RECORD OF CHANGE – DASR RELEASE 28 APR 2022

1. This document records all changes to the Defence Aviation Safety Regulation (DASR) introduced in the 28 APR 22 release. An overview of noteworthy changes is available in the Summary of Changes.

2. An index of all changes, grouped by DASR part, is provided in Table 2 below. Each entry is hyperlinked to an Amendment Record that documents the rationale for the change, previous text and revised text.

3. Each change is classified as Major, Minor or Editorial according to its impact. Table 1 below provides classification definitions and identifies the colour coding used in Table 2.

4. The DASR Change Proposal (DCP) reference number associated with each change is provided for traceability. A single DCP may introduce several changes having similar effect and may affect multiple DASR parts. Any Notices of Proposed Amendment and associated Comment Response Documents issued by DASA are available on the DASA web site and are identified by the same DCP reference number.

5. Any revised text within the Initial and Continuing Airworthiness regulations that is unique to DASR, i.e. different to the base European Military Airworthiness Requirements, is highlighted green.

6. This document is intended to be accessed in electronic format using bookmarks and hyperlinks for navigation; the page numbers applied to Amendment Records do not reflect page numbers within this compiled Record of Change.

Table 1. Change classifications and colour coding

Major	Introduces significant regulation change with a corresponding change to compliance requirements.
Minor	Improves the regulation but does not change the intent or impose new regulation.
Editorial	Applies changes such as corrections or updates to terminology.

Table 2. Index of changes

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
Support Material			
National Licence Equivalence Paper (NLEP) and Defence Technical Equivalent Qualification were removed. (DCP 2020 - 008)		Editorial	
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft (DCP 2021 – 049)		Editorial	
DASR 145 – Requirements for Maintenance Organisations			
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft (DCP 2021 – 049)		Editorial	145.A.30(d) AMC to 145.A.30 Appendix IV to AMC to 145.A.30(e) AMC to 145.A.47(a) GM to 145.A.55(c)(1) GM to 145.A.65(b)(3) 145.A.70(a)
DASR 147 – Aircraft Maintenance Training Organisations			
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft (DCP 2021 – 049)		Editorial	Annex A to AMC to 147.A.100
DASR 21 – Aircraft Design, Production and Certification			
References to 'Airworthiness Coordination and Policy Agency' changed to 'the Authority'. (DCP 2021-051)		Editorial	GM to 21.A.179
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft (DCP 2021 – 049)		Editorial	GM to 21.A.3(b) GM to 21.A.124(a) GM to 21.A.126(b)(6) AMC to 21.A.129(f)(2)

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
			21.A.143(a) 21.A.145(c) GM to 21.A.145(c)(1) GM to 21.A.145(c)(2) AMC to 21.A.145(d)(2) 21.A.151 AMC to 21.A.165(f)(2) 21.A.239 GM1 to 21.A.239(a) 21.A.243 21.A.263
Incorporating changes from the EMAR 21 version 2.0 release into DASR 21 Subpart B. (DCP 2021-048)		Major	AMC to 21.A.14(b) 21.A.15 AMC to 21.A.15(a) AMC to 21.A.15(b) Appendix A to AMC 21.A.15(b) GM to 21.A.15(b) GM1 to 21.A.15(b) AMC to 21.A.15(b)(5) AMC to 21.A.15(b)(6) GM to 21.A.15(b)(6) GM to 21.A.15(c) GM to 21.A.15(e) and (f) 21.A.16A 21.A.16B AMC to 21.A.16B GM to 21.A.16B 21.A.17A AMC to 21.A.17A AMC1 to 21.A.17A GM to 21.A.17A GM1 to 21.A.17A AMC to 21.A.17A(a)

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
			21.A.20 AMC to 21.A.20 GM to 21.A.20 GM1 to 21.A.20 GM2 to 21.A.20 GM to 21.A.20(b) AMC to 21.A.20(c) GM to 21.A.20(d) 21.A.21 AMC to 21.A.21(a) AMC to 21.A.21(a)(1) 21.A.31 21.A.33 AMC to 21.A.33 GM to 21.A.33(d) 21.A.35 21.A.41 21.A.44(a) 21.A.55 21.A.57
Incorporating changes from the EMAR 21 version 2.0 release into DASR 21 Subpart D. (DCP 2021-048)		Major	21.A.90A GM to 21.A.90A 21.A.91 GM to 21.A.91 Appendix A to GM 21.A.91 21.A.92 21.A.93 AMC to 21.A.93 AMC to 21.A.93(b) GM to 21.A.93(b) GM1 to 21.A.93(b)

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
			GM to 21.A.93(b)(2) AMC to 21.A.93(b)(iii) GM to 21.A.93(b)(iii) GM to 21.A.93(c) 21.A.95 AMC to 21.A.95 GM to 21.A.95(b) 21.A.97 AMC to 21.A.97 21.A.101 AMC 21.A.101 GM to 21.A.101 Appendix A to GM.A.101 21.A.105 21.A.107 21.A.109
Incorporating changes from the EMAR 21 version 2.0 release into DASR 21 Subpart E. (DCP 2021-048)		Major	21.A.111 21.A.113 AMC to 21.A.113(a) 21.A.115 AMC to 21.A.115 21.A.118A 21.A.119
DASR 66 – Military Aircraft Maintenance Licencing			
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft (DCP 2021 – 049)		Editorial	66.A.10(c) 66.A.20(b) AMC1 to 66.A.20(b)2 AMC to 66.A.20(b)3 AMC1 to 66.A.30(a)(5)(ii) 66.A.45(a) GM to 66.A.70 Appendix I

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
			Appendix III
DASR AO.Gen – Air Operations General			
References to 'ACPA' changed to 'DASA'. (DCP 2021-051)		Editorial	AMC to AO.GEN.05.D 5.
DASR ARO – Authority Requirements for Air Operations			
References to 'DACPA' changed to 'DASA'. (DCP 2021-051)		Editorial	GM to ARO.60.A 2.
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft. (DCP 2021 – 049)		Editorial	AMC to ARO.100.C
DASR Basic Regulation			
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft. (DCP 2021 – 049)		Editorial	BR.20 Annex A to BR.20.A BR.30(b) BR.30(c) BR.30(d) BR.50(c) BR.50(h) Appendix 1
DASR FSTD – Flight Simulation Training Devices			
References to 'ACPA website' changed to 'DASA website'. (DCP 2021-051)		Editorial	AMC.FTSD.05.A 2.

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
DASR M – Continuing Airworthiness Management			
Text was reduced to simplify and clarify Guidance Material on documenting and managing CAMO findings discovered during an airworthiness review to align with M.A.905. (DCP 2021-014)		Minor	GM to M.A.710(e)
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft. (DCP 2021 – 049)		Editorial	Appendix XI to AMC to M.A.708(c)
DASR MED – Medical			
MED.05 was reviewed and rewitten to facilitate outcome based decisions to be made by the regulated community. (DCP 2021-012)		Major	MED.05 GM to MED.05 AMC to MED.05(a)1 GM to MED.05(a)2 AMC to MED.05(a)2 GM to MED.05(a)2.(i)b GM to MED.05(b) AMC to MED.05(b) GM to MED.05(b)1 GM to MED.05(b)2 GM to MED.05(c) AMC to MED.05(c) GM to MED.05(d) GM to MED.05(e) GM to MED.05(f)
DASR NDR – Non-Defence Registered Aircraft			
References to ‘ACPA’ changed to ‘DASA’. References to ‘DACPA’ changed to ‘the Authority’. (DCP 2021-051)		Editorial	AMC to NDR.05.A 3. AMC to NDR.05.A 4. AMC to NDR.15.A AMC to NDR.15.B

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft. (DCP 2021 – 049)		Editorial	AMC to NDR.05.A
DASR ORO – Organisation Requirements for Air Operations			
Update to incoprate recommendations from two Aviation Safety Investigative Reports, elevate mandatory risk controls from AMC to implementing regulation, mandate consideration of aircraft performance during Flight Authorisation, and implement outcomes from risk analysis. (DCP 2021-007)		Major	DASR Glossary ORO.30 GM to ORO.30 GM to ORO.30(a)1(v) GM to ORO.30(a)2 AMC to ORO.30(a)2 GM1 to ORO.30(a)3 GM2 to ORO.30(a)3 GM3 to ORO.30(a)3 AMC to ORO.30(a)3 AMC to ORO.30(a)3(ii)a AMC to ORO.30(a)3(ii)b GM to ORO.30(a)3(iv)b(2)
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft. (DCP 2021 – 049)		Editorial	GM to ORO.50.A
References to ‘ACPA website’ changed to ‘DASA website’. (DCP 2021-051)		Editorial	GM.ORO.50.D 1.

Short Title (DCP Reference)	Amendment Record	Change Classification	DASR Clause
DASR SPA – Specific Approval			
References to 'ACPA website' changed to 'DASA website'. (DCP 2021-051)		Editorial	GM.SPA.20.A 3.
DASR UAS – Uncrewed Aircraft Systems			
References to 'ACPA' and 'Airworthiness Coordination and Policy Agency' changed to 'DASA'. (DCP 2021-051)		Editorial	GM2 UAS.10 5. AMC UAS.30.C 2.
Removal of gender-specific terms, and changes of (un)manned aircraft to (un)crewed aircraft. (DCP 2021 – 049)		Editorial	GM2 to UAS.10 GM3 to UAS.10 GM to UAS.20.A AMC to UAS.20.A(3) AMC to UAS.20.A(6) AMC to UAS.30.B GM2 to UAS.30.B GM to UAS.50.B GM to UAS.70.A GM to UAS 80.A

DASR AMENDMENT RECORD
DCP 2020 - 008

DASR CLAUSE: Glossary of Terms

RATIONALE FOR CHANGE

National Licence Equivalence paper and Defence Technical Equivalent Qualification (DTEQ) are only in the DASR glossary they are not in regulatory text.

The glossary entry National Equivalent Qualification just refers back to DTEQ.

Therefore, both glossary entries can be deleted with no change to regulatory, AMC or GM text.

CURRENT REGULATION TEXT

Defence Technical Equivalent Qualification (DTEQ) *

A Defence Technical Equivalent Qualification (DTEQ) is the combination of an RTO-issued Aeroskills qualification (or, if applicable, a Statement of Attainment) and a task authorisation issued under the TAREG system. Less formally, DTEQ is the extant ADO aviation trade authorisation and training methodology. **NOTE:** EMAR 66 and 147 are substantially different, see **National Licence Equivalence paper**, the current methods of authorising maintenance personnel and regulation of maintenance training organisations, and hence are subject to further development before consultation.

National Equivalent Qualification *

See **'Defence Technical Equivalent Qualification (DTEQ)'**

REVISED REGULATION TEXT

~~**Defence Technical Equivalent Qualification (DTEQ) ***~~

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~~**National Equivalent Qualification ***~~

~~See~~ ~~**'Defence Technical Equivalent Qualification (DTEQ)'**~~

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2021-007

DASR or CLAUSE: DASR ORO.30

RATIONALE FOR CHANGE

See:

A. Brief for DefAA - Proposal for DASR Major Change: DASR.ORO.30 and DASR.MED.05 (BP16632652)
B. DASA Form 112 - DCP Parsing Worksheet: DASR.ORO.30 - DCP 2021/007 (BP18165759)
C. Brief for Delegate of the Def AA - Approval To Publish DASR ORO.30 and DASR MED.05 (BP19476704)
D. Regulatory Impact Statement - DASR ORO.30 for Apr 2022 DASR Release (BP22817416)

CURRENT DEFINITIONS AND REGULATION TEXT

Flight Authorisation *

The process through which qualified and competent aircrew are approved to conduct a particular mission or task including the application of limitations or controls.

Extant DASR ORO.30 IR, AMC and GM, as per Oct 2021 DASR release.

REVISED REGULATION TEXT

See below

1. Replace extant definition of Flight Authorisation in the DASR Glossary with the following:

Flight Authorisation *

The process through which qualified and competent Crew are approved to conduct a particular Mission, including the application of limitations or controls.

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2. Add the following new definitions into the DASR Glossary:

Flight *

a. In the case of a heavier-than-air Aircraft, the operation of the Aircraft from the moment at which the Aircraft first moves under its own power for the purpose of taking-off, until the moment at which it comes to rest after being airborne. (Note: DASA does not intend for the definition of Flight to affect the way in which environmental commanders define ‘Flight Time’. Environmental commanders may define 'Flight Time', or delegate the definition of 'Flight Time' to FEG Commanders).

b. In the case of a lighter-than-air Aircraft, the operation of the Aircraft from the moment when it becomes detached from the surface of the earth, or from a fixed object on the surface of the earth, until the moment when it becomes again attached to the surface of the earth or a fixed object on the surface of the earth.

Flight Planning *

The Aircraft Captain’s planning for the safe conduct of the Flight, based on considerations of:

a. Aircraft performance

b. Mission considerations

c. expected conditions on the route to be followed, or in the area of operations and at the relevant aerodromes

d. navigation sources and facilities associated with the intended route and relevant aerodromes

e. the effects of normal, emergency and operating limitations on the above.

Flight Related Operations *

Flight Related Operations refer to those operations which, while not strictly meeting the definition of 'Flight', warrant consideration of the application of Flight Authorisation and related aviation Hazard controls. Such operations may include: high-speed aborts, engine running on-loads and off-loads, rotors-turning ground events on helicopters, engine ground runs (excluding ground runs conducted by maintenance personnel as a part of routine maintenance activities) and taxiing.

Flying Supervision *

The function of oversight and management of Crew in aviation operations, considering both safety and Mission, to ensure the safety of Defence aviation through adherence to Flying Management System controls. Flying Supervision is more than Flight Authorisation and monitoring of any single Flight. Supervision is a holistic task that requires:

a. overseeing training, qualification and development of Crew

b. the assignment of a suitable Crew to a task or Mission

c. supervising the Mission planning and Flight Planning, Mission execution and post-Mission reporting and recording

d. Flight Authorisation, where the Flying Supervisor is a qualified and authorised Flight Authorisation Officer.

Mission *

The assignment of one or more Aircraft to complete a specific task, which may involve multiple Flights.

3. Replace extant DASR ORO.30 IR, AMC and GM in toto with the below. GM in brown text. AMC in purple text. Blue underline denotes hyperlinks to be incorporated as part of web publishing process.

ORO.30 - FLYING SUPERVISION AND FLIGHT AUTHORISATION (AUS)

▼ GM

GM ORO.30 - Flying Supervision and Flight Authorisation (AUS)

Purpose. (Context) Defence Flight operations require careful consideration in both planning and execution to ensure safety. (Hazard) Depending on the operations' complexity, Crew involved in their planning and execution may not adequately consider, monitor, and mitigate relevant Aviation Safety and Mission factors, leading to potentially compromised Suitability For Flight. (Defence) This regulation requires the MAO or Sponsor to define Flying Supervision and Flight Authorisation requirements to provide an independent control of Flight Planning and execution, so that Aviation Safety risks are eliminated or otherwise minimised so far as reasonably practicable; and Mission risks are appropriately managed.

(a) The MAO or Sponsor must utilise a defined Flying Supervision and Flight Authorisation (FLTAUTH) management system to ensure Suitability For Flight for Defence Aircraft, as follows:

1. Initial Airworthiness and Continuing Airworthiness risk controls must be considered by reviewing the planned Flight against the requirements of **DASR ORO.05** and, where applicable:

(i) OPSPEC limitations defined though **DASR ARO.100**

(ii) the Flight conditions imposed through **DASR 21.A.708**, in respect of any approved Military Permit To Fly (MPTF)

(iii) risk controls as required by **DASR SPA.10**, in respect of any approved Command Clearance

(iv) the Flight conditions imposed through **DASR M.A.301(a)2**, in respect of any approved deferred defects

(v) for Non-Defence Registered Aircraft (NDRA), the risk controls required by the relevant NAA or MAA. ▼ GM

GM ORO.30(a)1(v) – NDRA risk controls (AUS)

The risk controls required by the relevant NAA or MAA may include, for example, geographical operational restrictions associated with a CASR 132 Permit Index (relevant to Limited Category Aircraft operating as Warbirds and Historic Registered Aircraft (WHRA)).

2. Flying Supervision management risk controls must be utilised. ▾ GM ▾ AMC

GM ORO.30(a)2 – Flying Supervision management risk controls (AUS)

a. Flying Supervision includes oversight of the full spectrum of the aviation activity (safety and Mission). Flying supervisors should be familiar with the competencies, capabilities and personal disposition of all Crew that may require authorisation. Such knowledge forms the basis of sound Flying Supervision and enhances Flight Authorisation (FLTAUTH) decision making.

b. Flying Supervision ensures that the controls inherent within the Flying Management System (FMS) are being adhered to on a daily basis at unit level. Flying supervisor controls may be applied (days or weeks in advance) during task programming, Flight Planning and Mission execution.

c. Air tasking and Mission scheduling are distinct from Flight Authorisation.

AMC ORO.30(a)2 – Flying Supervision management risk controls (AUS)

a. The minimum Flying Supervision management risk controls include:

i. **Minimum levels of Crew qualification**. The MAO should define in OIP the minimum Crew composition and qualification requirements that support the specific Mission types of a particular Aircraft Type.

ii. **Assigning Crew to tasks**. Flying supervisors should assign an Aircraft Captain and Crew to each task based on the supervisor's assessment of the nature of the task, the potential risks, and the suitability of the individuals. Flying supervisors should consider cockpit gradient, Crew cohesion, and other associated Human Factors issues when assigning Crew and determining the Crew structure. Crew selection should occur at unit level to ensure that specific individual Crew limitations and abilities associated with the task or Mission are considered (cognisant of the requirement to develop Crew experience, additional supervising Crew members may be utilised to assure Suitability For Flight whilst developing junior Crew).

iii. **Risk management**. The MAO may utilise Type Specific standard risk assessments of Flights and profiles, to ensure safety.

3. FLTAUTH system risk controls must be utilised, and include the following: ▾ GM1 ▾ GM2 ▾ GM3 ▾ AMC

GM1 ORO.30(a)3 - Flight Authorisation Officer (FLTAUTHO) system risk controls (AUS)

a. **FLTAUTHO approval authorities**. These are unit commanding officers with the authority for the management of the FLTAUTH system.

b. **The need for Flight Authorisation**. Crew are qualified to operate Defence Aircraft after being assessed as competent and medically fit to do so. However, owing to the complexity of Defence Aviation (ie Aircraft configuration, Crew composition, environmental conditions and individual Mission requirements vary frequently), without an independent FLTAUTH decision, real-time threats to operational Aviation Safety may bypass preventative controls within the Flying Management System (FMS). The lack of an independent FLTAUTH decision may force sole reliance on Crew performing post-event recovery actions to maintain safe Flight operations (see Figure GM1 ORO.30(a)3–1). The process of authorising Crew to operate Defence Aircraft is intended to ensure system controls are utilised to address the identified Hazards.

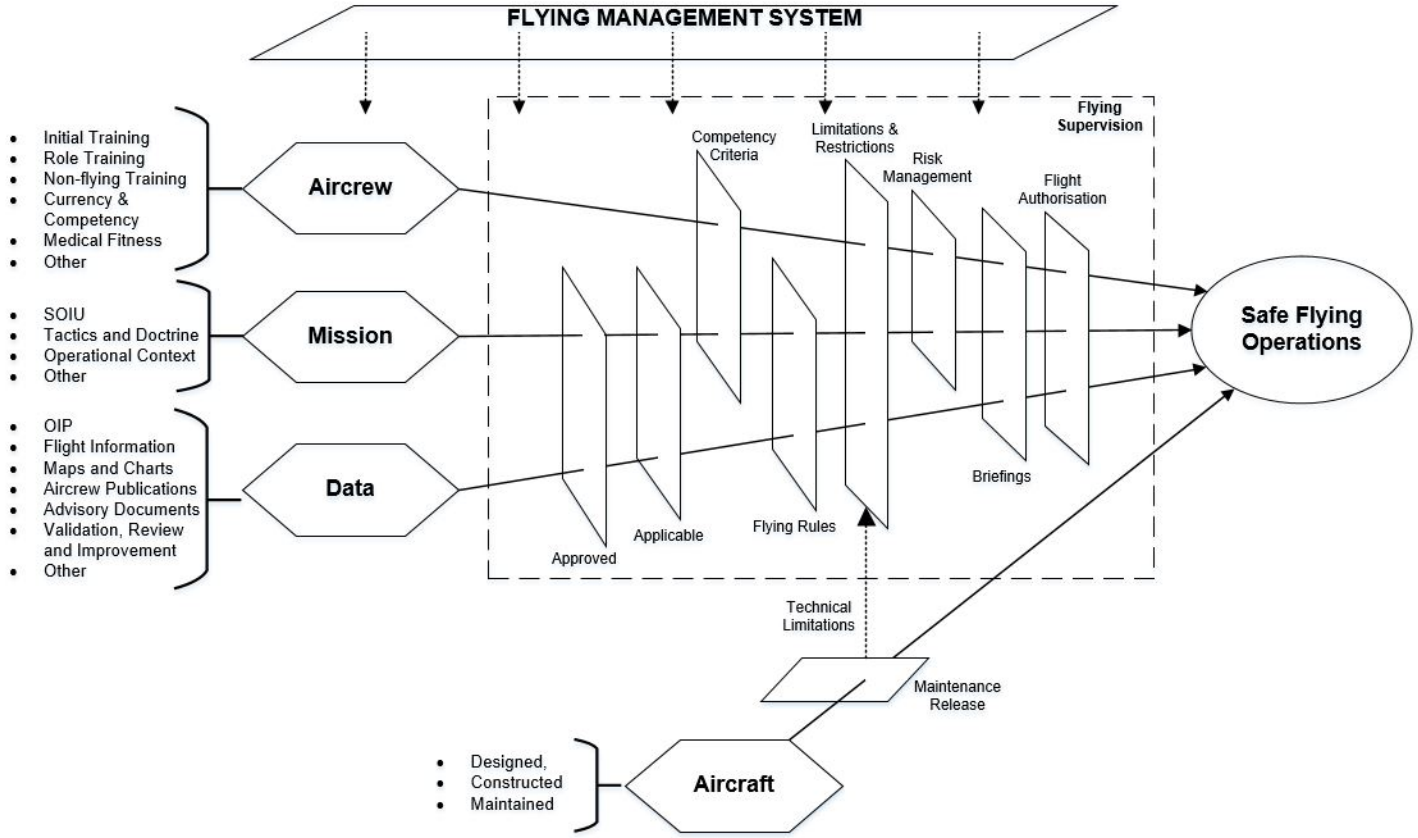

Figure GM1 ORO.30(a)3–1 — Flying Supervision and FLTAUTH role in the FMS

c. MAO-AMs are accountable for ensuring that flying supervisors make real time, Suitability For Flight determinations through a structured and formal process. This assures the preventative controls within the FMS, as defined by **DASR ORO.10**, are utilised. The outcome is that Crew are authorised to perform specific roles in a particular Aircraft Type within a planned environment and timeframe.

d. An effective FLTAUTH system should ensure:

   i. FMS controls are suitable and in place on a Flight-by-Flight basis

   ii. a Suitability For Flight assessment is made by a qualified, competent and appointed FLTAUTHO

   iii. the acceptance of responsibility for the safe and effective conduct of the Aircraft Flight by a competent, current and medically fit Aircraft Captain (although the Aircraft Captain is granted authority, it is expected that the minimum required Flight Crew to complete the task are also qualified, fit and competent)

   iv. maximum flexibility to support Defence Aircraft operations.

e. **FLTAUTHO suitability criteria**. Effective FLTAUTH draws heavily on aviation experience, technical mastery and proven decision making attributes (where technical mastery is 'The combination of an individual's training, knowledge, experience and skills that ensures their ability to carry out a specific employment function with a high level of competence.' Reference: AAP 1000-D *Air Power Manual*). Accordingly, a potential FLTAUTHO candidate requires both time and aviation experience to develop the requisite knowledge and skills to perform the associated duties.

f. FLTAUTH competency is achieved and recognised through a controlled and progressive process of training and accumulated experience. A potential FLTAUTHO should have demonstrated competency across the spectrum of operations for an Aircraft Type prior to being appointed.

g. The importance of the FLTAUTHO holding a category on Type is to ensure that the FLTAUTHO has technical mastery on the applicable Aircraft Type, inclusive of:

   i. demonstrated competency in the Aircraft Type's Configuration, Role and Environment (CRE), as defined in the SOIU

   ii. awareness of the Human Factors requirements of the Aircraft Type

   iii. awareness of the 'nuances' of a particular Aircraft Type.

h. The regulation requires initial category on Type only. Ongoing category on Type currency requirements may be specified by the MAO.

i. **FLTAUTH in practice**.

i. **Use of non-unit Personnel as FLTAUTHOs**. Operational requirements may exist which necessitate the authorisation of Flight operations by a higher headquarters or an associated training unit.

ii. **FLTAUTH by non-executive Flying Instructors**. Trainee pilots are tasked as Aircraft Captain to meet curriculum objectives during pilot training. Accordingly, the FLTAUTH approval authority of a flying training unit may delegate FLTAUTH of Flights by trainee pilots as Aircraft Captain to approved Flying Instructors.

j. **Crew disclosure requirements**. For FLTAUTH to be effective, the FLTAUTHO requires sound and up-to-date knowledge. Therefore, the Crew disclosing factors that could potentially compromise Suitability For Flight is essential.

GM2 ORO.30(a)3 – Flight monitoring oversight (AUS)

The nature of oversight is context-based and risk dependent. At a school this would likely be fulfilled by virtue of a duty Instructor monitoring both the relevant Air Traffic Control frequency and Pilot Monitoring Frequency (PMF), positioned either in the vicinity of the control tower, airborne, or at the operations desk. At an air combat unit, where most sorties launch and recover from the main operating base, this is typically achieved by virtue of a duty pilot monitoring the PMF. At a transport or surveillance unit, where the range and duration of missions is typically more extensive, this may be achieved by virtue of an operations cell maintaining two-way communication with the Aircraft Captain, or the FLTAUTHO remaining contactable via phone patch.

The purpose of such oversight is to support the aircraft captain in maintaining Suitability For Flight. In doing so, the FLTAUTHO or other suitable person should provide unambiguous instructions and guidance to allow the Aircraft Captain to make well-balanced decisions, while avoiding unnecessary interference with the Aircraft Captain's legitimate decision-making responsibilities.

GM3 ORO.30(a)3 – FLTAUTHO Flight Planning review (AUS)

The intent is to ensure the Aircraft Captain discusses performance planning for the Flight at the FLTAUTH brief. The FLTAUTH should, for example, ensure that the planned flight will enable the aircraft to avoid all obstacles, throughout all phases of flight by a safe margin; and ensure the fuel, and weight and balance calculations are accurate. Where standard operating conditions exist (Flight out of normal operating base with no adverse conditions or no aircraft marginal performance expected for the Flight), this may be a simple discussion. However, there may be other cases where obstacles, environmental, and required aircraft performance (normal and emergency) for the expected runway conditions, warrant additional controls. In these latter cases the FLTAUTHO should consider all available controls, and if necessary include an independent review of aircraft performance criteria (including for example, engine out performance). Where the Aircraft Captain is inexperienced, or Flight Planning indicates the planned Flight may approach conditions leading to marginal aircraft performance, the FLTAUTHO, if a non-pilot, should self- assess whether they hold the competency to conduct the FLTAUTH. Where necessary the FLTAUTH should be referred to a pilot FLTAUTHO that is current and holds a category on the relevant Aircraft Type.

AMC ORO.30(a)3 – Flight Authorisation (FLTAUTH) system risk controls (AUS)

a. Minimum FLTAUTH system risk controls include:

i. **FLTAUTH management responsibilities**. Defining the following in OIP:

(a) the FLTAUTH approval authority

(b) the responsibilities of the Flight Authorisation Officer (FLTAUTHO).

ii. **A FLTAUTH approval authority**. A FLTAUTH approval authority:

(a) should appoint suitable FLTAUTHOs within the operating unit and associated detachments or deployments via a written delegation

(b) should approve the duties, responsibilities and limitations of a FLTAUTHO via a written delegation.

iii. **FLTAUTHO suitability criteria**. The MAO must define minimum FLTAUTHO suitability criteria, which may include:

(a) **Minimum qualification and competency**. FLTAUTHO candidate suitability should be assessed against MAO defined criteria that ensure only appropriately trained, competent and experienced individuals are selected and appointed as a FLTAUTHO.

