technical operating rules of the aircraft through appropriate servicing and maintenance operations.

4.2.3. Application

An application for an AwR shall be made by the CAMO in accordance with Section A of EMAR M and NMAA instructions (e.g. Aircraft Inspection Report template, AwR application template, etc.). This application shall be sent to the NMAA that should acknowledge receipt.

An application package should include the following documents:

- AwR application document (as an example, an AwR application template can be found in Annex 6);
- Aircraft Inspection Report (as an example, an Aircraft Inspection Report template can be found in Annex 7);
- copy of the Registration Certificate, MCoA, MARC if any changes have occurred since the last copy was provided;
- copy of the weighing report, if any changes since the last copy was provided;
- the status of the applicable and applied ADs (airframe, engines, propellers, equipment);
- the compliance status of the aircraft vs its AMP;
- the status of applicable and applied modifications and repairs;
- the status of the life limited components: limits and ageing;
- the status of any derogation, permit to fly, deferred maintenance, if any;
- any additional document requested by the NMAA.

The application package should be sent to the NMAA with sufficient margin before the AwR date (e.g. 1 month should be considered as the minimum).

Note:

The AwR can be anticipated up to maximum 90 days before the expiry date of the MARC, without loss of continuity of the airworthiness review pattern (EMAR M.A.710.d refers).

However, if the anticipation is higher than 90 days, the expiry date of the new MARC shall be set in accordance with the closure date of the satisfactory AwR.

4.2.4. AwR process

a. Application assessment

The NMAA should check the application and its eligibility. When incorrect or incomplete information is supplied, the NMAA should notify the CAMO as soon as possible detailing the lacks and issues. In case of refusal of an application, the NMAA should notify this decision in writing to the CAMO together with the reasons thereto.

Note 1:

For a new aircraft, the Aircraft Inspection Report may be replaced by a certificate of conformity EMAR Form 52 and possibly a CRS (EMAR Form 53) issued by an EMAR 21G approved organisation. The submission of these documents does not exempt to carry out an AwR at the earliest opportunity after reception of the aircraft, for the issuance of the initial MARC.

Note 2:

The ARS in charge of the AwR may find afterwards that certain elements of the application package are incomplete or non-compliant. In this case, an exchange may take place with the CAMO to provide additional elements. Failing this, the application may be deemed not eligible and the NMAA may cancel the AwR by official messaging.

b. Airworthiness review Staff (ARS)

The NMAA should nominate an ARS to carry out the AwR process.

The CAMO should be informed in writing about the ARS allocated by the NMAA together with the contact details of the NMAA (e.g. PoC).

The ARS (e.g. number, experience, skills) should be appropriate and based on the following criteria:

- Complexity/background of the aircraft (e.g. aircraft systems, aircraft purchased in USA, etc.);
- Configuration/Status of the aircraft (e.g. aircraft under base maintenance, aircraft under storage, etc.);
- Any additional reason deemed necessary by the NMAA and justified by a specific situation.

It is considered as good practice:

- to have a number of ARS appropriate to the complexity/background of the aircraft to be reviewed and a number of trainees not higher than the number of ARS;
- that the ARS has a baseline knowledge of the aircraft subject to the AwR (e.g. category C Type Training, etc.).

Further guidance for the training, assessment of the competence and qualification of ARS can be found in Annex 9.

c. Notification of AwR

If the application is deemed eligible, the ARS should:

- initiate the AwR file (e.g. in dedicated IT system, etc.) with the following information: date, identity of the ARS, identity of the CAMO representatives (responsible for responding to any ARS requests and in particular for presenting all relevant documents).
- send an AwR notification to inform the CAMO about the:
    - practical arrangements for the AwR;
    - ARS in charge of the AwR;

- CAMO PoC mandated to support the ARS.

The AwR may be scheduled several weeks later after the notification is sent.

The ARS should contact the CAMO PoC to further define the details of the AwR, like:

- establishment of communication channels with the CAMO representative;
- regulatory context of the AwR;
- provision of information regarding the conduct of the AwR;
- presence throughout the entire duration of the AwR of the CAMO representative to respond to any ARS requests and in particular to present all relevant evidence(s) and document(s), including aircraft records;
- access to the aircraft, under shelter, in a flight configuration, or as close as possible to a flight configuration deemed acceptable by the ARS. An aircraft presented without identified engine(s) or propeller(s) should not be considered to be close to a flight configuration.

- determination of the security rules applicable on site;
- taking into account the logistical arrangements (equipment means, office, etc.) for the AwR;
- gaining agreement on the presence of NMAA observers, if any;
- presence of EMAR 66 personnel qualified on the aircraft type to assist the ARS during the physical survey of the aircraft.

d. Preparation of AwR

i. Establishment/update of the Aircraft Approved Configuration (AAC)

The ARS ensures that the AAC to be used during the AwR is up to date and complete.

As an example, key principles for the establishment and management of AAC can be found in Annex 8.

ii. Assessment of the Aircraft Inspection Report provided by the CAMO

Before applying to an AwR, it is considered as a good practice that the CAMO performs a complete inspection of the aircraft and provides an Aircraft Inspection report to the NMAA.

The aircraft inspection report provided by the CAMO enables the ARS to have a first evaluation of the quality of the aircraft's continuing airworthiness management performed by the CAMO. A detailed analysis of the data contained in this report is therefore not required.

The content of this report enables an easier preparation of the aircraft's documented review as well as physical survey phases. The reading of the inspection report is not part of the AwR as such and it does not represent the mandatory control of the aircraft's records, which is to be carried out during the AwR.

If obvious lacks are found in the inspection report, they can be subject of inputs in the AwR Report. The AwR will endeavor to confirm the conformity of the aircraft despite any shortcomings in the report.

iii. Checking of aircraft findings

During an AwR the ARS should ensure that there are no open finding(s) left from the previous AwR Report. However, if there are any remaining findings, it should be up to the ARS to:

- Close the finding from the previous AwR Report by mentioning "Finding closed administratively and reported in the AwR Report n°XXXX-XXXX with the finding n°XX";
- Re-open the finding in the new AwR Report by mentioning "Finding carried over from AwR Report n°XXXX-XXXX under finding n°XX".

e. Performance of AwR

This phase represents the beginning of the AwR and the opening of the AwR Report.

The AwR consists in checking compliancy with the applicable mandatory data contained in the aircraft approved configuration. The compliance check with the applicable, non-mandatory data, may take place afterwards, if time allows.

Throughout the AwR, a staff mandated by the CAMO shall accompany the ARS to present the aircraft's compliance documents and respond to any ARS's requests.

The documented review of the aircraft records and the physical survey of the aircraft should be based on samples and should cover the following topics:

(1) **Technical log system/Aircraft logbook**:

- flight hours and flight cycles for airframe, engine(s), propeller(s) and APU(s), as appropriate, are verified and have been properly recorded; and
- aircraft, engine(s), propeller(s) and APU(s) maintenance entries are up to date and correct.

(2) **Aircraft Flight Manual (AFM)**:

the approved flight manual and supplements is applicable to the current aircraft configuration and is the latest revision.

(3) **Aircraft Maintenance Programme (AMP)**:

- applicable maintenance as required by the maintenance programme has been carried out or carried forward in a controlled manner; and
- the aircraft maintenance programme includes all mandatory continuing airworthiness requirements.

(4) **Status of service life-limited components**:

no service life-limited component is overdue.

(5) **Aircraft defect & rectification**:

- defects have been recorded or rectified in accordance with appropriate data and, when applicable, carried forward in a controlled manner; and
- no evident defect can be detected that has not been addressed according to EMAR 145.

(6) **Airworthiness Directives (ADs)**:

no ADs nor mandatory measures mandated by the NMAA in immediate reaction to a safety problem are overdue.

(7) **Modifications & repairs**:

modifications and repairs that have been embodied are recorded and in accordance with appropriate data as defined in EMAR M.A.304.

(8) **Mass and balance**:

the mass & balance report reflects the current aircraft configuration.

(9) **Type design**:

- the aircraft complies with the latest revision of its Type design approved by the NMAA;
- marking and placards are in accordance with the aircraft maintenance manual (AMM) / aircraft flight manual (AFM) / the related airworthiness codes and standards, including supplements linked to modifications (Supplemental Type Certificates); and
- no airworthiness limitation is overdue.

(10) **Aircraft certificates**:

aircraft certificates (Certificate of Registration, Military Certificate of Airworthiness, Military Airworthiness Review Certificate and Noise Certificate (if requested by the NMAA)) and manuals correspond to the aircraft configuration, are up to date and on the aircraft.

(11) **Operational requirements**:

check the Continuing Airworthiness status of the instruments, equipment or functions as fitted.

(12) **Symmetry report (if required):**

Check that the current symmetry report reflects the configuration of the aircraft and is valid.

In this regard, further examples of topics that could assist to create appropriate check list to perform an AwR can be found in Annex 5.

In addition to AMC M.A.710 (a)1, the following principles should be considered:

- review of the statuses mentioned in EMAR M.A.305 for a 100 % completeness;
- 100% of the mandatory items should be reviewed (e.g. ADs, life limited-components, modifications and repairs, etc.). Nevertheless, this percentage may be adapted to the context of the AwR (e.g. if the ARS performed the last AwR on the same aircraft the ARS will already have a knowledge of the aircraft and will focus on latest changes, if a major overhaul was performed recently the ARS may focus on life-limited components changed during the overhaul, the duration allowed for the performance of the AwR will also have an impact on the sample size, etc.);
- at least the opened deferred defects since last AwR (e.g. verification of deadline if any, etc.);
- review a relevant selection of items to ensure compliance with the AMP.

