

RA 1161 – Military Registration of Air Systems Operating within the Defence Air Environment

Rationale

Registration of an Air System, and its associated registration marking, is required to provide each Air System with a unique identity. To operate within the Defence Air Environment (DAE) military registration is required and registration markings must be displayed. Not having Air Systems appropriately marked introduces a risk that accountability and assurance of Air Safety will be diluted or neglected entirely. This RA details the military registration and activation process for all Air Systems operating within the DAE

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Regulation 1161(1)

Military Air System Registration

1161(1) All Air Systems intending to operate in the DAE **shall** be registered on the UK Military Aircraft Register (MAR).

Acceptable Means of Compliance 1161(1)

Military Air System Registration

1. All Air Systems to be employed within a DAE Operating Category¹ **should** be registered following submission of a successful application by either the Senior Responsible Owner (SRO)² for Military-Owned or Sponsor for Civilian-Owned.
2. To qualify for military registration and operation within the DAE;
 - a. The Air System **should** meet the Air Navigation Order (ANO) definition of a 'military aircraft'³, or
 - b. The Air System **should not** be eligible / suitable for registration by the Civilian Aviation Authority (CAA); that is, it is required to be operated in a manner outside that permitted by the ANO, or the operation or design is outside CAA expertise.
3. The prerequisites for military registration and operation within the DAE are that;
 - a. A Civilian-Owned Air System **should** have a Certificate of Usage (CofU)⁴.
 - b. The Air System **should** be designed, maintained and operated by organizations that have been formally approved by the MAA. Air Systems not designed by a MAA approved organization **should** have a MAA approved Co-ordinating Design Organization (CDO) and be appointed as the Air System CDO by the relevant Type Airworthiness Authority (TAA), prior to the submission of the Application for Approval in Principle (AAiP). Where the Design Organization (DO) of the platform is not MAA approved, the TAA **should** request a waiver against RA 1005⁵ for the DO, prior to submission of the AAiP, and have a contracted route to achieving approval
 - c. The Air System's Type Certification Basis **should** consist of applicable certification specifications for airworthiness that have been shown to deliver a level of safety that is consistent with the intent of Def Stan 00-970 in accordance with (iaw) RA 5810⁶.
 - d. The Air System **should** be capable of controlled flight.

¹ Refer to RA 1160(1): Defence Air Environment Operating Categories.

² The SRO is the single individual with overall responsibility for ensuring that a programme meets its objectives and delivers the projected benefits.

³ Refer to RA 1160 – The Defence Air Environment Operating Framework paragraph 1.

⁴ A CofU is only required for Civilian-Owned Remotely Piloted Air Systems (RPAS) in the Specific and Certified Categories. Civilian-Owned RPAS in Open A1, Open A2 and Open A3 are prohibited from being operated on the UK MAR.

⁵ Refer to RA 1005 – Contracting with Competent Organizations.

⁶ Refer to RA 5810 – Military Type Certificate (MRP 21 Subpart B).

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- e. The Air System's operation **should** be intended to complete multiple flights.
4. An Air System **should** only be registered with one aviation authority at any one time, therefore before registration on the UK MAR, Air Systems transferring from another register **should** provide proof of de-registration. Similarly, UK military Air Systems transferring to another register require a UK military Certificate of De-Registration.
5. The status of an Air System's registration on the UK MAR **should** be one of the following;
- Provisional.** Provisional registration occurs prior to operation of the Air System and following successful AAiP.
 - Active.** Activation on the UK MAR, and registration of the Air System as Active, occurs prior to first flight of the Air System and following successful Request for Activation on the UK MAR.
 - Inactive.** Designation of an individual Air System by tail number as Inactive applies when the Air System is no longer being operated for a sustained period. This is likely to be for a period of Storage for the purposes of Inactive Fleet Management or when a military Air System is being sold to a Civilian Operator for continued use in the DAE and temporary in-activity is required.
 - Storage.** The Military Continuing Airworthiness Manager (Mil CAM) **should** notify the MAR Registrar⁷ when an Air System enters a period of storage, upon which the Registrar will identify the Air System as Inactive. The Mil CAM **should** notify the MAR Registrar when an Air System returns from Inactive to Active, no further application evidence is required.
 - Sale of an Air System to a Civilian Operator.** If an Air System is to be sold to a Civilian operator it may be entitled to remain registered on the UK MAR providing there is; a designated Sponsor for the future activity; a contract in place for the future activity; and the Air Safety management approvals remain in place with no gap in regulatory oversight. To maintain an Air System on the MAR, the Sponsor **should** inform the MAR Registrar⁷ of the intent to maintain the Air System on the MAR, at which point the Air System will be temporarily made Inactive. Prior to the operation of the Air System, the Sponsor **should** submit an AAiP and Request for Activation to DSA-MAA-Operating-Assurance-Hd.
 - De-Registered.** When military registration is no longer required (Out of Service Date, disposal or transfer to another regulating authority), and regulation under the MAA Regulatory Publications (MRP) is no longer appropriate, the Mil CAM **should** make the request to the MAA⁷ notifying the Sponsor, to de-register the Air System. On review by the MAA the Mil CAM will be issued a Certificate of De-Registration. All UK military markings **should** be removed from Air Systems once de-registered.
6. When operating on the UK MAR, registration markings **should** be appropriately displayed for the size and type of the Air System.