(b) **Specific authorisations**. FLTAUTHOs may be granted permissions to authorise specific types of Flights only, where a FLTAUTHO is experienced in a niche role of a particular Aircraft Type.

(c) **FLTAUTHO specialisation definition**. A FLTAUTHO should be a pilot. The MAO may specify additional Crew specialisations suitable for FLTAUTHO duties.

(d) **Flying Supervision training requirements**. FLTAUTH should only be delegated to an individual who satisfactorily completes a Service-endorsed Flying Supervision training course, defined in a Learning Management Plan, that includes:

(i) Human Factors

(ii) the Defence Aviation Safety Program and Regulations

(iii) Aviation Safety Hazards

(iv) contemporary risk management

(v) study of Occurrence Reporting, as well accident and incident reports from other global operators, of related Aircraft Types

(vi) FLTAUTHO roles and responsibilities

(vii) supervision of Crew.

iv. **FLTAUTHO periodic reviews**. Reviews at regular intervals, not exceeding 24 months, of the following:

(a) **D**elegate**s** (p**eople**)**—**all FLTAUTHO delegates, to ensure the delegate remains qualified and competent for appointment as a FLTAUTHO

(b) **A**ppointment**s** (position**s**)**—**all FLTAUTHO appointments, to ensure qualification and competency requirements for the appointment remain valid.

v. **Restrictions on further FLTAUTHO delegation**. The FLTAUTHO may not further delegate their authority except as provided within the limits of their appointment.

vi. **FLTAUTH responsibilities are executed through the normal chain of command**. The MAO or Sponsor should define in OIP:

(a) the responsibilities associated with FLTAUTH

(b) suitable personnel within the chain of command to discharge that responsibility.

vii. FLTAUTHO appointments should not be lower than the Flight Commander or equivalent level, with the exceptions of:

(a) Flying Instructors

(b) OASS participants.

viii. Notwithstanding AMC ORO.30(a)3vii, limited term delegations (for example, to a Detachment Commander for the duration of the relevant deployment) to a lower level may be necessary to meet specific needs.

ix. **Requirements for FLTAUTH by non-executive Flying Instructors**. The FLTAUTH approving authority in flying training units may delegate FLTAUTH of Flights by trainee pilots as Aircraft Captain to approved Flying Instructors. Due to the limited nature of this delegation and the supervisory training provided on Flying Instructor courses, the MAO may waive the requirement for non-executive Flying Instructors to attend a formal flying supervisor course. The following restrictions apply:

(a) Delegations should be limited to those Flights required by the approved flying training curriculum and defined in OIP.

(b) Unit flying executives must maintain close scrutiny of the overall FLTAUTH process, particularly in regard to external factors such as weather.

(c) The FLTAUTH must utilise a check-list based process to ensure all considerations are assessed.

(d) The requirement to define other restrictions to the delegation, based on:

(i) the experience of the Flying Instructor

(ii) the specific nature of relevant Flights within the curriculum.

x. Following Aircraft maintenance, specific limitations must apply to the authorisation of Flights where the Aircraft Captain is a trainee. Any Aircraft which has had maintenance carried out on any of the following components must first be flown by a Pilot categorised on Type:

(a) engine and control linkages

(b) flying controls and associated linkages

(c) flaps and associated linkages

(d) undercarriage

(e) flight instruments.

xi. A trainee Pilot must not be authorised as Aircaft Captain when a Flying Instructor or a Pilot (where the Flying Instructor or Pilot is categorised and current on Type) is allocated as Crew on the Aircraft.

xii. **Use of non-unit personnel as FLTAUTHOs**. All Flights should be authorised by a unit-based FLTAUTHO whenever possible. The MAO or Sponsor should define in OIP the circumstances under which authorisations by non-unit personnel may be performed.

xiii. **Crew disclosure requirements**. Crew should advise the FLTAUTHO, or Aircraft Captain, or other senior Crew members, of anything that may affect a particular member's medical or psychological fitness, or technical mastery to perform flying related duties.

xiv. **Requirements of the FLTAUTHO**. The minimum requirements of the FLTAUTHO include:

(a) **Conducting a Suitability For Flight assessment**. FLTAUTHO considerations involve a range of factors that ensure an overall Suitability For Flight determination on a Flight-by-Flight basis, and should include:

(i) **Individual FLTAUTHO suitability assessment**. The FLTAUTHO is to conduct a self-assessment to ensure that the FLTAUTHO is appropriate to authorise the Flight.

(ii) **Review of Flight and Flight Related Operations safety risks**. The FLTAUTHO is to conduct a review of the Flight and Flight Related Operations safety risks, considering all factors arising from the SOIU Configuration, Role or Environment (CRE) that have the potential to compromise Suitability For Flight, and being satisfied that the Flight will be conducted whereby residual risk is eliminated or otherwise minimised SFARP.

(iii) **Review of Crew medical fitness to fly**. The FLTAUTHO is to conduct a review of the Crew's medical fitness against **DASR MED.15**, including:

(A) Temporary Medical Unfitness For Flying (TMUFF) considerations

(B) psychological fitness

(C) the disposition of Crew members in terms of individual Human Factors, including abnormal stresses and external influences which might compromise Suitability For Flight.

(iv) **Crew are trained, competent and current**. The Crew authorised for each Flight meet the Currency, Competency and training criteria relevant to the flying operation to be conducted, specifically considering Aircrew Currency and Competency for the specific operation which is to be conducted.

(v) **Crew are prepared**. The FLTAUTHO is to conduct a review of Crew preparation for the planned Flight, ensuring the Crew have received, or will receive, adequate instructions, information and tasking details to complete the Flight safely and effectively.

(vi) **Crew duty Limitations**. The FLTAUTHO is to confirm the Flight can be performed in accordance with approved Crew duty limitations.

(vii) **Aircraft Captain's Flight Planning process**. The FLTAUTHO is to conduct a review of the Aircraft Captain's Flight Planning, including to ensure there has been adequate consideration of Aircraft normal and emergency performance.

(b) **Additional considerations for Flights of a more hazardous nature**. In addition to the requirements of the Suitability For Flight assessment, the minimum additional considerations to be applied by the FLTAUTHO include:

(i) **Maintenance Check Flights**. When authorising Maintenance Check Flights, the FLTAUTHO should as a minimum:

(A) be acquainted with Maintenance practices and the applicable Flight check schedule

(B) ensure that the Aircraft Captain meets minimum qualifications and is familiar with relevant requirements and OIP supporting the safe and effective conduct of the check Flight.

(ii) **Flights outside the Aircraft CRE**. Planned Flights outside an Aircraft approved CRE, as defined by **DASR ORO.05**, require additional planning, training, and approval prior to execution; and should be limited to Flights in accordance with Flight conditions imposed through **DASR 21.A.708** for MPTF (including Flight Test) or Command Clearance approvals, and risk controls as required by **DASR SPA.10**.

(iii) **Low Flying operations**. All Low Flying and terrain Flight operations require specific FLTAUTH, ensuring:

(A) the minimum heights to be flown, along with any route restrictions, are entered in the FLTAUTH record

(B) Flights should be planned to remain over Sparsely Populated Areas and to avoid operating mines, quarries or other industrial centres

(C) weather aspects have been considered where applicable

(D) Crew are aware of:

1. height and lateral separation limitations

2. obstacles

3. other known Hazards

4. their Aircraft's performance and capability in relation to the likely ground and air Hazards

5. known sensitive areas or other Airspace concerns.

(iv) Consideration of specific authorisation limitations that may be applicable to:

(A) operational Missions

(B) Flight Crew training, for Flight Crew normal and emergency training and assessments

(C) Flight Tests

(D) the carriage of certain types of dangerous cargo

(E) Flying Displays.

(c) **Conducting a FLTAUTH briefing**. FLTAUTH briefing requirements include:

(i) that the FLTAUTHO should provide unambiguous instructions and guidance to allow the Aircraft Captain to make well-balanced decisions, while avoiding unnecessary interference with the Aircraft Captain's legitimate decision-making responsibilities

(ii) that the FLTAUTHO must establish FLTAUTH validity criteria, and any limitations that apply, with the Aircraft Captain, including:

(A) the FLTAUTH validity period (time), and if applicable, multi-Flight FLTAUTH requirements (including any requirements for update briefings between the Aircraft Captain and the FLTAUTHO)

(B) Flight meteorological conditions, Aircraft performance considerations, Crew fatigue status, and any other criteria and limitations directed by the FLTAUTHO.

xv. **Conducting Flight monitoring**. The minimum requirement for the monitoring of the Flight, after FLTAUTH, includes:

(a) that the FLTAUTHO or other suitable person maintains oversight of the Flight until its completion

(b) that the Aircraft Captain is to inform the FLTAUTHO of deviations from the bounds of the FLTAUTH as soon as practicable.

xvi. **FLTAUTH record requirements**. A record of FLTAUTH is documented via use of a hard copy form, soft copy form or an electronic means. The minimum requirements for the FLTAUTH record include:

(a) that the FLTAUTH record may not be carried on the Aircraft conducting the task unless a duplicate copy of the record is handled in accordance with a MAO authorised procedure

(b) the relevant Flight details, including as a minimum:

(i) Flight date

(ii) Aircraft Type

(iii) call sign

(iv) pilots

(v) Crew and specified Passengers not recorded in a Passenger manifest

(vi) route if applicable

(vii) sufficient summarised evidence to detail the FLTAUTH (which may include coded Mission descriptors if those Missions are defined in OIP, eg 'GF01'—for the case where GF01 is defined in the relevant LMP)

(viii) any specific limitations that apply to the Flight

(ix) planned Flight start and duration times

(x) identifiable acknowledgements by the FLTAUTHO and the Aircraft Captain

(c) that the Aircraft Captain is responsible for ensuring that post-Flight details are entered in the FLTAUTH record as soon as practicable after Flight

(d) **FLTAUTH record retention**. FLTAUTH records should be retained as a permanent record of flying activity. When no longer required by the unit, FLTAUTH records are archived. An Acceptable Means of Compliance to preserve records is adherence to the relevant Commonwealth records management policy issued under the *Archives Act 1983*.

(i) the provision of a FLTAUTH mechanism for the identification of potential Hazards and controls independent of the Aircraft Captain

(ii) by derogation from ORO.30(a)3(i), self-authorisation provisions may apply as follows:

a. Under certain circumstances a Flight Authorisation Officer (FLTAUTHO) may authorise Flights where they are acting as the Aircraft Captain, commonly referred to as 'self–authorisation'. ▼ AMC

AMC ORO.30(a)3(ii)a – Requirements for self–authorisation (AUS)

a. The MAO or Sponsor should define in OIP the minimum requirements to exercise self- authorisation, including that:

i. OIP supporting this control should list the circumstances under which self-authorisation may be performed

ii. self–authorisation should only occur when another suitable FLTAUTHO is not available and, regardless of the reason for doing so, the default position should always be to obtain independent FLTAUTH whenever practicable

iii. if a suitably qualified FLTAUTHO is not available and self–authorisation is necessary, the Aircraft Captain should attempt to discuss the Flight profile with a qualified Flight Crew member to provide some measure of independent oversight

iv. a check-list based process should be used whenever self–authorisation occurs, to ensure all considerations are assessed.

b. ADF Currency Flying Scheme (ACFS) participants, unless the Sponsor directs otherwise, must 'self-authorise'. ▼ AMC

AMC ORO.30(a)3(ii)b – ADF Currency Flying Scheme (ACFS) (AUS)

ADF Currency Flying Scheme (ACFS) participants may not have previously held a FLTAUTH appointment, or have access to an appropriate FLTAUTHO. Therefore, unless the Sponsor directs otherwise, in addition to any civil requirements, ACFS participants must 'self-authorise' IAW **AMC ORO.30(a)3(ii)a**.

(iii) the FLTAUTHO must have gained an initial category on Type to undertake FLTAUTH duties on the relevant Type

(iv) by derogation from ORO.30(a)3(iii):

a. the MAO-AM may issue a waiver against the requirement to have gained an initial category on Type if the FLTAUTHO holds, or has held, a category on Type for a similar Aircraft, or is assessed to possess the technical mastery required to compensate for the lack of a specific category on Type.

b. an approved Flight Test organisation is exempt from category on Type requirements for Flight Test activities where the FLTAUTHO both:

(1) holds a **DASR AIRCREW.10** Flight Test (Flight Test Pilot or Flight Test System Specialist) or Flight Test Engineer qualification relevant to the Flight Test activity

(2) has been informed as to the Type Specific considerations relevant to the Flight. ▼ GM

GM ORO.30(a)3(iv)b(2) – Type Specific considerations (AUS)

The intent is for the FLTAUTHO to be informed by a pilot with a category on Type as to the considerations relevant to the Flight, or to have completed a Type Specific familiarisation course endorsed by the MAO of the relevant Aircraft.

(v) the FLTAUTHO and Aircraft Captain must certify the FLTAUTH record before Flight

(vi) by derogation from ORO.30(a)3(v), FLTAUTH or changes to FLTAUTH may be given verbally or via electronic means. However:

a. the details of any verbal FLTAUTH should be recorded in the FLTAUTH record as soon as practicable

b. wherever possible, the Aircraft Captain or FLTAUTHO should leave a written record on the ground with a responsible person, or an electronic record, of a verbal FLTAUTH prior to the Flight, as directed by the FLTAUTHO.

(b) **Non-Defence Registered Aircraft (NDRA)**. By derogation from ORO.30(a), for NDRA Flights that are solely conducted by non-Defence Flight Crew, the requirements of ORO.30(a) do not apply.

DASR AMENDMENT RECORD
DCP 2021-012

DASR or CLAUSE: DASR MED.05

RATIONALE FOR CHANGE

See:

A. Brief for DefAA - Proposal for DASR Major Change: DASR.ORO.30 and DASR.MED.05 (BP16632652)
B. DASA Form 112 - DCP Parsing Worksheet: DASR.MED.05 - DCP 2021/012 (BP16329053)
C. Brief for Delegate of the Def AA - Approval To Publish DASR ORO.30 and DASR MED.05 (BP19476704)
D. Regulatory Impact Statement - DASR MED.05 for Apr 2022 DASR Release (BP23189722)

CURRENT DEFINTIONS AND REGULATION TEXT

Extant DASR MED.05 IR, AMC and GM, as per Oct 2021 DASR release.

REVISED REGULATION TEXT

See below

Replace extant DASR MED.05 IR, AMC and GM in toto with the below. GM in brown text. AMC in purple text. Blue underline denotes hyperlinks to be incorporated as part of web publishing process.

MED.05 – AVIATION MEDICINE (AvMed) TRAINING (AUS)

▼ GM

GM MED.05 – AvMed training (AUS)

Purpose. (Context) Crew, and High Altitude Parachute Operations (HAPO) personnel, can be subject to AvMed related effects during Operations. Normally these effects can be controlled using combinations of ground and aircraft systems; Crew, HAPO personnel and Aircraft Controller knowledge, skills and behaviours, and adherence to approved procedures. **(Hazard)** Suitability For Flight can be compromised when undesired Crew, HAPO personnel or Aircraft Controller knowledge, skills and behaviours result in a failure of Crew, HAPO personnel or Aircraft Controllers to either recognise adverse AvMed related effects, or to employ appropriate corrective actions. **(Defence)** This regulation requires Accountable Managers and Sponsors to ensure Crew, HAPO personnel and Aircraft Controllers have prior awareness of the Hazards that are present when humans operate Aircraft in military roles, and receive training in the knowledge and application of AvMed. This will enhance human performance and contribute effective controls to ensuring Suitability For Flight.

(a) The MAO or Sponsor (Sponsor only applicable under **DASR NDR.05** or **DASR NDR.10**) must ensure Aircrew complete initial AvMed training IAW the learning requirements approved by Commanding Officer (CO) Institute of Aviation Medicine (IAM), prior to conducting flight operations in a military Configuration Role and Environment (CRE). ▼ GM ▼ AMC

GM MED.05(a) – Military Configuration Role Environment (CRE) (AUS)

a. Aircrew are performing military CRE related flying duties when operating Defence Registered Aircraft.

b. Aircrew are not performing military CRE related flying duties when operating a Non Defence Registered Aircraft (NDRA) in a CRE substantially similar to an equivalent civilian Aircraft Type. For example, Aircrew participating in the Aircrew Currency Flying Scheme (ACFS), operating entirely in accordance with the Defence Aviation Authority recognised National Aviation Authority (NAA) regulations, and with no specific military aspect to the CRE, is a case where the Aircrew are not performing in a military CRE.

c. However, where there is a military aspect to the CRE, such as Aircrew conducting tasking in a NDRA, where the operation may include requirements to operate outside the normal crew duty limits prescribed by the NAA, Aircrew are performing military CRE related flying duties.

AMC MED.05(a) – Initial AvMed training (AUS)

a. The MAO or Sponsor may meet initial AvMed training requirements by ensuring that Aircrew complete AvMed training:

i. appropriate to their Configuration Role and Environment (CRE)

ii. conducted by the Institute of Aviation Medicine (IAM).

b. Initial AvMed training scope at IAM should:

i. address the relevant common Hazards present for Aircrew in the military CRE

ii. be tailored to target specific Aircraft Hazards associated with the relevant Service

iii. regardless of Service, ensure that Aircrew are provided an appropriate level of AvMed training for the specific Aircraft Type.

c. Initial AvMed training topics at IAM should include:

i. lectures in AvMed appropriate to CRE of Aircraft Type to be operated

ii. where appropriate, practical hypoxia awareness training that may include:

(a) rapid decompression
(b) pressure breathing
(c) effect of hypoxia on night vision.

iii. where appropriate:

(a) spatial disorientation, including simulator-based demonstrations of spatial disorientation in fixed or rotary-wing aircraft
(b) high-G environments
(c) centrifuge training
(d) anti-G straining manoeuvre
(e) parachute descent and landing fall
(f) physiological limitations with use of Night Vision Devices (NVD)
(g) ejection seats
(h) fast jet, fixed wing or rotary wing aircraft characteristics
(i) Physiological Episode Recognition and Recovery Training (PERRT).

(b) By derogation from DASR MED.05(a), Aircrew who have completed initial AvMed training conducted by Air Force Interoperability Council (AFIC) member nations are exempt from the requirement to complete initial AvMed training. ▼GM

GM MED.05(b) – Recognition of prior AvMed training (AUS)

Air Force Interoperability Council (AFIC) Air Standards detail the requirements for AvMed training of each AFIC member nation. AvMed training that meets the AFIC requirements is acceptable to other AFIC member nations—allowing Aircrew to perform flying related duties with any AFIC member nation. The MAO or Sponsor may refer instances of AvMed training conducted by non-AFIC member nations to Commanding Officer (CO) Institute of Aviation Medicine (IAM) for advice regarding recognition of learning.

(c) The MAO, ANSP, HAPO personnel or Sponsor must ensure all AvMed related training results are recorded for all relevant personnel. ▼AMC

AMC MED.05(c) – Documentation

Acceptable means for recording AvMed related training include: certificates, an enterprise personnel management database, or annotation in flying logbooks.

(d) Where an MAO, ANSP or Sponsor identifies a requirement for additional AvMed-related training to that provided by IAM, this training is to be co-ordinated and approved under the authority of CO IAM. ▼GM

GM MED.05(d) – Other specific AvMed training needs (AUS)

For example, Aircrew Instructors may require training specific to the AvMed aspects of the instructional flight environment.

(e) The MAO or Sponsor must ensure Aircrew maintain AvMed Currency, as follows: ▼GM

GM MED.05(e) – Supplemental Aviation Medicine (SAvMed) training (AUS)

a. **SAvMed training**.

i. The five-year Currency period for Aircrew AvMed training, benchmarked on AFIC standards, presents a Hazard that knowledge and skills may fade throughout the Currency period.

ii. SAvMed training provides a control to the Hazard of Aircrew knowledge and skill fade. Additionally, SAvMed training provides a means for the MAO and Sponsors to provide tailored AvMed related training pertinent to contemporary or emergent AvMed issues affecting operations within the organisation.

iii. SAvMed differs from AvMed training in that it is conducted by a Squadron Aviation Medicine Liaison Officer (SAMLO), Single Service Aviation Medicine Adviser (SSAMA) or an IAM representative and has no defined practical elements. Commanders may schedule SAvMed training pertinent to their capability at any time and any location—providing significant flexibility to ensure Aircrew SAvMed currencies are met.

b. **Single Service Aviation Medicine Advisor (SSAMA)** (As described in the Defence Health Manual). The SSAMA is responsible for AvMed advice to the relevant Service; and to ensure AvMed training meets COMAUSFLT, COMD AVNCOMD, or ACAUST requirements (as applicable to the relevant Service).

1. overall AvMed Currency is dependent on maintaining both AvMed Currency and Supplemental Aviation Medicine (SAvMed) Currency

2. SAvMed training Currency is initially set through completion of initial AvMed training, and reset through either AvMed refresher training, or SAvMed training ▾ AMC1 ▾ AMC2

AMC1 MED.05(e)2 – AvMed refresher training (AUS)

a. AvMed refresher training to renew AvMed Currency is conducted by IAM or, for Navy and Army, a Single Service Aviation Medicine Adviser (SSAMA), as agreed with Commanding Officer (CO) IAM.

b. AvMed refresher training should include scope and topics as defined by CO IAM.

AMC2 MED.05(e)2 – SAvMed training (AUS)

a. While the minimum Currency requirement for SAvMed training is three years, IAM recommends the MAO or Sponsor provides annual SAvMed training.

b. SAvMed training may include:

i. topics appropriate to the CRE of Aircraft Type being operated

ii. physiological limitations of Aircrew, and how to:

(a) mitigate these limitations

(b) recognise and recover from approaching or exceeding these limitations.

iii. AvMed aspects of Occurrence Reporting, as well as accident and incident reports from other global operators relevant to the Aircraft Type being flown.

3. five years is the maximum Currency period for AvMed training ▾ GM

GM MED.05(e)3 - AvMed Currency (AUS)

A five year AvMed Currency period allows the MAO or Sponsor to set appropriate compliance periods and aligns with the AFIC Air Standard. The MAO or Sponsor may impose more stringent Currency requirements.

4. by derogation from DASR MED.05(e)3, in consultation with CO IAM, and risk managed IAW **DASR.SMS**, the MAO or Sponsor may grant a currency extension ▾ GM

GM MED.05(e)4 - AvMed Currency extension (AUS)

The Currency extension allowed for in DASR MED.05(e)4 should only be applied in extenuating circumstances (ie after the decision maker has conducted risk management IAW **DASR.SMS**, consulted with CO IAM, and the operational need to apply an extension is warranted when weighed against the residual risk). Extenuating circumstances exclude the routine or casual application of Currency extensions.

5. three years is the maximum Currency period for SAvMed training.

(f) By derogation from DASR MED.05(e), Aircrew that hold AvMed training Currency conducted by AFIC member nations are exempt from the requirement to complete AvMed training, while that Currency remains in effect.

(g) The MAO or Sponsor must obtain endorsement from CO IAM prior to the conduct of Squadron Aviation Medicine Liaison Officer (SAMLO)-provided SAvMed training. ▾ GM

GM MED.05(g) – Squadron Aviation Medicine Liaison Officer (SAMLO) (AUS)

a. A SAMLO (as defined IAW IAM SI (PERS) 03-04 *Aviation Medicine Instructor Standardisation*) is an Aircrew member who has received additional AvMed training to assist in the ongoing provision of SAvMed training in conjunction with IAM, the Regional Squadron Aviation Medicine Officer (RSAvMO) (As defined IAW *Defence Health Manual* Vol 2 Part 17 Chap 3) or Squadron Aviation Medicine Officer (SAvMO).

b. SAMLOs are a link between units and IAM on all AvMed related matters. SAMLO is a secondary duty for Aircrew assigned by their unit.

c. A SAMLO may also assist in the conduct of decentralised Physiological Episode Recognition and Recovery Training (PERRT), conducted by IAM, subject to meeting the additional pre-requisite requirements (DASR MED.05(h)2 refers).

(h) Aircrew appointed as a unit SAMLO must meet:

1. initial and ongoing training requirements (defined by CO IAM) before exercising the privilege of conducting SAvMed training

2. additional initial and ongoing training requirements (defined by CO IAM) before exercising the privilege of assisting in the conduct of Physiological Episode Recognition and Recovery Training (PERRT) by IAM.

(i) The MAO or Sponsor must ensure that persons who authorise or operate Uncrewed Aircraft Systems (UAS) in the following categories of UAS, meet the AvMed training and Currency requirements defined by CO IAM: ▼ GM

GM MED.05(i) – UAS Crew (AUS)

Although Remote Pilots and other UAS Crew are normally employed in ground roles, there may be a requirement for tailored AvMed training relevant to their CRE. For Crew, this is only where there is a Non-Technical Skills (NTS) relationship with the Remote Pilot, critical to flight safety.

1. **DASR UAS.20(a)** Certified Category UAS

2. **DASR UAS.30(a)1** Specific Type A Category UAS, where the Authority has stipulated a requirement to comply with DASR MED.05 in the relevant in the relevant UAS Operating Permit (UASOP).

(j) Aircraft Controllers within an Air Navigation Service Provider (ANSP) must meet the AvMED training and Currency requirements defined by CO IAM. ▼ GM

GM MED.05(j) – Aircraft Controllers (AUS)

a. Although Aircraft Controllers are normally employed in ground roles, there may be a requirement for tailored AvMed training relevant to their CRE. AvMed subjects of relevance to Aircraft Controllers may include information, but are not necessarily limited to:

i. enabling Aircraft Controllers to support Crew suffering the effects of AvMed related issues

ii. regarding health and fitness to perform Aircraft Controller duties (including the concept of temporarily medically unfit to control periods associated with certain activities or medications).

(k) Personnel conducting High Altitude Parachute Operations (HAPO) must meet the AvMed training and Currency requirements defined by CO IAM. ▼GM

GM MED.05(k) – Personnel conducting High Altitude Parachute Operations (HAPO) (AUS)

a. There may be a requirement for tailored AvMed training for personnel conducting HAPO. AvMed subjects of relevance may include information, but are not necessarily limited to:

i. enabling HAPO personnel to recognise and recover from the effects of AvMed related issues

ii. regarding health and fitness to perform HAPO duties (including the concept of temporarily medically unfit periods associated with certain activities or medications).

(l) CO IAM must define UAS Crew, HAPO personnel and Aircraft Controller AvMED training and Currency requirements:

1. on the basis of CRE
2. consistent with AFIC Standards.

(m) DASR.MED.05 does not apply to Aircraft Passengers with the exception of HAPO personnel. ▼GM

GM MED.05(m) – AvMed related Hazards to Aircraft Passengers (AUS)

The control for AvMed related Hazards to Aircraft Passengers is captured in **DASR AMC ORO.70(a)** *Pre-Flight Briefings*.

DASR AMENDMENT RECORD
DCP 2021-014

DASR CLAUSE: GM M.A.710(e)

RATIONALE FOR CHANGE

It is proposed to amend the last paragraph of GM M.A.710(e) Airworthiness review (AUS) to simply the text and provide a reference that CAMO Findings should be managed in accordance with their QMS / SMS and be consistent with the requirements of M.A.905. This will provide CAMOs with additional guidance in the management of Airworthiness Review Findings.

CURRENT REGULATION TEXT

GM M.A.710(e) Airworthiness review (AUS)

A DASR Form 15b—Military Airworthiness Review Certificate, must be used when a CAMO has a privilege to issue a MARC. DASR Form 15a—Military Airworthiness Review Certificate - Issue Recommendation, is to be used when a CAMO does not have a privilege and the NMAA issues the MARC. In the case of not having the privilege, the CAMO can subcontract/task another CAMO that has approved scope to conduct MARCs, but by definition cannot issue the MARC for the contracting/tasking CAMO.

During airworthiness review of an aircraft, the airworthiness review staff must examine continuing airworthiness records for the aircraft and perform a physical survey of the aircraft to determine whether the aircraft continues to comply with the airworthiness requirements as set out in DASR M.A.710(a) and DASR M.A710(b).

All findings against each of these requirements must be recorded. Any adverse finding would need corrective action before the issue of the Military Airworthiness Review Certificate. However, in some cases the airworthiness review may lead to adverse findings in other areas that are not related to the requirements. These findings should be dealt with in accordance with the organisation's procedure and relevant regulatory requirements; and corrective actions may not always be necessary before the issue of a Military Airworthiness Review Certificate. For example if a CAMO has opted to carry out a non-mandatory modification and during the airworthiness review it is found that the modification is overdue then this finding would not prevent the issue of the MARC.