This initial samples' size should be increased depending on the number of non-conformities detected.

The investigation of each item should confirm the status of such item. For example, in case of ADs, modifications or life-limited components, the investigation should cover the complete process, including the maintenance date and the embodiment/installation in the aircraft.

It is recommended to carry out the physical survey of the aircraft just after the documented review phase. In any case, the time between physical survey and documented review should not exceed 60 calendar days.

The aircraft must be accessible to the ARS at the time of the physical survey and it should be representative (complete), and close to a flightworthy configuration, which may include deferred work.

In order to avoid disturbance of the operational activity, aircraft's physical checks should be carried out as far as possible during a flight stoppage (e.g. line maintenance, change of configuration or other slots, non-scheduled flight slots, etc.). The aircraft, under shelter, should be presented by a person mandated by the CAMO and EMAR 66 personnel qualified on the aircraft type, if necessary.

The physical survey is not to be performed remotely, meaning that the ARS needs to be physically present.

In most cases, the physical survey should be limited to a visual check of the aircraft systems (e.g. leaks, deformation, damage, etc.) and for checking the identification plates, without carrying out any functional tests. However, it may require actions categorised as maintenance (e.g. operational tests, tests of emergency equipment, visual inspections requiring panel opening, etc.). In this case, after the physical survey, an appropriate release to service shall be issued.

Note 1:

Specific aircraft equipment may be removed for safety reasons in accordance with the regulations in force at the place where the aircraft is parked (e.g. oxygen converter, armament, etc.). They will not be subject to checks within the AwR framework if they are not present on the aircraft. However, this missing equipment as regards the Type definition of the aircraft should be listed in the AwR Report as "comment(s)", with the mention: "Non-controlled equipment: ...".

Note 2:

If the condition of the aircraft or its configuration is incompatible with an airworthiness certification “ready for flight”, the ARS may refuse to carry out the physical survey. The aircraft is declared "not presented in the required conditions" and the AwR is then declared "unsatisfactory".

f. Aircraft findings management

All level 1 or 2 findings identified during the AwR shall be registered in the AwR Report. If a finding is corrected during the AwR, the mention "closed during the AwR" should be recorded in the "comments" box of the relevant finding, in the AwR Report.

For a level 1 finding (L1) "closed during the AwR", the ARS shall register the corrective action taken by the CAMO to close the finding during the review. Otherwise, no date of correction is mentioned in the AwR Report and for other findings, the mention "not followed up" is registered.

For a level 2 finding (L2), the ARS shall register in the "deadline" column of the AwR Report, the date agreed with the CAMO for correcting the finding.

The outcome of an AwR should be considered:

- “Satisfactory” if no L1 finding remains open, at the closing of the AwR Report. The NMAA may decide that not all L2 findings have to be cleared to issue/renew a MARC. For findings that are not cleared, the NMAA could accept a Corrective Action Plan that clearly defines when and how the findings will be resolved;
- “Unsatisfactory” as soon as a L1 finding is still open at the closing of the AwR Report. Refer to EMAR M.B.903 (a)1 for further actions to be taken by the NMAA in case of L1 finding not closed at the conclusion of an AwR (e.g. revocation or suspension of the MARC).

After an unsatisfactory AwR, L2 finding(s) identified during the AwR and registered in the report will not be subject to a follow-up/acceptance of the corrective action plan and closure of the finding(s) by the NMAA and no deadline(s) will be mentioned by the ARS, in the AwR Report.

Following an unsatisfactory AwR, and after the aircraft has been brought back into conformity (closure of L1 finding(s)), the CAMO should send to the NMAA a new AwR application, under the same conditions.

Note 1:

In case of numerous L2 findings noticed during an AwR and/or in case of CAMO failure to correct the L2 findings within the agreed deadlines, the NMAA may consider to take further measures (e.g. suspension of the MARC, etc.).

In any case:

- the corrective action plan and remedial measures applied on the aircraft to solve L1 and/or L2 finding(s) must be checked by the ARS at the next AwR;
- L2 finding(s) that could not be closed before the next AwR shall be reported in the new AwR Report and the deadline(s) for resolution will be specified in the new AwR Report, if the AwR outcome is satisfactory.

The ARS may contact the NMAA executive level to obtain an opinion or assess/confirm the level of a finding.

When the ARS detects a finding considered as a Level 1, it is considered as good practice to report immediately to the NMAA Executive level for seeking its opinion and agreement/confirmation about the finding level. This oral report should be systematic, even for a recurring finding (finding already notified on other aircraft of the same type/model) or a finding closed immediately during the AwR. If there is still disagreement on the finding classification at the end of the consultation, the NMAA should foresee a particular procedure for the final decision.

This step should take place during the AwR, before signature of the AwR Report by the ARS and the CAMO representative.

Whatever the AwR outcome is satisfactory or not, all findings should be presented and commented by the ARS to the CAMO representative.

Any finding during an aircraft survey should require investigation by the CAMO to determine the root cause and allow systemic corrective action to prevent recurrence.

Note 2:

Aircraft findings noticed during an AwR may have an impact on concerned EMAR M and EMAR 145 approved organisations (e.g. may provide clues to perform oversight audits, etc.).

g. AwR Report

The AwR Report shall be signed by the ARS and the CAMO representative. The AwR end date corresponds to the date of signature of the AwR Report by the ARS. Therefore, this date will be taken as a reference for the date of issue of the new/renewed MARC.

The ARS signature may take place after the presentation of the conclusions of the AwR, within a very limited timeframe (1 to 5 working days) to give further opportunity to the CAMO, upon request, to take additional corrective actions to close remaining findings. The acceptance of this brief AwR closure postponement may be granted by the ARS after consultation with the NMAA Executive level.

The signatures of the AwR Report by the ARS and the CAMO should take place at the same time. However, a delay of 1 to 2 working days could be tolerated for logistic/IT reasons. If no dispute persists, the AwR Report is then signed by the CAMO representative who should return it to the ARS (e.g. scan via email, etc.).

The signature of the AwR Report by the CAMO certifies its acceptance of the corrective action plan deadlines for the findings. The CAMO may challenge or comment some findings of the AwR Report in the "comments" box in paragraph 8. In this case, the NMAA (e.g. Executive level, etc.) should respond to the CAMO comments in order to confirm (or invalidate) the concerned elements of the AwR Report.

The AwR Report is then distributed by a NMAA communication to the addressees identified in the CAME of the CAMO responsible for the aircraft. This report shall clearly mention the outcome of the AwR and the ARS recommendation for the issue/renewal (or not) of the MARC.

The original "paper" copy of the AwR report signed by the ARS & CAMO shall be kept by the NMAA for records.

Note:

After the closure of the last finding by the NMAA, the AwR Report should be considered as closed.

As an example, an AwR Report template can be found in Annex 4.

h. Issuance of MARC

Based on an ARS recommendation after a satisfactory AwR, the NMAA shall issue the MARC (EMAR Form 15a) or renew it.

The MARC shall not be issued until all findings have been accepted by the NMAA, on the basis of a corrective action plan provided by the CAMO.

Note:

When the AwR is carried out by an approved CAMO "G+I", the EMAR Form 15b shall be used for the MARC.

4.2.5. Time frame

A typical time frame to issue/renew a MARC is about 3 months from the reception of the complete application package. However, the amount of time taken is largely dependent on the ability of the CAMO to produce the documentation required and to rectify any finding that may be identified during the AwR process.

4.2.6. AwR flowchart

As an example, an AwR process flow chart can be found in Annex 3.

4.2.7. AwR plan by NMAA

The NMAA should establish an AwR plan to match the workload with its available resources and the readiness of the aircraft.

When rolling out the AwR plan over a large number of aircraft this plan should be staggered. This rollout plan shall be agreed between the NMAA and the CAMOs responsible for the aircraft with sufficient notice (e.g. 3 months). Therefore, a good communication should be established between the CAMOs and the NMAA.

NMAA's may consider a risk-based approach to the preliminary planning of AwR (implementation policy). Indeed, it reflects a recognition that it takes time to complete AwR on extensive fleets of aircraft and where a progressive roll-out policy is likely to be the norm, the NMAA/CAMO should target higher risk aircraft to ensure that the benefits of the independent aircraft review are realised where most valuable. Even if a risk-based approach is likely to be the norm for NMAA's ACAM programmes, similar risk-based approach is also advisable for the initial completion of AwR within a pMS.

4.3. Aircraft Continuing Airworthiness Monitoring (ACAM)

The ACAM is a sample programme to verify the performance of the entire airworthiness system. The sample size should be appropriate to the aircraft type operation, risks and history. 10% should be considered as a guide starting point for the size of the sample.

A spread of age / utilisation / role should be taken to gain a clear picture of the entire fleet.

Typical ACAM input data are presented on the Figure below.

