RA 5810 - Military Type Certificate (MRP 21 Subpart B)

Rationale

It is necessary to demonstrate that an Air System's Type Design meets appropriate safety requirements. A systematic, independent certification process is required for new types of UK military registered Air Systems. The award of a Military Type Certificate (MTC) demonstrates that the military Air System has met the Type Design safety requirements.

Contents

Regulation 5810(1)

Certification of UK Military Registered Air Systems

5810(1) New UK military Air Systems that are intended to be operated on the UK Military Aircraft Register in the Service Environment[1] **shall** be certificated prior to their Release to Service (RTS)[2].

Acceptable Means of Compliance 5810(1)

Certification of UK Military Registered Air Systems

1. The approach to Certification **should** be set out in the Air System Airworthiness Strategy, as defined in RA 1220[3].

2. The Type Airworthiness Authority (TAA) responsible for the introduction of new UK military Air Systems, except for Remotely Piloted Air Systems (RPAS) Class exemptions detailed in RA 1600[4], **should** ensure that they are certificated in accordance with the Military Air Systems Certification Process (MACP) detailed in Annex A to this RA. The MACP comprises the following 6 phases:

   a. Phase 1 – Identify the requirement for, and obtain, organizational

[1] See MAA02 for definition of Service Environment.
[2] Refer to RA 1300 – Release to Service.
[3] RA 1220 – Project Team Airworthiness and Safety.
[4] RA 1600 – Remotely Piloted Air Systems.

Acceptable Means of Compliance 5810(1)

approvals.

b. Phase 2 – Establish and agree the Type Certification Basis (TCB).

c. Phase 3 – Agree the Certification Programme.

d. Phase 4 – Demonstrate compliance with the TCB.

e. Phase 5 – MAA Review of Certification Evidence.

f. Phase 6 – Post Certification Activities.

3. The TAA **should** use the output of the MAA Type Certification Report (TCR) which is written in response to the Type Certication Exposition (TCE), in framing their initial Release to Service Recommendation (RTSR).

4. The MTC **should not** be issued until the Air System is brought Under Ministry Control (UMC) (refer to RA 5301[5]).

Guidance Material 5810(1)

Certification of UK Military Registered Air Systems

Background

5. All new UK military Air Systems, except for those RPAS Class exemptions detailed in RA 1600, are to ensure they comply with the MACP.

6. For changes in the Type Design, refer to RA 5820[6].

MACP Outcomes

7. Successful completion of the MACP for a new Air System will result in the MAA issuing a Military Type Certificate (MTC) or Restricted Military Type Certificate (RMTC) to the TAA. This will be underpinned by the production of a TCR. A MTC or RMTC will cover the entire Air System, including engines and propellers, where applicable. The MTC or RMTC will certify that the Air System:

a. Has been designed by an approved organization(s).

b. Meets the approved TCB, or that any airworthiness provisions not complied with are compensated for by controls, factors, or mitigations that provide an equivalent level of safety.

c. Is supported by appropriate Aircrew Publications, Technical Information (TI) and RTSR, approved Air System Document Set (ADS) containing instructions for safe operation and sustaining type airworthiness, including a comprehensive Equipment Safety Assessment (refer to RA 1220).

8. Programmes for new Air Systems which the MAA and TAA have previously agreed will result in the issue of a Statement of Type Design Assurance (STDA) may continue to be conducted in accordance with the obsolescent RA 1500[7]. However, if the MAA's certification assurance activities conclude that the requirements of RA 5810 have been met in full, a MTC or RMTC may be issued rather than a STDA.

Relationship with RTSR

9. As required by RA 1013[8], the initial RTSR must be submitted to the Release to Service Authority (RTSA) and the MAA. For new Air Systems and major changes that result in a new Mark Number for the aircraft, these recommendations will be subject to independent audit by the MAA. For all other major changes, it will be decided by the MAA, in consultation with the RTSA and TAA, as to whether the MAA will carry out an RTSR audit in addition to producing the TCR.