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Military Air System Registration

7. A flow chart providing guidance to meet the requirements for military Air System registration is at Annex A.
8. The registration of Air Systems provides a unique identity that enables the following essential actions:
- The certification of fitness for flight of individual airframes.
 - Identification in flight.

⁷ DSA-MAA-OpAssure-MAR@mod.gov.uk.

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- c. Configuration control.
 - d. A record of usage and Maintenance.
9. If an Air System, having been de-registered from the UK MAR as an act of transfer and registration onto another Authority's register, returns to the UK MAR it will follow full AAIP and Request for Activation processes.
10. The regulatory requirements of paragraphs 3b and 3c do not apply to Open and Specific Category RPAS.
11. RPAS Remote Pilot Stations (RPS) are not registered on the MAR. As an element of the RPAS, a RPS may be allocated to a number of different RPAS. The administration and identification of RPAS RPS are to be locally controlled and managed.
12. The CAA may be unwilling to register Air Systems due to their design standards, their intended spectrum of operation or their end-use. Such Air Systems may be placed on the MAR, with the Secretary of State (SofS) regulating their Airworthiness and operation, but only where there is clear benefit to the UK Government in doing so.
13. Examples of Air Systems that may be suitable for military registration include:
- a. A Type developed from a military design that was originally procured by the MOD and designed by a DO approved under the MAA Design Approved Organization Scheme (DAOS).
 - b. A new Air System, not the subject of a MOD contract, but designed by a DO approved under the MAA DAOS.
 - c. A new Air System, subject of a MOD contract.
 - d. An Air System designed in a foreign country which is the subject of a Memorandum of Understanding (MOU) between the UK Government and the country of origin government, agreeing the further development of the design, and flight testing in UK airspace, under the auspices of a DO approved under the MAA DAOS.
 - e. Air Systems returning for operation in the UK that have previously been registered prior to export. Foreign-Owned Air Systems returning to the UK for Maintenance, modification may be considered for registration.
 - f. Air Systems sponsored by a UK Government Department, supported by an authoritative statement to the effect that the proposal is in the wider UK national interest.
14. For the purposes of defining Military-Owned Air Systems within the RA 1160 series, foreign-Owned Military Air Systems are included.

Civil Registered, Civilian-Owned Historic Military-Type Air Systems

15. Historic military type Air Systems, that have been awarded a CAA Certificate of Airworthiness or a CAA Permit to Fly, may be granted permission, in the interests of aviation history, to display original, historically accurate military livery and 'applicable to type' military registration numbers in lieu of a civil registration number.
16. Applications to display historic military markings and liveries are made to the appropriate Front Line Command (FLC) iaw the procedures detailed on the CAA web page entitled 'Exemptions from the need to display markings on UK Registered Aircraft'. The FLC will assess the application and its supporting documentation and, if satisfied, will forward the request to the DSA-MAA-Operating-Assurance-Hd.
17. Providing the historic military registration number is not already in use it will be authorized. DSA-MAA-Operating-Assurance-Hd will authorize the Registrar to annotate the MAR. The Registrar will maintain a separate section within the MAR to identify UK military registration numbers that have been authorized for display on Civilian-Owned historic military type Air Systems.
18. A letter of permission to operate with historic markings and liveries will be issued by the FLC to the applicant, copied to the Registrar. In order for the applicant to gain CAA exemption from Article 32 and Schedule 4 Part 2 of the ANO 2016 they are

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to send their letter of permission to the CAA Aircraft Registration Section iaw the guidance provided on the CAA website.