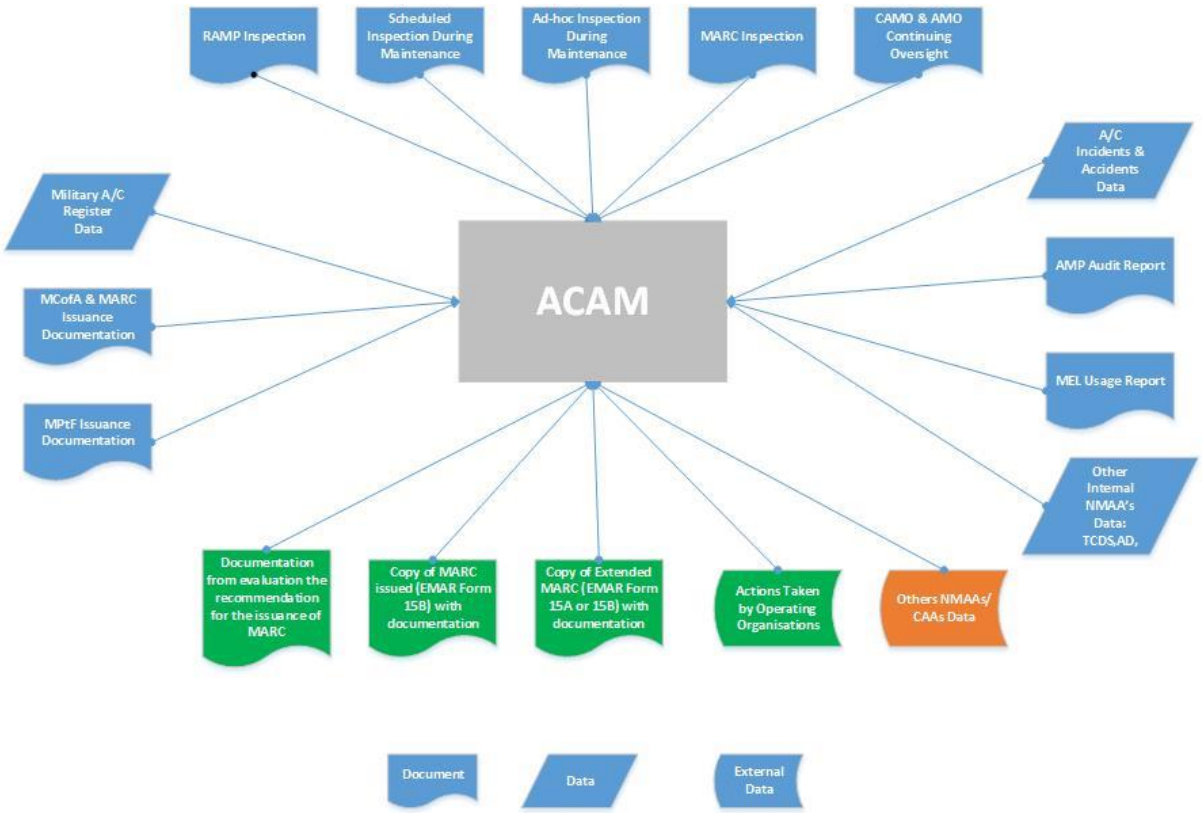


Figure 2. Typical ACAM input data

Typically an ACAM survey would not exceed a man-day to complete, including records and reporting.

4.4. Management of Airworthiness certificates (MCoA, MARC,…)

4.4.1. Issuance of certificates

In accordance with EMAR 21.B.326 the NMAA shall issue a MCoA for military aircraft. The issuance of a MARC is mandatory for the issuance of a Military Certificate of Airworthiness (MCoA) subject to the completion of a satisfactory AwR, in accordance with EMAR M.A.710 requirements. The AwR can be performed by:

- A CAMO "G+I" that will issue a MARC (EMAR Form 15b refers) in accordance with EMAR M.A.901 c), or;
- The NMAA that will issue a MARC (EMAR Form 15a refers) in accordance with EMAR M.B.902).

The periodic renewal of the MARC, every 3 years after the initial issue is essential for the continued validity of the MCoA of an aircraft managed by a CAMO. Nevertheless, the CAMO "G+I" may decide, for internal reasons, to renew it earlier.

4.4.2. Suspension / reinstatement of certificates

The MARC may be suspended or revoked when the NMAA has concerns about the airworthiness of the aircraft and/or the aircraft is demonstrated to be out of compliance with relevant airworthiness requirements.

In such cases, the aircraft should be grounded and may only be flown following restoration of the MARC validity or the issue of a Military Permit to Fly.

Typically, a NMAA should keep a master register of all military aircraft registered, along with their airworthiness certificate records including certificate expiry dates and the registered operating organisation's details.

4.4.3. Transfer of aircraft

A military aircraft may be transferred to another pMS/NMAA/Operating Organisation. In this case, it should be registered on the military register of the new NMAA responsible of its airworthiness. The aircraft continuing airworthiness records shall also be transferred in accordance with EMAR M.A.307. The NMAA should perform a new AwR to issue a new MCoA.

The NMAA should establish processes to make sure it is informed about envisaged transfer of aircraft. These processes should include the necessary activities to be carried out in such a case.

4.4.4. Stored aircraft

In particular cases, the CAMO, in coordination with the NMAA, may decide not to maintain the validity of the MARC/MCoA during long term storage and to perform an AwR only when the aircraft exits from storage and is ready enters back to airworthy conditions.

5. List of annexed/referenced documents

Many available documents (e.g. best practices, check-lists, etc.) originate from various sources (e.g. EASA, CAAs, NMAAs, etc.). Given the associated workload and, as a first step for the Edition 1.0 of the present Guide, it was considered that the most pragmatic way was to annex and/or reference them, as benchmarks/examples, in this chapter.
The following documents are examples:

- FR question set for Accountable Manager & Form 4 holders: refer to Annex 1;
- FR audit report for EMAR M: refer to Annex 2;
- Airworthiness Review (AwR) Flowchart: refer to Annex 3;
- Airworthiness Review Report Template: refer to Annex 4;
- Topics for Airworthiness Review check list: refer to Annex 5;
- Airworthiness Review application Template: refer to Annex 6;
- Aircraft Inspection Report Template: refer to Annex 7;
- Key principles for the establishment & management of Aircraft Approved Configuration (AAC): refer to Annex 8;
- ARS training, assessment and qualification principles: refer to Annex 9.

Annex 1 - FR question set for Accountable Manager & Form 4 holders

1. Interview of the Accountable Manager

A. Conduct the interview

The objective of the interview is to ensure that the Accountable Manager (AM) is aware of the commitments he/she made through the application for an EMAR M approval.

After reminding the mission entrusted to the NMAA (the safety of military/state owned aircraft), the NMAA lead auditor (usually accompanied by the NMAA Airworthiness Director (AD) or his Deputy) should discuss with the AM the commitments he/she endorses in accordance with the CAME.

B. Participants to the interview

The interview of the AM could take place as follow:

- Interview between the NMAA lead auditor/AD and the AM eventually accompanied by the EMAR Form 4 nominated managers (Continuing Airworthiness Manager, Quality Manager, etc.);
- This interview could provide the opportunity for the NMAA to debrief the audit that has been carried out and to have confirmation that the AM requests effective actions from its management team and has a message in line with his/her commitment.

C. Presentation

The NMAA should briefly present its role and organization, but it should not be forgotten that it is up to the AM to present and explain how he/she intends to comply with EMAR M requirements as regards to CAMO's mission. So, beware of the trap to focus the interview on the NMAA; the presentation of the NMAA should only be introductory, the rest of the interview must be focused on the CAMO.

D. Topics to be addressed

Without wanting to put the AM in trouble, it is up to him/her to demonstrate to the NMAA that he/she masters the commitments he/she has made and therefore that he/she has a global understanding of the main areas of the EMAR M requirements, in accordance with the scope of work of his/her CAMO, namely :

- Responsibilities of the AM;
- Responsibilities of the Continuing Airworthiness Manager, Quality Manager, nominated managers,… (EMAR Form 4 holders);
- Quality system (Quality manager, AM annual review & management review);
- Continuing Airworthiness Management Exposition (CAME);
- Management of the fleet(s);
- Airworthiness Review (AwR) for CAMO “G+I”;
- AMP;
- Airworthiness Review Staff (ARS) training, for CAMO “G+I”;
- Resources.

Indeed, EMAR M requires that the AM should demonstrate that he has a global overview of the EMAR M and that he has the power/levers to allow the CAMO to meet the EMAR M requirements. It is therefore the responsibility of the NMAA to discuss potential topics not covered by the AM in order to ensure that he is well informed of all the commitments incumbent upon him.

E. Questions to be asked

As mentioned above, this interview is not conducted on the basis of a NMAA checklist but by deeper discussions on points that have not been addressed. The following questions address, in a non-exhaustive way, the points that should lead to clear answers from the AM:

- What are the implications of the implementation of EMAR M on the operation and the mission of your CAMO?

- What management tools have you put in place to ensure your relationships with your nominated managers (EMAR Form 4 holders)?
- How is the Quality system implemented and what is your involvement in the follow-up of actions? corrective and preventive measures (indicators, management review, etc.)?

The NMAA has no particular information to provide to the CAMO for the preparation of the AM interview, except for the framework of the meeting (meeting with the AM following initial approval request or continuing oversight), the names and functions of the NMAA interviewers.

2. Interview of EMAR Form 4 holders

A. Interview of the Continuing Airworthiness Manager

The AM is responsible for the means to be implemented to meet the EMAR M requirements, while the Continuing Airworthiness Manager (CAM) is responsible for their implementation. The CAM should report to the AM any difficulties he encounters in maintaining compliancy towards the requirements.

