

RA 1160 - The Defence Air Environment Operating Framework

Rationale

In order to provide Defence with the required flexibility over how future capabilities are both procured and employed, Air Systems that qualify for military registration may be Military or Civilian-Owned and may be operated by Military or Civilian Aircraft Operating Authorities (AOA)¹. Additionally, an Air System that is not being operated in the interest of the MOD, but has the wider interest of the UK Government, may be granted UK military registration. Without a clear understanding of the correct governance framework, there is a risk that key responsibilities may be diluted or neglected entirely, with the result that the risks associated with operation of the Air System are not adequately managed. This RA introduces a coherent and consistent operating framework which has been developed to ensure that similar aviation activities within the Defence Air Environment (DAE) that result in a similar level of risk exposure, attract the same level of assurance and scrutiny, regardless of who owns or operates the Air System. All activities within the DAE will be assigned to an operating category which will define who is responsible for the execution and assurance of key functions including, Risk to Life (RtL) management, Continuing Airworthiness (CAw) and flight operations, as well as the balance of accountability between the MOD and the contractor for Type Airworthiness (TAw).

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Definitions

Definitions Relevant to this RA

1. **Air Navigation Order (ANO) Definition of a Military Aircraft.** The ANO² defines a military Aircraft³ as: an Aircraft which is owned by the military; an Aircraft which is being constructed for the military; or “any aircraft for which there is in force a certificate⁴ issued by the Secretary of State that the aircraft is to be treated for the purposes of [the ANO] as a military aircraft.”
2. **DAE.** Activity within the DAE will fall into one of the following categories:
 - a. **In-Service.** Activity related to a UK military registered Air System being operated in the interest of the MOD, where the Air System itself and all Role Equipment and / or Equipment Not Basic to the Air System (ENBAS) required to deliver the capability have completed development activity and are being used to deliver the capability for which they were intended, be that training or operations.
 - b. **Development.** Activity related to a UK military registered Air System where the Air System itself or any Role Equipment and / or ENBAS required to deliver the capability is being tested, evaluated or assessed in order to generate evidence in support of the Air System Safety Case (ASSC).
 - c. **Special Case Flying.** Special Case Flying refers to any operation of an Air System which is UK military registered, but which is not being operated in the interest of the MOD.
3. **MOD Interest.** An activity on a UK military registered Air System is defined as being operated in the interest of the MOD when any one of the following criteria is satisfied:

¹ For the purposes of RA 1160, AOA also includes any organizations operating Open and Specific S1 Category Remotely Piloted Air System (RPAS).

² The Air Navigation Order 2016, Schedule 1 – Interpretation.

³ For the purpose of the MRP the MAA have expanded the term Aircraft to mean Air System.

⁴ For Civilian-Owned Air Systems operating on the UK Military Aircraft Register (MAR) the required certificate is the Certificate of Usage (CofU).

Definitions

- a. There is a direct contract in place between the MOD and the Operator of the Aircraft for the provision of the activity.
- b. MOD personnel are required to fly on or fly the Air System, as either Aircrew, RPAS operators, Supernumerary Crew or Passengers, in order to achieve the output from the activity.
- c. The MOD is liable for any losses associated with operation of the Air System whilst conducting the activity (including indemnification to sub-contractors).
- d. The Air System is owned by the MOD.

Where an activity on a UK military registered Air System does not satisfy any of the above criteria, the activity is defined as not being in the interest of the MOD.

4. **Direct Contract.** The criteria specified at Para 3.a relates to a direct contract between the MOD and the Operator for the provision of the activity itself (ie the MOD requires the capability delivered by the operation of the Air System); this does not relate to arrangements whereby the operation of the Air System is inconsequential to the MOD, but there is a contract in place for the provision of some enablers by the MOD to the contractor (eg use of MOD facilities, provision of fuel, documentation etc).

5. **MOD Personnel.** The criteria specified at Para 3.b relates to situations where MOD personnel are required to fly an Air System, to fly on the Air System or operate the Air System either as part of the operating crew to deliver the required capability, or to receive the service being provided (eg training or transportation); this does not include bespoke arrangement for MOD personnel to fly on 'one-off' flights, for example to allow the contractor to demonstrate a capability to the MOD, or for the contractor to utilize MOD instructors / Standards Evaluation personnel as part of their assurance activity. Whilst the MOD retains a duty of care for its personnel, such 'one-off' flights would not make the whole operation subject to MOD Interest.