Urgent Capability Requirements (UCRs)

10. The MAA will take note of the degree of urgency of the Requirement when determining the MACP approach to be adopted for UCRs.

[5] RA 5301 – Control of Designs.
[6] RA 5820 – Changes in Type Design (MRP 21 Subpart D).
[7] RA 1500 – Certification of UK Military Registered Air Systems.
[8] RA 1013 – DE&S Air Systems Operating Centre Director – Provision of Airworthy and Safe Systems.

Regulation 5810(2)

Demonstration of Capability

5810(2) The TAA **shall** ensure that prior to any application for a MTC, the organization responsible for the design of the Air System can demonstrate its capability by holding an appropriate Design Organization (DO) approval, or is in the process of applying for such an approval.

Acceptable Means of Compliance 5810(2)

Demonstration of Capability

11. The DO **should** hold an approval from the MAA under the Design Approved Organization Scheme (DAOS) covering the relevant scope of activities issued by the MAA in accordance with RA 5850[9].

12. Annex A (Phase 1) to this RA contains details of the process for identifying the requirements for, and obtaining, organizational approvals that **should** be used by the TAA in complying with this RA.

Guidance Material 5810(2)

Demonstration of Capability

13. Nil.

Regulation 5810(3)

Application

5810(3) An application for a MTC **shall** be made by the TAA using MAA Form 30.

Acceptable Means of Compliance 5810(3)

Application

14. The application **should** be accompanied by a Design Drawing of the Air System and preliminary basic data, including the proposed operating characteristics and limitations.

15. An application for a change in Type Design **should** be made under RA 5820.

Guidance Material 5810(3)

Application

16. Nil.

Regulation 5810(4)

Airworthiness Codes

5810(4) The TAA **shall** ensure that the Air System is designed to approved airworthiness codes.

Acceptable Means of Compliance 5810(4)

Airworthiness Codes

17. Def Stan 00-970 **should** be used as the default airworthiness code.

18. Formal approval **should** be sought from the MAA for the use of alternative and appropriate specifications or airworthiness codes.

19. Annex A (Phase 2) to this RA contains details of the process for selecting the airworthiness codes that **should** be used by the TAA in complying with this RA.

[9] RA 5850 – Military Design Approved Organization (MRP 21 Subpart J).

Guidance Material 5810(4)

Airworthiness Codes

20. Any proposed alternative airworthiness codes are to be sufficiently detailed and specific, such that the detail for their use in the case put forward is clear.

Regulation 5810(5)

Special Conditions

5810(5) Special Conditions **shall** approved by the MAA as part of the TCB.

Acceptable Means of Compliance 5810(5)

Special Conditions

21. Annex A (Phase 2) to this RA contains details of the Military Certification Review Item (MCRI) process that **should** be used by the TAA in complying with this RA.

22. Special detailed technical specifications, named Special Conditions, for an Air System, **should** be approved by the MAA if the related airworthiness codes do not contain adequate or appropriate safety standards for the Air System or an element of its design, in any of the following circumstances:

a. The Air System has or may have novel or unusual design features relative to the design practices on which the applicable airworthiness codes are based.

b. The Air System design usage assumptions do not match the intended military usage.

c. Experience from other similar Air Systems in service or having similar design features, has shown that 'unsafe conditions'[10] may develop.

d. Suitable airworthiness codes do not exist for the concerned Air System or specific design feature.

Guidance Material 5810(5)

Special Conditions

23. The Special Conditions contain such safety standards that the TAA, assured by the MAA, finds necessary to establish a level of safety equivalent to that established in the applicable airworthiness codes or a level of safety acceptable if airworthiness codes do not exist for the Air System concerned.

Regulation 5810(6)

Type Certification Basis

5810(6) The TAA **shall** demonstrate that the TCB consists of the applicable airworthiness codes established according to RA 5810(4) and any approved Special Condition(s) under RA 5810(5).