The CAM should particularly demonstrate to the NMAA:

- How he/she reports to the AM on the functioning of the CAMO;
- The management tools he/she has implemented to monitor the activity of the CAMO;
- How he/she monitors the implementation of the corrective actions he/she is in charge of (correction of findings from internal Quality system and/or NMAA audits).

It is the responsibility of the CAM to master the main lines of the EMAR M scope of work covered by the CAME and to demonstrate to the NMAA his/her involvement in the following topics:

- Continuing Airworthiness Management Exposition (CAME);
- Facilities;
- Airworthiness Review planning;
- Aircraft Maintenance planning & relations with EMAR 145 MOs in charge;
- Airworthiness Review Staff (ARS) training (CAMO “G+I”);
- Performance of AwR (CAMO “G+I”);
- Management of aircraft AwR findings;
- Management of Continuing Airworthiness documents (e.g. ADs, approved maintenance data, modifications and repairs,…);
- Aircraft Technical Log.

B. Interview of the Quality Manager

The Quality Manager (QM) is not responsible for the implementation of the EMAR M requirements, but his/her role is to control that these requirements are met and, if necessary, to inform the AM of any dysfunction within the CAMO.

The interview should highlight the direct link between the QM and the AM.

The QM should demonstrate how he/she ensures the independence of the Quality system, in particular, he/she should focus on the following topics:

- Two-year internal audit planning to cover all the EMAR M requirements linked to the scope of work of the CAMO;
- Information feedback to the AM (management review, quality review, etc.);
- Monitoring of the follow-up of corrective actions;
- Monitoring of contractors (if any).

Annex 2 – FR audit report for EMAR M

DSAÉ DIRCAM DIRNAV BPEA	**Audit report**	CRIS-M-XX-2020-01-02	Page 35 / 61

Type *Type:* Continuing oversight audit	**Référence de l'agrément** *Reference of approval:* EMAR/FR-M-XXX
Référentiel règlementaire *Regulation:* Instruction N°500557/DEF/DSAE du 18 février 2016 EMAR (FR);	***Organisme(s)*** *Organisation(s):* Navy Air Command - CAMO
Thème(s) *Topic(s):* **EMAR/FR M**: A.XXX - A.YYY - A.ZZZ - ….	**Site(s) audité(s)** *Audited site(s):* Navy Base - LANDIVISIAU
	Périmètre(s) *Scope(s):* Type Training : **Rafale M, B & C**
Date début d'audit *Start audit date:* 27/01/20 **Date fin d'audit** *End audit date:* 31/01/20	**Catégorie(s)** *Category(ies):* - B1 - B2 - C

Responsable d'audit *Lead Auditor:* Major DUPONT Jacques

Auditeur(s) *Auditor(s):* DURAND Pierre & DELACROIX Charles

Interlocuteur(s) *Interlocutor(s):*

- Navy base accountable manager
- Navy base Quality manager
- Navy base Quality department
- Navy base Continuing Airworthiness manager.

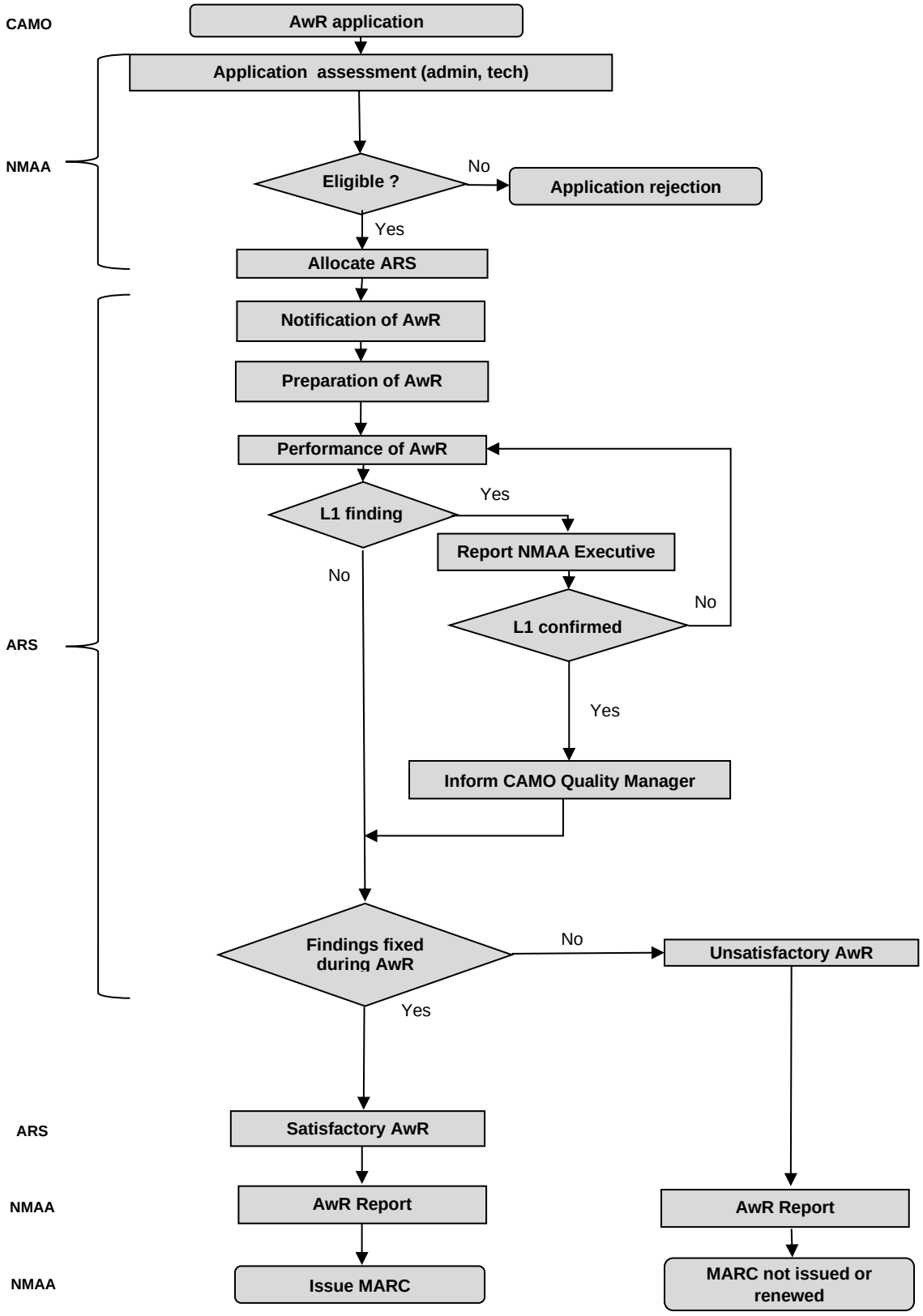
Nombre de constats *Number of findings* Constatation(s) niveau 1: 2 *Level 1 finding(s): 1* Constatation(s) niveau 2: 01 *Level 2 finding(s): 02*	**Plan d'action accepté le:** *Corrective Action Plan accepted on:* *Visa Responsable d'audit* *Lead Auditor visa* **CRIS clos le:** *Audit report closed on*: *Visa Responsable d'audit* *Lead Auditor visa*
Acceptation des constats par l'audité le: *Findings acceptance by the audited organisation:* *Nom / Fonction* *Name/rank/function* *Visa / date*	**Signature du Responsable d'audit:** *Lead Auditor visa :* *Nom / Fonction* *Name/rank/function* *Visa / date*

Constat *(finding)* **n° 1:** level 1 *Délai de traitement :* *Time limit for resolution:* *Extension du délai:* *Extended time limit for resolution:*	**Action(s) corrective(s)** *Corrective(s) action(s)*	**Traitement** *Progress*
REFERENCES: **EMAR/FR M.A.710 a)5:** "*all applicable Airworthiness Directives have been applied and properly registered*" **FINDING:** Category: AD/Airframe AD XXXXX inspection of main landing gear legs. Left gear leg non-reinforced - P/N 6024 - S/N U80 For non-reinforced gear legs a crack detection shall be applied from a threshold of 1750 landings, and then every 240 landings. The assessment of the EMAR Form 1 and left gear leg documentation show a change of the gear leg barrel in 06/2015 when the gear leg had 2316 landings. The CSN of the barrel at the time of installation is not shown on either the Form 1 or the gear leg documentation. Contacted during the AwR, the Company X was unable to provide the EMAR Form 21G of the barrel. The left landing gear has made 1285 landings since the barrel was changed. **NON-COMPLIANCE:** Impossible to determine the barrel status as regards the AD XXXXX implementation. Finding closed during the AwR by application of AD XXXXX (refer to Aircraft Technical Log C001 F19 dated 08/02/2020).		*Date de clôture* *Closing Date* *Visa / date*
Commentaire(s) *Comments:*		

Constat *(finding)* **n° 2:** level 1 *Délai de traitement Time limit for resolution:* *Extension du délai Extended time limit for resolution:*	**Action(s) corrective(s)** *Corrective(s) action(s)*	**Traitement** *Progress*
REFERENCES: **EMAR/FR M.A.710 a)3:** "*all the maintenance due on the aircraft according to the AMP has been carried out*" **FINDING:** Category: Approved Maintenance data AMP § 6.2.1 Scheduled Inspection - Check C: Task 53-00-00-201-803 - External surfaces. According to the AMP, this task is applicable to aircraft X undergoing a Check C. The analysis of the report of the last Check C (04/11/2019) shows that this task was not realized. **NON-COMPLIANCE:** Task due, not performed, exceeded. Finding closed during the AwR by application of the task (refer to Aircraft Technical Log C007 F24 dated 23/05/2020).		Date de clôture *Closing Date* *Visa / date*
Commentaire(s) *Comments*:		