19. **Registration Markings.** For the purpose of Air System registration markings, and in consultation with the Delivery Team where applicable, guidance can be taken from Digital Air Publication (DAP) 119A-0601-0B Chapter 9⁸ and CAP 523⁹. Where RPAS are either too small to physically accommodate registration markings or are unable to have them applied in the standard positions, guidance can be taken from CAA guidance on labelling drones and model aircraft. When Operational considerations are required for applying registration markings the Camouflage Working Group is to be consulted.

20. **Non-applicability for registration on the UK MAR.** RA 1166 and RA 1240¹⁰, offer defence the ability to contract for the utilization of civilian registration and thus these Air Systems do need to be registered on the UK MAR.

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Application for Approval in Principle

1161(2) When applying to register an Air System on to the UK MAR an AAiP **shall** be submitted.

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Application for Approval in Principle

21. For Civilian-Owned Air Systems the AAiP **should** be prepared by the Applicant for the Sponsor using the template hosted on the MAA's website.

22. When satisfied that the Air System has qualified for military registration and met the registration principles, the SRO² (for Military-Owned) or Sponsor (for Civilian-Owned) **should** submit the completed application (whose template is hosted on the MAA website), the CofU for Civilian-Owned, and the associated Air System Safety Case (ASSC) Report¹¹, to DSA-MAA-Operating-Assurance-Hd.

23. In addition to the requirements of RA 1205¹², submission of the ASSC Report¹³ as part of the AAiP¹⁴ **should** explicitly;

- a. Detail Claims / Arguments that summarise the organizational approvals for the design, Maintenance and operation of the Air System.
- b. Detail Claims / Arguments that summarise the approach taken to develop the Equipment Safety Assessment¹⁵ and Airworthiness Strategy.
- c. Detail Claims / Arguments that summarise the proposed arrangements for the upkeep of Type and Continuing Airworthiness while the Air System is registered on the MAR.
- d. Detail Claims / Arguments that summarise the approach to develop the Maintenance policy.

24. **Special Case Flying.** For military registration of Air Systems not operating in the MOD interest, the Sponsor **should** ensure the AAiP;

- a. Appropriately argues that it is in the interest of the UK Government to place the Air System on the MAR.
- b. Details that the Applicant will bear all MOD costs associated with the project throughout its life.
- c. Details that the Applicant will indemnify the MOD against any costs that might be incurred as a result of an accident or incident.

⁸ Refer to DAP 119A-0601-0B – Surface Finishing Processes, Procedures, Materials and Equipment. Additional guidance with regards to identification markings on small RPAS can be sought independently through DSA-MAA-MRPEenquiries@mod.gov.uk.

⁹ Refer to CAP 523 – Display of Nationality and Registration Marks on Aircraft: Guidance for Owners.

¹⁰ Refer to RA 1166 – UK Civil-Registered Aircraft Utilized by the Ministry of Defence and RA 1240 – Chartering of Civilian Air Systems for Military Purposes.

¹¹ For Open and Specific S1 Category RPAS refer to RA 1600 for the alternative requirements to the ASSC Report.

¹² Refer to RA 1205 – Air System Safety Cases.

¹³ Dependent on the juncture at which registration of an Air System is sought, this could be either the ASSC Strategy Report or ASSC Acquisition Basis Report.

¹⁴ Submission of the ASSC Report replaces the Air Safety Strategy.

¹⁵ Refer to RA 1220(3): Equipment Safety Assessment.

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Application for Approval in Principle

25. The end-to-end process for registering an Air System typically takes 6 months. It is highly recommended that the SRO (for Military-Owned Air Systems) or the Applicant (for Civilian-Owned Air Systems) holds a launch meeting at the start of a project to register an Air System with the Military Aircraft Registration section of the MAA⁷, so that timescales are clear and expectations are managed. This is especially important in cases where the Air System is unfamiliar to the MOD or there will be a significant difference in the design and / or usage of the Air System compared with an equivalent In-Service Type.

