

## RA 1205 - Air System Safety Cases

### Rationale

*Military Air Systems are complex and often have unique and emerging capabilities that present complicated developmental challenges; moreover, the operation of Military Air Systems presents a foreseeable and credible Risk to Life (RtL). A simple Risk assessment will not be sufficient to assess the potential impact of these RtL, whereas the use of a Safety Case provides the ability to understand the cumulative and / or interrelated Risks from the use of the complex system. This Regulatory Article (RA) requires that all Air Systems on, or destined for, the UK Military Aircraft Register (MAR) have a robust Air System Safety Case (ASSC) that will demonstrate that the Air System is, or will be capable of being, safe to operate and operated safely for a given application in a given operating environment.*

*This RA is supported by the Manual of Air System Safety Cases (MASSC) which provides comprehensive Guidance Material regarding ASSCs.*

### Contents

- 1205(1): The Air System Safety Case and Air System Safety Case Report(s)**
- 1205(2): Ownership of the Air System Safety Case**
- 1205(3): The Safety Statement**
- 1205(4): Responsibilities of Organizations supporting an Air System Safety Case**
- 1205(5): Assurance, Endorsement and Scrutiny of the Air System Safety Case**

### Definitions

1. ▶◀
2. ▶◀

### Applicability

#### Applicability of this RA

3. All Air Systems on, ▶or destined for,◀ the UK MAR▶<sup>1</sup>◀.
4. ▶◀
5. All Senior Responsible Owners (SROs) responsible for the introduction, development or modification of Air Systems on, or destined for, the UK MAR.
6. All Operating Duty Holders (ODH) / Accountable Managers (Military Flying) (AM(MF)) responsible for the operation of Air Systems on the UK MAR.

### Regulation 1205(1)

#### The Air System Safety Case and Air System Safety Case Report(s)

- 1205(1) An ASSC **shall** be produced for Air Systems on, or destined for, the UK MAR. The ASSC **shall** be articulated via an ASSC Report.

### Acceptable Means of Compliance 1205(1)

#### The Air System Safety Case and Air System Safety Case Report(s)

##### The ASSC

7. The ASSC **should** consist of a claim (or number of claims), a structured and explicit argument, and a supporting body of evidence, that together provide a compelling, comprehensible and valid case that an Air System is safe to operate and being operated safely within a clearly defined context<sup>2</sup>.

<sup>1</sup> ▶ Open Category and Specific S1 sub-category Remotely Piloted Air Systems (RPAS) do not require an ASSC. Specific S2 sub-category and Certified Category RPAS require an ASSC. Refer to RA 1600 Series – Remotely Piloted Air Systems.◀

<sup>2</sup> That is, for a given application(s) in a given operating environment(s).

## Acceptable Means of Compliance 1205(1)

8. Development of the ASSC **should** begin at the concept stage<sup>3</sup>, with Safety arguments considered during capability design and selection, and be managed through to ►(and including)◄ disposal.
9. Development of the Air System's Safety requirements and context of use **should** be influenced by the current, or intended, operators and maintainers of the Air System. For a unique and emerging technology, with no end-user expertise, an appropriate Suitably Qualified and Experienced Person (SQEP) stakeholder group **should** be established.
10. The ASSC **should** be managed via an Air Safety Management System (ASMS) established and maintained in accordance with (iaw) RA 1200<sup>4</sup>.
11. The ASSC **should** explicitly address the Human Factors aspects associated with the operation and Maintenance of the Air System.
12. The ASSC **should** explicitly address the inclusion, or justified exclusion, of Safety-enhancing technologies and techniques from across the aviation industry, both during the initial development of the capability and once In-Service<sup>5</sup> through periodic review of the ASSC ►◄.
13. ►Where a Flight Simulator Training Device<sup>6</sup> is procured or utilized in support of the Air System then the ASSC owner **should** ensure that it is appropriately captured in the ASSC.◄
14. The ASSC **should** address all operations being, or intended to be, conducted with the Air System. The ASSC **should** explicitly address any higher-technical merit and / or higher-Risk activities and present a coherent and convincing Safety argument backed up by valid supporting evidence, which might be bespoke to these capabilities ►◄.
15. As the ASSC develops, it **should** enable the following:
  - a. Provision of an 'ASSC Strategy' which ►begins to mature the ASSC Claim-Argument-Evidence construct that is endorsed by the end-user ODH / AM(MF). This effectively provides a summary of the programme activity that substantiates the claims and arguments◄ that the capability has the potential to be managed safely across all Defence Lines of Development (DLoD)►<sup>7</sup>◄ through its lifecycle.
  - b. Provision of an 'ASSC Acquisition Basis' which ►continues to mature an ASSC Claim-Argument-Evidence construct, begins to summarize argument substantiation evidence, continues to effectively summarize the programme activity that is substantiating the claims and arguments, and demonstrates that operating Risks have influenced capability design / selection and Pan-DLoD Safety requirements.◄
  - c. Provision of a 'Live ASSC' which demonstrates, through claim, explicit argument and appropriately cited evidence, that the Air System is safe to operate and operated safely across all DLoDs and that all RtL is both As Low As Reasonably Practicable (ALARP) and Tolerable within a clearly defined context<sup>8</sup>.