Constat *(finding)* **n° 2:** level 2 *Délai de traitement Time limit for resolution:* *Extension du délai Extended time limit for resolution:*	**Action(s) corrective(s)** *Corrective(s) action(s)*	**Traitement** *Progress*
REFERENCES: **EMAR/FR M.A.710a)7 :** "*all service life limited components installed on the aircraft are properly identified, registered and have not exceeded their approved service life limit*" **FINDING:** Category: Life limited component KANNAD Emergency Beacon - Battery Element subject to life limit. The deadline information registered in the IT system used (AMASIS) is 05/03/2027 whether the correct date is 06/2026. **NON-COMPLIANCE:** Error on the deadline date registered in the IT system (AMASIS). Finding closed during the AwR by correction of the deadline registered in the IT system (AMASIS).		Date de clôture *Closing Date* *Visa / date*
Commentaire(s) *Comments*:		

Annex 3 – Airworthiness Review (AwR) Flowchart



Annex 4 – Airworthiness Review Report Template

Airworthiness Review (AwR) Report

NMAA Control Unit : xxxxxx **/ based** xxxxxxxxx **Report-**xxxx-xxxx **dated** xx/xx/202x

1. General

Aircraft Type				
Serial N°			Operating Organisation	
Manufacturer			Starting date of AwR	dd/mm/yyyy
Registration number	**F-XXXX**		AwR location	

2. Conditions for carrying out maintenance

CAMO responsible:	CAMO Approval N° :	Date :
Aircraft Maintenance Programme approved : Yes / No (a)	Reference :	
Aircraft Reference Document(s) presented for the review :		
Airframe MTC : Engine MTC : Propeller MTC :	Airframe / Type Certificate Data Sheet : Engine / Type Certificate Data Sheet : Propeller / Type Certificate Data Sheet :	

3. Aircraft status

ENGINE(S)		**1**	**2**	**3**	**4**
Manufacturer/Type : ……		.....	.....	.....	.....
Engine - Turboprop – Jet engine (a)	N°				

PROPELLERS		**1**	**2**	**3**	**4**
Manufacturer /Type :	……	.....	.....	.....	.....
	N°				

4. Major events reported since last review

5. Aircraft Configuration during review

6. Documents presented (a)

☐ AD Status - Airframe	☐ Status of Life Limited Components	☐ Flight Manual
☐ AD Status - Engine	☐ Status of Deferred Maintenance	☐ Aircraft Reception Report
☐ AD Status - Components	☐ MEL or equivalent	☐ Technical Directives of Operating Organisation
☐ AD Status - Propeller	☐ AMP Status	☐ OPS Directives of Operating Organisation
☐ Modifications Status	☐ Status of Permit to Fly, derogations	☐
☐ Repair Status	☐ Airframe/Engine/Propeller logbooks	☐

Comment(s) :

7. Results of verifications (refer to Annex of the AwR Report)

8. Conclusion

Finding (s)
- Level 1 : *xx* (including *yy* solved during the AwR)
- Level 2 : *xx* (including *yy* solved during the AwR)

Comment(s) : *xx*

Satisfactory Review ☐
Unsatisfactory Review ☐

ARS responsible of the Airworthiness Review:	**CAMO representative**
Name : Date : Authorisation : Visa : **Other NMAA staff participating to the Airworthiness Review :** Name : Name : **Remark(s) :**	*« I acknowledge that I have read this AwR Report and will implement the corrective action plan »* Name: Date : Visa : **Interlocutor(s) :** Name : Name : **Remark(s) :**

Documents attached to AwR Report
(Except Annex to AwR Report, « result of verifications / paragraph 9 »)

☐ Yes ☐ No

Total Number of pages of AwR Report (including Annex & attached documents) :

Annex 1 to Airworthiness Review Report

Location : xxxxxxxxx **of** xxxxxx

Result of verifications

9. Result of verifications

N°	Regulatory Reference(s)	Categorisation	Finding(s)	Level	Deadline
01	EMAR M.A.710 a) 5	AD airframe	AD XXXXX: inspection of main landing gear legs. Main left gear not reinforced - P/N 6024 - S/N U80 For non-reinforced gears a crack detection must be applied from a threshold of 1750 landings and then every 240 landings. The assessment of the gear data sheet and Form 1 shows a change of the train barrel in 06/2015 when the gear had 2316 landings. The CSN of the barrel at the time of installation is neither mentioned on the Form 1 nor on the component data sheet. Contacted during the AwR, the Company A is unable to provide the Form 21G of the barrel. Impossible to determine the barrel status with the AD XXXXX. The train has made 1285 landings since the barrel was changed. Finding closed during the AwR by application of AD XXXXX (Aircraft Technical log C001 F19 on 08/02/2020).	1	
02	EMAR M.A.710 a) 3	Maintenance data	AMP § 6.2.1 Scheduled Inspection - Check C Task 53-00-00-201-803 - External surfaces. According to the AMP, this task is applicable to B737s undergoing a check C. The analysis of the last check C report (04/11/2019) shows that this task was not applied. Task due, not performed, limit exceeded. Finding closed during the AwR by application of the task (Aircraft technical log C007 F24 on 23/05/2020).	1	
03	EMAR M.A.710 a) 7	Life limited components	KANNAD Emergency Beacon - Battery Element subject to life limit. Error on the limit date registered in the IT system (AMASIS). It is registered 05/03/2027 instead of 06/2026. Level closed during the AwR by correction of the limit date in the IT system (AMASIS).	2	XX/YY/ZZ

Annex 5 - Topics for Airworthiness Review check list

The following is an example and could assist to create the appropriate check list to perform the Airworthiness Review. It requires further adaptation to the aircraft to be reviewed.

Technical Log System/Aircraft Logbook	- Check operator's technical log system (when applicable) for open items. - Verify record of flight hours, flight cycles of the airframe, engine(s), propeller(s), gearbox(es), rotor(s) and landing gear, as appropriate. - Check aircraft defect raised during the physical review if recorded in the technical log system/aircraft logbook.
Aircraft Flight Manual (AFM)	**NOTE:** some Military Type Certificate Holders (MTCH) could identify the AFM differently. - The approved flight manual or authorised equivalent document is applicable to the current aircraft configuration and includes any modification, Military Supplemental Type Certificates (MSTC) or Airworthiness Directives (ADs) supplements, and reflects the latest revision status. - If an Electronic Flight Bag (EFB) is used for the current AFM or equivalent, verify the approval of the content by the competent authority. - 'Equivalent' means the approved operation manual system.
Aircraft Maintenance Programme (AMP)	**NOTE**: AMP is the starting point, it is not the intent to check compliance with the Maintenance Planning Document (MPD). - Verify approval/declaration, amendments and revision status reference. - Verify compliance with mandatory instructions such as repetitive ADs, the Airworthiness Limitation Section (ALS) of the Instructions for Continuing Airworthiness (ICA) or specific maintenance requirements contained in the Type Certificate Data Sheet. - The maintenance due on the aircraft according to the AMP has been carried out and properly released or, if applicable, carried forward in a controlled manner. - Check that the repetitive inspections requirement coming from a repair/modification is in the AMP. - Check the summary status of the maintenance task(s) to track the date and time when the required action was last performed and when it is next due. - Check for any additional scheduled maintenance measures required due to the use of aircraft and the operational environment. - Check components with a specific maintenance action (verify physically some of these components).
Aircraft Defect & Rectification	- Check deferred defects and maintenance tasks. - Check that evident defect(s) can be found that has/have not been addressed.
Airworthiness Directives (ADs)	- Check the status of the ADs, including the method used. - Carry out sample checks during a physical survey on some ADs for which compliance can be physically checked. - Check for completeness of all applicable ADs' status since the new or last issue date of the Military Airworthiness Review Certificate (MARC). - Check that applicable ADs related to maintenance are included into the approved AMP. - Compare implementation of ADs, wherever possible, physically in the aircraft. - The sample check should include the release to service.
Modifications and Repairs	- Check that modification and repairs were accomplished in compliance with applicable data in accordance with EMAR M.A.304. - If available, compare dent and buckle chart with the current situation. - If applicable, check repairs on engine nacelles (air intake & nozzle) that could impact the environmental certification of the aircraft/engines. - All modification and repairs since the last Airworthiness Review plus a sample from historical records should be reviewed. - Compare repair records of the aircraft, wherever possible, during physical review.
Mass and Balance	The current mass and balance statement reflects the current configuration of the aircraft and is valid, & any modifications added or removed have been accounted for.