REVISED REGULATION TEXT

GM M.A.710(e) Airworthiness review (AUS)

A DASR Form 15b—Military Airworthiness Review Certificate, must be used when a CAMO has a privilege to issue a MARC. DASR Form 15a—Military Airworthiness Review Certificate - Issue Recommendation, is to be used when a CAMO does not have a privilege and the NMAA issues the MARC. In the case of not having the privilege, the CAMO can subcontract/task another CAMO that has approved scope to conduct MARCs, but by definition cannot issue the MARC for the contracting/tasking CAMO.

During airworthiness review of an aircraft, the airworthiness review staff must examine continuing airworthiness records for the aircraft and perform a physical survey of the aircraft to determine whether the aircraft continues to comply with the airworthiness requirements as set out in DASR M.A.710(a) and DASR M.A710(b).

All findings discovered during an airworthiness review should be documented and managed in accordance with the CAMO's quality management system / safety management system, consistent with requirements of M.A.905.~~against each of these requirements must be recorded. Any adverse finding would need corrective action before the issue of the Military Airworthiness Review Certificate. However, in some cases the airworthiness review may lead to adverse findings in other areas that are not related to the requirements. These findings should be dealt with in accordance with the organisation's procedure and relevant regulatory requirements; and corrective actions may not always be necessary before the issue of a Military Airworthiness Review Certificate. For example if a CAMO has opted to carry out a non-mandatory modification and during the airworthiness review it is found that the modification is overdue then this finding would not prevent the issue of the MARC.~~

DCP2021-048 – Amendments to DASR 21 Certification Regulations Based on EMAR 21 Edition 2.0

Notes to readers:

The following is to replace DASR 21 Subpart B in total.

Regulations that have not been changed have been included for full context. Content that has not been changed has been 'greyed-out'.

Green text has been added to show the differences from EMAR 21 Edition 2.0 (for the regulations) or EASA Part-21 (for the AMC/GM).

Subpart B - Military Type-Certificates and Military Restricted Type-Certificates

21.A.11 - Scope

This Subpart establishes the procedure for issuing Military Type-Certificates (MTCs) for products and Military Restricted Type-Certificates (MRTCs) for aircraft, and establishes the rights and obligations of the applicants for, and holders of, those certificates.

21.A.13 - Eligibility

Any organisation that has demonstrated, or is in the process of demonstrating, its capability in accordance with DASR 21.A.14 shall be eligible as an applicant for a type-certificate or a restricted type-certificate under the conditions laid down in this Subpart.

21.A.14 - Demonstration of capability

(a) Any organisation applying for a type-certificate or restricted type-certificate shall demonstrate its capability by holding a military design organisation approval (MDOA), issued by the Authority in accordance with DASR 21 Subpart J.

(b) By way of derogation from paragraph (a), as an alternative procedure to demonstrate its capability, an applicant may seek Authority agreement for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this DASR, under the following:

1. Products with simple or limited scope of design.
2. Starting phase toward a military design organisation approval or limited duration of design activities.
3. Products for which the major part of the Type Design certification activities have already been accepted by the Authority concerned.
4. Reserved

(c) By way of derogation from paragraph (a) and (b), any government organisation applying for a type-certificate or restricted type-certificate may demonstrate its capability by having an agreement in place, accepted by the Authority, in accordance with DASR 21.A.2 with a design organisation which has access to the type design data. The agreement shall include detailed statements how the actions and obligations are delegated to enable the government organisation, in cooperation with the contracted organisation, to comply with the requirements of DASR 21 Subpart J, including demonstration of compliance with DASR 21.A.44.

AMC 21.A.14(b) - Alternative procedures

Alternative procedures are an acceptable means to demonstrate design capability in the cases described in DASR 21.A.14, DASR 21.A.112B, or DASR 21.A.432B. This concept is the implementation, in the context of specific projects, of procedures required in Subpart J MDOA, to ensure that the applicant will perform relevant activities as expected by the Authority, but without the requirements on the organisation itself that can be found in Subpart J MDOA. The establishment of these alternative procedures may be seen as a starting phase for a Subpart J MDOA, allowing at a later

stage, at the discretion of the applicant, to move towards a full Subpart J MDOA by the addition of the missing elements.

1. Scope

1.1 As alternative to MDOA, a manual of procedures should set out specific design practices, resources and sequence of activities relevant for the specific projects, taking account of DASR 21 requirements.

1.2 These procedures should be concise and limited to the information needed for quality and proper control of activities by the applicant/holder, and by the Authority.

2. Management of the (supplemental) type-certification process

2.1 Certification Programme: See DASR AMC 21.A.15(b) for type-certification and DASR AMC 21.A.93(b) for supplemental type-certification.

2.2 Compliance documentation: See DASR AMC 21.A.20(c).

3. Management of changes to type certificates, repair designs and production deviations

3.1 Management of changes to a type certificate or supplemental type certificate (hereinafter referred to as 'changes'), repairs and production deviations from the approved design data

The applicant should provide procedures that are acceptable to the Authority for classification and approval of changes (see paragraphs 3.2 and 3.3), repair designs and production deviations from the approved design data (see paragraph 3.4).

3.2 Classification

3.2.1 – Content

The procedure should address the following points:

- identification of the changes;
- airworthiness classification;
- changes to type design initiated by subcontractors;
- documents to justify the classification;
- authorised signatories.

Criteria used for classification should be in compliance with DASR 21.A.91 and corresponding interpretations.

3.2.2 – Identification of changes

The procedure should indicate how the following are identified:

- major changes;
- those minor changes where additional work is necessary to demonstrate compliance with the airworthiness requirements;
- other minor changes requiring no further demonstrating of compliance.

3.2.3 – Airworthiness classification

The procedure should show how the effects on airworthiness are analysed, from the very beginning, by reference to the applicable airworthiness requirements.

If no specific airworthiness requirements are applicable to the change, the above review should be carried out at the level of the part or system where the change is integrated and where specific airworthiness requirements are applicable.

3.2.4 – Control of changes initiated by subcontractors

The procedure should indicate, directly or by cross-reference to written procedures, how changes initiated by subcontractors are controlled.

3.2.5 – Documents to justify the classification

All decisions of classification of changes should be documented and approved by the Authority. It may be in the format of meeting notes or register.

3.2.6 – Authorised signatories

The procedure should identify the persons authorised to sign the proposed classification before release to the Authority for approval.

3.3 Approval of changes

3.3.1 – Content

The procedure should address the following points:

- compliance documentation;
- approval process;
- authorised signatories.

3.3.2 – Compliance documentation

For major changes and those minor changes where additional work to demonstrate compliance with the applicable airworthiness requirements is necessary, compliance documentation should be established in accordance with DASR AMC 21.A.20(c).

3.3.3 – Approval process

A. For the approval of major changes to type design, a certification programme as defined in DASR AMC 21.A.93(b) should be established.

B. For major changes and those minor changes where additional work to show compliance with the applicable airworthiness requirements is necessary, the procedure should define a document to support the approval process.

This document should include at least:

- identification and brief description of the change and its classification;
- applicable requirements;
- reference to the compliance documents;
- effects, if any, on limitations and on the approved documentation;
- authorised signatory.

C. For the other minor changes, the procedure should define a means:

- to identify the change;
- to present the change to the Authority for approval.

3.3.4 – Authorised signatories

The procedure should identify the persons authorised to sign the change before release to the Authority for approval.

3.4 Repairs and production deviations from the approved design data

A procedure following the principles of paragraphs 3.2 and 3.3 should be established for the classification and approval of repairs and unintentional deviations from the approved design

data occurring in production (concessions or non-conformances). For repairs, the procedure should be established in accordance with DASR 21 Section A Subpart M and associated acceptable means of compliance (AMC) or guidance material (GM).

4. Issue of information and instructions to owners

4.1 General

The information or instructions issued by a MTC, MSTC, approval of a change, approval of repair design holder are intended to provide the owners of a product with all necessary data to implement a change on the product, or a repair, or to inspect it.

The information or instructions may be issued in a format of a Service Bulletin as defined in S1000D Chapters, or in Structural Repair Manuals, Maintenance Manuals, Engine and Propeller Manuals, etc.

The preparation of this data involves design, production and inspection. The three aspects should be properly addressed and a procedure should exist.

4.2 Procedure

The procedure should address the following points:

- preparation;
- verification of technical consistency with corresponding approved change(s), repair(s) or approved data, including effectivity, description, effects on airworthiness, especially when limitations are changed;
- verification of the feasibility in practical applications.

The persons authorised to sign before release of information and instructions to the Authority for approval should be identified in the procedure.

The procedure should include the information or instructions prepared by subcontractors or vendors, and declared applicable to its products by the MTC, MSTC, approval of changes to type design or approval of repair design holders.

4.3 Statement

The information and instructions should contain a statement showing Authority approval.

5. Obligations addressed in DASR 21.A.44 (MTC holder), DASR 21.A.118A (MSTC holder) or DASR 21.A.451 (repair design approval holder)

The applicant should establish the necessary procedures to show to the Authority how it will fulfil the obligations required under DASR 21.A.44, DASR 21.A.118A or DASR 21.A.451, as appropriate

6. Control of design subcontractors

The applicant should establish the necessary procedures to show to the Authority how it will control design subcontractors.

GM 21.A.14(b) - Eligibility for alternative procedures

Design organisations approved under DASR 21 Section A Subpart J (Subpart J MDOA) is to be the normal approach for military type-certification, military supplemental type-certification, approval of major changes to type design or approval of major repair design, except when agreed otherwise by the Authority in accordance with DASR 21.A.14, DASR 21.A.112B and DASR 21.A.432B.

The acceptance of alternative procedures, as defined in DASR AMC 21.A.14(b), is to be limited where the Authority finds it more appropriate for the conduct of military type-certification, military supplemental type-certification, approval of changes to type design, approval of repair design.

[AMC 21.A.14(c) and GM 21.A.14(c) excluded for length. Nil changes to those regulations]

21.A.15 - Application

(a) An application for a type-certificate or restricted type-certificate shall be made in a form and manner established by the Authority.

(b) An application for a type-certificate or restricted type-certificate shall include, as a minimum, preliminary descriptive data of the product, the intended use of the product and the kind of operation for which certification is requested. In addition, it shall include, or be supplemented after the initial application, a certification programme for the demonstration of compliance in accordance with DASR 21.A.20, consisting of:

1. a detailed description of the type design, including all the configurations to be certified;
2. the proposed operating characteristics and limitations;
3. the intended use of the product and the kind of operations for which certification is requested;
4. a proposal for the initial type-certification basis, and environmental protection requirements, prepared in accordance with the requirements and options specified in DASR 21.A.17A, and 21.A.18;
5. a proposal for a breakdown of the certification programme into meaningful groups of compliance demonstration activities and data, including a proposal for the means of compliance and related compliance documents;
6. a proposal for the assessment of the meaningful groups of compliance demonstration activities and data, addressing the likelihood of an unidentified non-compliance with the type-certification basis or environmental protection requirements and the potential impact of that non-compliance on product safety or environmental protection; and
7. a project schedule including major milestones.

(c) After its initial submission to the Authority, the certification programme shall be updated by the applicant when there are changes to the certification project affecting any of the points 1 to 7 of (b).

(d) (Reserved)

(e) An application for a type-certificate or restricted type-certificate shall be valid for five years, unless the Authority agrees at the time of application that its product requires a longer time period for the applicant to demonstrate and declare compliance.

(f) In the case where a type-certificate or restricted type-certificate has not been issued, or it is evident that it will not be issued, within the time agreed in point (e), the applicant shall apply for an extension of the validity of the application and comply with any changes to the type-certification basis and environmental protection requirements, as established and notified by the Authority in accordance with DASR 21.A.17A, and 21.A.18 for a new date that is in compliance with the time period established under (e).

AMC 21.A.15(a) - Form and manner

The application referenced in DASR 21.A.15 refers to the initial formal notification to the Authority of the intent to seek an MTC or MRTC. This can be achieved through notifying the Authority in writing

of the intent, otherwise the submission of the first version of the certification programme will be taken as the initial application.

Final application for a type-certificate or restricted type-certificate is to be provided in writing to the Authority and shall address the requirements of DASR 21.A.21.

AMC1 to 21.A.15(a) - Application for approval of Operational Suitability Data (OSD)

Where Operational Suitability Data (OSD) is already available for the product and/or where it is required by national regulations, an application under Subpart B, D or E should be supplemented by an application for approval of OSD.

GM 21.A.15(a) - Application for a Military Type Certificate

When the application for an MTC (including MRTC or MSTC) is based on a Type Certificate issued under a different legal framework (such as EASA), such a Type Certificate may contain OSD as approved data. The OSD available will be dependent of the class of the Aircraft in the following areas:

1. Minimum syllabus of pilot type rating training, including determination of type rating.
2. Definition of scope of the aircraft validation source data to support the objective qualification of simulator(s) associated to the pilot type rating training, or provisional data to support their interim qualification.
3. Minimum syllabus of maintenance certifying staff type rating training, including determination of type rating.
4. Determination type specific data for cabin crew training.
5. The master minimum equipment list.
6. Other type-related operational suitability elements.

The application for approval of such OSD will lead to the validation of this data in the scope of the military type definition and military operation of the aircraft, taking into account the difference in the assumptions that were the basis for the previously approved OSD, as well as the compatibility with Flight Crew (including Cabin Crew with airworthiness tasks such as Loadmaster) training and Maintenance Certifying Staff training.

AMC 21.A.15(b) - Content of the certification programme

The certification programme is a document that allows the applicant and the Authority to manage and control the evolving product type design, as well as the process of compliance demonstration by the applicant and its verification by the Authority when required.

The certification programme may be based on modules that may be updated independently.

The level of detail in the certification programme depends on the complexity of the product and its intended use.

In particular, the following information should typically be expected:

General

1. Identification of the key organisations (eg Acquisition Project Office, prime design organisation) and of the relevant personnel who make decisions affecting airworthiness and environmental protection, and who will interface with the Authority, unless otherwise identified to the Authority (e.g. within the MDOA procedures).

2. Identification of any prior certification intended to be leveraged, including details of which TCB elements will leverage prior certification, and how compliance will be demonstrated when prior certification can only be partially leveraged.
3. A project schedule including major milestones.
4. Subcontracting arrangements for design, environmental protection and/or production as well as military design organisation approval (MDOA) responsibility sharing.

DASR 21.A.15(b)(1) 'a detailed description of the type design, including all the configurations to be certified'

An overview of the:

5. architecture, functions, systems;
6. dimensions, design weights, payloads, design speeds;
7. engines and power/thrust rating;
8. materials and technologies;
9. maximum passenger seating capacity, minimum flight and cabin crew;
10. cabin configuration aspects;
11. options (e.g. weight variants, power/thrust rating variants, optional avionics equipment items, auxiliary power unit (APU) choices, brake options, tire options, floats, skids);
12. other items, if considered to be more appropriate, that address the specific aeronautical product.

DASR 21.A.15(b)(2) 'proposed operating characteristics and limitations'

13. Operating speed limitations.
14. Service ceiling, maximum airfield elevation.
15. Cabin pressure.
16. Limit load factors.
17. Number of passengers, minimum crew, payload, range.
18. Weight and centre-of-gravity (CG) envelope and fuel loading.
19. Performance.
20. Environmental envelope.
21. Runway surface conditions.
22. Other items, if considered to be more appropriate, that address the specific aeronautical product.

DASR 21.A.15(b)(3) 'the intended use of the product and the kind of operations for which certification is requested'

23. Category of aircraft (for example the civil categories defined under the FARs/CSs or the kind of military aircraft such as small fast jet, heavy airlift, rotary wing, etc.), ditching, take-off and landing on water, emergency floatation equipment.
24. Extended overwater operation, high-altitude operation (above 41 000 ft).
25. High-airfield operation, steep approach, short take-off and landing, Defence Long Range Operations (DLRO), all-weather operations (AWO), visual flight rules (VFR)/instrument flight

rules (IFR), reduced vertical separation minimum (RVSM), performance based navigation (PBN) type, increased bank angles, single-pilot operation, flight into known icing conditions, air to air refuelling.

26. Flight in ice crystal icing.

27. Engine operations in ice-forming conditions, helicopter hoist operations, operation on unpaved runway, operation on narrow runway.

28. Take-off and landing in tailwind.

29. Volcanic-ash operation (for example operations of the type covered by EASA CS 25.1593).

30. Design service goal (DSG)/limit of validity targets.

31. Fatigue missions (general description of assumptions for flight durations, main phases, and parameters, as appropriate).

32. Other items, if considered to be more appropriate, that address the specific aeronautical product.

DASR 21.A.15(b)(4) 'a proposal for the initial type-certification basis and environmental protection requirements, considering the requirements and options specified in DASR 21.A.17A, and 21.A.18'

The proposed certification basis should include applicable airworthiness codes, proposed special conditions, proposed equivalent safety findings, as well as a proposed 'elect to comply' and proposed exceptions, as applicable.

DASR 21.A.15(b)(5) 'a proposal for a breakdown of the certification programme into meaningful groups of compliance demonstration activities and data, hereinafter referred as "compliance demonstration items" (CDIs), including references to their proposed means of compliance and related compliance documents'

See DASR AMC 21.A.15(b)(5) for the determination of the compliance demonstration items (CDIs).

DASR 21.A.15(b)(6) on information relevant for the determination of the level of involvement (LoI)

The applicant should provide sufficient detailed information about the novelty, complexity, and criticality aspects of each proposed CDI.

Further interpretative material on the necessary level of details is provided in DASR AMC 21.A.15(b)(6).

The applicant should provide detailed information about the proposed means of compliance with the applicable requirements identified under DASR 21.A.15(b)(4). The information provided should be sufficient for the Authority to determine its (initial) LoI. This should include the following, as far as this information is available at the time of submission to the Authority:

33. A compliance checklist addressing each requirement, the proposed means of compliance (see Appendix A to DASR AMC 21.A.15(b) below for the relevant codes), and the related compliance document(s);

34. Identification of industry standards (Society of Automotive Engineers (SAE), American Society for Testing and Materials (ASTM), European Organisation for Civil Aviation Equipment (EUROCAE), AeroSpace and Defence Industries Association of Europe (ASD), etc.), methodology documents, handbooks, technical procedures, technical documents and specifications specified in the type certificate data sheet, certification memoranda, policy statements, guidance material, etc., that should be followed in the demonstration of compliance;

35. When the compliance demonstration involves testing, a description of the ground and flight test article(s), test method(s), test location(s), test schedule, test house(s), test conditions (e.g. limit load, ultimate load), as well as of the intent/objective(s) of the testing; and

36. When the compliance demonstration involves analyses/calculations, a description/identification of the tools (e.g. name and version/release of the software programs) and methods used, the associated assumptions, limitations and/or conditions, as well as of the intended use and purpose; furthermore, the validation and verification of such tools and methods should be addressed.

For every aspect mentioned above, the applicant should clearly identify whether the demonstration of compliance involves any method (analysis or test) which is novel or unusual for the applicant. This should include any deviations from the published AMC to the relevant airworthiness requirements (eg EASA AMC for EASA CSs, FAA ACs for FARs, MILSTDs for military certified aircraft).

Appendix A to AMC 21.A.15(b) - Means of compliance codes

Type of compliance	Means of compliance	Associated compliance documents
Engineering evaluation	MC0: (a) compliance statement (b) reference to design data (c) election of methods, factors, etc. (d) definitions	(a) Design data (b) Recorded statements
	MC1: design review	(c) Descriptions (d) Drawings
	MC2: calculation/analysis	(e) Substantiation reports
	MC3: safety assessment	(f) Safety analysis
Tests	MC4: laboratory tests	(g) Test programmes (h) Test reports (i) Test interpretations
	MC5: ground tests on related product(s)	
	MC6: flight tests	
	MC8: simulation	
Inspection	MC7: design inspection/audit	(j) Inspection or audit reports
Equipment qualification	MC9: equipment qualification	Note: Equipment qualification is a process that may include all previous means of compliance at equipment level.

GM 21.A.15(b) - Operating Characteristics and Intended Use of the Product (AUS)

The requirements of 21.A.15(b)2 and (b)3 will normally be covered in the aircraft Statement of Operating Intent and Usage (SOIU). Where the requirements of 21.A.15(b)2 and b(3) have been addressed, to the level of detail specified in AMC 21.A.15(b), through an SOIU which has received endorsement from the Authority, the certification programme can include reference to the SOIU without need for duplication of that information. Any detail not sufficiently covered in an endorsed SOIU will need to be provided in the certification programme.

GM1 to 21.A.15(b) - Certification Programme (AUS)

The certification programme for issue of an MTC / MRTC provided to the Authority by the applicant may take a variety of forms depending on the acquisition arrangements:

a. if the applicant is an MDOA holder, then the MDOA holder will develop and submit the certification programme;

b. if the applicant is a Defence Project Office and the prime design / integration organisation is an MDOA holder, or recognised equivalent, then the certification programme will be developed by the prime designer / integrator and provided to the Authority through the Defence Project Office;

c. if the Defence Project Office is the integrator of multiple design elements, then the Defence Project Office develops and submits the certification programme as the Applicant; or

d. if design organisation/s do not hold an MDOA or recognised equivalent, or have not been contracted to develop a certification programme, then the Defence Project Office will be required to develop and submit the certification programme as the Applicant.

For software certification aspects, the Authority encourages applicants to develop a Plan for Software Aspects of Certification (PSAC), or equivalent document, and provide it as an enclosure to the certification programme.

AMC 21.A.15(b)(5) - Breakdown of the certification programme into compliance demonstration items (CDIs)

1. What is a CDI?

A CDI is a meaningful group of compliance demonstration activities and data identified in the certification programme which can be considered in isolation for the purpose of performing the risk assessment that allows the Authority to determine its level of involvement (LoI) using a risk-based approach.

The possibility to create this grouping of compliance demonstration activities and data is intended to facilitate the risk assessment. However, there may be cases in which the risk assessment may also be performed at the level of the compliance demonstration activity or data, or at the level of the whole certification project.

The chosen breakdown into CDIs may affect the resulting risk classes (please refer to DASR 21.A.15(b)(6) and AMC 21.A.15(b)(6)), but should not have any effect on the compliance demonstration itself or on the Authority's LoI.

2. The grouping of compliance demonstration activities and data

The compliance demonstration activities and data grouped in a CDI may demonstrate compliance with a requirement, a group of requirements, or even a part of a requirement. In this context, 'requirement' means any element of the type-certification basis as specified in DASR 21.A.17A, or the environmental protection requirements as specified in DASR 21.A.18.

A CDI may comprise any of the means of compliance listed in Appendix A to DASR AMC 21.A.15(b).

CDIs may be tailored to the scope and size of the project. On simple projects, a CDI may address all the compliance demonstration activities within a given technical area (e.g. avionics, flight, structures, hydromechanical systems, etc.) or of the whole project.

A CDI should not be too large, by combining completely unrelated compliance demonstration activities or data, so that it becomes meaningless, but neither should it be so small that it might not be considered in isolation from some other related compliance demonstration activities or data.

A way of meaningfully grouping compliance demonstration activities and data, for example, is to select some activities and data and group them into a single CDI, as the certification programme must already contain the applicable requirements, the proposed means of

compliance for each requirement, as well as the associated compliance documents for each means of compliance.

Another way to meaningfully group the data is to do it at the level of the technically related compliance demonstration activities and data. This may facilitate the assessment of those activities and data against the novelty, complexity, and criticality criteria (see DASR 21.A.15(b)(6) and AMC 21.A.15(b)(6)). The resultant CDI may encompass various means of compliance.

3. Description of CDIs

Each CDI should be sufficiently described in the certification programme, and should detail the following:

- the scope of the CDI; and
- the information on the novelty, complexity, and criticality of the item being certified.

However, in cases where the rationale of the assessment is obvious, it is considered to be sufficient to indicate whether or not a CDI is novel or complex, and whether or not the impact is critical.

Note: Obvious cases are cases for which the classification is straightforward and does not require additional clarifications. In general, applicant explanations/notes regarding the proposed classification should be provided, since this will also facilitate the acceptance of the LOI proposal. Nevertheless, to avoid unnecessary additional effort, these explanations can be omitted if they are obvious.

Additionally, it is recommended to identify the technology discipline(s) affected by each CDI, as this will support the determination of the novelty, complexity, and criticality, and finally identify the performance of the military design organisation approval (MDOA) holder.

AMC 21.A.15(b)(6) - Level of Involvement (AUS)

The proposed assessment shall take into account at least the following elements:

1. novel or unusual features of the certification project, including operational, organisational and knowledge management aspects;
2. complexity of the design and/or demonstration of compliance;
3. criticality of the design or technology and the related safety and environmental risks, including those identified on similar designs; and
4. performance and experience of the design organisation of the applicant in the domain concerned.

Based on this assessment, the application shall include a proposal for the involvement of the Authority in the verification of the compliance demonstration activities and data.

GM 21.A.15(b)(6) - Level of Involvement (AUS)

The Authority will determine the depth and extent of its inspections for each group of compliance demonstration activities and data, based on the information provided in the certification programme and the applicant proposal.

The Authority determination of LoI will be confirmed as part of the Authority's acceptance of the certification programme. The Authority LoI must be confirmed as completed prior to the applicant issuing the final declaration of compliance required by DASR 21.A.20(d).

The depth and extent of the Authority inspections may change throughout the project in order to account for changes that affect the basis of initial determinations. The provisions of DASR 21.A.257(b) continue to apply.

The Authority may appoint individuals outside the Authority, including individuals within another NAA/MAA, to complete the Authority inspections.

GM 21.A.15(c) - Updates to the certification programme

DASR 21.A.15(b) recognises that the initial submission of the certification programme may not be fully complete, e.g. due to schedule constraints of the design, analysis and testing activities.

Furthermore, even if the initial submission of the certification programme is complete, it may be necessary to amend it throughout the duration of the project.

The certification programme should be updated and resubmitted to the Authority as required, in particular when there are updates to the following elements:

1. any complementary information that was not included in the initial submission of the certification programme;
2. any change in the intended use or kind of operations of the product itself, or of the aircraft on which the product is installed;
3. a change in the key characteristics of the product such as but not limited to any declared limits that are intended to be recorded in the type certificate data sheet (TCDS);
4. any change in the product design or its characteristics that may affect the criteria used to assess the likelihood of an unidentified non-compliance with the type-certification basis or the environmental protection requirements, including the potential impact of that non-compliance on product safety or environmental protection, as defined in DASR 21.A.15(b)(6) and DASR AMC 21.A.15(b)(6);
5. any change to the initial type-certification basis or environmental protection requirements, as applicable to the product, regardless whether the change is initiated by the Authority or by the applicant;
6. any change in the breakdown of the certification programme into compliance demonstration items (CDIs) or in the content of those CDIs;
7. any change in the proposed means of compliance, including its/their methodology;
8. any change in the structure of compliance documents that may affect the determination of the Authority‘s level of involvement (LoI), based on the criteria in DASR AMC 21.A.15(b)(6);
9. any relevant change to the military design organisation approval (MDOA) holder’s personnel (and military design organisation (MDO) suppliers) who are involved in the project; and
10. any changes to the schedule that impact on the Authority LoI.

Following each update to the certification programme as submitted by the applicant, the Authority may update the determination of its LoI.

GM 21.A.15(e) and (f) Period of validity for the application for a Military Type Certificate (MTC) or Military Restricted Type Certificate (MRTC)

DASR 21.A.15(e) establishes a maximum period of validity for an application for an MTC or an MRTC. During this period, the type-certification basis and the environmental protection requirements (hereinafter referred to as the ‘certification basis’), established in accordance with DASR 21.A.17A,

and 21.A.18, remain effective. However, the period of validity of the certification basis is limited so that the standards established as part of the certification basis at the time of application do not become outdated.

For various reasons (e.g. development, business, commercial, etc.), the applicant may not be able to complete the certification within the established time limit. In this case, the applicant has the following two options (see DASR 21.A.15(f)(1) and (2)):

1. Submit a new application.

In this case, a new certification basis is established in accordance with DASR 21.A.17A, and 21.A.18, considering the standards that are available at the date of the new application.

In accordance with DASR 21.A.15(e), the new application has a maximum period of validity that is equal to the first one, corresponding to the product category. Beyond this period of validity, the applicant may need to choose again between the two options of either submitting a new application or applying for an extension of the initial application.