### The ASSC Report(s)

16. An ASSC Report **should** be one document which captures the key components of the ASSC at a point in time. It **should** articulate the Safety claim and the Safety argument and summarize the supporting evidence in a clear and concise format.
  - a. The ASSC Strategy Report (for ►the Outline Business Case (OBC)◄) **should** demonstrate that the proposed Air System and the associated

<sup>3</sup> The first stage of the CADMID cycle (Concept, Assessment, Demonstration, Manufacture, In-service, Disposal).

<sup>4</sup> Refer to RA 1200 – ►◄ Air Safety Management.

<sup>5</sup> The term 'service', when used in the context of an Air System being 'In-Service' or 'introduced into service', refers to the phase where the Air System has completed development and is now being used to deliver the capability for which it was intended, be that training or operations. It does not refer to use of the Air System by one of the branches of HM Armed Forces (ie the Services – Navy, Land or Air).

<sup>6</sup> ►Refer to RA 2375 – Qualification, Approval and Use of Flight Simulator Training Devices.

<sup>7</sup> Refer to MAA02 – Military Aviation Authority Master Glossary.◄

<sup>8</sup> Refer to RA 1210 – Ownership and Management of Operating Risk (Risk to Life).

### Acceptable Means of Compliance 1205(1)

processes and measures described are likely to support effective ALARP and Tolerable judgments. ► **The Report should capture a consistent Claim-Argument-Evidence construct alongside a summary of the programme activity being undertaken to substantiate the claims and arguments.** ◀

b. The ASSC Acquisition Basis Report (for ► **the Full Business Case (FBC)** ◀ **should** demonstrate that the processes and their artefacts have influenced capability design / selection ► **or,** ◀ where this has not been achieved, ► ◀ demonstrate the additional mitigation measures which are required to be implemented, eg Training Needs Analysis. ► **The Report should capture a consistent Claim-Argument-Evidence construct alongside a summary of the on-going programme activity being undertaken to substantiate the claims and arguments.** ◀

c. The ASSC Report(s) associated with the Live ASSC (for either ► **Development or In-Service**) ◀, **should** demonstrate that the processes are supporting effective ALARP and Tolerable judgements within a clearly defined context. A Live ASSC Report **should** be produced ► **as part of the Application for Approval in Principle to register an Air System on the UK MAR<sup>9</sup>,** ◀ prior to activation of the Air System on the UK MAR, and following review of the Live ASSC as required at para ► **27** ◀.

17. To ensure the ASSC Report presents a clear and compelling case, evidence **should** be referenced and only directly transposed into the ASSC Report where critical to the meaning or strength of an argument.

18. Legacy versions of ASSC Reports **should** be considered significant Air Safety related documents and retained iaw RA 1225<sup>10</sup>.