Acceptable Means of Compliance 5810(6)

Type Certification Basis

24. Annex A (Phase 2) to this RA contains details of the TCB process that **should** be used by the TAA in complying with this RA.

25. If the TAA elects to comply with an amendment to the airworthiness codes that are effective after the filing of the application for a MTC, the TAA **should** also comply with any other amendment that the MAA finds is directly related.

[10] The words 'unsafe conditions' are used in RA 5805 - Responsibilities of the Holders of the Military Type Certificate and MAA Organizational Approvals (MRP 21 Subpart A) GM to justify the basis for an Airworthiness Directive.

Guidance Material 5810(6)

Type Certification Basis

26. The MTC certifies that the Air System meets the TCB, including any compensating controls or mitigations that provide an equivalent level of safety, otherwise an RMTC may be issued (see RA 5810(11)).

27. The TCB will also include the Instructions for Sustaining Type Airworthiness (ISTA) when identifed in the relevant airworthiness code. ISTA is dealt with at RA 5810(20).

Regulation 5810(7)

Certification Programme

5810(7) The TAA **shall** propose to the MAA a Certification Programme (CP) that **shall** include the means to demonstrate compliance.

Acceptable Means of Compliance 5810(7)

Certification Programme

28. The CP **should** be approved by the MAA before compliance demonstration commences and updated as necessary during the certification process.

29. Annex A (Phase 3) to this RA outlines the process for addressing the CP that **should** be used by the TAA in complying with this RA.

Guidance Material 5810(7)

Certification Programme

30. The TAA is to determine his level of involvement with the DO in defining the CP.

Regulation 5810(8)

Changes Requiring a New Military Type Certificate

5810(8) The TAA **shall** apply for a new MTC if it is determined that any proposed change in design, configuration, power, thrust or mass is so extensive that a substantially complete investigation of compliance with the applicable TCB is required.

Acceptable Means of Compliance 5810(8)

Changes Requiring a New Military Type Certificate

31. Nil.

Guidance Material 5810(8)

Changes Requiring a New Military Type Certificate

32. Changes in Type Design are addressed in RA 5820.

Regulation 5810(9)

Compliance with the Type Certification Basis

5810(9) The TAA **shall** provide to the MAA an explanation of the means by which compliance with the applicable TCB is to be demonstrated, according to the CP.

Acceptable Means of Compliance 5810(9)

Compliance with the Type Certification Basis

33. Annex A (Phase 4) to this RA contains details of the process for addressing the Means of Compliance with the TCB that **should** be used by the TAA in complying with this RA.

34. The TAA **should** articulate in the TCE the approach to demonstrating compliance with the TCB and provide a statement that compliance with the TCB has been demonstrated.

Guidance Material 5810(9)

Compliance with the Type Certification Basis

35. Nil.

Regulation 5810(10)

Issue of Military Type Certificate

5810(10) The TAA **shall** be issued with a MTC when the MAA has accepted that the requirements of RA 5810 have been fully satisfied and the TAA has confirmed that his organization is appropriately placed in terms of resourcing, contractual position and access to design information to manage the MTC.

Acceptable Means of Compliance 5810(10)

Issue of Military Type Certificate

36. The TAA **should** make a declaration when appropriate that his organization is ready to manage the MTC. The declaration **should** include confirmation that the Air System is UMC as defined in Def Stan 05-057 and signposted in the RA 5300[11] series.

Guidance Material 5810(10)

Issue of Military Type Certificate

37. Annex A (Phase 5) to this RA contains details of the activities conducted by the MAA leading to the issue of the MTC.

Regulation 5810(11)

Issue of Restricted Military Type Certificate

5810(11) Where the requirements of RA 5810 have not been fully satisfied, but the certification evidence has been assessed to the satisfaction of the MAA, the TAA **shall** be issued with a RMTC.