Applicability**Applicability of this RA**

6. This RA applies to all Air Systems intending to operate within the DAE.

**Regulation
1160(1)****Defence Air Environment Operating Categories**

1160(1) All Air Systems operating within the DAE **shall** be assigned to an appropriate operating category and **shall** be subject to the governance arrangements defined by that operating category.

**Acceptable
Means of
Compliance
1160(1)****Defence Air Environment Operating Categories**

7. **Operating Categories.** Aviation Duty Holders (ADH)⁵ and, for Civilian-Owned or Civilian Operated Air Systems, the Sponsor⁶, **should** assign each Air System within their Area of Responsibility (AoR), and any activity relating to the operation of that Air System, into the following operating categories⁷:

- a. **Military Operated (Development).**
- b. **Military Operated (In-Service).**
- c. **Civilian Operated (Development).**
- d. **Civilian Operated (In-Service).**
- e. **Special Case Flying.**

⁵ This is the RPAS Duty Holder for: Open A2 Sub 4 kg; Open A3 Sub 4 kg and Sub 25 kg; and Specific S1 RPAS.

⁶ Refer to RA 1019 – Sponsor of Military Registered Civilian-Owned and Civilian Operated Air Systems - Air Safety Responsibilities.

⁷ Descriptions of the Operating Categories and further Guidance Material can be found at para 13.

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Means of
Compliance
1160(1)**

8. **Ownership.** The ANO requires Civilian-Owned Air Systems that operate on the UK MAR to be issued with a Certificate of Usage (CofU) issued on behalf of the Secretary of State (SofS)⁸. Therefore, the Sponsor **should** ensure that Civilian-Owned Air Systems are issued with a valid CofU in accordance with (iaw) RA 1160(3) and registered iaw RA 1161⁹.
9. **Governance Arrangements – Military Operated.** For Military Operated Air Systems, ADHs **should** actively manage Air Safety and comply with RA 1020¹⁰.
10. **Governance Arrangements – Civilian Operated.** For Civilian Operated Air Systems, the Sponsor **should** ensure that all activities relating to operation of the Air Systems are subject to the governance arrangements detailed in RA 1162¹¹.
11. **Governance Arrangements – Special Case Flying.** For Special Case Flying Air Systems, the Sponsor **should** ensure that all activities relating to operation of the Air Systems are subject to the governance arrangements detailed in RA 1163¹².
12. **Transfer of Air Systems between Operating Categories.** The transfer of Air Systems between Operating Categories may require formal transfer of Air Safety management arrangements, all transfers **should** meet the regulatory requirements as detailed in RA 1164^{13, 14}.

**Guidance
Material
1160(1)**

Defence Air Environment Operating Categories

13. **Operating Categories within the DAE.** All aviation activity within the DAE (ie activity on a military registered Air System and therefore regulated by the MAA) will fall into one of the following five operating categories (see Figure A-1 at Annex A):

a. **UK Military Registered Air Systems Operating for MOD Interest:**

(1) **Military Operated (Development).** All UK military registered Air Systems which are undergoing development activity, defined as Test and Evaluation (T&E) category activities 1 to 4¹⁵, and operated under a military AOA. The operation of Development Air Systems by the Air and Space Warfare Centre or the Air Test and Evaluation Centre are examples of such activity.

(2) **Military Operated (In-Service).** All UK military registered Air Systems which are being used to provide the capability for which they were intended and operated under a military AOA. Activities undertaken by military front line units or training organizations utilizing In-Service Air Systems fall into this category.

(3) **Civilian Operated (Development).** All UK military registered Air Systems which are still in development or undergoing modification and operated by a civilian AOA (Contractor Flying Approved Organization Scheme (CFAOS)). Activities associated with Air Systems which are in production for the MOD by industry, or transferred to industry for modification, will fall into this category.

(4) **Civilian Operated (In-Service).** All UK military registered Air Systems which are being used to provide the capability for which they were intended and operated by a civilian AOA (CFAOS). This category will include those operations where the MOD has placed a contract with a CFAOS organization for the provision of a capability utilizing a UK military registered Air System. Examples of these contracted capabilities include

⁸ A CofU is only required for Civilian-Owned 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.

⁹ Refer to RA 1161 – Military Registration of Air Systems Operating within the Defence Air Environment.

¹⁰ Refer to RA 1020 – Aviation Duty Holder and Aviation Duty Holder-Facing Organizations – Roles and Responsibilities.

¹¹ Refer to RA 1162 – Air Safety Governance Arrangements for Civilian Operated (Development) and (In-Service) Air Systems.