2. Apply for an extension of the initial application

In this case, the applicant proposes a 'new target date' to the Authority for the issuance of the certificate, and selects a date that becomes the reference date for the establishment of the certification basis. For the purposes of this GM, the selected reference date is referred to as the 'new effectivity date' of the initial application.

The 'new effectivity date' of the initial application may be any date in the past between the following time limits:

- the 'new target date' for a TC proposed by the applicant minus the time limit used under 21.A.15(e) (e.g. 5 years); and
- the date on which the applicant applies for the extension of the initial application.

This calculation is visualised in Figure 1 below:

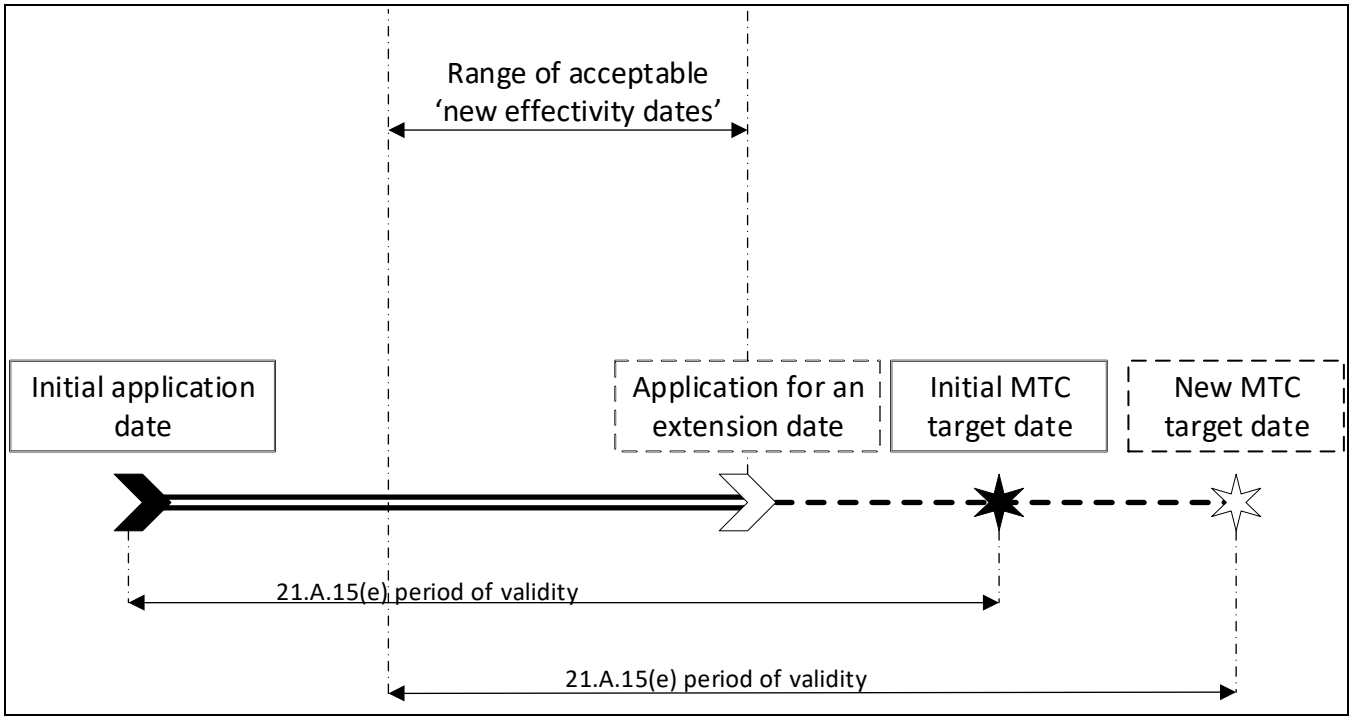

Figure 1

This ensures that the standards used to establish the certification basis are never older than the ones available at the start of the period of validity required by DASR 21.A.15(e).

If the applicant is not able to complete the product certification by the new target date, the applicant may choose again between the two options of either submitting a new application or applying for a new extension of the initial application.

21.A.16A - Airworthiness Codes (AUS)

The Authority shall approve the use of airworthiness codes and other detailed specifications, including codes and specifications for airworthiness and environmental protection, that may be used to demonstrate compliance of products, parts and appliances with the relevant essential requirements of DASR Annex A to BR.20.A. Such codes and specifications shall be sufficiently detailed and specific to indicate to applicants the conditions under which certificates are to be issued, amended or supplemented.

AMC 21.A.16A - Airworthiness Codes (AUS)

The Authority prescribes approved Airworthiness Codes in the Airworthiness Design Requirements Manual (ADRM).

GM 21.A.16A - Airworthiness Codes (AUS)

Rather than define a Defence-unique Airworthiness Code, the Authority has elected to recognise the suite(s) of airworthiness design requirements, ie Airworthiness Codes, prescribed by several other NAAs and MAAs that have been demonstrated to achieve safe flight, and then prescribe supplementation as required. The Airworthiness Design Requirements Manual (ADRM) identifies the Authority recognised Airworthiness Codes.

21.A.16B - Special Conditions (AUS)

(a) The Authority shall prescribe any special detailed technical specifications, named ‘special conditions’, for a product if the related airworthiness codes and specifications do not contain adequate or appropriate safety standards for the product because:

1. The product has novel or unusual design features relative to the design practices on which the applicable airworthiness codes are based;
2. The intended use of the product is unconventional;
3. Experience from other similar products in service or products having similar design features or newly identified hazards have shown that unsafe conditions may develop; or
4. Applicable airworthiness codes do not exist for the concerned product class or do not address the requested kind of operations.

(b) Special conditions contain such safety standards as the Authority finds necessary in order to establish a level of safety equivalent to that of the applicable airworthiness codes or a level of safety acceptable if airworthiness codes do not exist for the concerned product.

AMC 21.A.16B - Special Conditions (AUS)

Authority prescribed 'Special Conditions' may be documented as Military Certification Review Items (MCRI) or inserted directly in the aircraft Type-certification Basis (TCB).

GM 21.A.16B - Special Conditions (AUS)

General

The term 'novel or unusual design features' should be judged in view of the applicable certification basis for the product. A design feature, in particular, should be judged to be a 'novel or unusual design feature' when the certification basis does not sufficiently cover this design.

The term 'unsafe condition' is used with the same meaning as described in DASR GM1 21.A.3B(b).

The term 'newly identified hazards' is intended to address new risks that may be recognised in the design (e.g. questionable features) or its operational characteristics (e.g. volcanic ash) for which there is not yet enough in-service experience.

GM1 to 21.A.16B - Special conditions (AUS)

The Airworthiness Code selected for use under DASR 21.A.16A may contain deficiencies against contemporary airworthiness requirements and/or may not account for Defence's unique Configuration, Role and operating Environment (CRE). This may require the application of special conditions in addition to an Airworthiness Code. The Airworthiness Design Requirements Manual (ADRM) defines 'essential' design requirements and standards that must be applied as special conditions to supplement Airworthiness Codes due to deficiencies in the Codes or to account for the Defence CRE in addition to the reasons described in DASR 21.A.16B(a). The ADRM also defines a number of 'recommended' design requirements and standards for which compliance is not prescribed, but which should be applied where reasonably practicable.

21.A.17A - Type-certification basis for a type-certificate or restricted type-certificate (AUS)

The type-certification basis for a type-certificate or restricted type-certificate shall consist of:

(a) The requirements of the airworthiness code established according to DASR 21.A.16A from those applicable to the product at the date of application for that certificate, unless:

1. The applicant chooses to comply, or is required to comply with DASR 21.A.15(f), with requirements of the airworthiness code which became applicable after the date of the application. In that case, the type-certification basis shall include any other requirements of the airworthiness code or other detailed specifications that the Authority finds are directly related; or
2. The Authority accepts any alternative to a designated airworthiness requirement that cannot be complied with, for which compensating factors have been found that provide an equivalent level of safety; or
3. The Authority accepts or prescribes other means that:
    (i) In the case of a type-certificate, demonstrate compliance with the relevant essential requirements of DASR Annex A to BR.20.A; or
    (ii) In the case of a restricted type-certificate, provide a level of safety adequate with regard to the intended use; and

(b) Any special condition prescribed by the Authority in accordance with DASR 21.A.16B(a).

(c) Dedicated airworthiness requirements and means of compliance established to account for military operations that are not covered under (a).

AMC 21.A.17A - Type-certification basis (AUS)

Airworthiness requirements specified in the Type Certification Basis (TCB) shall include; the applicable requirements from the Authority recognised Primary Certification Code selected as a basis for the Defence aircraft certification; the applicable 'essential' requirements prescribed in the Airworthiness Design Requirements Manual (ADRM); and any supplementation or tailoring approved by the Authority in accordance with DASR AMC1 to 21.A.17A.

The scope of the TCB shall be limited to those requirements necessary to cover all the criteria listed in the European Military Airworthiness Certification Criteria (EMACC) for the intended Configuration, Role and operating Environment (CRE). For novel aircraft designs, where necessary and sufficiently applicable airworthiness criteria are not included in the EMACC, additions may be approved by the Authority.

AMC1 to 21.A.17A – Supplementation and tailoring of the primary certification code (AUS)

Supplementation to, or tailoring of, a Primary Certification Code (PCC), as described at 21.A.17A(a)1-(a)3, (b) and (c), shall be agreed with the Authority and documented via Military Certification Review Items (MCRIs) as follows:

a. **Elect to Comply.** Compliance with requirements at later amendments (per DASR 21.A.17A(a)(1)) shall be documented in an Elect to Comply MCRI when further justification for adoption of the later amendment is required to be recorded. Further justification would be required if there is a need to establish why the change to the later amendment does not have a negative impact on safety, or where there is a need to place limits or conditions on the use of the later amendment. Other use of later amendments may be documented directly in the TCB section of the Type Certificate Data Sheet (TCDS).

b. **Equivalent Safety Finding.** Any alternative to a designated airworthiness requirement justified via an equivalent level of safety (per DASR 21.A.17A(a)(2)) shall be documented in an Equivalent Safety Finding MCRI.

c. **Exception.** Exceptions (per DASR 21.A.17A(a)(3)) shall be documented in an Exception MCRI which must be underpinned by an understanding of the risk associated with the compliance shortfall, and management of that risk in accordance with DASR SMS.A.25(b)2.2.

d. **Special Condition.** Special conditions (per DASR 21.A.17A(b) and 21.A.16B) shall be documented in a Special Condition MCRI where they implement a requirement that requires tailoring, discussion or explanation, or where the special condition relates to internal Defence documents which are not readily available to external designers. In all other cases the special condition may be implemented via direct reference to the relevant requirement/standard within the TCB section of the TCDS.

e. **Interpretive Material/Means of Compliance/Acceptable Means of Compliance (IM/MOC/AMC).** An IM/MOC/AMC MCRI may be used to record the development of new interpretative material or acceptable means of compliance for TCB elements or where the applicant proposes to use an extant IM/MOC/AMC, but only in parts or with some changes to the content.

Requirements for military operations (per DASR 21.A.17A(c)) may include requirements in the form of special conditions, alternate requirements justified via an equivalent level of safety, or exceptions against requirements to account for military capability imperatives. These shall be documented per the above guidance for each type of requirement/tailoring.

Note: A single MCRI may collate multiple claims if the applicable elements are all related, eg fatigue and damage tolerance shortfalls may affect multiple elements of a TCB and hence one MCRI may be appropriate.

GM 21.A.17A - Type-certification basis for a Military Type Certificate (MTC) or Military Restricted Type Certificate (MRTC) (AUS)

1. Introduction

This GM addresses the type-certification basis for an MTC or an MRTC.

2. Applicable Requirements of the Airworthiness Code (see DASR 21.A.17A(a))

The type-certification basis for an MTC or an MRTC consists of the requirements from the established airworthiness code that were effective on the date of application and were applicable for that certificate.

The effectivity date of the initial application may be changed, as per DASR 21.A.15(f)(2), when the period of validity of an application for a type certificate is exceeded, or it is evident that it will be exceeded, and the applicant requests an extension; see DASR GM 21.A.15(e) and (f).

The certification basis is then revised accordingly.

3. Elect to Comply (see DASR 21.A.17A(a)(1))

It is also possible for an applicant to elect to comply with an airworthiness requirement that entered into force after the date on which the applicant has submitted the application.

The Authority will assess whether the proposed certification basis is appropriate to ensure that the 'elect to comply' proposal includes any other airworthiness requirements that are 'directly related' to one or several of the airworthiness requirements in it. Directly related airworthiness requirements are those that are deemed to contribute to the same safety objective by building on each other's requirements, addressing complementary aspects of the same safety concern, etc. Typically, they are adopted simultaneously with, or prior to, the airworthiness requirements with which the applicant has elected to comply.

4. Equivalent Level of Safety (see DASR 21.A.17A(a)(2))

In cases in which the applicable airworthiness requirements cannot be literally complied with, either fully or in part, the Authority may accept a suitable alternative which provides an equivalent level of safety through the use of appropriate compensating factors.

In cases in which the requirements contain not only objectives but also prescriptive parts, an equivalent level of safety may be accepted if:

- the objectives are met by designs or features other than those required in the airworthiness requirements; or
- suitable compensating factors are proposed.

5. Exceptions (see DASR 21.A.17A(a)(3))

If the intent of the airworthiness requirements defined in DASR 21.A.17A(a) or Special Conditions defined in 21.A.17A(b) cannot be met, the Authority may accept an Exception against the airworthiness requirement in order to account for military capability imperatives. In accordance with DASR BR.80(c), these exceptions must be underpinned by sound risk management which demonstrates a credible and defensible level of safety has been achieved for the intended military operations. 'Sound risk management' requires an understanding of the risk associated with the compliance shortfall, management of that risk in accordance with

DASR SMS.A.25(b)2.2, and documentation of that risk management via an Airworthiness Issue Paper or equivalent.

Note: While DASR 21.A.17A(a)(3) links the issue of an MTC to compliance with the relevant essential requirements of DASR Annex A to BR.20.A, the Authority may issue MTC to aircraft that do not meet those requirements when tailoring has been agreed via a Military Certification Review Item. See DASR AMC 21.A.21(a).

6. Special Conditions (see DASR 21.A.16B)

The Authority may also prescribe special conditions in accordance with DASR 21.A.16B. Guidance on special conditions is provided in DASR GM 21.A.16B, DASR GM1 21.A.16B and DASR GM2 21.A.16B.

GM1 21.A.17A - Type Certification Basis (AUS)

The Type Certification Basis (TCB) for a new Defence aircraft should be developed and agreed with the Authority as early as practicable in the aircraft acquisition lifecycle. While an Authority-agreed TCB should be pursued prior to entering into an acquisition contract, this will not always be possible. In those cases, the Acquisition Project Office may elect to present a draft TCB for Authority assessment as a cost and schedule risk reduction measure.

The TCB for a Defence aircraft must be consistent with Defence's intended role and operating environment for the aircraft. Information on the intended role and operating environment is to be provided in the certification programme, per the requirements at DASR 21.A.15(b)4 and (b)5, but will normally reference out to an endorsed Statement of Operating Intent and Usage (SOIU) which provides this detail. TCB agreement is obtained through approval of the certification programme in accordance with DASR 21.A.15(b).

In the aircraft Type Certification domain, Configuration, Role and operating Environment (CRE) is a pivotal concept. Where an ab initio Type Certification programme is proposed for a Defence aircraft, defining the CRE is essential to ensure that the basis of certification is consistent with the intended Defence use of the aircraft.

Where the Defence Type Certification programme intends to leverage prior certification from a recognised N/MAA to any extent, a CRE delta assessment is required to confirm the applicability of that prior certification to the intended Defence use. Areas where the prior certification is not entirely applicable to the Defence CRE must be addressed through further compliance demonstration evidence, inclusion of additional requirements in the TCB, or tailoring of requirements for the TCB.

AMC 21.A.17A(a) – Date of application (AUS)

In cases where the certification approach for an MTC or MRTC relies on prior certification from another NAA/MAA, the Authority may agree to consider the 'date of application' IAW DASR 21.A.17A(a) to be the date of application to the original certifying NAA/MAA, for the purpose of determining the applicable airworthiness requirements under 21.A.17A(a). In assessing a request to use the date of application of the original NAA/MAA certification, the Authority shall consider the following:

- The period of time since the original NAA/MAA certification was provided.
- The safety improvements in the relevant airworthiness code since the original NAA/MAA certification was provided.
- The deltas in configuration, role and operating environment which would limit the extent to which the prior certification could be leveraged.

GM 21.A.17A(a)(3) - Type-certification Basis (AUS)

The EMACC Guidebook offers guidance on how to tailor the criteria for the type-certification basis, based on the intended military use of the product.

21.A.17B – (Reserved)

21.A.18 - Designation of applicable environmental protection requirements (AUS)

The applicable environmental protection requirements shall be established when certifying a product, taking account of the military operational need.

21.A.19 - Changes requiring a new type-certificate

Any applicant proposing to change a product, shall apply for a new type-certificate if the Authority finds that the change in design, configuration, power, thrust, or mass is so extensive that a substantially complete investigation of compliance with the applicable type-certification basis is required.

21.A.20 - Demonstration of compliance with the type certification basis and environmental protection requirements

(a) Following the acceptance of the certification programme by the Authority, the applicant shall demonstrate compliance with the type-certification basis and environmental protection requirements, as established in accordance with DASR 21.A.17A, and 21.A.18, and shall provide the Authority with the means by which such compliance has been demonstrated.

(b) The applicant shall report to the Authority any difficulty or event encountered during the process of demonstration of compliance that may have an appreciable effect on the risk assessment under DASR 21.A.15(b)(6) or on the certification programme, or may otherwise necessitate a change to the level of involvement of the Authority previously notified to the applicant.

(c) The applicant shall record justification of compliance within compliance documents as referred to in the certification programme.

(d) After completion of all demonstrations of compliance in accordance with the certification programme, including any inspections and tests in accordance with DASR 21.A.33, and after all flight tests in accordance with DASR 21.A.35, the applicant shall declare that:

1. it has demonstrated compliance with the type-certification basis and environmental protection requirements, as established under DASR 21.A.17A, and 21.A.18, following the certification programme as accepted by the Authority; and
2. no feature or characteristic has been identified that may make the product unsafe for the uses for which certification is requested.

(e) The applicant shall submit to the Authority the declaration of compliance provided for in (d). Where the applicant holds an appropriate design organisation approval, the declaration of compliance shall be made in accordance with DASR 21 Subpart J and submitted to the Authority.

AMC 21.A.20 - Demonstration of compliance with the type certification basis and environmental protection requirements (AUS)

1. Demonstration of Compliance

The applicant shall demonstrate compliance with the type-certification basis either:

a. through Compliance Demonstration evidence developed by a MDOA holder (or alternative as agreed by the Authority); or

b. through appropriate evidence of prior certification provided by another NAA / MAA.

Note: Compliance Demonstration evidence comprises of reports, drawings, specifications, calculations, analysis etc. and provides a record of the means by which compliance with the applicable Type Certification Basis (TCB) and environmental protection requirements is demonstrated.

2. Prior Certification from another NAA / MAA

Where Defence is procuring off-the-shelf aircraft or equipment, the applicant may seek relief from the need to develop Compliance Demonstration evidence. The applicant may claim that requisite inspections / analyses / tests (as required by DASR 21.A.33 – Inspections and tests) have already been performed, as evidenced by an extant certification by an NAA / MAA whose certification is recognised by the Authority. The applicant, in leveraging a prior certification to claim part or full relief against the requirement to develop Compliance Demonstration evidence shall ensure:

a. the certification is within the scope, conditions and caveats specific to DASA Recognition of the certifying NAA / MAA;

b. the NAA / MAA is sufficiently experienced in certification of the particular design activity;

c. the certification requirements employed by the NAA / MAA are understood and any deltas from the Defence TCB have been addressed through additional compliance demonstration evidence, or changes to the TCB in accordance with DASR AMC1 to 21.A.17A;

d. the Configuration, Role and operating Environment (CRE) applied to the prior certification is understood and any deltas from the intended Defence CRE have been addressed through additional compliance demonstration evidence, or changes to the TCB in accordance with DASR AMC1 to 21.A.17A;

e. any safety risks associated with the NAA / MAA certification:

   i. have been identified, and

   ii. have been eliminated or otherwise minimised So Far As is Reasonably Practicable (SFARP) for the Defence CRE.

The list of recognised NAA / MAA whose prior certification may be exploited by applicants in seeking relief from developing compliance demonstration evidence, is available via the DASA website: *Recognition of other Aviation Authorities*. Individual recognition certificates establish scope, conditions and caveats.

If, during the course of the project, Defence learns of some breakdown or deficiency in the application of the NAA / MAA usual processes, those cannot be ignored. The Authority will determine what additional compliance demonstration evidence must be produced by the applicant as a result of the breakdown or deficiency.

GM 21.A.20 - Compliance demonstration process

DASR 21.A.20 applies to the compliance demonstration process for a Military Type Certificate (MTC) (or a Military Restricted Type Certificate (MRTC)) and, by cross references to DASR Part 21 Subpart D

and E, to compliance demonstration processes for major changes to an MTC (see DASR 21.A.97(b)(3)) and an MSTC (see DASR 21.A.115(b)(4)).

Applicants for an MTC (or an MRTC) should apply DASR 21.A.20 in full. Applicants for a major change to an MTC (or an MSTC) are required (see DASR 21.A.97(b)(3) and DASR 21.A.115(b)(4)) to apply DASR 21.A.20 as applicable to the change.

'As applicable to the change' means that:

1. The certification programme to be followed is the one prepared for the major change or MSTC in accordance with DASR 21.A.93, as accepted by the Authority; and
2. The certification basis (consisting of the type-certification basis and the environmental protection requirements) is the one established in accordance with DASR 21.A.101.

GM1 21.A.20 - Demonstration of compliance with the type certification basis and environmental protection requirements (AUS)

1. Full Relief from Developing Compliance Demonstration Evidence

The certification programme should document those Type Certification Basis (TCB) elements for which 'Prior Certification from another NAA/MAA' will be leveraged to demonstrate compliance against the TCB. To support the use of prior certification, the certification programme should also include how the criteria in DASR AMC 21.A.20 will be, or have been assessed.

Certifications that were granted sometime prior to the Defence acquisition can be problematic, particularly if they are from an NAA/MAA that has not been recognised by Defence. Current day assessments may not be reflective of the NAA/MAA at the time of the certification and hence present limited value to the Compliance Demonstration process. The certification programme will need to discuss these issues and document an approach to addressing the issues that is acceptable to the Authority.

Some MAAs do not use a 'TCB like' construct for defining the design requirements used for a particular design. Depending on the data access provisions permitted by the contracting arrangement used, full knowledge of the design requirements applied may not be possible. The certification programme will need to discuss this issue and document an approach to addressing this issue that is acceptable to the Authority.

2. Partial Relief from Developing Compliance Demonstration Evidence

The prior certification provided by the NAA/MAA may not always be entirely applicable for the Defence Configuration, Role and operating Environment (CRE) (and as such may not be entirely applicable for demonstrating compliance to the Defence TCB). There are a number of reasons why this would be the case:

a. The prior NAA/MAA certification cannot be shown to apply for all requirements or standards specified in the Defence TCB;

b. The CRE assessment identified material differences between the CRE assumed by the prior certifying NAA/MAA and the intended Defence CRE (particularly applicable for those cases where civil NAA certification is being leveraged which does not cover military roles and environment); or

c. The NAA/MAA certification is underpinned by risk treatments that require further consideration in the Australian Work Health and Safety Act 2011 and the Work Health and Safety Regulations 2011 framework.

Known issues associated with leveraging prior certification should be documented in the certification programme, along with an agreed approach for addressing them. Possible treatments include:

a. Investigating if relevant additional evidence exists and obtaining that additional evidence from the design organisation;

b. Development of additional evidence (which will require a MDOA holder (or Authority-accepted equivalent));

c. A change to the design (either the configuration or Instructions for Continuing Airworthiness (ICA)) or intended role and operating environment; or

d. Seeking Authority agreement to amend the TCB, by adding or tailoring requirements, IAW AMC1 21.A.17A.

GM2 21.A.20 - Demonstration of compliance with the type certification basis and environmental protection requirements (AUS)

When leveraging prior certification by an NAA/MAA to claim part or full relief against the requirement to develop compliance evidence, the Configuration, Role and operating Environment (CRE) used to underpin the prior certification needs to be understood and compared to the intended Defence CRE at a detailed level. In isolation, basic comparisons of high-level aircraft role(s), mission mix or flight profiles (as articulated in the SOIU) will usually not provide the fidelity required.

For aircraft structures and propulsion systems, the CRE in terms of configuration, and role-related loads and environmental factors (including operating weights, altitudes, repeated manoeuvre, dynamic and gust environments) should be assessed in detail. For propulsion systems, the initial CRE assessment should follow the mission analysis requirements of the Airworthiness Design Requirements Manual (ADRM) and DASR AMC 21.A.44(c).

GM 21.A.20(b) Reporting on the compliance demonstration process

The applicant should report to the Authority any unexpected difficulty or event encountered during the compliance demonstration that invalidates or appreciably affects the assumptions previously made, for example:

1. An increase in the severity of the consequences of a certain condition (e.g. failure mode) of the product;
2. Significantly reduced margin(s) for the 'pass–fail' criteria of the compliance demonstration;
3. Changes to the test sequences and conditions that are not in line with the certification specifications or guidance;
4. An unusual interpretation of the results of the compliance demonstration; and
5. Any significant failure or finding resulting from the tests performed as per DASR 21.A.33 or DASR 21.A.35.

The applicant should also evaluate whether the unexpected difficulty or event encountered will impact on the certification programme and, if necessary, amend it as per DASR 21.A.15(c).

AMC 21.A.20(c) - Compliance documentation

1. Compliance documentation comprises one or more test or inspection programmes/plans, reports, drawings, design data, specifications, calculations, analyses, etc., and provides a

record of the means by which compliance with the applicable type-certification basis and environmental protection requirements is demonstrated.

2. Each compliance document should normally contain:

- The reference of the certification specifications, special conditions or environmental protection requirements addressed by the document;
- Substantiation data demonstrating compliance (except test or inspection programmes/plans);
- A statement by the applicant declaring that the document provides the proof of compliance for which it has been created; and
- The appropriate authorised signature.

3. Each compliance document should be unequivocally identified by its reference and issue date. The various issues of a document should be controlled and comply with DASR 21.A.55.

GM 21.A.20(d) - Final statement

All compliance demonstrations in accordance with the certification programme, including all the inspections and tests in accordance with DASR 21.A.33 and all flight tests in accordance with DASR 21.A.35, should be completed before the issuance of the final statement of compliance required by DASR 21.A.20(d).

If so agreed by the Authority, some compliance documentation may be produced after the issuance of the final statement of compliance required by 21.A.20(d).

'No feature or characteristics' in DASR 21.A.20(d)2 means the following: while every effort is made to address in the applicable certification basis all the risks to product safety or to the environment that may be caused by the product, experience shows that safety-related events may occur with products in service, even though compliance with the certification basis is fully demonstrated. One of the reasons may be that some existing risks are not properly addressed in the certification basis. Therefore, the applicant has to declare that they have not identified any such features or characteristics.

DASR 21.A.20 also applies by reference to minor changes, in which case the risk to product safety or to environmental protection is quite low. Nevertheless, minor changes should not be approved if either the applicant/military design organisation approval (MDOA) holder approving minor changes under their privileges, or the Authority, is aware of a feature or characteristic that may make the product unsafe for the uses for which certification is requested.

Where a recognised certified design has been leveraged to relieve the applicant from developing compliance demonstration evidence, the basis upon which the declaration of compliance is made is the applicant's completion of the requirements of DASR AMC 21.A.20.

21.A.21 - Requirements for the issuance of a type-certificate or restricted type-certificate

(a) In order to be issued a product type-certificate or, when the aircraft does not meet the essential requirements of DASR Annex A to BR.20.A an aircraft restricted type-certificate, the applicant shall:

1. demonstrate its capability in accordance with DASR 21.A.14;
2. comply with DASR 21.A.20;
3. demonstrate that the engine and propeller, if installed in the aircraft:

a) have a type-certificate issued in accordance with this DASR; or

b) have been demonstrated to be in compliance with the aircraft type-certification basis and the environmental protection requirements established by the Authority a necessary to ensure the safe flight of the aircraft.