Acceptable Means of Compliance 5810(11)

Issue of Restricted Military Type Certificate

38. When an Air System does not have a complete Type Design or ADS, and is approaching RTS and the MAA has assessed that there is no impact on Air Safety, a RMTC **should** be issued by the MAA for a provisional period until the Type Design or ADS can be demonstrated to be accurate and complete.

39. Similarly, when shortcomings are identified in the Certification evidence provided in the TCE or RTSR, then a RMTC **should** be issued by the MAA until any resultant actions are closed or progressed to a level that is deemed acceptable by the MAA.

40. Any restrictions identified in the RMTC **should** be copied verbatim into the RTS by the RTSA.

[11] RA 5300 series – Control of Design and Design Records.

Guidance Material 5810(11)

Issue of Restricted Military Type Certificate

41. Examples of conditions that would result in the issue of a RMTC include, but are not limited to:

a. The ADS is incomplete or requires additional validation gained from early in-service experience and/or on-going Test & Evaluation.

b. Shortcomings identified during the review of the TCE and RTSR that result in significant actions being placed on the TAA.

c. The Air System not being ready to be transitioned to UMC (as defined in Def Stan 05-057) at initial RTS. In this circumstance the MAA would expect to understand from the TAA how he would intend to keep oversight of the Air System configuration such that changes to the configuration, including the need to update the ADS whilst Under Contractor Control (as defined in Def Stan 05-057), would not increase risk.

Regulation 5810(12)

Type Design

5810(12) The TAA **shall** ensure through configuration management[12] that the certified Type Design is defined, identified and controlled by drawings, specifications, manufacturing processes and airworthiness limitations.

Acceptable Means of Compliance 5810(12)

Type Design

42. The Type Design **should** consist of:

a. The drawings and specifications, and a listing of those drawings and specifications, necessary to define the configuration and the design features of the Air System shown to comply with the applicable TCB.

b. Information on materials and processes and on methods of manufacture and assembly necessary to ensure the conformity of the Air System.

c. An approved airworthiness limitations section of the Instructions for Sustaining Type Airworthiness as defined by the applicable airworthiness codes.

d. Any other data necessary to allow by comparison, the determination of the airworthiness of later configurations of Air Systems of the same type.

Guidance Material 5810(12)

Type Design

43. Nil.

Regulation 5810(13)

Investigation and Tests

5810(13) The TAA **shall** ensure his right of access to any report, any inspection or to witness any test necessary to determine that no feature or characteristic makes the Air System unsafe.

Acceptable Means of Compliance 5810(13)

Investigation and Tests

44. The TAA **should** agree with the DO and approved Test Organization to determine what testing is required and his level of involvement in reviewing any report or overseeing any activity.

[12] RA 5311 – Configuration Management – Project Team.

Guidance Material 5810(13)

Investigation and Tests

45. When reviewing any test report or activity, the independent checking function of the DO is to ensure:

a. That materials and processes adequately conform to the specifications for the proposed Type Design.

b. Those parts of the Air System adequately conform to the drawings in the proposed Type Design.

c. That the manufacturing processes, construction and assembly adequately conform to those specified in the proposed Type Design.

d. That the test equipment and all measuring equipment used for tests are adequate for the test and are appropriately calibrated.

Regulation 5810(14)

Flight Tests

5810(14) Flight testing for the purpose of obtaining a MTC or RMTC **shall** be conducted in accordance with RA 5880[13] and the conditions agreed by the approved Test Organization and the TAA.

Acceptable Means of Compliance 5810(14)

Flight Tests

46. The TAA **should** ensure that all necessary flight tests are conducted to determine compliance with the applicable TCB.

47. For Military Registered Civil Owned Aircraft, the TAA **should** ensure that any flight testing undertaken for the civil certification satisifies the requirements of MOD usage or makes provision to demonstrate compliance.