¹² Refer to RA 1163 – Air Safety Governance Arrangements for Special Case Flying Air Systems.

¹³ Refer to RA 1164 – Transfer of UK Military Registered Air Systems.

¹⁴ Open and Specific S1 RPAS are required to apply the Air Safety intent of RA 1164.

¹⁵ Refer to RA 2370(3): Test and Evaluation Activity.

**Guidance
Material
1160(1)**

the provision of training for UK personnel or the transport of UK personnel or equipment.

b. **UK Military Registered Air Systems NOT Operating for MOD Interest:**

(1) **Special Case Flying.** UK Military Registration may be granted to an Air System that is not operating in the interest of the MOD and is not eligible / suitable to achieve civil registration, if it is deemed to be in the interests of the wider UK Government; their operation is categorized as Special Case Flying. As Special Case Flying is not operating in the interest of the MOD, by definition, it will only be conducted on Air Systems which are not owned by the MOD and are operated under a civilian AOA (CFAOS). Special Case Flying may encompass Air Systems which are undergoing development, in production for export, or being used to deliver a service.

14. **Governance Arrangements.** The Air Safety governance arrangements as defined for a specific operating category determine how the management of RtL, TAw, CAw and flight operations are to be discharged and assured. The key responsibilities for the ensurance and assurance of these functions are summarised within Table A-1 at Annex A. Explicit responsibilities for Civilian Operated (Development) and (In-Service) Air Systems are detailed within RA 1162¹¹. Explicit responsibilities for Special Case flying are detailed within RA 1163¹². There is no bespoke RA for Military Operated Air Systems as the ADH's responsibilities for Air Safety Governance are as defined within the MAA Regulatory Publications. The structure of the RA 1160 series, and how the RAs apply to the operating categories, is depicted in Figure B-1 at Annex B.

15. It may be possible for an Air System to operate across multiple Operating Categories; eg a Civilian Operated Air System delivering to a Special Case Flying contract during one series of flights and then to a Civilian Operated (In-Service) contract during another series of flights. For this operating scenario the conditions of RA 1162 apply above that of RA 1163.

16. For the purposes of defining Military-Owned Air Systems within the RA 1160 series, foreign owned Military Air Systems are included.

**Regulation
1160(2)**

Responsibilities of the Sponsor of Civilian-Owned and / or Civilian Operated Military Registered Air Systems

1160(2) All Civilian-Owned and / or Civilian Operated Military Registered Air Systems **shall** have a Sponsor, who **shall** be a Crown Servant.

**Acceptable
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Compliance
1160(2)**

Responsibilities of the Sponsor of Civilian-Owned and / or Civilian Operated Military Registered Air Systems

17. **Requirement.** Civilian-Owned and / or Civilian Operated Air Systems **should** have a nominated Sponsor once it has been established that either:

- a. The Air System is not eligible / suitable for registration by the Civilian Aviation Authority;
- b. The task is in the interest of the wider UK Government;
- c. The MOD as a Department of State has agreed that MOD resource is to be utilized to support the activity.

18. **Nomination.** The Sponsor **should** be an individual at 2* level or above, with appropriate competence, experience and delegation¹⁶ to discharge the legal responsibility of the SofS for the Air Safety of Air Systems on the UK MAR.

¹⁶ From the relevant service Chief of Staff or Chief Executive Officer.

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Compliance
1160(2)**

19. **Responsibilities.** Sponsor responsibilities are dependent upon Air System ownership and operating category, as follows:

a. **Civilian-Owned and Military Operated (Development or In Service).**

For Civilian-Owned and Military Operated Air Systems, the Sponsor **should** be responsible for:

- (1) Approving the CofU iaw RA 1160(3).
- (2) Applying for Military Registration of the Air System iaw RA 1161⁹.
- (3) Nomination of an appropriate Operating Duty Holder (ODH) to be responsible for actively managing Air Safety and to comply with RA 1020¹⁰.

b. **Civilian-Owned and Civilian Operated (Development or In Service).**

For Civilian-Owned and Civilian Operated Air Systems, the Sponsor **should** be responsible for:

- (1) Approving the CofU iaw RA 1160(3)
- (2) Applying for Military Registration of the Air System iaw RA 1161⁹.
- (3) Assuring themselves on behalf of the SofS that the appropriate Air Safety governance arrangements for RtL, flight operations, CAw and TAw management are at least equivalent to those within a Military Operated environment, as required by RA 1162¹¹. When assessing the level of activity required to assure that the Air Safety arrangements are appropriate, the Sponsor **should** consider the operating context in which the activity will be undertaken, the potential for conflict of loyalties and the level of risk exposure.
- (4) Approving the Air System's Military Permit to Fly (MPTF) (In-Service) iaw RA 1305¹⁷.