### Guidance Material 1205(1)

#### The Air System Safety Case and Air System Safety Case Report(s)

19. **Safety Case Regime.** The Safety Case regime places the onus on the operator, who understands the Air System and how it will be, or is, employed to identify and manage the Risks associated with their activity, rather than simply relying on prescriptive regulation alone. To assist the regulated community, the MAA has produced the MASSC which provides guidance material for the development and management of the ASSC and of the associated ASSC Report(s).

20. **Primacy of the ASSC argument.** As described in the MASSC, an argument without supporting evidence is unfounded, whilst evidence without argument is unexplained and therefore meaningless, regardless of the quality or quantity of that evidence. The overwhelming academic view revolves around the primacy of the Safety argument; however, in practice this is often neglected with the emphasis being incorrectly placed on evidence and leaving the connection between the evidence and the argument unexplained. Within an ASSC, it is the Safety argument that has primacy, underpinned and supported by evidence.

21. **Safety-Enhancing Technologies and Techniques.** The principle behind para 12 is the requirement to consider good practice as part of any ALARP argument<sup>11</sup>. As such, the design and selection of the Air System has to consider extant Safety-enhancing technologies and techniques from across the aviation industry which are applicable to the intended context, with decision(s) captured within the developing ASSC. The consideration of emerging Safety-enhancing technologies and techniques will depend on the anticipated Safety benefit, and the maturity of those technologies and techniques against the programme timeline. Once the Air System is In-Service, the periodic review of the Live ASSC (In-Service) will need to confirm that arguments based on the adoption of good practice are still valid, cognisant of any changes in context or adoption of new technologies and techniques across the aviation industry. ► **Examples of such technologies<sup>12</sup> and techniques include collision warning systems, terrain awareness and warning systems, cockpit voice / flight data**

<sup>9</sup> ► Refer to RA 1161 – Military Registration of Air Systems Operating within the Defence Air Environment. ◀

<sup>10</sup> Refer to RA 1225 – Air Safety Documentation Audit Trail.

<sup>11</sup> Refer to RA 1210 – Ownership and Management of Operating Risk (Risk to Life), Annex B for more details.

<sup>12</sup> ► Noting that some safety-enhancing technologies (ie Cockpit Voice / Flight Data Recorder) are mandatory equipment for the Air System to achieve Type Certification iaw RA 5810 – Military Type Certificate (MRP 21 Sub Part B). ◀

### Guidance Material 1205(1)

recorders, windshear alerting systems, wire-strike protection systems and flight data monitoring programmes.

22. **Higher-technical merit and / or higher-Risk activities.** Such operations include: Night Vision Device operations, air-to-air refuelling, embarked operations, degraded visual environment operations, training for contested airspace operations, the use of equipment and / or procedures cleared under an Operational Emergency Clearance (OEC) and operations with reduced Safety margins<sup>13</sup>.

23. It is essential that development and management of an ASSC covers all DLoDs within its Claim-Argument-Evidence hierarchy. Approaching the development of an ASSC through a 'Pan-DLoD lens' can also assist in delivering an effective Claim-Argument-Evidence construct; the MASSC offers further guidance. ◀

### Regulation 1205(2)

#### Ownership of the Air System Safety Case

1205(2) The SRO or ODH / AM(MF) **shall** develop, manage and own the ASSC subject to the following:

- a. An ASSC **shall** have a single owner at any one time.
- b. For new capabilities, the SRO **shall** own the ASSC from Concept until transfer of the ASSC to the end-user ODH / AM(MF).
- c. The end-user ODH / AM(MF) **shall** take ownership of the ASSC before any RtL is incurred through In-Service operation of the Air System.
- d. Where ▶ **Development**<sup>14</sup> ◀ flying is to be conducted, the ODH / AM(MF) for the ▶ **Development** ◀ flying **shall** own a separate ASSC specific to the context of the ▶ **Development** ◀ flying.