Guidance Material 5810(14)

Flight Tests

48. Nil.

Regulation 5810(15)

Responsibilities of the Holder

5810(15) The TAA, as the holder of the MTC or RMTC, **shall** fulfil the responsibilities detailed in RA 1015[14] and RA 5805[15].

Acceptable Means of Compliance 5810(15)

Responsibilities of the Holder

49. Nil.

Guidance Material 5810(15)

Responsibilities of the Holder

50. Nil.

[13] RA 5880 – Military Permit to Fly (MRP 21 Subpart P).
[14] RA 1015 – Type Airworthiness Authority – Airworthiness Responsibilities.
[15] RA 5805 – Responsibilities of the Holders of a Military Type Certificate and MAA Design Organization Approvals (MRP 21 Subpart A).

Regulation 5810(16)

Transferability

5810(16) If a MTC or RMTC is to be transferred, the transfer **shall** be made only to a TAA within the UK Defence Air Environment and who is able to fulfil the responsibilities detailed in RA 1015 and RA 5805.

Acceptable Means of Compliance 5810(16)

Transferability

51. The transfer of the MTC or RMTC **should** only be made with the agreement of the MAA.

Guidance Material 5810(16)

Transferability

52. An MTC, or RMTC may not be transferred to an export customer even when the Air System has been withdrawn from UK service. The MAA issued MTC or RMTC assumes usage within the confines of the MAA Regulatory Publications.

Regulation 5810(17)

Duration and Continued Validity

5810(17) A MTC, or RMTC subject to any constraints, **shall** remain valid subject to the TAA remaining in compliance with RA 1015 and RA 5805, and providing the certificate has not been suspended or revoked.

Acceptable Means of Compliance 5810(17)

Duration and Continued Validity

53. Upon notification of suspension or revocation, the MTC or RMTC **should** be surrended to the MAA Certification Division and the appropriate RTSA and Operating Duty Holder (ODH) informed.

54. The TAA **should** inform the MAA, RTSA and ODH as soon as practicable when he is no longer able to meet the Type Certificate Holder responsibilities defined by RA 1015 and RA 5805, for one or several types of Air System under his responsibility.

Guidance Material 5810(17)

Duration and Continued Validity

55. Nil.

Regulation 5810(18)

Record Keeping

5810(18) The TAA **shall** ensure that all relevant design information, drawings and test reports, including inspection records for the Air System tested, are held by the appropriate DO.

Acceptable Means of Compliance 5810(18)

Record Keeping

56. Such documentation **should** be held in order to provide the information necessary to ensure the type airworthiness of the Air System and **should** be retained for a minimum of 5 years beyond the aircraft Out-of-Service date.

Guidance Material 5810(18)

Record Keeping

57. International or collaborative programmes will be required to co-ordinate custodianship of appropriate documentation, however the TAA will still need to agree suitable access.

Regulation 5810(19)

Manuals

5810(19) The TAA **shall** ensure that all master copies of manuals required by the Type Design are produced, maintained and updated by the appropriate DO.

Acceptable Means of Compliance 5810(19)

Manuals

58. The contents of the manuals **should** be validated[16] by the appropriate DO. For manuals generated by non-DO entities, the TAA **should** assume responsibility for validation.

Guidance Material 5810(19)

Manuals

59. Nil.

Regulation 5810(20)

Instructions for Sustaining Type Airworthiness

5810(20) The TAA **shall** ensure he is provided with the complete set of ISTA, comprising descriptive data and accomplishment instructions prepared in accordance with the TCB, by the DO.

Acceptable Means of Compliance 5810(20)

Instructions for Sustaining Type Airworthiness

60. Variations to the ISTA **should** be made available by the DO to the TAA at the earliest opportunity.

61. The TAA **should** ensure that the DO complies with the requirements of RA 5401.

62. The TAA **should** make available the ISTA to the Military Continuing Airworthiness Manager (Mil CAM).

63. A programme showing how changes to the ISTA are promulgated **should** be submitted to the TAA by the DO.

64. The availability of some manuals or portions of variations to the ISTA, dealing with overhaul or other forms of heavy maintenance, may be delayed until after the product has entered into service, but **should** be available before any of the products reaches the relevant age or flight hours/cycles, by which time this information is required to sustain type airworthiness.