26. At the point of submission of the AAiP the associated ASSC Report will not be the fully substantiated ASSC Report; this is required through submission of the Live ASSC Report as part of the request for Activation on the UK MAR to support flying operations. For the AAiP, an appropriately mature ASSC Report that summarises the developing ASSC is to be submitted.

27. On review of the AAiP, along with the CofU for Civilian-Owned Air Systems, the MAA Registrar will provisionally enter the Air System details onto the UK MAR and notify the SRO / Sponsor of the provisional tail numbers.

28. The AAiP template requires the following information, each to be supplemented by a detailed narrative where appropriate.

- a. **Purpose of Military Registration:** eg Export support, service provision, training.
- b. **Intended Operating Category(s):** Declaration of the endorsed operating category(s) for the activity, highlighting if the activity will be undertaken in one of more Operating Categories. Is the proposed activity for the Air System:
 - (1) For MOD Interest or not for MOD Interest.
 - (2) Military or Civilian Operated.
 - (3) Military or Civilian-Owned.
 - (4) Development or In-Service.
- c. **Proposed Types of Flying:**
 - (1) Test and Evaluation (T&E) Activity:
 - (a) Cat 1. Experimental / Developmental.
 - (b) Cat 2. Flight Safety-Critical.
 - (c) Cat 3. Production.
 - (d) Cat 4. Non-Flight Safety-Critical.
 - (e) Cat 5. Operational.
 - (2) T&E Support Activity:
 - (a) Trial Workup Flying.
 - (b) Trial Support Flying.
 - (c) Test Pilot Training.
 - (d) QualEval Flying.
 - (e) Demonstration Flying.
 - (3) Non-Test and Evaluation Activity:
 - (a) Continuation Training.
 - (b) Tasked Flying.
 - (c) Conversion Training.
 - (d) Maintenance Test Flying.
 - (e) Customer Flying Training.

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- d. **Intended route to Type Certification.** Details the proposed Type Certification Basis (TCB) and summary of the Type Certification programme.
- e. **Proposed programme of flying:** Supporting detail to para 28c, confirming the proposed air activities to be undertaken, such as: air-ground weapons trials, air-air refuelling, formation, low flying, and dates from which first flight will take place.
- f. **Previous Registration Number(s):** Registration numbers that a previous authority may have used prior to de-registration.
- g. **Operating, Type and Continuing Organization arrangements:** Details of the Contractor Flying Approved Organization Scheme, DAOS (incl Type Airworthiness Management supplement if required), Continuing Airworthiness Management Organization (CAMO) and Maintenance Approved Organization Scheme (MAOS) approvals within which operations will be conducted.
- h. **ASSC Report:** Reference to appropriate ASSC report.
- i. **Geographical Area:** The area where the flying is to take place. Air Systems may be flown outside of the UK, but such plans will need to consider requirements for diplomatic clearance.
- j. **Indemnity arrangements:** iaw RA 1161(4)¹⁶.

**Regulation
1161(3)**

Request for Activation on the UK Military Aircraft Register

1161(3) Prior to operation of the Air System, the Air System **shall** be registered as Active on the UK MAR.

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Request for Activation on the UK Military Aircraft Register

Military-Owned Air Systems

29. The SRO **should** submit a request for activation for the required Air System tail numbers, along with the Live ASSC Report (T&E or In-Service) and appropriate documentary evidence of the Air Safety Management System (ASMS)¹⁷, to DSA-MAA-Operating-Assurance-Hd.

30. Submission of the Live ASSC Report (T&E) or (In-Service) **should** explicitly include Claims / Arguments that summarise:

- a. The arrangements for the management of flying Operations, Type Airworthiness, and Continuing Airworthiness.
- b. The Air System's Type Certification Basis and Airworthiness Strategy.
- c. Proposal for the Air System Document Set (ADS).
- d. Either Military Permit To Fly (MPTF) (Development or In-Service) or Release To Service (RTS).
- e. The proposed livery.

Civilian-Owned Air Systems

31. For Civilian-Owned Air Systems a request for activation for the required Air System tail numbers **should** be prepared by the Applicant for the Sponsor.