### Acceptable Means of Compliance 1205(2)

#### Ownership of the Air System Safety Case

##### Roles and Responsibilities of the ASSC Owner - SRO

24. From nomination as a project SRO ▶<sup>15</sup> ◀ and on ownership of the project mandate<sup>16</sup>, until transfer of the ASSC to the end-user ODH / AM(MF), the SRO **should**:

- a. Manage the development of the ASSC argument and its associated evidence requirements.
- b. Ensure delivery of the evidence through Integrated Test, Evaluation and Acceptance (ITEA), or equivalent, which provides the relevant role-relation and independent test and / or evaluation.
- c. Ensure that Air Safety considerations are founded in capability requirement design and selection, securing end-user engagement through the Requirements Manager.
- d. Ensure appropriate operator, maintainer and ITEA stakeholder engagement during development of the ASSC Strategy and ASSC Acquisition Basis.

<sup>13</sup> ▶ For example, tasks utilizing approved Reduced Operating Standard or Military Operating Standard take-off and landing performance.

<sup>14</sup> Refer to RA 1160 – The Defence Air Environment Operating Framework.

<sup>15</sup> For civil-initiated procurement of Civilian-Owned / Civilian Operated Air Systems which do not have a SRO, the programme manager responsible for planning, governing and overseeing the successful delivery of the programme's output / product owns and manages the ASSC until the Air System is activated on the UK MAR and the ASSC handed over to the AM(MF). ◀

<sup>16</sup> Or whatever mechanism is equivalent in ▶ **civilian** ◀ industry / operators that confers budgetary authority to a nominated programme manager at the start of a programme involving development / procurement of an Air System.

**Acceptable  
Means of  
Compliance  
1205(2)**

- e. Ensure that a statement of endorsement from the end-user ODH / AM(MF)<sup>17</sup> is available with the ►OBC◄ and ►FBC◄ Investment Appraisal Committee (IAC) submission<sup>18</sup>.
- f. Secure ►an◄ MAA scrutiny statement of the ASSC Strategy Report and ASSC Acquisition Basis Report iaw RA 1205(5) paras ►47◄ and ►48◄.
- g. Ensure that decisions that have the potential to impact on the Safety argument underpinning the subsequent Live ASSC are endorsed by the end-user ODH / AM(MF)<sup>17</sup>.
- h. Where ►Development◄ flying is required ►◄, support the ODH / AM(MF) responsible for conducting the ►Development◄ flying to generate the Live ASSC (►Development◄) specific to the context of the ►Development◄ flying.
- i. ►Secure an MAA review of an appropriately mature ASSC Report when applying to register an Air System on to the UK MAR<sup>9</sup> as part of the Application for Approval in Principle (AAIP).◄
- j. Secure ►an◄ MAA review of a fully-substantiated Live ASSC, articulated through a Live ASSC Report ►(Development / In-Service), when requesting activation of an Air System on to the UK MAR<sup>9</sup>.◄
- k. Manage the development of the ASSC argument, and its associated evidence requirements, when an Air System returns to the developmental domain due to major modification or upgrade project<sup>19</sup>.

**Roles and Responsibilities of the ASSC Owner – ODH / AM(MF)**

25. ►Development◄ Flying. Prior to accepting any RtL associated with the operation of an Air System for ►Development◄ activity conducted during initial capability development or modification, the ODH / AM(MF) responsible for the ►Development◄ flying **should**:
- Own and manage a Live ASSC (►Development◄) which delivers a substantiated argument for safe ►Development◄ flying.
  - Engage with the SRO and / or end-user ODH / AM(MF) to ensure that the ►Development◄ evidence requirements are clearly understood and that any role-relatable ►Development◄ activity is aligned to the intended In-Service operating context.
26. **In-Service Flying.** Prior to accepting any RtL associated with the operation of an Air System in their Area of Responsibility (AoR), the end-user ODH / AM(MF) **should**:
- Implement procedures to review the ASSC as part of the endorsement(s) required by the SRO during ASSC development.
  - Assume ownership and management of the Live ASSC (In-Service) following a review of the ASSC.
  - Ensure the ASMS has been updated to include ASSC management.
27. **Periodic Review.** ►The◄ ODH / AM(MF) ►◄ **should** ►formally review their Live ASSC (Development / In-Service) as Chair of a pan-DLoD Air System Safety Working Group (ASSWG)<sup>20</sup>, at least once every 12 months and as part of ODH / AM(MF) succession<sup>21</sup>. Through this review, the ODH / AM(MF) **should** scrutinise the validity of their Live ASSC (Development / In-Service) argument and supporting evidence to produce a Live ASSC Report and Safety Statement.◄
- ◄

<sup>17</sup> Where the end-user ODH / AM(MF) has not yet been identified or appointed, endorsement is to be sought from a suitably empowered representative.