[16] RA 5401 – Provision of Technical Information.

Guidance Material 5810(20)

Instructions for Sustaining Type Airworthiness

65. The ISTA ensure the type certification airworthiness standard is maintained throughout the operational life of the Air System. Typically the instructions are in the form of manuals covering, but not limited to:

a. The Design description covering:

(1) Handling instructions.

(2) Control and operating information.

(3) Servicing information.

b. Maintenance instructions covering:

(1) Scheduling information.

(2) Maintenance instructions.

(3) Repair instructions.

(4) Trouble-shooting (fault-finding) information.

(5) Information describing the removal and replacement of parts.

(6) Procedural instructions for systems testing.

c. Diagrams and instructions for inspections including:

(1) Details for the application of special inspection techniques.

(2) Information needed to apply protective treatment.

(3) Data relative to structural fasteners.

(4) A list of special tools needed.

d. Airworthiness limitations (including where appropriate any Airworthiness Directive or Service Bulletin).

e. Electrical Wiring Interconnection Systems.

66. It is best practice for the TAA to have a close working arrangement with the Mil CAM and that the process and protocol for the timely provision of the sort of material outlined above is jointly understood and acceptable.

ANNEX A

MACP PHASES

1. The MACP comprises 6 phases, some of which may run concurrently. The first 2 phases will commence before Main Gate approval, or before Business Case approval for lower value programmes. The TAA must reach an agreement with the MAA on the approach to be taken for the key elements of Phases 1 and 2, before seeking the requisite Main Gate or Business Case approval.

Phase 1 - Identify the requirement for, and obtain, organizational approvals

2. Organizations with airworthiness responsibilities for the design of new Air Systems or Major Changes (refer to RA 5820) must comply with RA 5810(2), and hold an appropriate design approval. Normally these will be through DAOS in accordance with RA 5850, but alternative approvals may be acceptable where the TAA can demonstrate to the MAA that they are equivalent and appropriate to the prevailing circumstances.

3. Projects intending to use organizational approvals, or other existing certification evidence, from a foreign Military Airworthiness Regulator as credit towards demonstrating compliance with the MACP must, as a first step, apply to the MAA for that Military Regulator to be formally Recognized. The MAA uses the European Defence Agency's (EDA) European Military Airworthiness Document Recognition (EMAD R) process for Recognition. This EMAD R process is also used, in a slightly modified form, to Recognize Military Regulators from non-EDA nations. It should be noted that a successful Recognition does not obviate the requirement to demonstrate compliance with the MRP. Details of extant MAA Recognitions and their Business Need (ie related Air System) can be found on the MAA intranet website.

4. Organizational approvals, or other existing certification evidence, from a Civil Airworthiness Regulator (eg EASA, FAA or UK CAA) can also be used as credit towards MACP compliance and Projects wishing to use such approvals or evidence should seek further guidance from the MAA Certification Division.

5. TAAs involved in the introduction of new Air Systems or Major Changes must hold appropriate Letters of Airworthiness Authority, and ensure that the requirements for an Independent Safety Auditor (ISA) and Independent Technical Evaluator (ITE) are considered in accordance with RA 1220.

Phase 2 - Establish and agree the TCB

6. It is necessary to establish the TCB for the Type Design of the Air System or the Major Change. This must be included in the Air System Airworthiness Strategy and involves: selection of the applicable airworthiness codes; a clear statement as to which versions of the selected codes are to be applied; and the identification of any areas that may fall under the consideration of a Military Certification Review Item (MCRI).