Type Design	If applicable by approved procedures, check the list of Service Bulletins (SBs). - Verify that equipment installed on the aircraft is consistent with the aircraft records. - Verify the installation and correct data of the fireproof identification plate of the manufacturer. - Compare the Type design against the Type Certificate Data Sheet (TCDS). - The aircraft complies with the latest revision of its TCDS approved by the NMAA, including any modifications that require a MSTC approved by the NMAA. - In addition to the status summary, the sample check should include the release to service. - Material flammability certification: check the documentation attesting that the material of e.g. seat covers, cushions, carpet, curtains, side wall panels, cargo liners is in compliance with the applicable regulations. - Check mandatory markings and placards (for example, Chapter 11 of the Illustrated Parts Catalogue (IPC)). - Check the ALS of the ICA or specific maintenance requirements contained in the type certificate data sheet. - Check the status of life-limited parts. - Physically verify some life-limited parts.
Aircraft Certificates	- Check the aircraft registration in the technical log system, if applicable. - Check the aircraft certificates such as Certificate of Registration, Certificate of Airworthiness and current Military Airworthiness Review Certificate. **NOTE**: some documents on board which are not part of this revision are e.g. crew member licenses, load sheets, flight plan and weather reports.
Operational Requirements (if applicable)	- Check that operational items (e.g. oxygen bottles) are not overdue. - Check airworthiness requirements for special operating rules such as All Weather Operations (AWOPS), Reduced Vertical Separation Minima (RVSM), Minimum Navigation Performance Specifications (MNPS) (if not done during the modification inspection). - Check airworthiness requirements for Extended-range Twin-engine Operations Performance Standards (ETOPS) / Long Range Operational Performance Standards (LROPS).
Complaints of the Last Airworthiness Review	- Check the list of findings including rectification of the last Airworthiness Review findings. - Check previous reports to ensure that all issues identified in the records and during physical review have been resolved.
Markings and Placards & Area Inspection	- Check if advisories and safety-related markings/placards in cockpit, cabin, cargo compartments, avionic compartments and outer fuselage/wings for passengers, crew and maintenance are properly installed and legible. - Check registration marks, including fireproof nameplate (if applicable). - Perform a general visual inspection of accessible areas and compartments, e.g. outer fuselage, wings, empennage, undercarriage system, cargo and technical equipment bays, passenger cabin, cockpit, all engines, rotors, propellers (if applicable) and nacelles, and record the inspected areas. - A record of all inspected areas should be made available to the competent authority including, if applicable, a justification why certain areas have not been inspected. - Verify data plates of aircraft, engine(s), Auxiliary Power Unit (APU) and Rotor / gearbox(es) / propeller(s) (if applicable). - Verify the material flammability certification compared to the airworthiness codes and standards in the TCDS or MSTC. If any of the seat covers, cushions, carpet, curtains, sidewall panels, cargo liners, etc. have been changed, it is important to check the documentation attesting the materials' compliance with the applicable regulations.

Annex 6 - Airworthiness Review application Template

CAMO - Fleet x

I hereby request, based on a documented recommendation[2], the performance of an Airworthiness Review (AwR) in view of:

☐ **ISSUING A MILITARY CERTIFICATE OF AIRWORTHINESS (MCoA)** ☐ The aircraft is not new and do not have yet a MCoA / do not have a MCoA anymore. ☐ The aircraft is new and do not have yet a MCoA.	☐ **RENEWING A MILITARY AIRWORTHINESS REVIEW CERTIFICATE (MARC)** ☐ The aircraft has a MCoA with a MARC which validity will end in less than 90 days.
☐ **REINSTATING A MILITARY AIRWORTHINESS REVIEW CERTIFICATE (MARC)/ MILITARY CERTIFICATE OF AIRWORTHINESS (MCoA), AFTER BEING SUSPENDED** ☐ The aircraft has a MARC / MCoA suspended.	

Organisation requesting the AwR : Address : Tél : Mail : Approved EMAR M CAMO Subpart ☐ « G » ☐ « G+I » Approval date:	**Aircraft Identification** : Aircraft Type/model [3] : Manufacturer : Serial N°[4]: / Registration N°: :
Receiving Organisation of the AwR Report : Tel : Postal Adress : Mail :	**Receiving Organisation of MARC/MCoA** : Tel : Postal Adress : Mail :
AwR details : Place of the review : Review date scheduled : Designated[5] CAMO representative :	Document(s) attached : ☐ Documented Recommendation (Aircraft Inspection Report) ☐ Other(s) :

The undersigned applicant declares that the information provided in this report is accurate.
Done in : …… On : ……

Name, signature & CAMO stamp

[2] Aircraft Inspection Report.
[3] In accordance with Military Type Certificate.
[4] Manufacturer Serial N° (identification plate).
[5] A CAMO representative shall be designated by the CAMO to present, throughout the AwR, supporting documents/evidences and to answer to ARS requests.

Annex 7 - Aircraft Inspection Report Template

CAMO – fleet x

Aircraft Inspection Report

This report describes the details and outcome of the aircraft inspection performed by an approved EMAR M CAMO, when applying to the NMAA for an Airworthiness Review, to issue or renew the Military Airworthiness Review Certificate (MARC) of an aircraft.

1 – General information

Remark : *pages from the present inspection report for which the aircraft is not concerned, neither need to be filed in nor to be attached*

Registration : |____|____|____|____||____||____|

1. Aircraft Type/Model[6]: …… **Aircraft N°** [7]……

Registration Certificate : ……

MCoA : ……

Military AwR Certificate (MARC): ……

2. **Aircraft Flight Manual** : ……
Date of approval : …… Revision / date : ……

Weighing date : …… Empty mass : …… kg

3. **Aircraft Maintenance Programme** : .....
Edition / revision : ..... Date : .....
Accepted / Approved on: .....

Periodicity of checks [8]:						

[6] The aircraft type shall correspond to the name given by the manufacturer in the Type Certificate.
[7] The serial number of the aircraft must correspond to the identification plate affixed to the aircraft
[8] Cross out the unused columns in the different tables

2 – Aircraft status

2.1 – Airframe (Date of statement :)

Total Hours :		Hours since last major check:		Total Cycles	

2.2 – Maintenance performed (Date of statement:)

*(Last check of each type to be noted. E.g. **:** G-IV-PV-GV or PV1-PV2 or Check A-B-C-D or 50h-100h-Annual Visit- as defined in the AMP)*

Date	Workshop / Location	Type of check	Total Hours

2.3 – Engines (Date of statement:)

	1	**2**	**3**	**4**
Engine Type				
Serial N°				
Manufacturing date or last MO date				
Hours since manufacturing				
Cycles since manufacturing				
Hours since MO				
Cycles since MO				
Hours until next MO				
Hours since HPC				
Hours until next HPC				
Hours/cycles remaining before 1st Life Limit				

MO : Major Overhaul, HPC : Hot Parts Check

Maintenance performed since last AwR Certificate renewal

Name, intervention & approval number	Location, date, hours, cycles

2.4 – Propellers (Date of statement:)

	1	2	3	4
Propeller Type				
Hub type				
Serial N°				
Manufacturing date or last MO date				
Hours since MO				
Time since MO				
Hours until next MO				
Regulator				
Type				
Serial N°				
Hours/time since manufacturing or last MO				

Maintenance performed since last AwR Certificate renewal

Name, intervention & approval number	Location, date, hours, cycles

2.5 – Landing gear (Date of statement:)

	Front	Main L	Main R	Central 1 Central 2
P/N				
Serial N°				
Manufacturing date				
Hours since manufacturing				
Cycles since manufacturing				
Hours since MO				
Cycles since MO				
Potential between MO				

Maintenance performed since last AwR Certificate renewal

Name, intervention & approval number	Location, date, hours, cycles

2.6 – Ejection seat(s) (Date of statement:)

	Front	**Rear**
P/N		
Serial N°		
Manufacturing date		
Hours since manufacturing		
Hours since MO		
Cycles since MO		
Cycles since MO		

Maintenance performed since last AwR Certificate renewal :

Name, intervention & approval number	Location, date, hours, cycles

3 – Documents/status to be attached to the present Aircraft Inspection Report

Copy of Registration Certificate, MCoA & MARC *(if evolution since last copy provided)*
Copy of weighing mass *(if evolution since last copy provided)*
Status of ADs : applicable/applied (airframe, engine(s), propeller(s), components, optional (if on aircraft)
Status of life limited components
Status of modifications applied & repairs
Status of derogations, Permit To Fly, deferred maintenance (if any)
Aircraft Maintenance Programme status

4 – Summary of verifications performed (1/2)

Each verification performed has to be detailed below. E.g. : AD n° checked, modification n° checked, reference of a component checked & nature of the control, Aircraft Tech. log n° checked…

DOCUMENTED REVIEW

Airframe Reference, serial n°, flight hours and cycles, maintenance	
Engine(s) Reference, serial n°, flight hours and cycles, maintenance	
Propeller(s) Reference, serial n°, flight hours and cycles, maintenance	
Ejection Seat(s) Reference, serial n°, flight hours and cycles, maintenance	
APU Reference, serial n°, flight hours and cycles, maintenance	
Landing Gear Reference, serial n°, landings, maintenance	
Aircraft Flight Manual Last update, aircraft configuration	
Maintenance Execution & registration	
Defects, derogations Rectified, authorised, deferred	
Airworthiness Directives Monitored & registered	
Modifications / Repairs applied Approved, registered	
Life limited components Identification, registration, remaining potential, maintenance	
Mass & Balance Representative / aircraft configuration	
Type Definition Revision, conformity	
Incident - Accident (serious) Since last MARC renewal	
Documents Management Aircraft Technical Log, aircraft/engines/propellers/ejection seats/APU Logs	
Work Package Files EMAR Form 1, deferred maintenance, archive of maintenance Forms, work orders	
Storage / Preservation pot. Respect of conditions	
Documentation (Tech. Authority) / Manufacturer Availability, up to date …	
Documentation (Op. Org.) (regulation, maintenance directives…) Availability, up to date	

4 - Summary of verifications performed (2/2)

Each verification performed has to be detailed below. E.g. : AD n° checked, modification n° checked, reference of a component checked & nature of the control, Aircraft Tech. log n° checked…

ON AIRCRAFT

Aircraft Configuration Authorised Configuration & aircraft conformity	
Airframe (external) Status, markings, identification plates	
Airframe (internal) Status, markings, identification plates	
Engine(s) Verification of status & identification	
Propeller(s) Verification of status & identification	
Ejection Seat(s) Verification of status & identification	
APU Verification of status & identification	
Landing Gear Verification of status & identification	
Airworthiness Directives Verification of implementation	
Modifications / Repairs applied Verification of implementation	
Life Limited Components Verification of status & identification	
Others.	