<sup>18</sup> Or equivalent Approving Authority depending on the category case (A-D) of the project.

<sup>19</sup> Refer to RA 5305 – In-Service Design Changes; and RA 5820 – Changes in Type Design (MRP 21 Subpart D).

<sup>20</sup> ►◄ Or AM(MF) equivalent.

<sup>21</sup> ►Where ASSWGs cannot be completed ahead of assumption of ODH / AM(MF) responsibilities, these **should** be completed as soon as reasonably practicable thereafter.◄

## Acceptable Means of Compliance 1205(2)

b. ▶◀

### ▶Other occasions to◀ Review ▶◀ an ASSC

28. In addition to the periodic review of the Live ASSC required at para ▶27◀, there ▶are likely to◀ be occasions when changes to either the Air System itself, the operating context for the Air System, or elements of the argumentation supporting the ASSC require a review of the ASSC to be initiated. The requirement to undertake a review of the ASSC **should** be determined by the appropriate ASSC owner, in consultation with the ODH / AM(MF), SRO and Type Airworthiness Authority (TAA) ▶/ Type Airworthiness Manager (TAM) or Commodity Chief Engineer (CE)<sup>22</sup>◀ as appropriate. Changes which **should** initiate a review of the ASSC include:

- a. A change in the operating context of the Air System.
- b. In-Service Design Changes▶<sup>23</sup>◀.
- c. Changes arising from any DLoD requiring change to the Release To Service (RTS) ▶or Military Permit to Fly (Development), (In-Service) or (Special Case Flying).◀
- d. Changes leading to the issue of a new certificate of registration on the UK MAR.
- e. ▶Permanent◀ transfer of the Air System to a different ▶Aircraft◀ Operating Authority▶<sup>24</sup>◀, or as part of ODH / AM(MF) succession.
- f. ▶A◀ material change to the Safety argument.
- g. ▶A◀ major change to Statement of Operating Intent and Usage.
- h. A significant Continuing Airworthiness concern.
- i. Post an accident, major incident or prior to return to flying.
- j. Recognition of a new condition of higher-technical merit and / or higher-Risk activity.
- k. Adoption of a new Safety-enhancing technology and / or technique as good practice by the wider aviation industry.
- l. ▶When considering◀ any change to the planned Out of Service Date of the Air System.

### ASSC Ownership Transfer

29. Transfer of ASSC ownership **should** be captured during a formal pan-DLoD review to ensure continued validity of the ASSC argument and supporting evidence in relation to ▶the◀ Air System's ▶◀ context of use. The transferring owner **should** notify the MAA<sup>25</sup> of the ASSC transfer.

## Guidance Material 1205(2)

### Ownership of the Air System Safety Case

30. Having a single owner of an ASSC does not limit an Air System type to have a single ASSC; a single In-Service Air System type may be operated by multiple Aircraft Operating Authorities with differing context of use, thus requiring each ODH / AM(MF) operating that type to own and manage a separate ASSC.

31. The principle outlined in para ▶30◀ will include those circumstances where an In-Service Air System is transferred to a CFAOS organization<sup>26</sup> for Maintenance Test Flying (MTF). The end-user ODH / AM(MF) will own and manage the ASSC (In-Service) aligned to the full context of in-service flying, whereas the AM(MF) for the CFAOS organization conducting the MTF will own and manage a separate Live ASSC for the specific context of the MTF conducted by that organization. Much of the argument and evidence supporting each ASSC will be common; indeed, the ASSC for

<sup>22</sup> ▶Commodity CE for changes that do not form part of the Type Airworthiness Safety Assessment (Report).