7. The initial TCB should be proposed by the relevant DE&S Operating Centre Director (OC D) and agreed with the MAA prior to Main Gate (or equivalent) approval for the project. The TCB should include applicable Special Conditions derived through the MCRI process. The process includes:

a. **Selection of Applicable Airworthiness Code(s)**. Def Stan 00-970 is the default airworthiness code, but other specifications or standards may be proposed. These need to be shown to deliver an acceptable level of safety and are consistent with the intent of the benchmark requirements of Def Stan 00-970. It is incumbent on the TAA to articulate in the TCB, through the MCRIs, how equivalence will be demonstrated. Equivalence evidence should be presented in a clear, traceable format and made available to the MAA for review, together with the appropriate underpinning compliance evidence documents. This may be by comparison of elements of Def Stan 00-970 or to other Standards referenced in Def Stan 00-970 as suitable, to the airworthiness codes to which the Air System was designed. As an example, in describing a System's software standard, if equivalence to DO178B (which is referenced in Def Stan 00-970) can be demonstrated, there would be no requirement to demonstrate equivalence to Def Stan 00-055 (which is also referenced as another option in Def Stan 00-970).

b. **Version of Airworthiness Code to be applied**. Normally, the most recent version of an airworthiness code will be applied. Exceptionally, an earlier version may be acceptable for compatibility with the baseline design of the Air System. In these cases the TAA will be required to demonstrate that this is the most appropriate approach and that any associated risks are managed appropriately.

c. **MCRIs**. MCRIs should be used as a tool for all occasions where certification issues require clarification and/or interpretation. The MCRI will record the reason why a certification requirement is

under review, how it will be addressed and the final outcome of agreement between the MAA and TAA. The output of the MCRI may result in Special Conditions that will be applicable to the TCB and recorded in the TCB itself. The MCRI should clearly state the detail of the airworthiness codes being used. Where the TAA intends to use requirements other than those in Def Stan 00-970 (including the other Standards it refers to) these must be articulated as a deviation, with an explanation of how equivalence will be demonstrated as discussed at Para 7a above. Where extant airworthiness codes are judged to be inadequate Special Conditions will be introduced into the TCB. Where extant airworthiness codes cannot be met, but the TAA believes that equivalent levels of safety can be demonstrated, they will be identified as Equivalent Safety Findings (ESF). When a TAA intends to propose new Interpretive Material and Means of Compliance to the TCB, this must be articulated in the MCRIs.

All subsequent amendments to the TCB will be proposed by the TAA and agreed by the MAA.

8. **Period of Validity of TCB**. In all cases the TCB will be effective for a period of 5 years from the date of MTC application. If MTC is not achieved within that timescale, a review of the changes to the airworthiness codes that defined the TCB will be required to assess any shortfall against contemporary requirements. The MAA will agree with the TAA which of these changes need to be adopted as part of an updated TCB.

Phase 3 - Agree the CP

9. The CP will be owned and managed by the TAA and agreed with the MAA, and will usually form part of the Integrated Test, Evaluation and Acceptance Plan (ITEAP).

10. For a particular project, the CP includes:

a. A Plan containing the following information:

(1) Description of the project and the kind of operations envisaged.

(2) The proposed certification specifications, special conditions and equivalent safety findings.

(3) The description on how compliance will be demonstrated, with proposed means of compliance. The description of the means of compliance should be sufficient to determine that all necessary data will be collected and compliance will be demonstrated.

(4) A compliance checklist addressing each paragraph of the TCB, with reference to the means of compliance and to the related compliance documents.

(5) Identification of relevant personnel making decisions affecting airworthiness.

b. A project schedule including major milestones.

11. The CP can be developed step by step, when the information needed is not available at the beginning of the project.

12. For a simple project, the CP can be proposed with the application.

13. The CP can be based on modules that can be updated independently.

14. For each element of the TCB, the CP will identify the following, typically in the form of a compliance checklist or matrix:

a. The proposed Means of Compliance, which may include:

(1) Compliance statement, design review, calculation, analysis, safety assessment, simulation, inspection or equipment qualification.