(b) (Reserved)

AMC 21.A.21(a) - Issue of an MTC or MRTC (AUS)

In accordance with DASR BR.80(c), the Authority may issue a Military Type Certificate (MTC) to an aircraft that does not meet the essential requirements of DASR Annex A to BR.20.A, to support military capability needs. Tailoring of those essential requirements (through tailoring of the applicable elements of the TCB) must be agreed with the Authority through a Military Certification Review Item (MCRI), underpinned by sound risk management, per DASR AMC1 to 21.A.17A.

AMC 21.A.21(a)(1) - Alternate demonstration (AUS)

Establishment of MTC holder

Where the applicant is an acquisition Project Office that has demonstrated its capability under DASR 21.A.14(c), the PO must ensure that an MTC holder who will hold the type-certificate has been established and the associated TCAE reviewed by the Authority.

Engagement of external design organisation(s)

Prior to issue of the type-certificate, and where the applicant has demonstrated its capability under DASR 21.A.14(c) through engagement of a foreign design organisation, the applicant should confirm, to the Authority, that the expected specific and generic DASA recognition requirements detailed in DASR AMC 21.A.14(c) continued to be valid during the design and certification programme, and specifically that:

a. the DO's systems, processes and personnel used in developing other designs for certification by the parent NAA / MAA were used in the design development or holder activities associated with the ADF design, and
b. that the DO provided an attestation of compliance against the Type Certification Basis for the provided design product.

GM 21.A.21(a)(3)(A) - Issue of type-certificates for engines and propellers (AUS)

While an Australian MTC will be issued for every aircraft type to be Defence registered, Australian MTCs will not ordinarily be issued for engines and propellers of Defence registered aircraft unless exceptional circumstances exist. Exceptional circumstances include, but are not limited to, an engine or propeller not previously type certified under another recognised airworthiness authority, or where Defence elects to manage the engine or propeller configuration independently from other users of the same engine or propeller.

21.A.31 - Type Design

(a) The type design shall consist of:

1. The drawings and specifications, and a listing of those drawings and specifications, necessary to define the configuration and the design features of the product shown to comply with the applicable type-certification basis and environmental protection requirements;

2. Information on materials and processes and on methods of manufacture and assembly of the product necessary to ensure the conformity of the product;

3. An approved airworthiness limitations section of the instructions for continuing airworthiness as defined by the applicable airworthiness codes; and

4. Any other data allowing by comparison the determination of the airworthiness and, if relevant, the environmental characteristics of later products of the same type.

b) Each type design shall be adequately identified.

21.A.33 - Inspections and tests

(a) (Reserved)

(b) Before each test is undertaken during the demonstration of compliance required by DASR 21.A.20, the applicant shall have verified:

1. For the test specimen, that:
    (i) The materials and processes adequately conform to the specifications for the proposed type design;
    (ii) The parts of the products adequately conform to the drawings in the proposed type design; and
    (iii) The manufacturing processes, construction and assembly adequately conform to those specified in the proposed type design; and
2. For the test and measuring equipment to be used for the test, that those are adequate for the test and appropriately calibrated.

(c) On the basis of the verifications carried out in accordance with (b), the applicant shall issue a statement of conformity listing any potential non-conformity, together with a justification that this will not affect the test results, and shall allow the Authority to make an inspection it considers necessary to check the validity of that statement.

(d) The applicant shall allow the Authority to:

1. Review any data and information related to the demonstration of compliance; and
2. Witness or carry out any test, including any flight and ground test, or inspection conducted for the purpose of the demonstration of compliance.

(e) For all the tests and inspections witnessed or carried out by the Authority in accordance with (d)(2):

1. The applicant shall submit to the Authority a statement of conformity provided for in (c); and
2. No change that affects the validity of the statement of conformity shall be made to the test specimen, or the test and measuring equipment, between the time the statement of conformity provided for in (c) was issued and the time the test specimen is presented to the Authority for test.

AMC 21.A.33 - Inspections and tests

Use of the term 'applicant': DASR 21.A.33 is applicable to type certification, major changes, major repairs and military supplemental type certificates (MSTCs), and through reference in DASR 21.A.604 to AUSMTSO for auxiliary power units (APUs). Despite using the word 'applicant', it is also applicable to major repairs approved under MDOA privileges (see DASR 21.A.263(c)(5)).

Proposed type design: this term defines the type design (or the portion of the type design) as it is determined at the time when the inspection or test is undertaken.

Statement of conformity: for each certification inspection or test, the statement of conformity issued in accordance with DASR 21.A.33(c) must address the conformity of the test specimen (see DASR 21.A.33(b)(1)) as well as of the test equipment and measuring equipment (see DASR 21.A.33(b)(2)).

Conformity of the test specimen: the statement of conformity required by DASR 21.A.33(c) is intended to ensure that the manufactured test specimen adequately represents the proposed type design. Possible types of non-conformity may be the following:

1. Non-conformity between the design of the test specimen and the proposed type design at the time of the test. These are typically identified in the early stage of the test planning, and should be addressed as early as possible (e.g. in the test plan). There may be several reasons for such a non-conformity: to account for interfaces with the test equipment, to conservatively cover several or future design configurations, etc.
2. Non-conformity between the manufactured test specimen and the design of the test specimen. Such a non-conformity may be the result of the manufacturing of the test specimen.

While it is convenient to define any possible non-conformity in (a) as early as possible, the applicant does not need to make the distinction between the two types of non-conformity above as long as they are explicitly addressed and justified in the statement of conformity or by cross reference to the test plan or other documents.

Type certification is typically an iterative process in which the design is under continuous evolution. If the type design evolves after the time of the inspection or test, then the final type design should be checked against the proposed type design (as it was at the time of the inspection or test), and the differences (if any) should be analysed to ensure that the inspection or test results are representative of the final configuration. However, such changes made to the type design may lead to the invalidation of the inspection or test results and a need to repeat the inspection or test. It is recommended that the design organisation should have a thorough configuration management process to track the evolving type design.

Conformity of test and measuring equipment: the configuration of the test and measuring equipment should be defined in the test plan and include the following:

1. Definition/design of the test equipment (relevant tools, mechanical parts, electronic components used to execute the test); and
2. Definition of the measuring equipment:
    - type/model of sensors, together with their technical characteristics;
    - position and orientation of exciters and sensors; and
    - electronic measuring equipment (in some cases, this may also include the acquisition and post-processing of data).

The configuration of the test and measuring equipment should be defined and controlled through certification test plans and supporting documentation, according to the design assurance system, if applicable. The test plan should also include the following elements:

1. the test cases, methods, and procedures for test execution;
2. the pass–fail criteria; and
3. pre-, during- and post-test inspections.

The statement of conformity of DASR 21.A.33(c) should confirm that the test and measuring equipment conform to its purpose, and that the sensors and measuring system are appropriately calibrated. Any non-conformity should be assessed, and it should be justified that it will not compromise the test purpose and results. This can be done either in the statement of conformity or by cross reference to other documents (test minutes of meetings, test notes, etc.).

Use of the term 'adequate': the test specimen, as well as the test and measuring equipment, are considered to be 'adequate' as long as the test execution on the manufactured test specimen (including any non-conformity) and the use of the installed test set-up does not compromise the test purpose and results (for example, by providing better performance than the proposed type design, or masking any potential failure mode or behaviour).

Changes that affect the validity of the statement of conformity (see DASR 21.A.33(e)(2)): if changes need to be introduced to the test specimen or to the test and measurement equipment after the statement of conformity is issued (and before the test is undertaken), the statement of conformity must be updated. The updated statement of conformity must be made available to the Authority before the test if the Authority has informed the applicant that it will witness or carry out the tests.

Development versus certification tests: sometimes, tests of specimens that conform to a preliminary design, but are not intended for certification (known as development tests), are performed as part of a risk control strategy and to develop knowledge of a subject. Problems and failures found during development are part of the process of increasing the understanding of the design, including its failure modes and the potential for optimisation. Such development tests do not need to meet the requirements of DASR 21.A.33.

Any planned test event should be classified in advance as either a development test or a certification test. Tests that support the compliance demonstration should be classified as certification tests.

Nevertheless, if agreed by the Authority, it is acceptable for a development test to finally form part of the compliance demonstration, and it may be declared afterwards to be a certification test as long as it meets the requirements of DASR 21.A.33. For this reason, it is important to keep the configuration of such tests under the control of the design organisation.

In addition to this, the level of involvement (LoI) notified by the Authority should be taken into account: if the Authority has determined that it will witness or conduct a certain test, this test may need to be repeated so that the Authority can witness or conduct the test.

If the test specimen used for a certification test has already undergone a series of previous tests that may affect or ultimately invalidate its acceptance as required by DASR 21.A.33(b), this aspect should be considered when issuing the statement of conformity required by DASR 21.A.33(c), and specific analyses or inspections may be required to support such a statement.

Because of the above aspects, the Authority advises applicants to inform the Authority if they intend to conduct a campaign of development tests that may eventually be used as certification tests.

Availability of compliance data (see DASR 21.A.33(d)(1)): data and information requested from the applicant for review should be made available in a reliable and efficient way that is agreed between the applicant and the Authority.

DASR 21.A.33(d)(1) refers to any data or information related to compliance data; the scope of that requirement is therefore not limited to inspections and tests. In particular, DASR 21.A.33(d)(1) is not limited to data and information related to compliance demonstration items (CDIs) in which the Authority is involved.

GM 21.A.33(d) - Inspections and tests

The applicant should inform the Authority sufficiently in advance about the execution of inspections and tests that are used for compliance demonstration purposes unless the Authority has explicitly excluded these inspections and tests from its involvement.

Additionally, the applicant may propose to the Authority to perform or witness flight or other tests of particular aspects of the product during its development and before the type design is fully defined. However, before the Authority performs or witnesses any flight test, the applicant should have performed these tests already before the Authority and should ensure that no features of the product preclude the safe conduct of the evaluation requested.

The Authority may require any such tests to be repeated once the type design is fully defined to ensure that subsequent changes have not adversely affected the conclusions from any earlier evaluation.

21.A.35 - Flight Tests

(a) Flight testing for the purpose of obtaining a type-certificate shall be conducted in accordance with conditions for such flight testing approved by the Authority.

(b) The applicant shall make all flight tests that the Authority finds necessary:

1. To determine compliance with the applicable type-certification basis and environmental protection requirements; and
2. To determine whether there is reasonable assurance that the aircraft, its parts and appliances are reliable and function properly.

(c) (Reserved)

(d) (Reserved)

(e) (Reserved)

(f) The flight tests prescribed in subparagraph (b)(2) shall include:

1. For aircraft incorporating turbine engines of a type not previously used in type-certificated aircraft, at least 300 hours of operation or as agreed by the Authority, with a full complement of engines that conform to a type-certificate; and
2. for all other aircraft, at least 150 hours of operation or as agreed by the Authority.

GM 21.A.35 – Flight Tests (AUS)

In-service flight test activities are covered under Subpart P – Military Permit to Fly, and DASR GM 21.A.35 establishes the approval arrangements for MPTFs according to category, see Categories of Fight Tests.

Categories of Flight Tests (AUS)

A. GENERAL

This topic establishes the approval arrangements for Military Permits to Fly (MPTF) associated with flight tests according to category.

B. CATEGORIES OF FLIGHT TESTS

Category ONE (1):

a. Initial flight(s) of a new type of aircraft or of an aircraft of which flight or handling characteristics may have been significantly modified.
b. Flights during which it can be envisaged to potentially encounter flight characteristics significantly different from those already known.
c. Flights to investigate novel or unusual aircraft design features or techniques.
d. Flights to determine or expand the flight envelope.
e. Flights to determine the regulatory performances, flight characteristics and handling qualities when flight envelope limits are approached.
f. Flight test training for Category 1 flight tests.

Category TWO (2):

a. Flights not classified as Category 1 on an aircraft whose type is not yet certified.
b. Flights not classified Category 1 on an aircraft of an already certified type, after embodiment of a not yet approved modification or substantial change to role or environment and which:
   i. require an assessment of the general behaviour of the aircraft;
   ii. require an assessment of 'basic crew procedures*', when a new or modified system is operating or is needed; or
   iii. are required to intentionally fly outside of the limitations of the currently approved operational envelope, but within the investigated flight envelope.
c. Flight test training for Category 2 flight tests.

***NOTE:** Reference to 'basic crew procedures' refers to fundamental crew procedures for operating the aircraft, as opposed to simple/benign/low-risk crew procedures.

Category THREE (3):

Flights performed for the issuance of statement of conformity for a new-built aircraft which do not require flying outside of the limitations of the type certificate or the aircraft flight manual.

Category FOUR (4):

Flights not classified as Category 1 or Category 2 on an aircraft of an already certified type, in case of an embodiment of a not yet approved design change*.

***NOTE:** For this purpose, a not yet approved design change is a design for which it is necessary to fly an aircraft in order to fully verify compliance with design requirements.

C. COMPETENCE AND EXPERIENCE OF PILOTS AND FLIGHT TEST ENGINEERS

Competence and experience of pilots, flight test engineers and flight test systems specialists shall be as specified in the approved flight conditions for the flight test activity.

GM 21.A.35(a) - Flight Tests

Detailed material on flight testing is included in the applicable certification criteria and GM.

GM 21.A.35(b)(2) - Objective and content of function and reliability testing

1. Objective

The objective of this testing is to expose the aircraft to the variety of uses, including training, that are likely to occur when in routine service to provide an assurance that it performs its intended functions to the standard required for certification and will continue to do so in service.

2. Content of function and reliability testing

The testing is to cover both routine operations and some simulation of abnormal conditions. The details of the programme are to be agreed with the Authority prior to commencement of testing.

It may be possible to combine this testing with any required to demonstrate compliance with the applicable certification criteria. This will be agreed on a case-by-case basis with the Authority.

Where possible, testing conditions are to be defined with the co-operation of an operator.

A substantial proportion of the flying is to be on a single aircraft. The flying is to be carried out to a continuous schedule on an aircraft that is very close to the final type design, operated as though it were in service and is to include a range of representative ambient operating conditions and airfields.

GM 21.A.35(f)(1) - Flying time for function and reliability testing

All flying carried out with engines and associated systems not significantly different from the final type-certificate standard may count towards the 300 hours airframe flight time required by DASR 21.A.35(f)(1). At least 150 of the 300 flying hours is to be conducted on a dedicated production configured aircraft. The requirement for 300 hours relevant flight time whenever a new turbine engine is incorporated applies regardless of whether the airframe/engine combination is subject to a new type-certificate or is to be certificated as a change or supplement to an existing type-certificate.

GM 21.A.35(f)(2) - Flying time for function and reliability testing

All flying carried out on an aircraft not significantly different from the final type design may count towards the 150 hours airframe flight time required by DASR 21.A.35(f)(2).

21.A.41 - Type-certificate and restricted type-certificate

The type-certificate and restricted type-certificate shall include the type design, the operating limitations, the type-certificate data sheet for airworthiness, the applicable type-certification basis and environmental protection requirements with which the Authority records compliance, and any other conditions or limitations prescribed for the product in the applicable airworthiness requirements and environmental protection requirements.

AMC 21.A.41 - Structural and Propulsion System Critical Parts and Airworthiness Limitations (AUS)

CRITICAL PARTS

It is vital to have an understanding of which parts of the aircraft structure and propulsion system are essential for safe flight and therefore could have a significant impact on safety if they were to fail or not perform their intended function. The applicant for a type certificate should identify a list of critical parts, as required by the Type Certification Basis (TCB) and the intended Defence Configuration Role and Environment (CRE), and submit this to the Authority as part of the application.

Once reviewed by the Authority, the definition and list of critical parts should be included, either directly or by reference, in the Aircraft Structural / Propulsion System Integrity Management Plan (ASIMP/PSIMP).

The primary consideration for defining structural or propulsion system critical parts should be the certification basis for the aircraft and propulsion system. In recognition that not all airworthiness

codes are equivalent, and that some are not explicit on a definition for critical parts, the Authority provides applicants with the following acceptable definitions.

STRUCTURAL CRITICAL PART ACCEPTABLE DEFINITION

Any structural part or element where the failure of that part or element could result in a fatality or loss of aircraft. The fatality or loss of aircraft could occur immediately upon failure or subsequently if the failure remained undetected. A structural part is one that contributes significantly to the carrying of flight, ground, or pressurization loads. For rotorcraft, identification of structural critical parts should include consideration of the rotors, rotor drive systems between the engines and rotor hubs, controls, fuselage, fixed and movable control surfaces, engine and transmission mountings, landing gear, and their related primary attachments.

PROPULSION SYSTEM CRITICAL PART ACCEPTABLE DEFINITION

Rotating and major static structural parts, and sub-systems of the propulsion system whose primary failure is likely to result in a hazardous propulsion system effect. Typically, propulsion system critical parts include, but are not limited to disks, spacers, hubs, shafts, high-pressure casings, propellers and non-redundant mounts or non-redundant sub-system components.

For the purposes of this section, a hazardous propulsion system effect is any of the following conditions:

a. Non-containment of high-energy debris, including release of the propeller or any major portion of the propeller

b. Concentration of toxic products in the engine bleed air intended for the cabin sufficient to incapacitate crew or passengers

c. Significant thrust in the opposite direction to that commanded by the pilot

d. Uncontrolled fire

e. Failure of the engine mount system leading to inadvertent engine separation

f. Complete inability to shut the engine down

g. Propeller failure resulting in the development of excessive drag or excessive imbalance

h. Partial or complete loss of thrust or power for single engine aircraft. NOTE: Typically in the case of multi-engine aircraft, discrete failures in which the only consequence is partial or complete loss of thrust or power (and associated engine services) from an engine is typically not considered a hazardous propulsion system effect.

AIRWORTHINESS LIMITATIONS

Airworthiness Limitations (AwLs) are established through the certification process as being essential for preventing and/or detecting failures that may lead to an unsafe condition. AwLs may apply to many systems including the aircraft structure, propulsion system, wiring and Certification Maintenance Requirements (CMRs) arising from system safety analyses. For aircraft structures and propulsion systems AwLs will be associated with critical parts, as identified above. AwLs are mandatory actions and should be segregated from the other elements of the Instructions for Continuing Airworthiness (ICA).

For the aircraft structure and propulsion system, AwLs are considered to encompass:

a. Mandatory modification, retirement or replacement intervals

b. Mandatory inspection requirements: including inspection interval(s) and the inspection method

c. Mandatory post-flight inspections and maintenance actions associated with any use of either the rated 30-Second One-Engine-Inoperative (OEI) or 2-Minute OEI Power (for rotorcraft engines with such power ratings)

d. The definition of the interval under a. and b. above includes:

(i) The interval metric, eg flight hours, landings, Equivalent Flight Hours (EFH), Fatigue Index (FI) / Fatigue Life Expended Index (FLEI), engine cycles etc, and

(ii) Any algorithm, equation, factor(s) or other engineering data which must be used to calculate life accrual against the interval.

Under point b. above, the inspection method is considered to include the inspection technique, reference standards, and any other inspection procedure parameters which impact the detectable flaw size or Probability of Detection (POD).

The applicant for a type certificate should define and identify the AwLs for the aircraft structure and propulsion system, as required by the TCB and the intended Defence CRE, and submit this to the Authority as part of the application. When prior certification is being leveraged then detailed assessment is required to ensure the baseline structural and propulsion system AwLs adequately account for the Defence CRE (see DASR 21.A.20).

Once approved by the Authority, the definition and list of AwLs should be included, either directly or by reference, in the Type Certificate Data Sheet (TCDS) and ASIMP/PSIMP.

CONTINUED VALIDITY OF CRITICAL PARTS LIST AND AIRWORTHINESS LIMITATIONS

The list of critical parts and AwL should be maintained by the MTC holder based on actual operational experience, changes in the Defence CRE and information received from other operators and NAA/NMAAs (see DASR 21.A.3A(a) and DASR 21.A.44(c))

21.A.42 - Integration

The aircraft MTC holder shall be responsible for the integration of Products, Weapons and other Systems onto the aircraft, except for approvals under Subpart E.

GM 21.A.42 - Integration

The principles for the military type-certification (taking in account DASR 21.A.17A) are predicated on the hierarchy of the Military Type Certificate and subordinate certification:

f. The use of the MTC is limited to Products, namely aircraft, engine or propeller.

g. The certification of Parts is to be undertaken in accordance with Subpart K.

21.A.44 - Obligations of the holder

Each holder of a type-certificate or restricted type-certificate shall:

(a) Undertake the obligations laid down in DASR 21.A.3A, DASR 21.A.3B, DASR 21.A.4, DASR 21.A.55, DASR 21.A.57, DASR 21.A.61 and DASR 21.A.62; and, for this purpose, shall continue to meet the requirements of DASR 21.A.14;

(b) Specify the marking in accordance with DASR 21 Subpart Q; and

(c) Ensure the continued integrity of the aircraft structure and propulsion system through ongoing monitoring and periodic assessment.

AMC 21.A.44 - Obligations of the holder (AUS)

Australian MTCs will be issued by the Authority to Australian government organisations.

Duties of the holding organisation consist of the following:

a. Responsibilities specific to the MTC:

   i. Obligations of the holder (under DASR 21.A.44).

   ii. The integration of Products, Weapons and other Systems onto the aircraft, except for approvals under Subpart E (under DASR 21.A.42).

   iii. Manage all applications for approval of major changes to a type design under DASR 21.A.92(a).

   iv. Make arrangements with MSTC applicants under DASR 21.A.115 with respect to the MSTC impact on the MTC or MRTC, including the effect of any major design changes on certification basis elements.

b. Responsibility for holding subsequent DASR MSTC and major repair design approvals issued against the MTC, which entails:

   i. For MSTC, obligations of the holder (under DASR 21.A.118A).

   ii. For Major Repairs, obligations of the holder (under DASR 21.A.451(a)).

c. For all MTC, MSTC and major repair design approvals held, ensure that a system for the in-service management of product hazards is implemented and maintained.

Where the holding organisation is unable to provide the holder services internally an external design or engineering organisation that is compliant to DASR 21.A.14(a) or (b) may be contracted/ tasked to perform any outstanding holder duties defined in paragraphs (a) through (b) above.

The Authority will issue all major design change approvals, MSTC and major repair design approvals to MTCs. The holder organisation will be responsible for the holder obligations of those instruments as defined in DASR 21.A.118A for MSTC and DASR 21.A.451(a) for major repairs.

GM 21.A.44 - Obligations of the holder (AUS)

DASR GM 21.A.14(c) defines the role of a government MTC holder organisation in holding all DASA issued MTC / MRTC and subsequent major design change approval, STCs and major repair design approvals.

AMC 21.A.44(c) – Continued integrity of the Aircraft Structural and Propulsion System (AUS)

In order to demonstrate compliance with product integrity requirements in the Type Certification Basis (TCB), assumptions are made by OEMs during design regarding factors such as operational usage, loads and environment; material performance; and manufacturing and assembly processes.

The periodic assessments undertaken by the MTC holder should ensure that the assumptions made during design and certification that could affect the integrity of structural and propulsion system critical parts (see DASR AMC 21.A.41) remain valid for the Defence Configuration Role and Environment (CRE). Periodic assessments should identify whether there is a need to update the type design (including Airworthiness Limitations (AwL)), Instructions for Continuing Airworthiness or monitoring provisions (e.g. life tracking or health monitoring) in order to ensure continued compliance with the TCB. These subsequent updates are separate to the periodic assessment process and should be conducted in accordance with the relevant DASR.

The MTC holder should undertake ongoing monitoring of service experience throughout the operational life of the fleet in order to determine the periodicity of assessments, and collect the data required for the assessments. Relevant service experience data should include, but is not limited to: operational usage; failures, malfunctions, defects and other occurrences (see DASR 21.A.3A(a)), and other unserviceabilities; maintenance findings, results of inspections and repair data; health monitoring data; and detailed inspection or testing of parts with service history. Where available, service experience from other operators should also be considered. The MTC holder should define the data required and establish a relationship with the operator(s) to collect this data.

The detailed requirements for ongoing monitoring and periodic assessment are defined in the Airworthiness Design Requirements Manual (ADRM).

For aircraft structures these include usage monitoring, structural condition monitoring and periodic structural integrity assessments.

For propulsion systems, these include usage monitoring and periodic integrity assessment (mission analysis). Mission analysis for propulsion systems should be undertaken by the respective Original Equipment Manufacturer (OEM) or a suitably experienced organisation with access to necessary type design data. This requirement is satisfied by receipt of written formal confirmation from the OEM/organisation that the propulsion system critical part AwLs (defined in DASR AMC 21.A.41) account for the Defence aircraft CRE.

The MTC holder obligations under DASR 21.A.44(c) should be implemented as part of the Aircraft Structural Integrity Program (ASIP) and Propulsion System Integrity Program (PSIP) for each aircraft. The Aircraft Structural / Propulsion System Integrity Management Plan (ASIMP/PSIMP) for each platform should detail the systems, processes and responsibilities for ongoing monitoring and periodic assessment.

21.A.47 - Transferability

Transfer of a type-certificate or restricted type-certificate may only be made to an organisation that is able to undertake the obligations under DASR 21.A.44, and, for this purpose, has demonstrated its ability to qualify under the criteria of DASR 21.A.14.

21.A.51 - Duration and continued validity

(a) A type-certificate and restricted type-certificate shall be issued for an unlimited duration. They shall remain valid subject to:

1. The holder remaining in compliance with this DASR; and
2. The certificate not being surrendered or revoked under the applicable administrative procedures established by the Authority.

(b) Upon surrender or revocation, the type-certificate and restricted type-certificate shall be returned to the Authority.

(c) The type-certificate or restricted type-certificate holder must inform the Authority, as soon as practicable, when it is no longer able to meet the type-certificate or the restricted type-certificate holder responsibilities defined by this DASR, for one or several types of product.

21.A.55 - Record Keeping

All relevant design information, drawings and test reports, including inspection records for the product tested, shall be held by the type-certificate or restricted type-certificate holder at the disposal of the Authority and shall be retained in order to provide the information necessary to

ensure the continued airworthiness and compliance with applicable environmental protection requirements of the product.

GM 21.A.55 - Record keeping (AUS)

Records should be retained for at least two years after the removal from service of the last aircraft of the type certified.

21.A.57 – Manuals

The holder of a type-certificate or restricted type-certificate shall produce, maintain and update master copies of all manuals required by the applicable type-certification basis and environmental protection requirements for the product, and provide copies, on request, to the Authority.

AMC 21.A.57 - Manuals (AUS)

The system to produce, maintain and update manuals shall ensure:

a. manuals are complete, current, and uniquely identified;

b. manuals contain their authority for use, document name, date of issue, and document / amendment status details;

c. manuals are provided in a medium compatible with user requirements;

d. new issues, re-issues and/or amendments are approved and/or endorsed by appropriate appointments prior to their release, noting that the process to update a manual may be separate from the process to approve or authorise the content of the manual, eg approve AwL limitations in ICA;

e. manual management records are accurately maintained, controlled, traceable and are accessible; and

f. manuals can be reproduced to any previous amendment status.

21.A.61 - Instructions for continuing airworthiness

(a) The holder of the type-certificate or restricted type-certificate shall furnish at least one set of complete instructions for continuing airworthiness, comprising descriptive data and accomplishment instructions prepared in accordance with the applicable type-certification basis, to each known operator of one or more aircraft, engine or propeller upon its delivery or upon issue of the first certificate of airworthiness for the affected aircraft, whichever occurs later and thereafter make those instructions available on request to any other operator required to comply with any of the terms of those instructions. The availability of some manual or portion of the instructions for continuing airworthiness, dealing with overhaul or other forms of heavy maintenance, may be delayed until after the product has entered into service, but shall be available before any of the products reaches the relevant age or flight-hours/cycles.

(b) In addition, changes to the instructions for continuing airworthiness shall be made available to all known operators of the product and shall also be provided on request to any other operator required to comply with any of those instructions. A programme showing how changes to the instructions for continuing airworthiness are distributed shall be submitted to the Authority.

AMC 21.A.61 - Instructions for Continuing Airworthiness (AUS)

Instructions for Continuing Airworthiness (ICA) shall be distributed in accordance with DASR AMC 21.A.57 – Manuals (AUS).

The system for distributing ICA and their amendments to users shall ensure that:

g. details of the authorised distribution of ICA to each user is recorded; and

h. ICA are accessible to organisations and personnel.

GM 21.A.61 - Instructions for Continuing Airworthiness (AUS)

Instructions for Continuing Airworthiness (ICA) details the methods, inspections, processes, and procedures necessary for the air operator to keep aircraft and / or engine, propeller, parts and appliances airworthy during its intended life.