c. **Special Case Flying.** For Special Case Flying Air Systems, the Sponsor **should** be responsible for

- (1) Approving the CofU iaw RA 1160(3).
- (2) Applying for Military Registration of the Air System iaw RA 1161⁹.
- (3) Assuring themselves on behalf of the SofS that the appropriate Air Safety governance arrangements for RtL, flight operations, CAw and TAw management are in place, as required by RA 1163¹². When assessing the level of activity required to assure that the Air Safety arrangements are appropriate, the Sponsor **should** consider the operating context in which the activity will be undertaken, the potential for conflict of loyalties and the level of risk exposure.
- (4) Issuing the Certificate for Commencement of Flight for Civilian Operated (Special Case Flying) Air Systems.

**Guidance
Material
1160(2)**

Responsibilities of the Sponsor of Civilian-Owned and / or Civilian Operated Military Registered Air Systems

20. For Civilian-Owned and Military Operated Air Systems the MAA consider the relevant Release To Service Authority (RTSA) to be a Suitably Qualified and Experienced Person and independent to fulfil the role of the Sponsor.

21. Air Systems which are Military-Owned and Military Operated, but which are transferred to a CFAOS contractor for the conduct of post Maintenance test flights, will remain under the responsibilities of the original Sponsor; Sponsorship conditions do not transfer to that for Civilian Operation for the period of this type of activity. The specific requirements for the transfer of such Air Systems is detailed at RA 1164¹³.

¹⁷ Refer to RA 1305 - Military Permit to Fly (In-Service), (Special Case Flying) and (Single Task).

Guidance Material 1160(2)

22. For Civilian-Owned or Military-Owned Air Systems operating in the Civilian Operated (Development) Category, refer to RA 5880¹⁸ for approval of the MPTF (Development).
23. For Civilian-Owned Air Systems operating in the Special Case Flying Category, refer to RA 1305¹⁷ for approval of the MPTF (Special Case Flying). Special Case Flying Air Systems may also undertake developmental activity, under these circumstances the Air System will be operated iaw RA 5880 - MPTF (Development).
24. The MAA recognize that for Military-Owned and Civilian Operated (Development or In Service) Air System there will be a duality of Sponsor responsibilities; a Senior Responsible Owner (SRO) will fulfil the Sponsor responsibilities for registration of the Air System onto the UK MAR, iaw RA 1161⁹ yet, as a result of becoming Civilian Operated, a separate Sponsor will fulfil the responsibilities of RA 1162¹¹. A responsibility transfer will be required between SRO and the Sponsor, likely to occur prior to Air System Activation on the UK MAR, and the MAA can be contacted to provide bespoke clarifying guidance as and when this type of Operating Context is required.

Regulation 1160(3)

Certificate of Usage

- 1160(3) For all UK Military Registered Civilian-Owned Air Systems the Sponsor **shall** ensure there is a valid CofU¹⁹.

Acceptable Means of Compliance 1160(3)

Certificate of Usage

25. The CofU **should** be based upon the template hosted on the MAA's website.
26. The CofU **should** be produced by the Sponsor, on acceptance of the applicant's Application for Approval in Principle (AAiP), and **should** state the following:
- a. The designated type and mark of the Air System.
 - b. The unique serial number of the specific airframe(s)²⁰.
 - c. The agreed operating category(s) that the Air System is to be operated within.
 - d. A description of the proposed scope of activity to be conducted.
 - e. A description of the proposed ownership and management of Rtl, Operations, TAw and CAw.
27. The CofU **should not** include specific flight limitations; these **should** be captured in either a Release To Service (RTS), MPTF (In-Service), MPTF (Development) or MPTF (Special Case Flying).
28. The CofU **should** only be signed by the Sponsor when they are satisfied that the proposed Air Safety governance arrangements for the Air System are appropriate for the intended operating category.
29. The Sponsor **should** present the CofU to the MAA²¹ for review under the following circumstances:
- a. When applying for UK military registration accompanying the AAiP.
 - b. When requesting activation of the Air System on the UK MAR.
 - c. Following any change to, or renewal of, the CofU.

¹⁸ Refer to RA 5880 – Military Permit to Fly (MRP 21 Subpart P).

¹⁹ A CofU is only required for Civilian-Owned 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.