32. When satisfied with the arrangements for the management of Air Safety, as appropriate for the Air System's operating category, the Sponsor **should** submit the request for activation for the required Air System tail numbers, along with the Live ASSC Report (T&E or In-Service), the CofU and appropriate documentary evidence of the Aviation Duty Holder / Accountable Manager (Military Flying)'s ASMS, to DSA-MAA-Operating-Assurance-Hd.

¹⁶ Refer to RA 1161(4): Indemnity.

¹⁷ Refer to RA 1200 – Air Safety Management.

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33. The Sponsor **should** also provide;
- Identification of the Sponsor's nominated Crown Servant(s) undertaking assurance of the arrangements; refer to the respective operating category RAs for detail of these requirements.
 - Details of the arrangements for meeting MOD costs and a nominated point of contact within the company.
34. Submission of the Live ASSC Report (T&E or In-Service) **should** explicitly include Claims / Arguments that summarise:
- The arrangements for the management of flying Operations, Type Airworthiness, and Continuing Airworthiness.
 - The Air System's Type Certification Basis and Airworthiness Strategy.
 - Proposal for the ADS.
 - Either MPTF (Development or In-Service) or RTS.
 - The proposed livery.

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Request for Activation on the UK Military Aircraft Register

35. The request for Activation is to be considered well in advance of the proposed first flight, the Sponsor may wish to review and seek independent advice on particular aspects of the submission.
36. It is also highly recommended that the MAA is engaged well in advance of the proposed first flight to ensure that timescales for review of the Live ASSC are clear and expectations managed.
37. The MAA will review the request for Activation, along with the Live ASSC Report (In-Service or T&E) and the ASMS Plan, to assure itself that the arrangements for Air Safety management and assurance by the Sponsor's nominated Crown Servant(s), specific to the Air System's Operating Category, have been identified. The MAA will then issue the Sponsor a Certificate of Registration (Active).

Regulation 1161(4)

Indemnity

- 1161(4) The Sponsor **shall** ensure that appropriate contractual or deed of indemnity arrangements are established for all Civilian Operated Air Systems.

Acceptable Means of Compliance 1161(4)

Indemnity

38. **Civilian Operated (Development) and (In-Service).** Where a Civilian Operated (Development) or (In-Service) Air System is operated under the terms of a contract, the Sponsor **should** either; agree arrangements to ensure that the conditions of Def Stan 05-100 and DEFCON 638 are written into the contract, or **should** ensure that the Applicant enters into a deed of indemnity to indemnify the SofS¹⁸.
39. When a deed of indemnity is arranged, the Sponsor **should** ensure that the Operator's arrangements to indemnify the SofS, his servants or agents, cover:
- All liabilities, costs and expenses in respect of any injury (including injury resulting in death) loss or damage whatsoever suffered by the SofS, his servants or agents; and
 - All liabilities, costs and expenses in respect of any claims for injury (including injury resulting in death) loss or damage whatsoever suffered by any person and made against the SofS, his servants or agents which may arise out of or in the course of the use or operation of the Air System whilst it is registered on the MAR.

¹⁸ Defence Equipment and Support (DE&S) Quality and Configuration Management Policy team offer the necessary specialist advice in support of this RA.

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40. **Special Case Flying.** For Special Case Flying, where there is no contract with the UK MOD, the Sponsor **should** ensure that the Operator's arrangements to indemnify the SofS, his servants or agents, cover:

- a. All liabilities, costs and expenses in respect of any injury (including injury resulting in death) loss or damage whatsoever suffered by the SofS, his servants or agents; and
- b. All liabilities, costs and expenses in respect of any claims for injury (including injury resulting in death) loss or damage whatsoever suffered by any person and made against the SofS, his servants or agents which may arise out of or in the course of the use or operation of the Air System whilst it is registered on the MAR.

41. For all RPAS the necessary conditions to indemnify the SofS are not applicable. The Sponsor in this case, **should** ensure that the Operator has provisioned the necessary level of insurance or the Sponsor **should** establish alternative contractual arrangements to indemnify the SofS¹⁸.