The contents of ICA can be divided into two categories:

a. an approved airworthiness limitations (AwL) section as defined by the applicable airworthiness codes during the certification process, which forms part of the type design / type-certificate (DASR 21.A.31(a)(3) and DASR 21.A.41):

   i. any limitations determined through the certification of the product, and instructions on how to determine that these limits have been exceeded.

   ii. any inspection, servicing or maintenance actions determined to be necessary by the certification process.

b. sections that do not contain approved data from the certification process and are not considered as part of type design/type-certificate:

   i. any inspection or troubleshooting actions determined to be necessary to establish the nature of faults and the necessary remedial actions.

   ii. sufficient general information on the operation of the product to enable an understanding of the instructions in paragraphs (a)(i), (a)(ii), and (b)(i) above.

21.A.62 – Reserved

DCP2021-048 – Amendments to DASR 21 Certification Regulations Based on EMAR 21 Edition 2.0

Subpart D - Changes to Military Type-Certificates and Military Restricted Type-Certificates

21.A.90A – Scope

This Subpart establishes the procedure for the approval of changes to type-certificates, and establishes the rights and obligations of the applicants for, and holders of, those approvals. In this Subpart, references to type-certificates include type certificate and restricted type certificate.

GM 21.A.90A – Scope

The term 'changes to the type certificate' is consistently used in DASR 21 Section A Subpart D and E, as well as in the related AMC and GM. This term does not refer to changing the document that reflects the Military Type Certificate (MTC) but to the elements of the MTC as defined in DASR 21.A.41. It means that the processes for the approval of changes, as described in the said two Subparts, do not only apply to changes to the type design, but may also apply to changes to:

- the operating limitations;
- the type certificate data sheet (TCDS) for airworthiness;
- the applicable type-certification basis and environmental protection requirements with which the applicant has to demonstrate compliance;
- any other conditions or limitations prescribed for the product by the Authority.
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21.A.91 - Classification of changes to a type-certificate

Changes to a type-certificate are classified as minor and major. A 'minor change' has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product or its environmental characteristics. Without prejudice to DASR 21.A.19, all other changes are "major changes" under this Subpart. Major and minor changes shall be approved in accordance with DASR 21.A.95 or DASR 21.A.97 as appropriate, and shall be adequately identified.

GM 21.A.91 - Classification of changes to a Military Type Certificate (MTC)

1. Purpose of classification

1.1 Classification of changes to a Military Type Certificate (MTC) into 'MAJOR' or 'MINOR' is to determine the approval route to be followed in DASR 21 Section A Subpart D, ie either DASR 21.A.95 or DASR 21.A.97, or alternatively whether application and approval has to be made in accordance with DASR 21 Section A Subpart E.

2. Introduction

2.1 DASR 21.A.91 proposes criteria for the classification of changes to an MTC as minor and major.

(a) This GM is intended to provide guidance on the term 'appreciable effect' affecting the airworthiness of the product or affecting any of the other characteristics mentioned in DASR 21.A.91, where 'airworthiness' is interpreted in the context of a product in conformity with type design and in condition for safe operation. It provides

complementary guidelines to assess a change to the MTC in order to fulfil the requirements of DASR 21.A.91 and DASR 21.A.117 where classification is the first step of a procedure.

NOTE: For classification of Repairs see DASR GM 21.A.435(a).

(b) Although this GM provides guidance on the classification of major changes, as opposed to minor changes as defined in DASR 21.A.91, the GM and DASR 21.A.91 are deemed entirely compatible.

2.2 For an AUSMTSO authorisation, DASR 21.A.611 gives specific additional requirements for design changes to AUSMTSO articles.

For APU, this GM 21.A.91 is to be used.

3. Assessment of a change for classification

3.1 Changes to the MTC

DASR 21.A.91 addresses all changes to any of the aspects of an MTC. This includes changes to a type design, as defined in DASR 21.A.31, as well as to the other constituents of an MTC, as defined in DASR 21.A.41.

3.2 (Reserved)

3.3 Classification process (see also the flow chart 'Classification process' in Appendix A to DASR GM 21.A.91)

DASR 21.A.91 requires all changes to be classified as either major or minor, using the criteria of DASR 21.A.91.

Wherever there is doubt as to the classification of a change, the Authority should be consulted for clarification.

When the strict application of the paragraph 3.4 criteria results in a major classification, the applicant may request reclassification, if justified, and the Authority could take the responsibility for reclassifying the change.

A simple design change planned to be mandated by an airworthiness directive may be reclassified as minor due to the involvement of the Authority in the continued airworthiness process when this is agreed between the Authority and the MDOA holder.

The reasons for a classification decision should be recorded.

3.4 Complementary guidance for classification of changes

A change to the MTC is judged to have an 'appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product or its environmental characteristics' and, therefore, should be classified as major, in particular but not only, when one or more of the following conditions are met:

(a) Where the change requires an adjustment of the type-certification basis (such as special conditions, equivalent safety findings or exceptions) other than electing to comply with airworthiness requirements that are derived from a later amendment to an airworthiness code;

(b) Where the applicant proposes a new interpretation of the airworthiness requirements used for the type certification basis that has not been published as AMC material or otherwise agreed with the Authority;

(c) Where the demonstration of compliance uses methods that have not been previously accepted as appropriate for the nature of the change;

(d) Where the extent of new substantiation data necessary to comply with the applicable airworthiness requirements and the degree to which the original substantiation data has to be re-assessed and re-evaluated is considerable;

(e) Where the change alters the airworthiness limitations or the operating limitations;

(f) Where the change is made mandatory by an airworthiness directive or the change is the terminating action of an airworthiness directive (reference DASR 21.A.3B), see Note 1; and

(g) Where the design change introduces or affects functions where the failure effect is classified as catastrophic or hazardous.

NOTE 1: A change previously classified as minor and approved prior to the airworthiness directive issuance decision needs no reclassification. However, the Authority retains the right to review the change and reclassify/reapprove it if found necessary.

NOTE 2: The conditions listed in (a) through (g) above are an explanation of the criteria noted in DASR 21.A.91.

For an understanding of how to apply the above conditions, it is useful to take note of the examples given in Appendix A to GM 21.A.91

3.5 (Reserved)

3.6 Complementary guidance for the classification of changes to aircraft flight manuals (AFMs)

The following changes to the AFM are deemed to be minor:

(a) revisions to the AFM associated with changes to the type design that are classified as minor in accordance with DASR 21.A.91;

(b) revisions to the AFM that are not associated with changes to the type design (also identified as stand-alone revisions) which fall into one of the following categories:

(1) changes to limitations or procedures that remain within already certified limits (e.g. weight, structural data, noise, etc.);

(2) consolidation of two or more previously approved and compatible AFMs into one, or the compilation of different parts taken from previously approved and compatible AFMs that are directly applicable to the individual aircraft (customisation); and

(3) the introduction into a given AFM of compatible and previously approved AFM amendments, revisions, appendices or supplements;

(c) administrative revisions to the AFM, defined as follows:

(1) for the AFMs issued by the MTC holder:

(i) editorial revisions or corrections to the AFM;

(ii) changes to parts of the AFM that do not require approval by the Authority;

(iii) conversions of previous Authority approved combinations of units of measurement added to the AFM in a previously approved manner;

(iv) the addition of aircraft serial numbers to an existing AFM where the aircraft configuration, as related to the AFM, is identical to the configuration of aircraft already covered by that AFM;

(v) the removal of references to aircraft serial numbers no longer applicable to that AFM;

(2) for AFM supplements issued by MSTC holders:

(i) editorial revisions or corrections to the AFM supplement;

(ii) changes to parts of the AFM supplement that are not required to be approved by the Authority;

(iii) conversions of previous Authority approved combinations of units of measurement added to the AFM supplement in a previously approved manner;

(iv) the addition of aircraft serial numbers to an existing AFM supplement where the aircraft configuration, as related to the AFM supplement, is identical to that of the aircraft already in that AFM supplement;

'identical' means here that all the aircraft have to belong to the same type and model/variant;

(v) the addition of a new MSTC to an existing AFM supplement, when this supplement is fully applicable to the new MSTC;

(vi) the removal of references to aircraft serial numbers that are no longer applicable to that AFM supplement.

Appendix A to GM 21.A.91 - Examples of 'MAJOR' Changes per discipline

The information below is intended to provide a few major change examples per discipline, resulting from application of DASR 21.A.91 and GM 21.A.91 paragraph 3.4 conditions. It is not intended to present a comprehensive list of all major changes. Examples are categorised per discipline and are applicable to all products (aircraft, engines and propellers). However a particular change may involve more than one discipline, e.g., a change to engine controls may be covered in engines and systems (software).

Those involved with classification should always be aware of the interaction between disciplines and the consequences this will have when assessing the effects of a change (i.e. operations and structures, systems and structures, systems and systems, etc.; see example in paragraph 2.b).

Specific rules may exist which override the guidance of these examples.

In the DASR 21 a negative definition is given of minor changes only. However in the following list of examples it was preferred to give examples of major changes.

Where in this list of examples the words 'has effect' or 'affect(s) are used, they have always to be understood as being the opposite of 'no appreciable effect' as in the definition of minor change in DASR 21.A.91. Strictly speaking the words 'has appreciable effect' and 'appreciably affect(s)' would have been used, but this has not been done to improve readability.

1. Structure

a) Changes such as a cargo door cut-out, fuselage plugs, change of dihedral, addition of floats;

b) Changes to materials, processes or methods of manufacture of primary structural elements, such as spars, frames and critical parts;

c) Changes that adversely affect fatigue or damage tolerance or life limit characteristics;

d) Changes that adversely affect aero-elastic characteristics;

e) Changes that affect primary structural element loads and their path.

2. Cabin Safety

a) Changes which introduce a new cabin layout of sufficient change to require a re-assessment of emergency evacuation capability or which adversely affect other aspects of passenger or crew safety. Items to consider include, but are not limited to:

- changes to or introduction of dynamically tested seats;
- change to the pitch between seat rows;
- change of distance between seat and adjacent obstacle like a divider;
- changes to cabin layouts that affect evacuation path or access to exits;
- installation of new galleys, toilets, wardrobes, etc.;
- installation of new type of electrically powered galley insert.

b) Changes to the pressurisation control system which adversely affect previously approved limitations.

3. Flight

a) Changes which adversely affect the approved performance, such as high altitude operation, brake changes that affect braking performance, deck landing, operation with night vision devices, air to air refuelling, low level flight.

b) Changes which adversely affect the flight envelope.

c) Changes which adversely affect the handling qualities of the product including changes to the flight controls function (gains adjustments, functional modification to software) or changes to the flight protection or warning system.

4. Systems

For systems assessed under the applicable airworthiness requirements the classification process is based on the functional aspects of the change and its potential effects on safety:

a) Where failure effect is 'CATASTROPHIC' or 'HAZARDOUS', the change is to be classified as major.

b) Where failure effect is 'MAJOR', the change is to be classified as major if:

- aspects of the compliance demonstration use means that have not been previously accepted for the nature of the change to the system; or
- the change affects the pilot/system interface (displays, controls, approved procedures); or
- the change introduces new types of functions/systems such as GPS primary, TCAS, Predictive wind-shear, HUD.

The assessment of the criteria for software changes to systems also needs to be performed.

When software is involved, account is to be taken also of the following guidelines:

Where a change is made to software produced in accordance with the guidelines of EUROCAE ED12C/RTCA DO–178C 'Software Considerations in Airborne Systems and Equipment Certification', the change is to be classified as major if either of the following apply, and the failure effect is CATASTROPHIC, HAZARDOUS or MAJOR:

a) the executable code for software, determined to be Level A or Level B in accordance with the guidelines, is changed unless that change involves only a variation of a parameter value within a range already verified for the previous certification standard; or

b) the software is upgraded to or downgraded from Level A, Level B or Level C; or

c) the executable code, determined to be Level C, is deeply changed, eg after a software re-engineering process accompanying a change of processor.

For software developed to guidelines other than EUROCAE ED12C/RTCA DO–178C, the applicant is to assess changes in accordance with the foregoing principles. For other codes the principles noted above may be used. However, due consideration is to be given to specific requirements/interpretations.

5. Propellers

Changes to:

a) diameter;

b) airfoil;

c) planform;

d) material;

e) blade retention system, etc.

6. Engines

Changes:

a) that adversely affect operating speeds, temperatures, and other limitations;

b) that affect or introduce parts (as identified by the applicable airworthiness requirements) where the failure effect has been shown to be hazardous;

c) that affect or introduce engine critical parts (as identified by the applicable airworthiness requirements) or their life limits;

d) to a structural part which requires a re-substantiation of the fatigue and static load determination used during certification;

e) to any part of the engine which adversely affects the existing containment capability of the structure;

f) that adversely affect the fuel, oil and air systems, which alter the method of operation, or require reinvestigation against the type-certification basis;

g) that introduce new materials or processes, particularly on critical components.

7. Rotors and drive systems

Changes that:

a) adversely affect fatigue evaluation unless the service life or inspection interval are unchanged. This includes changes to materials, processes or methods of manufacture of parts, such as:

- rotor blades;
- rotor hubs including dampers and controls;
- gears;
- drive shafts;
- couplings.

b) affect systems the failure of which may have hazardous or catastrophic effects. The design assessment will include:

- cooling system;
- lubrication system;
- rotor controls.

c) adversely affect the results of the rotor drive system endurance test, such as the rotor drive system required in EASA CS 27/29–917.

d) adversely affect the results of the shafting critical speed analysis such as required by EASA CS 27/29–931.

8. Environment (where applicable)

A change that introduces an increase in noise or emissions.

9. Power plant Installation

Changes which include:

a) control system changes which affect the engine/propeller/airframe interface;

b) new instrumentation displaying operating limits;

c) modifications to the fuel system and tanks (number, size and configuration);

d) change of engine/propeller type.

10. Operational capabilities

Integration or modification of mission equipment that could adversely affect safety of third parties include, but are not limited to:

a) installation of in-flight refuelling capabilities;

b) installation of new external tanks;

c) installation of new weapons and stores;

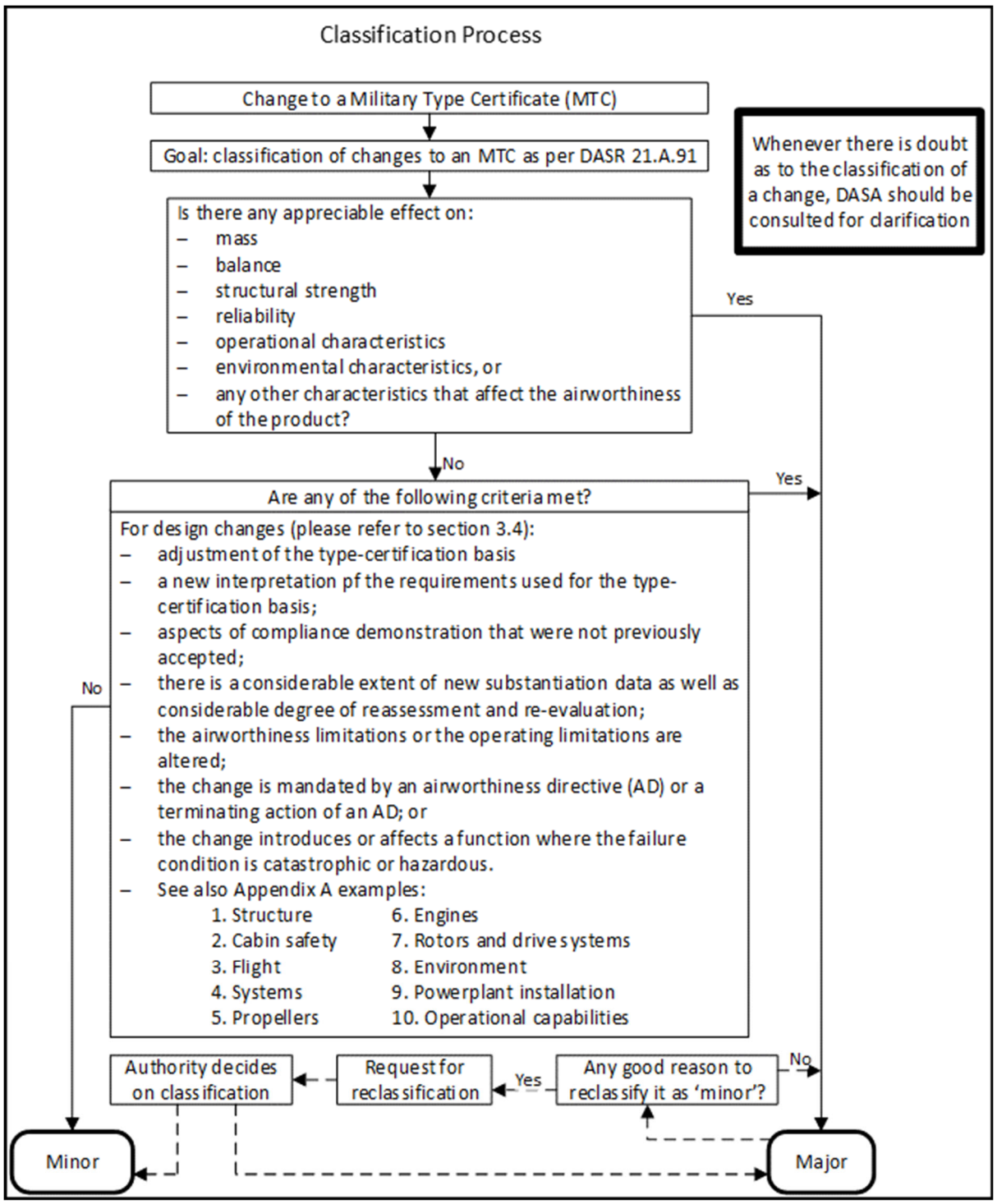
d) installation of new equipment that may affect Electromagnetic Environmental Effects (E3) integrity, eg new radar. installation of aerial delivery systems;

e) installation of flare and chaff system;

f) installation of systems integrating a high power laser;

g) modification to the release device of a jettisoning tank.

A classification process would be:



21.A.92 – Eligibility

(a) Only the type-certificate holder may apply for approval of a major change to a type-certificate under this Subpart; all other applicants for a major change to a type-certificate shall apply under DASR 21 Subpart E.

(b) Any organisation may apply for approval of a minor change to a type-certificate under this Subpart.

GM 21.A.92 - Eligibility (AUS)

A design organisation that has been engaged to provide holder functions and assist in meeting DASR 21 Subpart J requirements to satisfy the type-certificate holder demonstration of capability under DASR 21.A.14(c), may act as the applicant where:

a. the agreement between the government organisation and design organisation required by DASR 21.A.14(c) permits,

b. the TCAE reflects the agreement and arrangements under which such applications may occur, and

c. the proposed design change is within the scope of the design organisation's approval.

21.A.93 - Application

(a) An application for approval of a change to a type-certificate shall be made in a form and manner established by the Authority.

(b) An application shall include, or be supplemented after the initial application with, a certification programme for the demonstration of compliance in accordance with DASR 21.A.20, consisting of:

1. A description of the change identifying:
   (i) the configuration(s) of the product in the type-certificate upon which the change is to be made;
   (ii) all areas of the product in the type-certificate, including the approved manuals, that are changed or affected by the change;
2. An identification of any reinvestigations necessary to demonstrate compliance of the change and areas affected by the change with the type-certification basis and environmental protection requirements;
3. For a major change to a type-certificate:
   (i) a proposal for the initial type-certification basis and environmental protection requirements, prepared in accordance with the requirements and options specified in DASR 21.A.101;
   (ii) a proposal for a breakdown of the certification programme into meaningful groups of compliance demonstration activities and data, including a proposal for the means of compliance and related compliance documents;
   (iii) a proposal for the assessment of the meaningful groups of compliance demonstration activities and data, addressing the likelihood of an unidentified non-compliance with the type-certification basis, operational suitability data certification basis or environmental protection requirements and the potential impact of that non-compliance on product safety or environmental protection; and
   (iv) a project schedule including major milestones.

(c) An application for a change to a type-certificate shall be valid for five years unless the Authority agrees at the time of application on a longer time period. In the case where the change has not been approved, or it is evident that it will not be approved, within the time limit provided for in this point, the applicant shall apply for an extension of the validity of the application and comply with

the type-certification basis and environmental protection requirements, established in accordance with DASR 21.A.101.

AMC 21.A.93 - Application - Form and Manner

The application referenced in DASR 21.A.93 refers to the initial formal notification to the Authority of the intent to seek approval of a change. This can be achieved through submission of DASR Form 31. In the absence of a Form 31, submission of the first version of the certification programme will be taken as the initial application.

Final applications for approval of changes to type certificates should be made as follows:

- For a 'major' change to type design, via DASR Form 31a
- For a 'major' repair, via DASR Form 31b
- For a 'minor' change to type design or a 'minor' repair, via DASR Form 32
- For other changes to type certificates, DASA should be contacted to confirm the appropriate Form and Manner for the application.

AMC 21.A.93(b) - Certification programme for a change to an MTC or an MSTC

The description of the change should include an explanation of the purpose of the change, the pre-modification and post-modification configuration(s) of the product, schematics/pictures, and any other detailed features and boundaries of the physical change (this may be supplemented by drawings or outlines of the design, if this helps to understand the design change), as well as the identification of the changes in areas of the product that are functionally affected by the change, and the identification of any changes to the approved manuals. Guidance on areas that are changed and affected by the change is found in DASR GM 21.A.101, Section 3.9.1.

Identification of reinvestigations referred to in DASR 21.A.93(b)(2), necessary to demonstrate compliance, does not mean the demonstration of compliance itself, but the list of affected items of the applicable certification basis for which a new demonstration is necessary, together with the means (e.g. calculation, test or analysis) by which it is proposed to demonstrate compliance.

Before submitting the application for a change, the analysis and classification activities of DASR 21.A.91 and DASR 21.A.101 should be performed using the corresponding GM. For repair designs, the analysis of DASR 21.A.91 should be performed using DASR GM 21.A.435(a).

For a major change, DASR AMC 21.A.15(b) should be used as applicable to the change.

GM 21.A.93(b) - 'Simple' Major Changes (AUS)

For a 'simple' major change, the certification programme may be provided with the final application for approval.

A 'simple' major change is a change which does not require long or complex compliance demonstration activities, where the proposal for the Authority Level of Involvement (based on DASR 21.A.93(b)3(iii)) is nil. A change which requires tailoring of the certification basis would not normally be considered simple, unless the tailoring can be assessed without an understanding of the specific programme (for example, inclusion of a Special Condition covering ADRM requirements for a capability or technology not currently covered in the TCB). Tailoring must be formally agreed with the Authority before submission of the final application and the associated declaration of compliance.

Some examples of major changes that may be considered 'simple' are:

- Changes to Airworthiness Limitations (AwLs) and Certification Maintenance Requirements (CMRs) or revised OEM source publications previously certified by a recognised NAA/MAA

- Changes to the Operating Limitations of an MTC previously certified by a recognised NAA/MAA.
- Other major changes previously certified by a recognised NAA/MAA, where there are no CRE deltas

While the above examples would typically be considered 'simple' the Authority may, on presentation of an application, identify a requirement for LoI or otherwise identify an issue with the presented certification programme. These issues may result in additional work and/or a requirement for the certification programme to be separated from the final application.

GM1 to 21.A.93(b) - Software aspects of a Certification Programme (AUS)

The certification programme may include software certification requirements for Major changes to type design. The Authority encourages applicants to develop a Plan for Software Aspects of Certification (PSAC), or equivalent document, and provide it as an enclosure to the certification programme.

GM 21.A.93(b)(2) - Type-certification Basis for a change to a type-certificate (AUS)

The type-certification basis referenced in DASR 21.A.93(b)2 is established through DASR 21.A.95 for a minor change and DASR 21.A.101 for a major change. DASR 21.A.95 and DASR 21.A.101 state that the existing certification basis established in the type certificate is considered adequate for 'minor' and non-significant 'major' changes. However, Australia's Work Health and Safety Act (Commonwealth) 2011 (WHS Act), levies additional obligations on designers, namely to exercise 'reasonable knowledge' when determining that any risk inherent in designs has been minimised So Far As is Reasonably Practicable (SFARP). Updates to applicable standards may provide insight into hazards and potential controls that are not identified in the version of the standards prescribed in the existing aircraft's type certificate. The requirements prescribed in the Airworthiness Design Requirements Manual (ADRM) provide a source of requirements and standards that can assist engineers to satisfy their obligation to exercise reasonable knowledge of hazards and associated controls in aircraft design.

AMC 21.A.93(b)(3)(iii) - Level of Involvement (AUS)

The proposed assessment shall take into account at least the following elements:

1. novel or unusual features of the certification project, including operational, organisational and knowledge management aspects;
2. complexity of the design and/or demonstration of compliance;
3. criticality of the design or technology and the related safety and environmental risks, including those identified on similar designs; and
4. performance and experience of the design organisation of the applicant in the domain concerned.

Based on this assessment, the application shall include a proposal for the Authority's involvement in the verification of the compliance demonstration activities and data.

GM 21.A.93(b)(3)(iii) - Level of Involvement (AUS)

For guidance on Authority determination of Level of Involvement see DASR GM 21.A.15(b)(6).

GM 21.A.93(c) - Period of validity for the application

For guidance on the determination of the period of validity for the application, refer to GM 21.A.15(e) and (f).

21.A.95 - Requirements for approval of a minor change

(a) Minor changes to a type-certificate shall be classified and approved by:

1. the Authority; or
2. an approved military design organisation within the scope of its privileges provided for in (1) and (2) of DASR 21.A.263(c), as recorded in the terms of approval.

(b) A minor change to a type-certificate shall only be approved:

1. when it has been demonstrated that the change and areas affected by the change comply with the type-certification basis and the environmental protection requirements incorporated by reference in the type-certificate;
2. (Reserved)
3. when compliance with the type-certification basis that applies in accordance with (1) has been declared and the justifications of compliance have been recorded in the compliance documents; and
4. when no feature or characteristic has been identified that may make the product unsafe for the uses for which certification is requested.

(c) By derogation from (b)(1), airworthiness requirements which became applicable after those incorporated by reference in the type-certificate can be used for approval of a minor change, provided they do not affect the demonstration of compliance.

(d) (Reserved)

(e) The applicant shall submit to the Authority the substantiation data for the change and a statement that compliance has been demonstrated in accordance with (b).

(f) An approval of a minor change to a type-certificate shall be limited to the specific configuration(s) in the type-certificate to which the change relates.

AMC 21.A.95 - Requirements for the approval of a minor change

(a) Applicability of DASR 21.A.95

DASR 21.A.95 has to be complied with by applicants for the approval of a minor change to a Military Type Certificate (MTC), and by Military Design Organisation Approval (MDOA) holders that approve minor changes under their own privileges.

DASR 21.A.95(e), however, only applies to projects for which an application is submitted to the Authority. For MDOA holders that approve minor changes under their privileges, the substantiating data and the statement of compliance required by DASR 21.A.95(e) should be produced but do not need to be submitted to the Authority. They should be, however, kept on record and submitted to the Authority on request during its MDOA continued surveillance process.

(b) The approval process

The approval process comprises the following steps:

Note: Steps 1, 2 and 5 should be followed only by applicants for minor changes approved by the Authority. MDOA holders that approve minor changes under their privileges should refer to DASR AMC1 to 21.A.263(c)(2) or DASR AMC2 to 21.A.263(c)(2), as applicable to their approval process.

(1) Application

(2) When the minor change is approved by the Authority, an application should be submitted to the Authority as described in DASR 21.A.93(a) and DASR 21.A.93(b) and in DASR AMC 21.A.93(a).

(3) Certification programme

The certification programme should consist of the information defined in DASR 21.A.93(b)(1) and DASR 21.A.93(b)(2). Please refer to DASR AMC 21.A.93(b) for further information.

(4) Certification basis

(5) Demonstration of compliance

(6) Statement of compliance

(c) Certification basis

The certification basis for a minor change consists of a subset of the elements of the product's certification basis 'incorporated by reference in the type certificate' (see also the additional guidance below on the meaning of airworthiness requirements that became applicable after those 'incorporated by reference in the type certificate'), which have been identified in accordance with DASR 21.A.93(b)(2) due to a reinvestigation of compliance being necessary because compliance was affected by the minor change (see also additional guidance below on the meaning of 'specific configurations').

The certification basis 'incorporated by reference in the type certificate' is the certification basis for the product as recorded in the type certificate data sheet (TCDS) for the product type/model in the configuration(s) identified in accordance with DASR 21.A.93(b)(1)(i).