²⁰ See para 32.

²¹ DSA-MAA-OpAssure-MAR@mod.gov.uk.

**Acceptable
Means of
Compliance
1160(3)**

30. The Sponsor **should**:
- a. Conduct a regular review of the CofU to confirm that the scope of operation remains appropriate for UK military registration and confirm that the Air Safety governance arrangements for that Air System remain appropriate as defined by the agreed operating category.
 - b. Revoke the CofU if not satisfied with the Air Safety governance arrangements for that Air System as defined by the agreed operating category.
 - c. Inform the MAA²¹ immediately when the CofU is revoked or withdrawn for any reason.
 - d. Forward amended CofU documentation to the MAA²¹.

**Guidance
Material
1160(3)****Certificate of Usage**

31. The ANO requires that the military status of Military Registered Civilian-Owned Air Systems is recognized by the issue of a certificate signed on behalf of the SofS; this is the CofU.
32. The CofU is signed on behalf of the SofS by the Sponsor and serves to legally declare that the operation of the Air System does not have to comply with the ANO. This is the purpose of the CofU; it is neither a TAw release document nor a flight limitations document.
33. Whilst the CofU will bound the type of activity for which military registration is deemed appropriate by the Sponsor, the CofU will not be used to articulate specific flight limitations; these will be contained within either the RTS or MPTF as appropriate. As such, the application for, and signature of, a CofU for military registration of a Civilian-Owned Air System will occur at the start of the registration process and will be included in the AAiP.
34. When submitted as part of the AAiP, the CofU will reference the former civilian or non-UK military registration number, or the Manufacturer's Serial Number. Once a provisional UK military registration tail number has been allocated to the airframe the CofU will reference this tail number.
35. The CofU can refer to more than one airframe of an Air System type, providing that the scope of activity, operating category, and Air Safety governance arrangements are common for all airframes to which the CofU refers.