The undersigned applicant declares that the information provided in this report is accurate.
Done in :..... Date : .....

Name, signature & stamp of CAMO or his representative

Annex 8 - Key principles for the establishment & management of Aircraft Approved Configuration (AAC)

1. General

The objective of the present Annex is to provide:

- A methodology for building an AAC;
- Advice for the AAC maintenance, use, and archiving;
- Guidance on “How to” archive documentary checks carried out during the AwR

Inputs:

- Military Type Certificate (MTC)/ Military Supplemental Type Certificate (MSTC);
- Type Certificate Data Sheet (TCDS) for aircraft, engine and propeller, if applicable;
- Applicable requirements & technical data referenced in the TCDS;
- Mandatory directives from the NMAA;
- Data from the technical documentation of MTC Holders
- Data from the primary certification authorities website(s) (if requested by the TCDS)

Note:
For a military product derived from a civil type certified product, civil Type Certificate (TC) and Supplemental Type Certificate (STC) could also be taken as inputs by NMAAs.

Output:

Aircraft Approved Configuration (AAC)

Applicability:
These principles are applicable to NMAA’s ARS in charge of carrying out an AwR.

2. Definition

An Aircraft Approved Configuration (AAC) is a comprehensive and exhaustive set of the applicable approved data that an ARS shall verify on the aircraft, through a documented and physical survey, during an AwR.

An AAC should be created for each Type/model of aircraft and associated products holding a Military Type Certificate.

The AAC constitutes the baseline for conducting an AwR and for tracking and recording the verifications carried out during each AwR.

In addition to the AAC (exhaustive set), it may also exist a document database (library of documents mentioned in the AAC). This library represents help for the ARS in charge of the AwR as it could allow him/her for an easy access to the documents, even if the presentation of these documents is of the CAMO responsibility.

In this respect, the rest of this Annex should be understood as follows:

- **AAC**: Excel or Word file containing the exhaustive index of mandatory applicable data to be checked.
- **Library**: Documents referred to by hyperlinks (or similar) in the AAC and/or any other documents (Physical Inspection booklet, P/N S/N record sheet).

3. Building of the AAC

3.1. Key principles

The AAC is limited to the approved data required for ensuring the Continuing airworthiness of an aircraft. It is therefore, not intended to present the applicable data which are not required to be checked during the AwR and which management is the CAMO's responsibility.

Note:

During the AwR, the ARS should however ensure that non-mandatory modifications or repairs refer to an approved document (EMAR 21 or NMAA, etc.).

The AAC should be developed and managed by the NMAA or by a designated staff (e.g. ARS, etc.).

The list of applicable AAC by Type/model of aircraft should be managed by the NMAA and accessible to any ARS (e.g. hosted on NMAA IT network, etc.).

The AAC shall be updated and/or checked by the ARS, at least before each AwR.

The AAC, which is monitored and regularly updated by the NMAA represents the baseline of any AwR.

An AAC is created for the airframe and, if applicable, the engine, propeller and equipment.

Its design and use should not require specific tools requiring special skills or training. The AAC shall facilitate the ARS's examination process and ensure its completeness.

The management, monitoring and update of the AAC should be easily understandable by any ARS appointed to carry out an AwR.

3.2. Baseline documents

The AAC should be built from the Type documentation. These are the (M)TC, (M)RTC, (M)STC and TCDS.

These basic documents are to be augmented by the ADs or equivalents as defined by the TCDS, mandatory modifications, data originating from EMAR 21 organisations, and any other mandatory directive and/or approved maintenance data issued by the NMAA.

All mandatory directives, issued by the NMMA, affecting airworthiness should be referenced in a dedicated NMAA file (e.g. Excel, etc.) available on the NMAA website.

Mandatory directives issued by the NMMA and classified as "Type Certification", "Airworthiness Directive", and "Airworthiness Limitation" must be complied with by the CAMO and shall therefore be checked during the AwR: they are part of the AAC.

Any NMAA document that is not of a mandatory nature is therefore not part of the AAC.

3.3. Structure & content of AAC

a) Content

The Continuing airworthiness and airworthiness management as defined in the Type certification documents may vary from one aircraft Type/model to another, thus a generic AAC template cannot be established.

However, the following minimum information shall be included in the AAC:

- the name of the (M)TC holder;
- the references of the relevant Type(s) and standards;
- the authorised configurations (Aircraft Flight Manual, NMAA mandatory directives, CDL, etc.);

- the current references of the technical documentation specific to the Type/model (AMP, Aircraft Flight Manual, etc.);
- ADs, ALI, and any data defined as mandatory by the NMAA, including data originating from the primary certification authorities, the (M)TC holder, (M)STC holder or EMAR 21 J DOA holder (e.g. mandatory modifications, SBs defined as such after validation by the NMAA, etc.).

For these data, the repository shall clearly and unambiguously indicate the origin of the data and the procedure/hyperlink to access it.

b) Structure

An AAC should preferably be established in Excel file format, which could be structured as follows (each part corresponding to a tab of the Excel file):

- Cover page:
- name of the aircraft Type/model ;
- name of the (M)TC holder;
- (M)TC reference(s) with date of last update;
- TCDS reference with date of last update;
- references of the associated repositories (engine, propeller, additional) with date of last update;
- update history.

The AAC update history could take the following form

Date of update	**Subject of update**	**Concerned topic**	**Author**	**Evolution AAC version***
xx/xx/xxxx	e.g. addition / suppression of AD, ALI, Modification, etc.	Sheet / tab Airframe / engine / propeller / equipment / documentation	Name of the update author	V1.1

* Coding rule for the evolution:

Significant Changes: evolution of (M)TC / TCDS or complete AAC recast

Increment the main version number by 1 (e.g. V1.5 becomes V2)

Non-significant changes: evolution of other sheets/tabs

Increment the decimal number of the version by 1 (e.g. V1.0 becomes V1.1)

Part 0: Preamble

This part describes in a synthetic way the constitution of the AAC and its updating principles.

It provides a framework for the completion of an AwR of a particular Type/model of aircraft. Thus, it should be a mean of ensuring that the checks to be carried out during the AwR are processed exhaustively.

This part can take the form of a summary added to the Excel file linking to each of the AAC tabs.

Part I: Documentary repository

This part lists all the documents referred to in the TCDS and indicates their current version and associated date.

The ARS shall ensure, during the AwR, that these documents are those used by the CAMO.

Part II: Airframe

This part shall contain all the references of the ADs, NMAA mandatory directives, SBs or equivalent and mandatory modifications, applicable to the airframe.

Part III: Engine

This part shall contain all the references of the ADs, NMAA mandatory directives, SBs or equivalent and mandatory modifications, applicable to the engine.

Part IV: Propeller

This part shall contain all the references of the ADs, NMAA mandatory directives, SBs or equivalent and mandatory modifications, applicable to the propeller.

Note: Parts II, III and IV can be combined into a single table organised by ATA chapter/S1000D order.

Part V: Parts and Appliances

This part shall contain all the references of the ADs, NMAA mandatory directives, SBs or equivalent and mandatory modifications applicable to the equipment and optional.

Note: this refers to equipment which configuration is authorised and approved by the (M)TC/(M)STC. The flight crew equipment should also be included if it is included in the (M)TC/(M)STC.

Part VI: Life limited components

This part shall describe how to access to all the information necessary for the verification of the life limited components (e.g. TBO, SLL, etc.). This part can be built from the approved AMP.

Part VII: Airworthiness environment

This part shall present the references of the approved organisations (21J, 21G, M/CAMO, 145 (airframe, engine, propeller and equipment) which provide support to the aircraft).

3.4. Format

The use of an Excel file containing as many tabs as necessary is strongly recommended. A single file simplifies the operation and availability of the AAC to all concerned ARS. The Excel tool also allows for easy filtering, searching and sorting. The use of "macros" and other programming is not recommended.

The format recommended above can be adapted to the documentary architecture of the Type/model of aircraft concerned. For example, the mandatory data to be checked may be listed according to ATA chapters, S1000D standard, or according to the type of data to be checked (AD, ALI, modification, AMP, etc.) instead of splitting by products (parts II to V above)

3.5. Access to Continuing Airworthiness data

It is not necessary for the ARS to hold all the mandatory documents listed in paragraph 3.2. Indeed, these documents shall be available for inspection upon request to the local CAMO representative.

Nevertheless, the retention by the ARS of several of them may be valuable when performing the AwR. The creation of hyperlinks, from the tables in the AAC, to the documents can be a convenient and intuitive way to access the relevant data.

Note: Maintenance data may be accessible on internet, MoD website (e.g. NMAA network, etc.), EASA website or manufacturers' websites, etc.