<sup>23</sup> Primarily Major In-Service Design Changes iaw RA 5305 – In-Service Design Changes; and as defined in RA 5820 – Changes in Type Design (MRP 21 Subpart D).

<sup>24</sup> Refer to RA 1164 – Transfer to UK Military Registered Air Systems.◀

<sup>25</sup> Email [DSA-MAA-MRPEquiries@mod.gov.uk](mailto:DSA-MAA-MRPEquiries@mod.gov.uk).

<sup>26</sup> That is an organization approved by the MAA to operate military-registered Air Systems; Refer to RA 2501 – Contractor Flying Approved Organization Scheme.

### Guidance Material 1205(2)

the MTF activity may rely heavily on the end-user's Live ASSC (In-Service), but with a much narrower context and a focus on the conduct of the MTF activity. Similarly, the end-user's Live ASSC (In-Service) will include claims relating to the Maintenance activity being conducted by the MTF organization. In both cases, a clear articulation of the interface between the organizations, the evidence on which each ASSCs is dependent, and a robust line of communication to highlight any weaknesses will be a fundamental part of the argumentation within each ASSC.

32. Where an Air System is undergoing ► **Development** ◀ flying as part of initial development or modification, the ODH / AM(MF) responsible for the ► **Development** ◀ flying will be required to own and manage a separate Live ASSC (► **Development** ◀) specific to the context of the ► **Development** ◀ flying. The Live ASSC (► **Development** ◀) will therefore exist in parallel to the Live ASSC (In-Service), with the latter being either owned and developed by the SRO or owned and managed by the end-user ODH / AM(MF). Whilst some elements of the Live ASSC (► **Development** ◀) and the Live ASSC (In-Service) are likely to be common, the context for each will be different and the overall claim is likely to require a different argument strategy. For example, the argument strategy for the Live ASSC (In-Service) might include reliance on a fully-substantiated equipment Safety Assessment and RTS to support world-wide operations in poor weather with the Air System flown by any qualified front line crew, regardless of experience. Conversely, the context for the Live ASSC (► **Development** ◀) may be focused on ◀ testing and / or evaluating new capabilities; the argument strategy may therefore focus on the organizational aspects such as the specific competencies of trials personnel, the highly-controlled environment and the specific trials approval / Risk assessment processes in place.

33. Amplifying guidance regarding the through life applicability of the ASSC, its influence on the development of a 'Safety capable' Air System, the lifespan of ASSC ownership and the changing roles and responsibilities for its management, can be found in the MASSC Chapter 4.

34. The SRO or ODH / AM(MF) may consider the utility of appointing an ASSC manager to provide consistent oversight of the ASSC.

35. An effective Safety Case regime recognizes that a system is unsafe until it is proven to be safe, and sets primacy in challenging all claims, arguments, evidence and evidence owners to enable the ASSC owner to state that all RtL are both ALARP and Tolerable.

### Regulation 1205(3)

#### The Safety Statement

1205(3) ODH / AM(MF)s **shall** make a Safety Statement as a formal declaration that all RtL associated with an Air System are both ALARP and Tolerable within a clearly defined context.

### Acceptable Means of Compliance 1205(3)

#### The Safety Statement

36. ► **The** ◀ ODH / AM(MF) **should** issue a Safety Statement that includes:

- a. A formal declaration that all current or foreseeable RtL are both ALARP and Tolerable within a clearly defined context.
- b. Supplementary information outlining areas of concern with the ASSC or management of RtL.

37. Additionally, ► **the** ◀ ODH **should** note in their Safety Statement any RtL that has been escalated for higher-level ownership.

38. ► **The** ◀ ODH / AM(MF) **should** review their Safety Statement:

- a. At least annually, following review of the ASSC.
- b. Prior to implementing a significant change to an Air System in any DLoD, including change in use or operating context.
- c. Following any other change that the ODH / AM(MF) judges to impact on the validity of the extant Safety Statement.