ANNEX A

Figure A-1: The Defence Air Environment Operating Framework

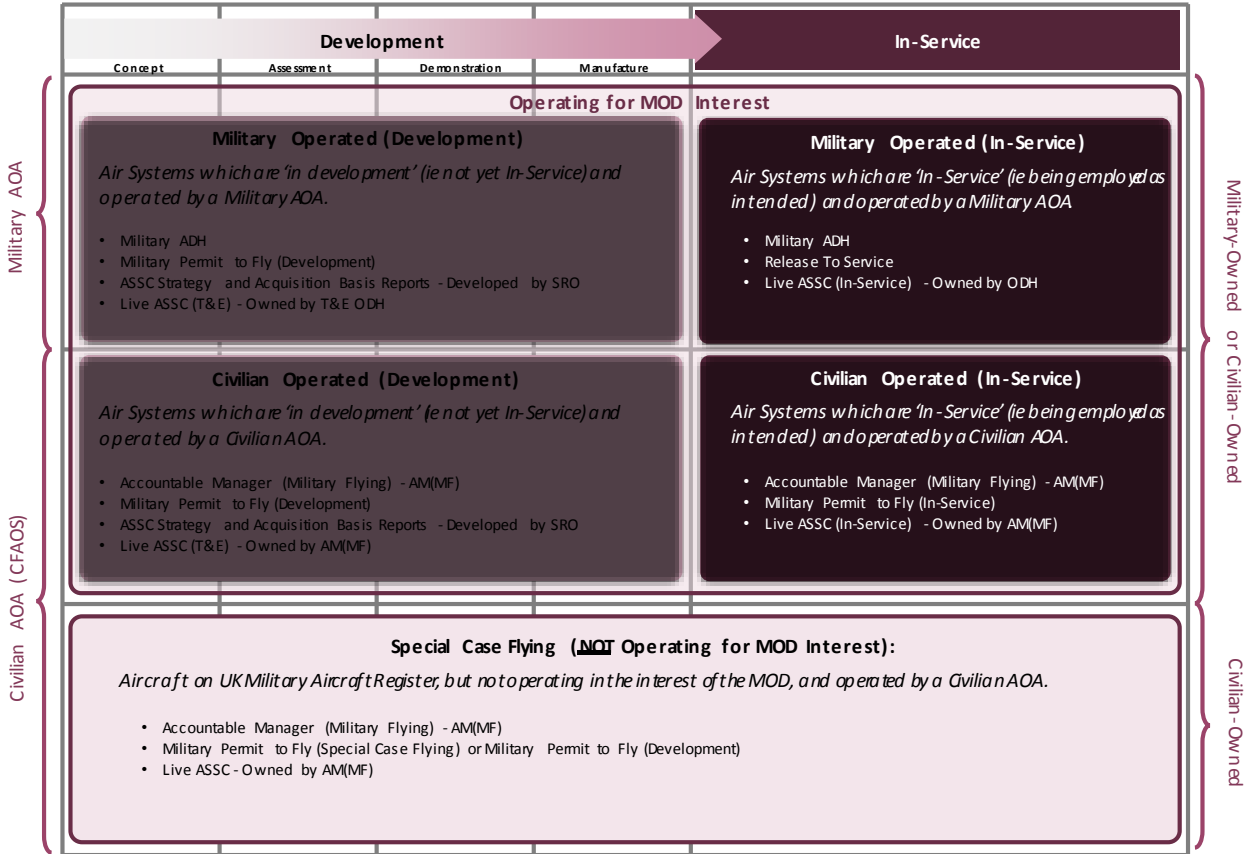


Table A-1: Defence Air Environment Operating Categories – Key responsibilities

| Operating Category | ASSC and RtL Management | TAW Management | CAW Management | Flight Release and Limitations Document |
|--|--|---|--|--|
| Military Operated (Development) | A military ADH chain will be responsible for managing the RtL associated with the activity, with the ODH required to own and manage a Live ASSC for T&E flying. | The Type Airworthiness Authority (TAA) will be fully accountable for ensuring TAW. | Delivery Duty Holder (DDH) through Military Continuing Airworthiness Manager (Mil CAM) The DDH is accountable for ensuring that CAW is managed by a MAA approved Military Continuing Airworthiness Management Organization (Mil CAMO). | MPTF (Development) Flights will be conducted iaw a MPTF (Development), which will be signed by the Operator, Design Organization (DO) ²² and the TAA (or privileged DO) |
| Military Operated (In-Service) | A military ADH chain will be responsible for managing the RtL associated with the activity, with the ODH required to own and manage a Live ASSC for the In-Service flying. | The TAA will be fully accountable for ensuring TAW. | DDH through Mil CAM The DDH is accountable for ensuring that CAW is managed by a MAA approved Mil CAMO. | RTS Flights will be conducted iaw a RTS. |
| Civilian Operated (Development) | The AM(MF) will be responsible for managing the RtL associated with the activity and will be required to own and manage a Live ASSC for the T&E flying. | Military-Owned Air Systems. The TAA will be fully accountable for ensuring TAW. Civilian-Owned Air Systems. Dependent upon the Sponsor's chosen TAW management model, either: | AM(MF) through Mil CAM The AM(MF) is accountable for ensuring that CAW is managed by a MAA approved Mil CAMO. | MPTF (Development) Flights will be conducted iaw a MPTF (Development), which will be signed by the Operator, TAA (or privileged DO). |
| Civilian Operated (In-Service) | The AM(MF) will be responsible for managing the RtL associated with the activity and will be required to own and manage a Live ASSC for the In-Service flying. | <ol style="list-style-type: none"> 1. A TAA is fully accountable for ensuring TAW or, 2. A TAA and TAM share accountability for ensuring TAW; <ol style="list-style-type: none"> a. The TAA is, as a minimum, accountable for the mandated non-delegable TAW responsibilities, alongside a; b. MAA approved DO with a TAW management supplement and a nominated TAM, who is accountable for ensuring the remaining TAW responsibilities. | AM(MF) through Mil CAM The AM(MF) is accountable for ensuring that CAW is managed by a MAA approved Mil CAMO. | MPTF (In-Service) Flights will be conducted iaw a MPTF (In-Service), which will be signed by the, Operator, the TAM, TAA, and the Sponsor as a final signatory. |
| Special Case Flying | The AM(MF) will be responsible for managing the RtL associated with the activity and will be required to own and manage a Live ASSC for either the T&E or In-Service flying as appropriate. | A MAA approved DO , with a TAW Management Supplement and a nominated TAM, will be accountable for TAW. | AM(MF) through Mil CAM The AM(MF) is accountable for ensuring that CAW is managed by a MAA approved Mil CAMO. | MPTF (Special Case Flying) or (Development) The MPTF (Special Case Flying) will be signed by the Operator and TAM as final signatory |

²² Where the term Design Organization (DO) is used this can be read as DO, Co-ordinating Design Organization (CDO) or Air System CDO as appropriate.

ANNEX B

Figure B-1: RA 1160 Series structure, superimposed on the framework of Defence Air Environment Operating Categories (See Annex A)