4. Maintenance of AAC

4.1. When updating the AAC?

The AAC can be maintained continuously or on an ad hoc basis (as required by the NMAA), by monitoring the relevant sources of information that were used for its construction (e.g. NMAA websites, (M)TC holders, EASA, FAA, etc.).

In any case, a check of the AAC update must be carried out by the ARS in the days preceding an AwR. As far as possible, the update frequency of the AAC should be made in consistency with upcoming AwR to be carried out.

4.2. How to update the AAC?

The documentary monitoring carried out by the NMAA must check the distribution of mandatory documents on all dedicated websites.

Nevertheless, whenever possible, it is strongly recommended to set up automatic e-mail alert systems, warning of the publication of any new mandatory document relating to a Type of product. This is possible in particular for ADs issued by EASA and on certain websites of TC holders of civil aircraft.

New items (ADs, ALIs, SBs, mandatory modifications, NMAA mandatory directives, etc.) retrieved during the monitoring operations are then inserted into the tables described in above §3.3, in the corresponding categories.

Deleted, cancelled and/or replaced items are noted as such in the "observation" column.

Each update is traced in the "update history" tab provided for this purpose (§3.3 refers).

4.3. Who is responsible for the AAC update?

The NMAA should establish a procedure for defining the responsibility of the AAC update (e.g. designated ARS, dedicated NMAA service, etc.).

However, it is the responsibility of the ARS conducting the AwR to ensure that the AAC he/she will use is complete/updated from the starting date of the AwR until the date he/she will sign the AwR Report.

Therefore, it is up to the ARS to ensure that any new mandatory document issued since the last registered update have been taken into account in the AAC.

4.4. Surveillance

It is considered as a good practice that the NMAA quality system conducts AAC compliancy checks on an ad hoc basis.

This monitoring could be of 3 types:

- Monitoring the completeness of the AAC hosted on the NMAA collaborative space, or equivalent;
- Afterwards monitoring of AAC used to carry out AwR (traceability of the checks carried out);
- On-site monitoring during the evaluation of an ARS performing AwR.

5. Use of the AAC during the AwR

As regards topics covered in above §3.3, the AAC provides a framework for the checks to be carried out by the ARS during the AwR.

5.1. Traceability of AwR controls

Any check made during an AwR shall be recorded.

Before each AwR, the updated AAC file can be duplicated; a column with the aircraft tail number can be added to the AAC tables, starting from Part II.

In this new column, it is required to trace the verification of the application of each mandatory data of the AAC.

These checks will be used to establish the AwR Report and control history for the future AwR on the same aircraft.

The traceability of the checks must be explicit so that it can be used for future AwR. In this respect, the ADs, mandatory NMAA directives, SBs, due and not applied at the time of the AwR (because they were still within the allowed application period) must be reported so that its effective application can be verified at the next AwR.

The ARS performing the new AwR is responsible for retrieving the AAC tracking of the previous AwR (of the same aircraft).

Example:

II.1. Airworthiness Directives					
Reference	**Date**	**Topic**	**ATA**	**S/N aircraft x**	**Observation**
AD of primary certification authority					
xxxxx	xx/xx/xxxx	xxxxx	xx	xxx	P/N and/or S/N
xxxxx	xx/xx/xxxx	xxxxx	xx	xxx	Implementation checked (e.g. Form 1)
xxxxx	xx/xx/xxxx	xxxxx	xx	xxx	Due, non-implemented. To be checked at next AwR

6. Record of AAC

6.1. Archiving the AwR

At the end of each AwR, a copy of the AAC version used to carry out the review and tracing the status of the verifications carried out, should be archived by the NMAA.

Such archive file could be named as follows:

- Aircraft Type/model name
- Aircraft tail number
- AAC version used for the AwR

Example: Alphajet E65 – A

Annex 9 – ARS training, assessment and qualification principles

Step 1: Level of ARS knowledge and qualification

The ARS experience and skills shall be compliant to EMAR M.A.707 requirements.

It is considered as good practice that each ARS should receive a training in accordance with below steps 2 & 3.

Step 2 : Theoretical Training

Each ARS should receive a theoretical training covering at least the military airworthiness regulation applicable nationally as well as the NMAA procedures (e.g. AwR procedure, audit techniques, AMP assessment, access/use of the applicable AAC, quality procedure, etc.). This initial training may be delivered internally by the NMAA or could also be contracted to knowledgeable organisations (e.g. CAAs, etc.).

Step 3 : Practical Training

Each ARS should receive a practical training composed of:

- ⇨ A basic practical training during an AwR under the supervision of an experienced ARS.
- ⇨ Additional practical training on-site (audit/AwR) under the supervision of an experienced ARS for being evaluated in view of being authorized as ARS.

Note: Tick the box « *First qualification* » or « *New qualification* » of the ARS Competence Evaluation Template provided in the present Annex;

Step 4 : Qualifying the ARS

The NMAA should have a procedure for the qualification of ARS (e.g. initial and continuation training, periodical evaluation, follow up of qualifications, issuance of ARS document (e.g. NMAA staff licence,…) precising the authorized scope of work (e.g. list of aircraft Type/model, etc.).

Initial evaluation and new qualifications

The experienced ARS in charge of the evaluation of the “candidate” ARS should issue an evaluation Form (Annex 9 refers) precising if the “candidate” ARS is considered fit, or not, for being authorized to perform an AwR on his own.

For new military Type/model of aircraft entering into service, the NMAA may designate, among the most experienced ARS, those who could be authorized for AwR on this new Type/model, without further evaluation.

Note : If accepted by the NMAA, an ARS may be authorized for AwR on a particular Type/model of aircraft after performing an AwR on a similar Type/model of aircraft, without further evaluation. For example the qualification may be released for the “Delphin” and “Panther” helicopters (“Panther” helicopter being the military version of the civil “Delphin” one) after an AwR performed on “Panther” and an appropriate training on “Delphin” specificities (e.g. technical and documentary specificities, etc).

Control and maintenance of qualifications

The ARS competence/skills should be periodically evaluated. A 4-year cycle is considered as a good practice for such evaluation during a scheduled AwR. The experienced ARS in charge of the evaluation on site, should check by sampling, that the ARS respects the AwR procedure and methodology as well as he properly use/manage the AAC.

Note 1: Tick the box « *Quadrennial control* » of the ARS Competence Evaluation Template provided in the present Annex.

Note 2: The NMAA may decide that an AwR evaluation performed on a single Type/model of aircraft, could validate the whole authorized scope of work of the ARS.

Airworthiness Review Staff (ARS) Competence Evaluation Template		
☐ **FIRST QUALIFICATION** ☐ **NEW QUALIFICATION (1ST PAGE ONLY)** ☐ **QUADRENNIAL CONTROL (1ST PAGE ONLY)**		
ARS evaluated:	**Name:**	**First name:**
Evaluation based on aircraft Type/model:		
Experienced ARS:	**Name:**	**First name:**
Opinion of the experienced ARS: specify, if necessary, the nature of the restrictions and the lines of effort of the evaluated ARS in view of further reassessment		☐ **FIT WITHOUT RESTRICTIONS** ☐ **FIT WITH RESTRICTIONS** ☐ **TRAINING TO BE CONTINUED**
Date & signature by experienced ARS:		Opinion and signature of the evaluated ARS: The ARS certifies that he has taken note of the present competence evaluation report and undertakes to perform his duty within the limits of his authorized scope of work and associated restrictions (if any).
NMAA internal validation Date: Signature :		

EVALUATED SKILLS	☺	☹	NA	OBSERVATIONS
Knowledge of the national military Airworthiness regulations in force (national EMAR implemented, etc.).				
Knowledge of the NMAA's AwR procedure(s), guide(s), etc.				
Compliance check of the AwR application received.				
AAC: knowledge of Type certification documents (MTC, TCDS, MSTC, MRTC).				
AAC: update to the latest index of the document baseline (AMP, Aircraft Flight Manual, etc.).				
AAC: AAC established independently of CAMO?				
AAC: update of ADs, NMAA mandatory directives, SB & modifications of airframe/engines/propellers/equipment.				
AAC: update history of AAC / match between update date and AwR date.				
Doc : airframe/engine/propeller hours/cycles records.				
Doc : Aircraft Flight Manual in accordance with the aircraft configuration / status of the last revision.				
Doc : execution of maintenance work in accordance with the AMP and the regulations.				
Doc : known defects rectified, recorded or deferred in a controlled manner.				
Doc : monitoring and recording of ADs.				
Doc : changes and repairs registered and approved by EMAR 21 organisation.				
Doc : identification/registration/validity of life-limited components on aircraft.				
Doc : a valid mass estimate in accordance with the aircraft's configuration.				
Doc: aircraft's compliance with the latest revision of the Type design approved by the NMAA.				
Doc: taking into account of previous AwR Report(s).				
Doc: traceability of controls carried out correctly.				
Physical survey: all markings / nameplates are fitted and compliant.				
Physical survey: compliance of the aircraft's configuration with the Aircraft Flight Manual and approved documents.				
Physical survey: no obvious defects / general condition of the aircraft.				
Physical survey: consistency between the aircraft and the documented review of records.				
Factual approach based on tangible and verifiable evidence(s).				
Drafting of AwR Report done correctly - Acceptable timeframe.				
Drafting and handling of aircraft findings				
Recording of AwR data (e.g. in the NMAA IT system, etc.).				