**Acceptable Means of Compliance 1205(3)**

- d. As a formal element of ASSC ownership transfer.
39. ► **The** ◀ ODH **should** present their Safety Statement to their Senior Duty Holder. ► **The** ◀ AM(MF) **should** present their Safety Statement to ► **their Sponsor.** ◀

**Guidance Material 1205(3)**

**The Safety Statement**

40. The Safety Statement is a formal, personal confirmation that the RtL for an Air System is both ALARP and Tolerable within a clearly defined context and is supported by an auditable record of key Air Safety related assumptions, decisions and arguments within the ASSC. The Safety Statement may also document a summary of the key issues arising from the ASSC, the understanding and management of which will have enabled the ODH / AM(MF) to sign the Safety Statement.

41. A suggested format for the Safety Statement is provided on the MAA websites.

**Regulation 1205(4)**

**Responsibilities of Organizations Supporting the Air System Safety Case**

1205(4) SROs and ODH / AM(MF)s **shall** ensure that heads of organizations<sup>27</sup> delivering elements of the ASSC, understand their roles and responsibilities in supporting the ASSC.

**Acceptable Means of Compliance 1205(4)**

**Responsibilities of Organizations Supporting the Air System Safety Case**

42. ► **The** ◀ SRO and ODH / AM(MF) **should** ensure that heads of organizations supporting, or delivering elements of, the ASSC:
- Are responsible for the performance, Safety and integrity of those ASSC elements for which they are responsible and / or the services that they provide.
  - Deliver those elements of an ASSC for which they are responsible.
  - Inform the relevant SRO or ODH / AM(MF) of any deviations or deficiencies that might affect the associated ASSC.

**Guidance Material 1205(4)**

**Responsibilities of Organizations Supporting the Air System Safety Case**

43. Some of the pan-DLoD elements of an ASSC may be delivered by external organizations outside the direct control of the ASSC owner, such as Release To Service Authorities (RTSAs), Delivery Teams, infrastructure providers, airfield service providers etc. The onus is on the ASSC owner (SRO or ODH / AM(MF) as appropriate) to clearly articulate the responsibilities of such organizations, and the relevance of those responsibilities within the context of the ASSC, to the head of each organization and to ensure they are being delivered.

44. With clearly articulated responsibilities, heads of organizations supporting the ASSC will understand the consequences of failing to deliver in respect of an ASSC. ► **Activities to discharge relevant responsibilities will be managed day to day via the associated ASMS**<sup>28</sup>. ◀

<sup>27</sup> Refer to RA 1020 – Aviation Duty Holders and Aviation Duty Holder-Facing Organizations - Roles and Responsibilities.

<sup>28</sup> ► **RA 1200 (Air Safety Management) details ASMS requirements to manage hazards and communicate effective interfaces.** ◀

## Regulation 1205(5)

### Assurance, Endorsement and Scrutiny of the Air System Safety Case

1205(5) The ASSC **shall** be subject to independent ► **Assurance prior to activation on the UK MAR and annual Assurance whilst active on the UK MAR.** ◀ Additionally, the ASSC **shall** be subject to endorsement and scrutiny at defined points of development.

## Acceptable Means of Compliance 1205(5)

### Assurance, Endorsement and Scrutiny of the Air System Safety Case

#### Assurance

45. ► **The** ◀ SRO **should** obtain independent Assurance of ► :
- **Their ASSC Strategy as part of the OBC IAC submission.**
  - **Their ASSC Acquisition Basis as part of the FBC IAC submission.**
  - **The ASSC (In-Service) immediately prior to entry into service and transfer of responsibility for the ASSC to the ODH / AM(MF).** ◀
46. ► **The** ◀ ODH / AM(MF) **should** ► **conduct** ◀ annual ► ◀ Assurance of their Live ASSC ► (Development) and / or (In-Service) by verifying the effectiveness of their (and any interfacing) ASMS in substantiating the ASSC claim(s), validated via the ASSWG<sup>20</sup>. ◀