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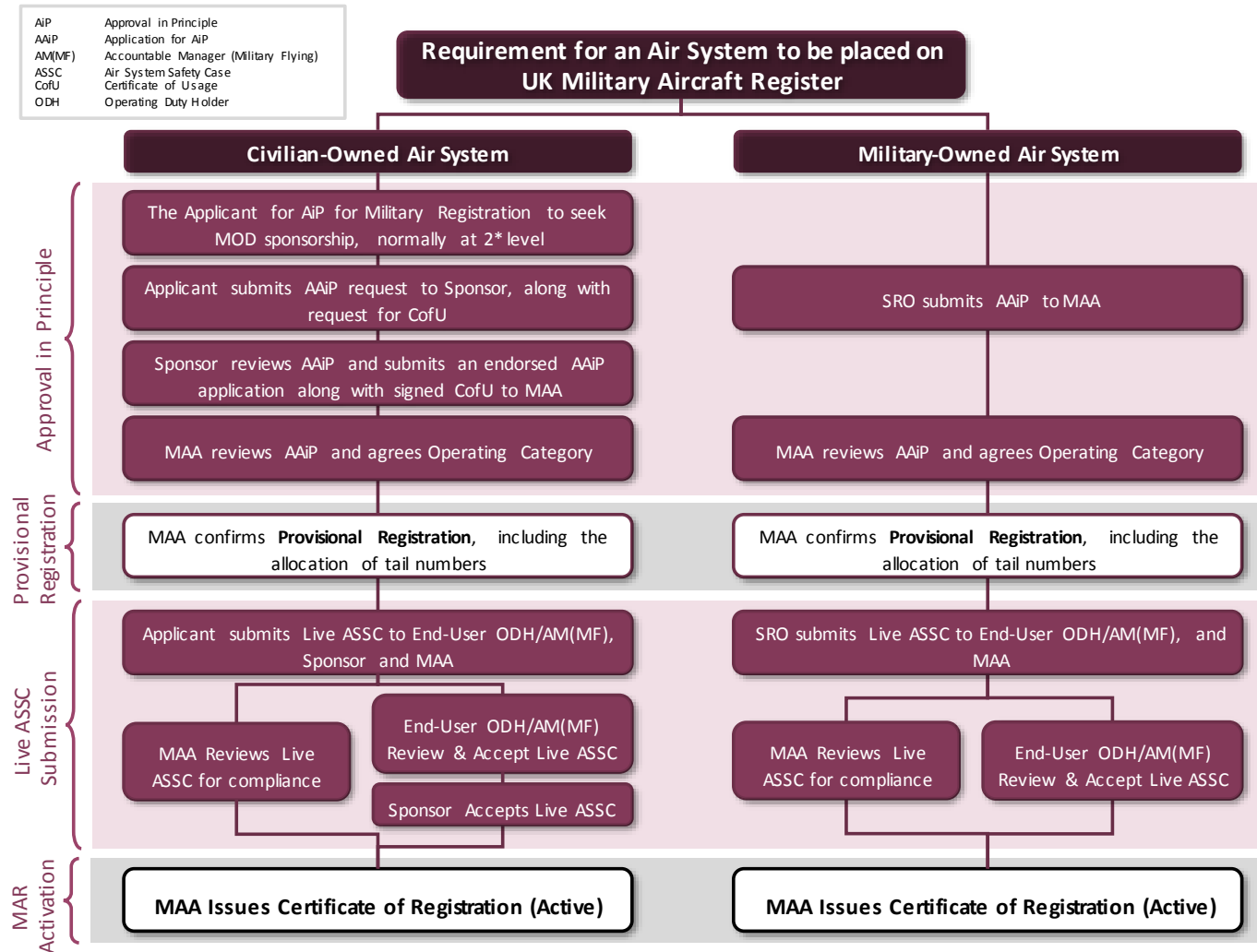
42. The SofS is at liberty in such circumstances as he may think fit to settle any claims made against the Crown or the SofS or any officer, servant or agent of the Crown and coming within the scope of the above indemnity (applied and extended as aforesaid) by the payment as a matter of grace of any sum by way of compensation, and the said indemnity is extend to cover any payment so made.

43. The SofS, his servants or agents will consult with the operator throughout the conduct of any claim and, whilst reserving the right to agree settlement, will attempt to agree terms of the settlement with the operator and / or his insurer. The agreement of the operator and / or his insurer is not to be unreasonably withheld.

44. Advice on the form and wording of the deed of indemnity can be obtained from the Directorate of Commercial Law.

Annex A

Figure 1: Military Air System Registration Flow Chart



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