The certification basis contains the applicable airworthiness and environmental protection requirements specified by reference to their amendment level, as complemented by special conditions, equivalent safety findings, exceptions, and 'elect to comply', etc., as applicable.

By derogation from the above, airworthiness requirements that became applicable after those incorporated by reference in the MTC may be used for the approval of a minor change (see the guidance below on airworthiness requirements that became applicable after those 'incorporated by reference in the type certificate').

If other changes are required for the embodiment of the minor change, the certification basis corresponding to the product modified by these other changes should also be considered when determining the certification basis for the minor change.

(d) Demonstration of compliance required by DASR 21.A.95(b)(1) and (2)

The applicant needs to demonstrate compliance with the certification basis established for the minor change for all areas that are either physically changed or functionally affected by the minor change.

(1) Means of compliance: the applicant should define and record the means (calculation, test or analysis, etc.) by which compliance is demonstrated. Appendix A to AMC 21.A.15(b) may be used to describe how compliance is demonstrated.

(2) Compliance documents: the compliance demonstration should be recorded in compliance documents. For minor changes, one comprehensive compliance document may be sufficient, provided that it contains evidence of all aspects of the compliance demonstration. AMC 21.A.20(c) can also be used, where applicable.

See also the additional guidance in item (e).

(3) Aircraft manuals: where applicable, supplements to manuals (e.g. aircraft flight manual (AFM), aircraft maintenance manual (AMM), etc.) may be issued.

See also additional guidance below on embodiment/installation instructions (item (f)).

(e) Definition of the change to the type certificate

The change to the type certificate should be defined in accordance with GM 21.A.90A.

(f) Embodiment/installation instructions

The instructions for the embodiment/installation of the change (e.g. service bulletin, modification bulletin, production work order, etc.) should be defined. This may include the installation procedure, the required material, etc.

(g) (Reserved)

(h) Meaning of 'specific configurations' in DASR 21.A.95(f)

These 'specific configurations' are defined as the combination of the product type/model (on which the minor change will be installed) with (if applicable) the list of those already approved changes (minor, major, Military Supplemental Type Certificate (MSTC)) that are required for the installation of the minor change.

(i) Airworthiness requirements that became applicable after those incorporated by reference in the type certificate

(1) Minor changes are those changes that do not affect the airworthiness of the product and thus are, by definition, non-significant as per DASR 21.A.101. This means that the certification basis for the minor change may consist of the items of the certification basis incorporated by reference in the TCDS of the product type/model, and normally it should not be necessary for a minor change to use airworthiness requirements that became applicable after those that are incorporated by reference in the type certificate.

(2) On the other hand, the applicant may elect to use later amendments of the affected airworthiness requirements for the compliance demonstration. This does not affect the classification of the change; however, the applicant should also comply with any other airworthiness requirements that the Authority considers to be directly related.

(3) If other changes are required for the installation of the minor change (as explained in 'specific configurations'), the certification basis for the minor change should also take into account the corresponding certification basis.

(j) Meaning of 'no feature or characteristics' in DASR 21.A.95(b)(4)

See GM 21.A.20(d).

GM 21.A.95(b) - Requirements for the approval of a minor change

The level of detail of the documents that are referred to in DASR 21.A.93(b) should be the same regardless of whether the change is approved by the Authority or under a Military Design Organisation Approval (MDOA) privilege, to allow the change to be assessed in the frame of the MDOA surveillance.

21.A.97 - Requirements for approval of a major change

(a) Major changes to a type-certificate shall be approved by:

1. the Authority; or

2. (Reserved)

(b) A major change to a type-certificate shall only be approved:

1. When it has been demonstrated that the change and areas affected by the change comply with the type certification basis and environmental protection requirements, as established by the Authority in accordance with DASR 21.A.101;

2. (Reserved)

3. When compliance with (1) and (2) has been demonstrated in accordance with DASR 21.A.20, as applicable to the change.

(c) (Reserved)

(d) An approval of a major change to a type-certificate shall be limited to the specific configuration(s) in the type-certificate to which the change relates.

AMC 21.A.97 - Requirements for the approval of a major change

1. For the application of DASR 21.A.97(b) the applicant should use all the DASR AMC 21.A.20(c), as well as the DASR GM 21.A.20.

2. (Reserved)

3. In accordance with DASR 21.A.97(d), the compliance demonstration process always takes into account the specific configuration(s) in the Military Type Certificate (MTC) to which the major change under approval is applied. These configurations may be defined by type models/variants or by design changes to the type design. The demonstration of compliance covers these applicable specific configurations. Consequently, the approval of the major change excludes any other configurations, in particular those that already exist but are not considered in the compliance demonstration process, as well as those that may be certified in future.

AMC1 21.A.97 - Structural and Propulsion System Critical Parts and Airworthiness Limitations (AUS)

Applicants for major changes should identify and submit to the Authority a list of critical parts and airworthiness limitations as described at DASR AMC 21.A.41.

21.A.101 - Type-certification basis and environmental protection requirements for a major change to a type-certificate

(a) A major change to a type-certificate and areas affected by the change shall comply with either the airworthiness requirements applicable to the changed product on the date of the application for the change or airworthiness requirements which became applicable after that date in accordance with (f) below. The validity of the application shall be determined in accordance with DASR 21.A.93(c). In addition, the changed product shall comply with the environmental protection requirements established in accordance with DASR 21.A.18.

(b) By derogation from (a), an earlier amendment to an airworthiness requirement referred to in (a), and to any other airworthiness requirement which is directly related may be used in any of the following situations, unless the earlier amendment became applicable before the date at which the

corresponding airworthiness requirements incorporated by reference in the type-certificate became applicable:

1. A change that the Authority finds not to be significant. In determining whether a specific change is significant, the Authority considers the change in context with all previous relevant design changes and all related revisions to the applicable airworthiness requirements incorporated by reference in the type-certificate for the product. Changes meeting one of the following criteria shall automatically be considered significant:

   (i) The general configuration or the principles of construction are not retained;

   (ii) The assumptions used for certification of the product to be changed do not remain valid.

2. Each area, system, part or appliance that the Authority finds not affected by the change.

3. Each area, system, part or appliance that is affected by the change, for which the Authority finds that compliance with the airworthiness requirements described in (a) would not contribute materially to the level of safety of the changed product or is impractical.

(c) (Reserved)

(d) If the Authority finds that the airworthiness requirements applicable on the date of the application for the change do not provide adequate standards with respect to the proposed change, the applicant shall also comply with any special conditions, and amendments to those special conditions, prescribed by the Authority in accordance with DASR 21.A.16B, to provide a level of safety equivalent to that established in the airworthiness requirements applicable on the date of the application for the change.

(e) By derogation from (a) and (b), the change and areas affected by the change may comply with an alternative to an applicable airworthiness requirement if proposed by the applicant, provided that the Authority finds that the alternative provides a level of safety which is:

1. In the case of a type-certificate:

   (i) equivalent to that of the airworthiness requirements designated under (a) or (b) above; or

   (ii) compliant with the essential requirements of DASR Annex A to BR.20.A.

2. In the case of a restricted type-certificate, adequate with regard to the intended use.

(f) If an applicant chooses to comply with airworthiness requirements set out in an amendment that becomes applicable after submitting the application for a change to a type-certificate, the change and areas affected by the change shall also comply with any other airworthiness requirement which is directly related.

AMC 21.A.101 - Type-certification basis and environmental protection requirements for a major change to a type-certificate (AUS)

In addition to the design requirements applied during initial type certification of the aircraft, 'MAJOR' changes to type design that are determined by the Authority to be significant shall comply with the relevant ‘essential’ design requirements defined in the Airworthiness Design Requirements Manual (ADRM) and the latest amendments of standards used during initial certification of the aircraft.

AMC1 to 21.A.17A is to be used to determine where a Military Certification Review Item (MCRI) is required to record changes to the certification basis for the product as recorded in the type certificate data sheet (TCDS).

GM 21.A.101 - Establishing the certification basis of changed aeronautical products

This guidance material (GM) provides guidance for the application of the 'Changed Product Rule (CPR)', pursuant to DASR 21.A.101, *Type-certification basis and environmental protection requirements for a major change to a type-certificate*, and DASR 21.A.19, *Changes requiring a new type-certificate*, for changes made to type-certified aeronautical products.

1. INTRODUCTION

1.1 Purpose.

This GM provides guidance for establishing the certification basis for changed aeronautical products pursuant to DASR 21.A.101, *Type-certification basis and environmental protection requirements for a major change to a type-certificate*. The guidance is also intended to help applicants and approved design organisations to determine whether it will be necessary to apply for a new Military Type Certificate (MTC) under DASR 21.A.19, *Changes requiring a new type certificate*. The guidance describes the process for establishing the certification basis for a change to an MTC, for a Military Supplemental Type Certificate (MSTC), or for a change to an MSTC, detailing the requirements (evaluations, classifications, and decisions) throughout the process.

1.2 Applicability.

1.2.1 This GM is for an applicant that applies for changes to MTCs under Subpart D, for MSTCs, or changes to MSTCs under Subpart E, or for changes to Australian Military Technical Standard Order (AUSMTSO) authorisations for auxiliary power units (APUs) under Subpart O.

1.2.2 This GM applies to major changes under DASR 21.A.101 for aeronautical products certified under Part 21, and the airworthiness requirements applicable to the changed product. References to 'change' include the change and areas affected by the change pursuant to DASR 21.A.101.

1.2.3 (Reserved)

1.2.4 This GM also applies to changes to restricted type certificates.

1.2.5 The term 'aeronautical product', or 'product', means a type-certified aircraft, aircraft engine, or propeller and, for the purpose of this GM, an AUSMTSO approved APU.

1.2.6 This GM primarily provides guidance for the designation of applicable airworthiness requirements for the type-certification basis for the changed product. This GM is not intended to be used to determine the applicable environmental protection requirements for changed products.

1.2.7 This GM is not mandatory. This GM describes an acceptable means, but not the only means, to comply with DASR 21.A.101. However, an applicant who uses the means described in this GM must follow it entirely.

1.3 Reserved.

1.4 GM Content.

This GM contains 5 chapters.

1.4.1 This chapter clarifies the purpose of this GM, describes its content, specifies the intended audience affected by this GM, clarifies which changes are within the scope of this GM, and references the definitions and terminology used in this GM.

1.4.2 Chapter 2 provides a general overview of DASR 21.A.101 and DASR 21.A.19, clarifies the main principles and safety objectives, and directs an applicant to the applicable guidance contained in subsequent chapters of this GM.

1.4.3 Chapter 3 contains guidance for the implementation of DASR 21.A.101(b) to establish the certification basis for changed aeronautical products. It describes in detail the various steps for developing the certification basis, which is a process that applies to all changes to aeronautical products. Chapter 3 also addresses the DASR 21.A.19 considerations for identifying the conditions under which an applicant for a change is required to submit an application for a new MTC, and it provides guidance regarding the stage of the process at which this assessment is performed.

1.4.4 Chapter 4 is reserved.

1.4.5 Chapter 5 contains considerations for:

— design-related operating requirements,

— defining a baseline product,

— using special conditions under DASR 21.A.101(d),

— documenting revisions to the MTC basis,

— incorporating MSTCs into the type design,

— removing changes,

— determining a certification basis after removing an approved change, and

— sequential changes.

1.4.6 Appendix A lists the definitions and terminology applicable for the application of the changed product rule.

1.5 Terms Used in this GM.

1.5.1 The following terms are used interchangeably and have the same meaning: ‘specifications’, ‘standards’, ‘airworthiness requirements’, 'requirements' and ‘certification standards’ . They refer to the elements of the type-certification basis for airworthiness. See the Airworthiness Design Requirements Manual (ADRM) Section 1 Chapter 1 for discussion on the differences between requirements and standards.

1.5.2 The term ‘certification basis’ refers to the type-certification basis for airworthiness provided for in DASR 21.A.17A.

1.6 For more terms, consult Appendix A.

2. OVERVIEW OF DASR 21.A.19 AND DASR 21.A.101

2.1 DASR 21.A.19.

2.1.1 DASR 21.A.19 requires an applicant to apply for a new MTC for a changed product if the Authority finds that the change to the design, power, thrust, or weight is so extensive that a substantially complete investigation of compliance with the applicable type-certification basis is required.

2.1.2 Changes that require a substantial re-evaluation of the compliance findings of the product are referred to as ‘substantial changes’. For guidance, see paragraph 3.3 in Chapter 3 of this GM.

2.1.3 If the Authority determines through DASR 21.A.19 that a proposed change does not require a new MTC, see DASR 21.A.101 for the applicable requirements to develop the certification basis for the proposed change. For guidance, see Chapter 3 of this GM.

2.2 DASR 21.A.101.

2.2.1 DASR 21.A.101(a).

DASR 21.A.101(a) requires a change to an MTC, and the areas affected by the change to comply with the airworthiness requirements that are applicable to the changed product and that are in effect on the date of application for the change (i.e. the latest airworthiness requirements in effect at the time of application), unless the change meets the criteria for the exceptions identified in DASR 21.A.101(b), or unless an applicant chooses to comply with the airworthiness requirements of later effective amendments* in accordance with DASR 21.A.101(f). The intent of DASR 21.A.101 is to enhance safety by incorporating the latest requirements into the certification basis for the changed product to the greatest extent practicable.

*NOTE: Airworthiness requirements that were amended after the date of application.

2.2.2 DASR 21.A.101(b).

DASR 21.A.101(b) pertains to when an applicant may show that a changed product complies with an earlier amendment of an airworthiness requirement, provided that the earlier amendment is considered to be adequate and meets the criteria in DASR 21.A.101(b)(1), DASR 21.A.101(b)(2), or DASR 21.A.101(b)(3). When changes involve features or characteristics that are novel and unusual in comparison with the airworthiness standards at the proposed amendment, more recent airworthiness standards and/or special conditions will be applied for these features.

An applicant is able to comply with the earlier amendment of the airworthiness requirements consistent with DASR 21.A.101(b), when:

(a) a change is not significant (see DASR 21.A.101(b)(1));

(b) an area, system, part or appliance is not affected by the change (see DASR 21.A.101(b)(2));

(c) compliance with a later amendment for a significant change does not contribute materially to the level of safety (see DASR 21.A.101(b)(3)); or

(d) compliance with the latest amendment would be impractical (see DASR 21.A.101(b)(3)).

Earlier amendments may not precede the amendment level of the certification basis of the identified baseline product.

DASR 21.A.101(b)(1)(i) and DASR 21.A.101(b)(ii) pertain to changes that meet the automatic criteria where the change is significant.

2.2.3 (Reserved)

2.2.4 DASR 21.A.101(d).

DASR 21.A.101(d) provides for the use of special conditions, under DASR 21.A.16B, when the proposed certification basis and any later airworthiness requirements do

not provide adequate standards for the proposed change because of a novel or unusual design feature.

2.2.5 DASR 21.A.101(e) provides the basis under which an applicant may propose to certify a change and the areas affected by the change against alternative requirements to those established under 21.A.101(a) and 21.A.101(b).

2.2.6 DASR 21.A.101(f).

DASR 21.A.101(f) requires that if an applicant chooses (elects) to comply with an airworthiness requirement that is effective after the filing of the application for a change to a MTC, the applicant shall also comply with any other airworthiness requirements that the Authority finds are directly related. The airworthiness requirements which are directly related must be, for the purpose of compliance demonstration, considered together at the same amendment level to be consistent.

3. PROCESS FOR ESTABLISHING THE CERTIFICATION BASIS FOR CHANGED PRODUCTS

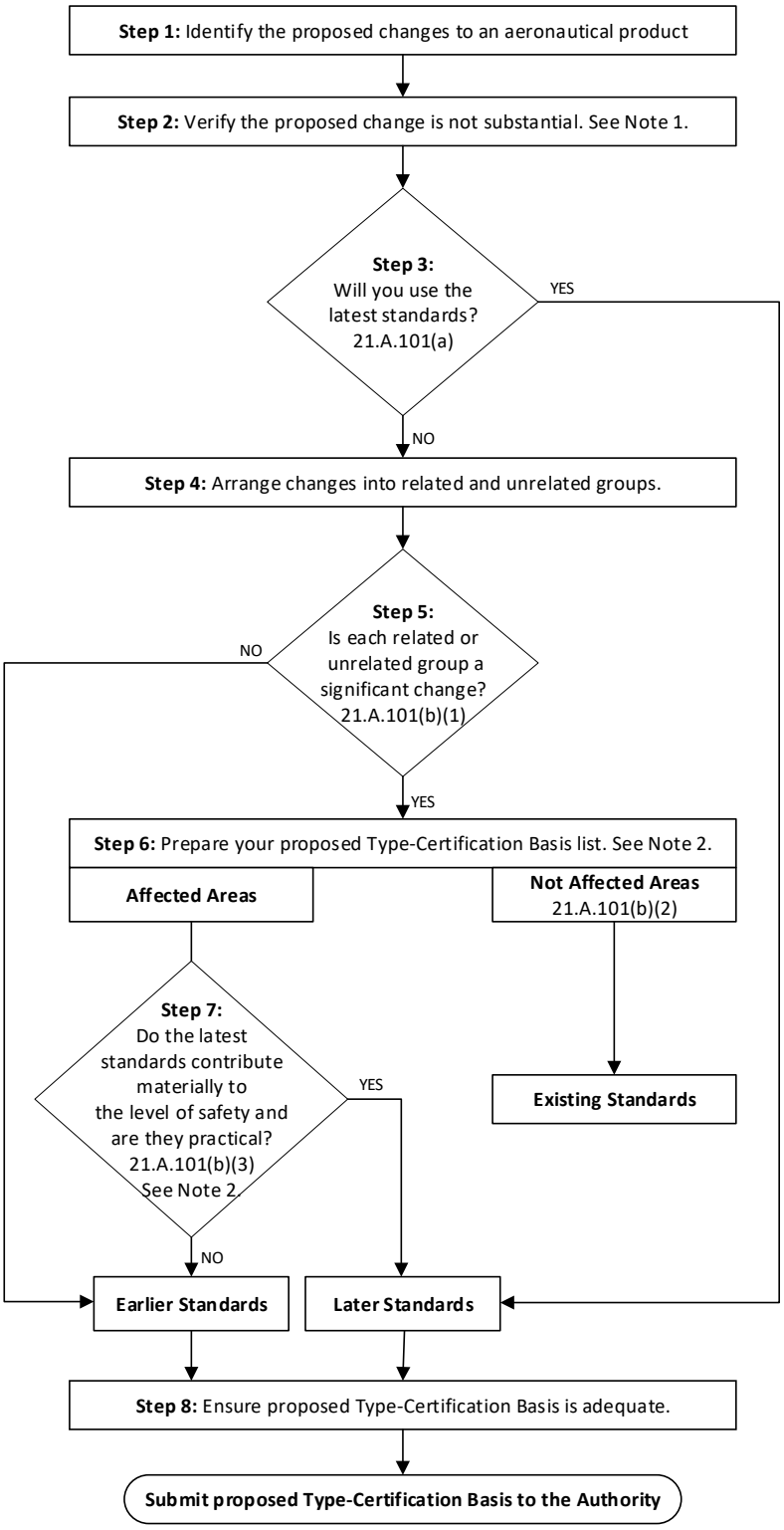
3.1 Overview.

3.1.1 The applicant and the Authority both have responsibilities under DASR 21.A.101(a) and DASR 21.A.101(b). As an applicant for the certification of a change, the applicant must demonstrate that the change and areas affected by the change comply with the latest applicable airworthiness requirements unless the applicant proposes exception(s) under DASR 21.A.101(b). An applicant proposing exception(s) should make a preliminary classification whether the change is 'significant' or 'not significant', and propose an appropriate certification basis. The Authority is responsible for determining whether the applicant's classification of the change, and proposal for the certification basis, are consistent with the applicable rules and their interpretation. The Authority determination does not depend on whether the MTC holder or applicant for an MSTC is originating the change. The certification basis can vary depending on the magnitude and scope of the change. The steps below present a streamlined approach for making this determination.

3.1.2 (Reserved)

3.1.3 The following steps in conjunction with the flow chart in Figure 3-1 of this GM can be used to develop the appropriate certification basis for the change. For clarification, the change discussed in the flow chart also includes areas affected by the change. See paragraph 3.9.1 of this GM for guidance about affected areas.

Figure 3-1. Developing a Proposed Certification Basis for a Changed Product Pursuant to DASR 21.A.101



Notes:
1. Changed products that are substantially changed do not follow this flowchart. Refer to DASR 21.A.19
2. Process and propose each applicable standard individually. If standards are linked together, then they should be assessed together.

3.2 Step 1. Identify the proposed changes to an aeronautical product.

— Identify the type design being changed (the baseline product).

— Identify the proposed change.

— Use high-level descriptors.

3.2.1 **Identify the type design being changed (the baseline product).**

Prior to describing the proposed change(s), it is important to clearly identify the specific type design configuration being changed.

Note: For additional guidance on the baseline product, see paragraph 5.3 of this GM.

3.2.2 **Identify the proposed change.**

3.2.2.1 The purpose of this process step is to identify and describe the change to the aeronautical product. Changes to a product can include physical design changes and functional changes (e.g. operating envelope or performance changes). An applicant must identify all changes and areas affected by the change, including those where they plan to use previously approved data. The Authority considers all of these changes and areas affected by the change to be part of the entire proposed type design and they are considered as a whole in the classification of whether the proposed change is substantial, significant, or not significant. The change can be a single change or a collection of changes. In addition to the proposed changes, an applicant should consider the cumulative effect of previous relevant changes incorporated since the last time the certification basis was upgraded. An applicant for a change must consider all previous relevant changes and the amendment level of the airworthiness requirements in the certification basis used for these changes.

3.2.2.2 When identifying the proposed changes, an applicant should consider previous relevant changes that create a cumulative effect, as these may influence the decisions regarding the classification of the change later in the process. By 'previous relevant changes,' the Authority means changes where effects accumulate, such as successive thrust increases, incremental weight increases, or sectional increases in fuselage length. An applicant must account for any previous relevant changes to the area affected by the proposed change that did not involve an upgrade of the certification basis in the proposed change.

3.2.2.3 Example:

An applicant proposes a 5 per cent weight increase, but a previous 4 per cent and another 3 per cent weight increase were incorporated into this aircraft without upgrading the existing certification basis. In the current proposal for a 5 per cent weight increase, the cumulative effects of the two previous weight increases that did not involve an upgrade of the certification basis will now be accounted for as an approximate 12 per cent increase in weight. Note that the cumulative effects the applicant accounts for are only those incremental increases since the last time the airworthiness requirements in the type-certification basis applicable to the area affected by the proposed change were upgraded.

3.2.3 **Use High-Level Descriptors.**

To identify and describe the proposed changes to any aeronautical product, an applicant should use a high-level description of the change that characterises the intent of, or the reason for, the change. No complex technical details are necessary at this stage. For example, a proposal to increase the maximum passenger-carrying

capacity may require an addition of a fuselage plug, and as such, a 'fuselage plug' becomes one possible high-level description of this change. Similarly, a thrust increase, a new or complete interior, an avionics system upgrade, or a passenger-to-cargo conversion are all high-level descriptions that characterise typical changes to the aircraft, each driven by a specific goal, objective, or purpose.

3.2.4 **Evolutionary Changes**

Evolutionary changes that occur during the course of a certification program may require re-evaluation of the certification basis, and those changes that have influence at the product level may result in re-classification of the change.

3.3 Step 2. Verify the proposed change is not substantial.

3.3.1 DASR 21.A.19 requires an applicant to apply for a new MTC for a changed product if the change to design, power, thrust, or weight is so extensive that a substantially complete investigation of compliance with the applicable regulations is required. A new MTC could be required for either a single extensive change to a previously type-certified product or for a changed design derived through the cumulative effect of a series of design changes from a previously type-certified product.

3.3.2 A 'substantially complete investigation' of compliance is required when most of the existing substantiation is not applicable to the changed product. In other words, an applicant may consider the change 'substantial' if it is so extensive (making the product sufficiently different from its predecessor) that the design models, methodologies, and approaches used to demonstrate a previous compliance finding could not be used in a similarity argument. The Authority considers a change 'substantial' when these approaches, models, or methodologies of how compliance was shown are not valid for the changed product.

3.3.3 A substantial change requires an application for a new MTC. See DASR 21.A.17A, DASR 21.A.18 and DASR 21.A.19. If the change is not substantial, proceed to step 3.

3.4 Step 3. Will the applicant use the latest standards?

3.4.1 An applicant can use the latest airworthiness requirements for their proposed change and the area affected by the change. If they use the latest airworthiness requirements, they will have met the intent of DASR 21.A.101 and no further classification (significant or not significant) and justification is needed. Even though an applicant elects to use the latest airworthiness requirements, the applicant will still be able to apply DASR 21.A.101 for future similar changes, and use the exceptions under DASR 21.A.101(b). However, the decision to comply with the latest airworthiness requirements sets a new basis for all future related changes to the same affected area for that amended MTC.

— If using the latest airworthiness requirements, an applicant should proceed to Step 6 (in paragraph 3.9 of this GM)

— If not using the latest airworthiness requirements, an applicant should proceed to Step 4 below.

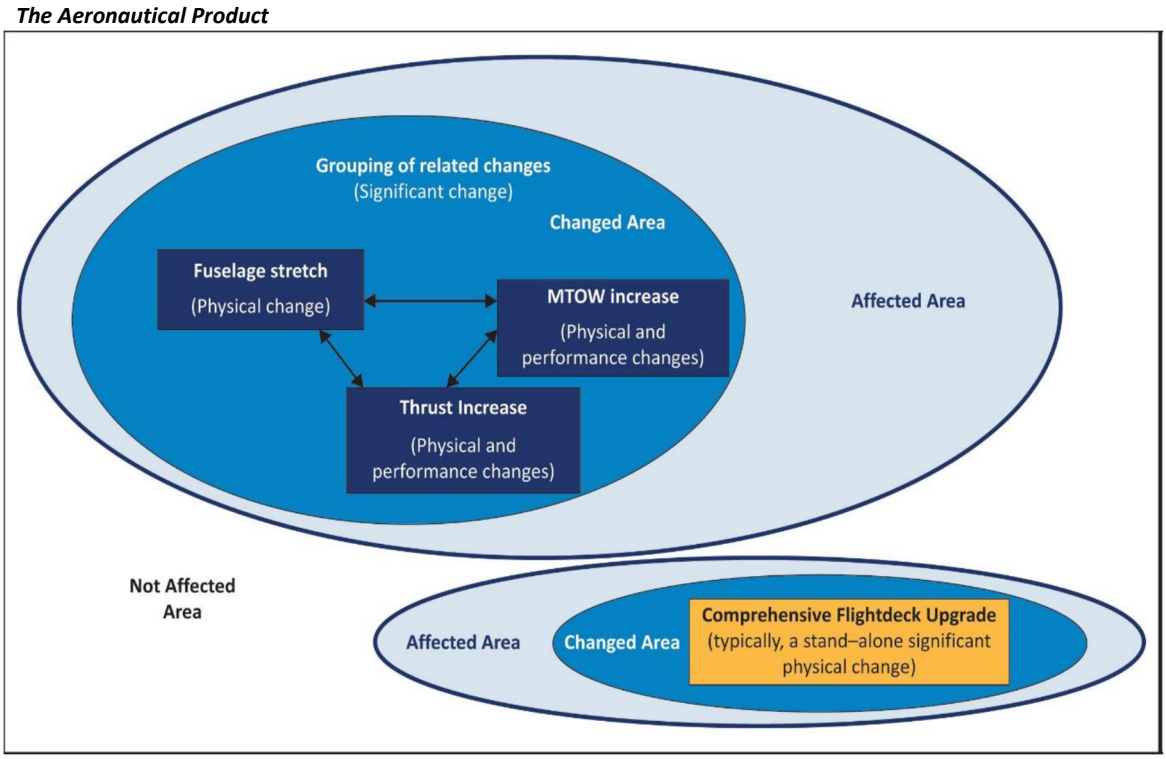
3.5 Step 4. Arrange changes into related and unrelated groups.