#### Endorsement and MAA Scrutiny

47. For Air Systems subject to MOD ► **IAC** ◀ approval, the ASSCs **should** be endorsed by the end-user and scrutinised by the MAA at the following points:
- **Outline Business Case.** ◀ As part of the ► **OBC** ◀ submission, the SRO **should** prepare an ASSC Strategy Report capturing the ASSC Strategy. ► **This** ◀ Report **should** be endorsed by the end-user ODH / AM(MF)<sup>17</sup> and copied to the MAA<sup>25</sup> for provision of their scrutiny statement.
  - **Full Business Case.** ◀ As part of the ► **FBC** ◀ submission, the SRO **should** prepare an ASSC Acquisition Basis Report. ► **This** ◀ Report **should** be endorsed by the end-user ODH / AM(MF)<sup>17</sup> and copied to the MAA<sup>25</sup> for provision of their scrutiny statement.
  - **Application for Approval in Principle.** The SRO or Sponsor **should** submit the associated ASSC-R when applying to register an Air System on to the UK MAR<sup>9</sup> as part of the Application for Approval in Principle (AAIP). ◀
  - **Activation on the UK MAR.** The SRO **should** submit the Live ASSC Report (► **Development / In-Service** ◀) to the MAA for review prior to activation on the UK MAR as either a Development or In-Service Air System.
48. For ► **civilian** ◀ initiated procurement of ► **a Civilian-Owned Air System which is not subject to MOD IAC** ◀ approval, the following ASSC endorsement schedule **should** be used:
- The company **should** submit the ► **ASSC-R (Development / In-Service)** ◀ to the MAA<sup>25</sup> for review ► **when applying to register an Air System on to the UK MAR<sup>9</sup> as part of the** ◀ Application for Approval in Principle (AAIP) ► ◀.
  - ◀
  - The AM(MF) **should** submit the Live ► **ASSC-R (Development / In-Service)** ◀ to the MAA<sup>25</sup> for review prior to activation on the UK MAR (on which issue of Certificate of Usage would be contingent).

**Guidance  
Material  
1205(5)****Assurance, Endorsement and Scrutiny of the Air System Safety Case**

49. Those responsible for the development and management of the ASSC may determine the most appropriate means of independent Assurance of the ASSC ▶◀ by ▶ **considering** ◀ factors such as the stage of ASSC development and the overall context / complexity of the ASSC. Options ▶◀ include ▶ **(but are not limited to)** ◀ a suitable Independent Safety Auditor, RTSA, ▶ **Sponsor**, ◀ Safety Centre, or the Air Safety Team or Safety Case Manager from another Group or Service, providing that the individual or organization is ▶ **demonstrably SQEP** and is ◀ not unduly influenced by commercial, peer or rank / status pressures.

50. ▶ Following initial independent Assurance of the ASSC (as detailed at para 45.c), ongoing annual Assurance will be conducted by the ODH / AM(MF), primarily via the ASSWG. It will confirm that the management of the ASSC (via the ASMS) is appropriate for the Air System and its operating context. It must affirm (and reaffirm annually / at least once every 12 months) that:

- a. The claims are correct,
- b. The arguments and evidence effectively substantiate the claims being made, and
- c. The ownership of the ASSC is effectively understood across the AoR and supports Air Safety decision making.

51. Evidence is the tangible output of an ASMS and is, therefore, subject to 1<sup>st</sup> / 2<sup>nd</sup> / 3<sup>rd</sup> Party Assurance under the compliance monitoring function of the ASMS. Day-to-day management of issues which could impact ASSC validity will be via the ASMS of relevant organization(s), including:

- a. The identification of new and evolving hazards,
- b. The setting and monitoring of appropriate objectives,
- c. Effective communication across interfaces in a timely manner, and
- d. Correctly scoped Safety Assurance.

52. If the context of the ASSC changes then it is highly likely the argument(s) will be affected and generate a revised 'demand signal' for evidence; thus, a review and update of any associated ASMS(s) will be required. The ODH / AM(MF) must strongly consider further independent Assurance at this point, to re-establish their confidence in the ASSC and reset the basis of their ongoing annual Assurance. Additional guidance material can be found in the MASSC and the Manual of Air Safety. ◀