(2) Laboratory test, ground test on the Air System or flight test.

The above relate to evidence from trials, tests and calculations. In the case of tests, the TAA must assure himself, where appropriate, that the independent checking function of the DO determines that either the test specimen conforms to the Type Design, or that any deviations from the Type Design do not influence the test.

b. The compliance documents or evidence to be presented.

15. The CP will also identify when the compliance documents or evidence will be available and include periodic progress reviews between the MAA, TAA and other relevant organizations.

Phase 4 – Demonstrate Compliance

16. In order to demonstrate compliance, the TAA must provide the MAA with the evidence identified in the CP. The extent to which the MAA will audit that evidence will be informed by both the extent of the 3rd party assurance that the TAA has put in place and a broader risk assessment conducted by the MAA. TAAs will be expected to ensure the design is subject to independent technical evaluation and audit (refer to RA 1220), and DOs will be expected to have undertaken independent internal compliance verification (refer to RA 5850) of all evidence prior to submission. Where the certification evidence does not demonstrate compliance with the TCB, a RMTC may be issued.

17. Compliance documentation comprises of one or more reports, drawings, specifications, calculations, analysis etc. and provides a record of the means by which compliance with the TCB is demonstrated.

18. Each compliance document should normally contain:

a. An adequate link with the corresponding CP.

b. The reference of the airworthiness codes, special conditions addressed by the document.

c. Data demonstrating compliance.

d. A statement declaring that the document provides the proof of compliance for which it has been created.

19. Each compliance document should have a number and issue date. The various issues of a document should be controlled.

20. A TC or Supplemental TC (STC) issued by a recognized civilian or foreign military authority may, with appropriate justification, be presented as evidence, in part or in full, of compliance with the TCB for a military Air System. EASA, FAA and the UK CAA are automatically recognized by the MAA as providing an appropriate degree of independent scrutiny and assurance that the Type Design complies with a civil TCB as defined in the TC. Certification work undertaken by other civil aviation authorities can be considered if that certification has been validated by EASA. Further work on civil-certified aircraft will normally focus on military differences associated with military mission equipment for which no civil airworthiness code exists, and the military usage spectrum which may differ from the assumed civil usage spectrum, which is an assumption underpinning the civil TC. For Air Systems with a TC issued by civilian (other than EASA, FAA or UK CAA) or foreign military authorities, the relevant authority will likely require further assessment under arrangements agreed in Phase 1. Accordingly, when wishing to use an artefact from a foreign military authority the MAA may wish to recognize this Authority using the process set down at Para 3 to this Annex.

21. At the conclusion of this Phase, the TAA must produce a TCE that demonstrates compliance with each element of the TCB, identifying any airworthiness provisions not complied with that are compensated for by factors that provide an equivalent level of safety.

Phase 5 – MAA Review of Certification Evidence

Review TCE and Produce TCR

22. The MAA will review the TCE to confirm that the design conforms to the TCB, and to determine any areas where compliance evidence is incomplete. The outcome of the MAA's analysis will be a formal TCR that will underpin the subsequent issue of an MTC or RMTC as appropriate.

Audit RTSR and Issue MTC

23. The initial RTSR will be submitted to the MAA (except where it has been agreed between the MAA and TAA that it is not necessary) and access to the relevant Equipment Safety Assessment and ADS will be provided. A positive assessment of the RTSR and supporting documentation to the satisfaction of the MAA will result in the issue of a MTC (Full or Restricted).

Phase 6 – Post Certification Activities

24. After a new Air System has been certified there will be on-going involvement from the MAA if and when Major Changes to the Type Design need approval, and in monitoring Type Airworthiness throughout the Air System's lifecycle. This latter activity could include assurance activities, such as attendance at: Type Airworthiness Reviews; safety meetings; Structural, Systems and Propulsion Integrity Working Groups; condition surveys; Ageing Aircraft Audits and MAA oversight and assurance activities.