3.5.1 An applicant should now determine whether any of the changes identified in Step 1 are related to each other. Related changes are those that cannot exist without another, are co-dependent, or a prerequisite of another. For example, a need to carry more passengers could require the addition of a fuselage plug, which will result

in a weight increase, and may necessitate a thrust increase. Thus, the fuselage plug, weight increase, and thrust increase are all related, high-level changes needed to achieve the goal of carrying more passengers. A decision to upgrade the flight deck to more modern avionics at the same time as these other changes may be considered unrelated, as the avionics upgrade is not necessarily needed to carry more passengers (it has a separate purpose, likely just modernisation). The proposed avionics upgrade would then be considered an unrelated (or a stand-alone) change. However, the simultaneous introduction of a new cabin interior is considered related since occupant safety considerations are impacted by a cabin length change. Even if a new cabin interior is not included in the product-level change, the functional effect of the fuselage plug has implications on occupant safety (e.g. the dynamic environment in an emergency landing, emergency evacuation, etc.), and thus the cabin interior becomes an affected area. Figure 3-2 below illustrates the grouping of related and unrelated changes using the example of increasing the maximum number of passengers.

Note: An applicant who plans changes in sequence over time should refer to the discussion on 'sequential design changes' in paragraph 5.13 of this GM.

Figure 3-2. Related and Unrelated Changes for Example of Increasing the Maximum Number of Passengers



3.5.2 Once the change(s) is (are) organised into groupings of those that are related and those that are unrelated (or stand-alone), an applicant should proceed to Step 5 below.

3.6 Step 5. Is each group of related changes or each unrelated (stand-alone) change a significant change?

3.6.1 The applicant is responsible for proposing the classification of groups of related changes or unrelated changes as 'significant' or 'not significant'. Significant changes are product-level changes that could result from an accumulation of changes, or

occur through a single significant change that makes the changed product distinct from its baseline product. The grouping of related and unrelated changes is particularly relevant to the Authority's significant Yes/No decision (DASR 21.A.101(b)(1)) described in Step 1 of Figure 3-1. The Authority evaluates each group of related changes and each unrelated (stand-alone) change on its own merit for significance. Thus, there may be as many evaluations for significance as there are groupings of related and unrelated changes. Step 1 of Figure 3-1 explains the accumulation of changes that an applicant must consider. Additionally, DASR 21.A.101(b)(1) defines a change as 'significant' when at least one of the three automatic criteria applies:

3.6.1.1 Changes where the general configuration is not retained (significant change to general configuration).

A change to the general configuration at the product level is one that distinguishes the resulting product from other product models, for example, performance or interchangeability of major components. Typically, for these changes, an applicant will designate a new product model, although this is not required.

3.6.1.2 Changes where the principles of construction are not retained (significant change to principles of construction).

A change at the product level to the materials and/or construction methods that affects the overall product's operating characteristics or inherent strength and would require extensive reinvestigation to demonstrate compliance is one where the principles of construction are not retained.

3.6.1.3 Product-level changes that invalidate the assumptions used for certification of the baseline product.

Examples include:

— change of an aircraft from an unpressurised to pressurised fuselage,

— change of operation of a fixed-wing aircraft from land-based to water-based, and

— operating envelope expansions that are outside the approved design parameters and capabilities.

3.6.2 The above criteria are used to determine whether each change grouping and each stand-alone change is significant. These three criteria are assessed at the product level. In applying the automatic criteria an applicant should focus on the change and how it impacts the existing product (including its performance, operating envelope, etc.). A change cannot be classified or reclassified as a significant change on the basis of the importance of a later amendment.

3.6.3 One or more of the automatic criteria in DASR 21.A.101(b)(1) apply for each case where the changes are identified as significant. Experience has shown the concept of having only the three automatic criteria seems to fit most projects. Additional guidance regarding significant / non-significant, including example modifications, can be found in Appendix A to EASA GM 21.A.101.

3.6.4 In many cases, a significant change may involve more than one of these criteria and will be obvious and distinct from other product improvements or production changes. There could be cases where a change to a single area, system, component,

or appliance may not result in a product-level change. There could also be other cases where the change to a single system or component might result in a significant change due to its effect on the product overall. Examples may include the addition of winglets or leading-edge slats, or a change to primary flight controls of a fly-by-wire system.

3.6.5 If an unrelated (stand-alone) change or a grouping of related changes is classified as:

3.6.5.1 **Significant (DASR 21.A.101(a)):**

You must comply with the latest airworthiness standards for certification of the change and areas affected by change, unless you justify use of one of the exceptions provided in DASR 21.A.101(b)(2) or (3) to show compliance with earlier amendment(s). The final certification basis may consist of a combination of the requirements recorded in the certification basis ranging from the original aircraft certification basis to the most current regulatory amendments.

3.6.5.2 **Not Significant (DASR 21.A.101(b)(1)):**

You may comply with the existing certification basis unless the standards in the proposed certification basis are deemed inadequate. In cases where the existing certification basis is inadequate or no regulatory standards exist, later requirements and/or special conditions will be required. See paragraph 3.11 of this GM for a detailed discussion.

3.6.6 A new model designation to a changed product is not necessarily indicative that the change is significant under DASR 21.A.101. Conversely, retaining the existing model designation does not mean that the change is not significant. Significance is determined by the magnitude of the change.

3.6.7 The Authority determines the final classification of whether a change is significant or not significant.

3.6.8 At this point, the determination of significant or not significant for each of the groupings of related changes and each stand-alone change is completed. For significant changes, an applicant that proposes to comply with an earlier amendment of a requirement should use the procedure outlined in paragraph 3.7 below. For changes identified as not significant, see paragraph 3.8 below.

3.7 Proposing an amendment level for a significant change.

3.7.1 Without prejudice to the exceptions provided for in DASR 21.A.101(b), if the classification of a group of related changes or a stand-alone unrelated change is significant, all areas, systems, components, parts, or appliances affected by the change must comply with the airworthiness requirements at the amendment level in effect on the date of application for the change, unless the applicant elects to comply with airworthiness requirements that have become effective after that date (see DASR 21.A.101(a)).

3.7.2 In certain cases, an applicant will be required by the Authority to comply with airworthiness requirements that have become effective after the date of application (see DASR 21.A.101(a)):

3.7.2.1 If an applicant elects to comply with a specific airworthiness requirement or a group of airworthiness requirements at an amendment which has become effective after the date of application, the applicant must comply with any

other airworthiness requirement that the Authority finds is directly related (see DASR 21.A.101(f)).

3.7.2.2 In a case where the change has not been approved, or it is clear that it will not be approved under the time limit established, the applicant will be required to comply with an upgraded certification basis established according to DASR 21.A.17A and 21.A.18 from the airworthiness requirements that have become effective since the date of the initial application.

3.7.3 Applicants can justify the use of one of the exceptions in DASR 21.A.101(b)(2) or (3) to comply with an earlier amendment, but not with an amendment introduced earlier than the existing certification basis. See paragraphs 3.9 and 3.10 of this GM. Applicants who elect to comply with a specific airworthiness requirement or group of airworthiness requirements at an earlier amendment will be required to comply with any other airworthiness requirements that the Authority finds are directly related.

3.7.4 The final certification basis may combine the latest, earlier (intermediate), and existing amendment levels of requirements, but cannot contain airworthiness requirements preceding the existing certification basis.

3.8 Proposing an amendment level for a not significant change.

3.8.1 When the Authority classifies the change as not significant, the DASR 21.A.101(b) rule allows compliance with earlier amendments, but not prior to the existing certification basis. Within this limit, the applicant may propose an amendment level for each airworthiness requirement for the affected area. However, each applicant should be aware that the Authority will review their proposals for the certification basis to ensure that the certification basis is adequate for the proposed change under Step 8. (See paragraph 3.11 of this GM.)

3.8.2 Even for a not significant change, an applicant may elect to comply with airworthiness requirements which became applicable after the date of application. Applicants may propose to comply with a specific airworthiness requirement or a group of airworthiness requirements at a certain amendment of their choice. In such a case, any other airworthiness requirements of that amendment that are directly related should be included in the certification basis for the change.

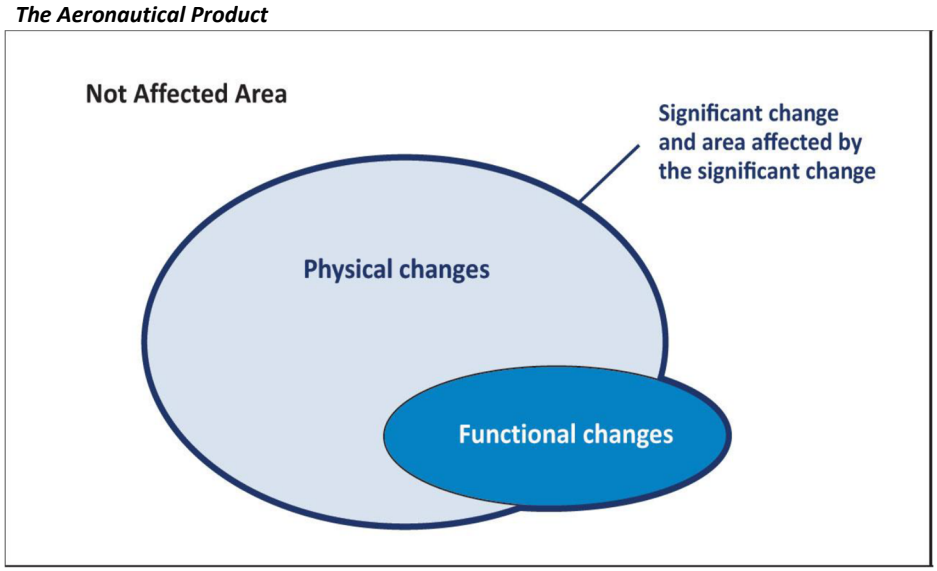
3.9 Step 6. Prepare the proposed certification basis list.

As part of preparing the proposed certification basis list, an applicant must identify any areas, systems, parts or appliances of the product that are affected by the change and the corresponding airworthiness requirements associated with these areas. For each group, the applicant must assess the physical and/or functional effects of the change on any areas, systems, parts or appliances of the product. The characteristics affected by the change are not only physical changes, but also functional changes brought about by the physical changes. Examples of physical aspects are structures, systems, parts and appliances, including software in combination with the affected hardware. Examples of functional characteristics are performance, handling qualities, aeroelastic characteristics, and emergency egress. The intent is to encompass all aspects where there is a need for re-evaluation, that is, where the substantiation presented for the product being changed should be updated or rewritten.

3.9.1 An area affected by the change is any area, system, component, part, or appliance of the aeronautical product that is physically and/or functionally changed.

3.9.2 Figure 3-3 of this GM illustrates concepts of physical and functional changes of an affected area. For each change, it is important for the applicant to properly assess the effects of such change on any areas, systems, parts or appliances of the product because areas that have not been physically changed may still be considered part of the affected area. If a new compliance finding is required, regardless of its amendment level, it is an affected area.

Figure 3-3. Affected Areas versus Not Affected Areas



3.9.3 An area not affected by a change can remain at the existing certification basis, provided that the applicant presents to the Authority an acceptable justification that the area is not affected.

3.9.4 For sample questions to assist in determining affected areas, see below. If the answer to any of these questions is yes, then the area is considered to be affected.

— Is the area changed from the identified baseline product?

— Is the area impacted by a significant product-level change?

— Is there a functional effect on the unchanged area by a change to the system or system function that it is a part of?

— Does the unchanged area need to comply with a system or product-level certification specification that is part of the change?

— Are the product-level characteristics affected by the change?

— Is the existing compliance for the area invalidated?

3.9.5 Consider the following aspects of a change:

3.9.5.1 **Physical aspects.**

The physical aspects include direct changes to structures, systems, equipment, components, and appliances, and may include software/airborne electronic hardware changes and the resulting effects on systems functions.

3.9.5.2 **Performance/functional characteristics.**

The less obvious aspect of the word 'areas' covers general characteristics of the type-certified product, such as performance features, handling qualities, emergency egress, structural integrity (including load carrying), aeroelastic characteristics, or crashworthiness. A product-level change may affect these characteristics. For example, adding a fuselage plug could affect performance and handling qualities, and thus the airworthiness requirements associated with these aspects would be considered to be part of the affected area. Another example is the addition of a fuel tank and a new fuel conditioning unit. This change affects the fuel transfer and fuel quantity indication system, resulting in the aircraft's unchanged fuel tanks being affected. Thus, the entire fuel system (changed and unchanged areas) may become part of the affected area due to the change to functional characteristics. Another example is changing turbine engine ratings and operating limitations, affecting the engine rotors' life limits.

3.9.6 All areas affected by the proposed change must comply with the latest airworthiness requirements, unless the applicant shows that demonstrating compliance with the latest amendment of a requirement would not contribute materially to the level of safety or would be impractical. Step 7 below provides further explanation.

3.9.7 The applicant should document the change and the area affected by the change using high-level descriptors along with the applicable airworthiness requirements and their proposed associated amendment levels. The applicant proposes this change to the certification basis that the Authority will consider for documentation in the type certificate data sheet (TCDS) or MSTC, if they are different from that recorded for the baseline product in the TCDS.

3.10 Step 7. Do the latest standards contribute materially to the level of safety and are they practical?

Pursuant to DASR 21.A.101(a), compliance with the latest airworthiness requirements is required. However, exceptions may be allowed pursuant to DASR 21.A.101(b)(3). The applicant must provide justification to support the rationale for the application of earlier amendments for areas affected by a significant change in order to document that compliance with later standards in these areas would not contribute materially to the level of safety or would be impractical. Such a justification should address all the aspects of the area, system, part or appliance affected by the significant change. See paragraphs 3.10.1 and 3.10.1.4 of this GM.

3.10.1 Do the latest standards contribute materially to the level of safety?

Applicants could consider compliance with the latest standards to 'not contribute materially to the level of safety' if the existing type design and/or relevant experience demonstrates a level of safety comparable to that provided by the latest standards. In cases where design features provide a level of safety greater than the existing certification basis, applicants may use acceptable data, such as service experience, to establish the effectiveness of those design features in mitigating the specific hazards addressed by a later amendment. Applicants must provide sufficient justification to allow the Authority to make this determination. This exception could be applicable in the situations described in the paragraphs below.

Note: Compliance with later standards is not required where the amendment is of an administrative nature and made only to correct inconsequential errors or omissions, consolidate text, or to clarify an existing requirement.

3.10.1.1 Improved design features.

Design features that exceed the existing certification basis standards, but do not meet the latest airworthiness requirements, can be used as a basis for granting an exception under DASR 21.A.101(b)(3) since complying with the latest amendment of the airworthiness requirements would not contribute materially to the level of safety of the product. If the Authority accepts these design features as justification for an exception, the applicant must incorporate them in the amended type design configuration and record them, where necessary, in the certification basis. The description of the design feature would be provided in the TCDS or MSTC at a level that allows the design feature to be maintained, but does not contain proprietary information. For example, an applicant proposes to install winglets on a large aeroplane, and part of the design involves adding a small number of new wing fuel tank fasteners. Assuming that the latest applicable amendment of the certification requirement requires structural lightning protection, the applicant could propose an exception from these latest structural lightning protection requirements because the design change uses new wing fuel tank fasteners with cap seals installed. The cap seal is a design feature that exceeds the requirement of the previous amendment level, but does not meet the latest amendment. If the applicant can successfully substantiate that compliance with the latest amendment would not materially increase the level of safety of the changed product, then this design feature can be accepted as an exception to compliance with the latest amendment.

3.10.1.2 Consistency of design.

This provision gives the opportunity to consider the consistency of design. For example, when a small fuselage plug is added, additional seats and overhead bins are likely to be installed, and the lower cargo hold extended. These components may be identical to the existing components. The level of safety may not materially increase by applying the latest airworthiness requirements in the area of the fuselage plug. Compliance of the new areas with the existing certification basis may be acceptable.

3.10.1.3 Service experience.

3.10.1.3.1 Relevant service experience, such as experience based on fleet performance or utilisation over time (relevant flight hours or cycles), is one way of showing that the level of safety will not materially increase by applying the latest amendment, so the use of earlier amendments of requirements could be appropriate.

3.10.1.3.2 When establishing the highest practicable level of safety for a changed product, the Authority has determined that it is appropriate to assess the service history of a product, as well as the later airworthiness standards. It makes little sense to mandate changes to well-understood designs, whose service experience has been acceptable, merely to comply with new standards. The clear exception to this premise is if the new standards were issued to address a deficiency in the design in

question, or if the service experience is not applicable to the new standards.

3.10.1.3.3 There may be cases where relevant data may not be sufficient or not available at all because of the low utilisation and the insufficient amount and type of data available. In such cases, other service history information may provide sufficient data to justify the use of earlier amendments of requirements, such as: warranty, repair, and parts usage data; accident, incident, and service difficulty reports; service bulletins; airworthiness directives; or other pertinent and sufficient data collected by the manufacturers, authorities, or other entities.

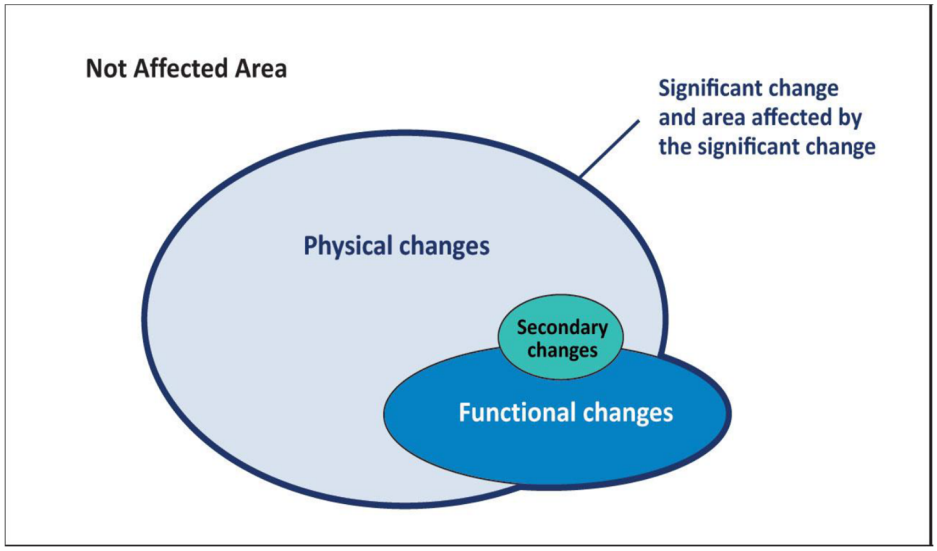
3.10.1.3.4 The Authority will determine whether the proposed service experience levels necessary to demonstrate the appropriate level of safety as they relate to the proposed design change are acceptable.

3.10.1.4 Secondary changes.

3.10.1.4.1 The change proposed by the applicant can consist of physical and/or functional changes to the product. See Figure 3-4 below. There may be aspects of the existing type design of the product that the applicant may not be proposing to change directly, but that are affected by the overall change. For example, changing an airframe's structure, such as adding a cargo door in one location, may affect the frame or floor loading in another area. Further, upgrading engines with new performance capabilities could require additional demonstration of compliance for minimum control speeds and aeroplane performance requirements.

Figure 3-4. Change-Affected Areas with Secondary Changes

The Aeronautical Product



3.10.1.4.2 For each change, it is important that the effects of the change on other systems, components, equipment, or appliances of the product are properly identified and assessed. The intent is to encompass all aspects where there is a need for re-

evaluation, that is, where the substantiation presented for the product being changed should be reviewed, updated, or rewritten.

3.10.1.4.3 In assessing the areas affected by the change, it may be helpful to identify secondary changes. A secondary change is a change to physical and/or functional aspects that is part of, but consequential to, a significant physical change, whose only purpose is to restore, and not add or increase, existing functionality or capacity. The term 'consequential' is intended to refer to:

— a change that would not have been made by itself; it achieves no purpose on its own;

— a change that has no effect on the existing functionality or capacity of areas, systems, structures, components, parts, or appliances affected by the change; or

— a change that would not create the need for: (1) new limitations or would affect existing limitations; (2) a new aircraft flight manual (AFM) or instructions for continued airworthiness (ICA) or a change to the AFM or ICA; or (3) special conditions, equivalent safety findings, or Exceptions.

3.10.1.4.4 A secondary change is not required to comply with the latest airworthiness requirements because it is considered to be 'not contributing materially to the level of safety' and, therefore, eligible for an exception under DASR 21.A.101. Determining whether a change meets the description for a secondary change, and is thus eligible for an exception, should be straightforward. Hence, the substantiation or justification need only be minimal. If this determination is not straightforward, then the proposed change is not a secondary change.

3.10.1.4.5 In some cases, a secondary area of change that restores functionality may in fact contribute materially to the level of safety by meeting a later amendment. If this is the case, it is not considered a secondary change.

3.10.2 Are the latest standards practical?

The intent of DASR 21.A.101 is to enhance safety by applying the latest airworthiness requirements to the greatest extent practicable. The concepts of contributing materially and practicality are linked. If compliance with the latest airworthiness requirements does contribute materially to the level of safety, then the applicant may assess the incremental costs to see whether they are commensurate with the increase in safety. The additional resource requirements could include those arising from changes required for compliance and the effort required to demonstrate compliance, but excluding resource expenditures for prior product changes. The cost of changing compliance documentation and/or drawings is not an acceptable reason for an exception.

3.10.2.1 Applicants should support their position that compliance is impractical with substantiating data and analyses. While evaluating that position and the substantiating data regarding impracticality, the Authority may consider other factors (e.g. the costs and safety benefits for a comparable new design).

3.10.2.2 A review of large aeroplane projects showed that, in certain cases where the Authority allowed an earlier amendment of applicable airworthiness requirements, the applicants made changes that nearly complied with the latest amendments. In these cases, the applicants successfully demonstrated that full compliance would require a substantial increase in the outlay or expenditure of resources with a very small increase in the level of safety. These design features can be used as a basis for granting an exception under DASR 21.A.101(b)(3) on the basis of 'impracticality.'

3.10.2.3 (Reserved)

3.10.2.3.1 The exception of impracticality is a qualitative and quantitative cost–safety benefit assessment for which it is difficult to specify clear criteria. Experience to date with applicants has shown that a justification of impracticality is more feasible when both the applicant and the Authority agree during a discussion at an early stage that the effort (in terms of cost, changes to manufacturing, etc.) required to comply would not be commensurate with a small incremental safety gain. This would be clear even without the need to perform any detailed cost–safety benefit analysis (although an applicant could always use cost analysis to support an appropriate amendment level). However, there should be enough detail in the applicant's rationale to justify the exception.

Note: An applicant should not base an exception due to impracticality on the size of the applicant's company or their financial resources. The applicant must evaluate the costs to comply with a later amendment against the safety benefit of complying with the later amendment.

3.10.2.3.2 For example, a complex redesign of an area of the baseline aircraft may be required to comply with a new requirement, and that redesign may affect the commonality of the changed product with respect to the design and manufacturing processes of the existing family of models. Relevant service experience of the existing fleet of the baseline aircraft family would be required to show that there has not been a history of problems associated with the hazard that the new amendment in question was meant to address. In this way, the incremental cost/impact to the applicant is onerous, and the incremental safety benefit realised by complying with the later amendment would be minimal. This would be justified by demonstrated acceptable service experience in relation to the hazard that the new airworthiness requirement addresses.

3.11 Step 8. Ensure the proposed certification basis is adequate.

The Authority considers a proposed certification basis for any change (whether it is significant or not significant) to be adequate when:

— the airworthiness requirements provide an appropriate level of safety for the intended change, and

— the change and the areas affected by the change do not result in unsafe design features or characteristics for the intended use.

3.11.1 For a change that contains new design features that are novel and unusual for which there are no applicable airworthiness requirements at a later amendment level, the Authority will designate special conditions pursuant to DASR 21.A.16B. The Authority will impose later airworthiness requirements that contain adequate or appropriate safety standards for this feature, if they exist, in lieu of special conditions. An example is adding a flight-critical system, such as an electronic air data display on a large aeroplane whose existing certification basis does not cover protection against lightning and high-intensity radiated fields (HIRF). In this case, the Authority will require compliance with the airworthiness requirements for lightning and HIRF protection, even though the Authority determined that the change is not significant.

3.11.2 For new design features or characteristics that may pose a potential unsafe condition for which there are no later applicable airworthiness requirements, new special conditions may be required.

3.11.3 In cases where inadequate or no standards exist for the change in the existing certification basis, but adequate standards exist in a later amendment of the applicable airworthiness requirements, the later amendment will be made part of the certification basis to ensure the adequacy of the certification basis.

3.11.4 The Authority determines the final certification basis for a product change. This may consist of a combination of those standards ranging from the existing certification basis of the baseline product to the latest amendments and special conditions.

4. (Reserved)

5. Other Considerations

5.1 Design-related requirements from other aviation domains.

Some implementing rules in other aviation domains (air operations, ATM/ANS) impose airworthiness standards that are not required for the issue of a MTC or MSTC. If not already included in the certification basis, any such applicable airworthiness standard may be added to the type certification basis by mutual agreement between the applicant and the Authority. The benefit of adding these airworthiness standards to the type certification basis is to increase awareness of these standards, imposed by other implementing rules, during design certification and future modifications to the aircraft. The use of exceptions under DASR 21.A.101(b) is not intended to alleviate or preclude compliance with operating regulations.

5.2 (Reserved)

5.3 Baseline product.

A baseline product consists of one unique type design configuration, an aeronautical product with a specific, defined, approved configuration and certification basis that the applicant proposes to change. As mentioned in paragraph 3.2.1 of this GM, it is important to clearly identify the type design configuration to be changed. The Authority does not require an

applicant to assign a new model name for a changed product. Therefore, there are vastly different changed products with the same aircraft model name, and there are changed products with minimal differences that have different model names. The identification of the baseline product, for the purposes of DASR 21.A.101, is as defined below.

The baseline product is an approved type design that exists at the date of application and is representative of:

— a single certified build configuration, or

— multiple approvals over time (including MSTC(s) or service bulletins) and may be representative of more than one product serial number.

Note: The type design configuration, for this purpose, could also be based on a proposed future configuration that is expected to be approved at a later date but prior to the proposed changed product.

5.4 (Reserved)

5.5 Special conditions, DASR 21.A.101(d).

DASR 21.A.101(d) allows for the application of special conditions, or for changes to existing special conditions, to address the changed designs where neither the proposed certification basis nor any later amendments of requirements in the certification basis provide adequate standards for an area, system, part or appliance related to the change. The objective is to achieve a level of safety consistent with that provided for other areas, systems, parts or appliances affected by the change by the other requirements in the proposed certification basis. The application of special conditions to a design change is not, in itself, a reason to classify it as either a substantial change or a significant change. Whether the change is significant, with earlier amendments of airworthiness requirements allowed through exceptions, or not significant, the level of safety intended by the special conditions must be consistent with the agreed certification basis.

5.6 (Reserved)

5.7 (Reserved)

5.8 (Reserved)

5.9 Documentation.

5.9.1 Documenting the proposal.

In order to efficiently determine and agree upon a certification basis with the Authority, the following information is useful to understand the applicant's position:

— The current certification basis of the product being changed, including the amendment level.

— The amendment level of all the applicable airworthiness requirements at the date of application.

— The proposed certification basis, including the amendment levels.

— Description of the affected area.

— Applicants who propose a certification basis that includes amendment levels earlier than what was in effect at the date of application should include the exception as outlined in DASR 21.A.101(b) and their justification if needed.

5.9.2 (Reserved)

5.9.3 Documenting the certification basis.

5.9.3.1 The Authority will amend the certification basis for all changes that result in a revision to the product's certification basis on the amended TCDS or MSTC.

5.10 Incorporation of MSTCs into the Type Design.

The incorporation of MSTCs into the product type design may generate an additional major change when that change is needed to account for incompatibility between several MSTCs that were initially not intended to be applied concurrently.

5.10.1 If the incorporation of the MSTC(s) does not generate an additional major change, the incorporation is not evaluated pursuant to DASR 21.A.101. The existing certification basis should be updated to include the later amendments of the MSTC(s) being incorporated.

5.10.2 If the incorporation of the MSTC(s) generates an additional major change, the change must be evaluated pursuant to DASR 21.A.101, and the existing certification basis should be updated to include the amendments resulting from the application of DASR 21.A.101.

5.11 Removing changes.

Approved changes may be removed after incorporation in an aeronautical product. These changes will most commonly occur via an MSTC or a service bulletin kit.

5.11.1 The applicant should identify a product change that they intend at its inception to be removable as such, and should develop instructions for its removal during the initial certification. The Authority will document the certification basis for both the installed and removed configuration separately on the TCDS or MSTC.

5.11.2 If specific removal instructions and a certification basis corresponding to the removed condition are not established at the time of the initial product change certification, the removal of changes or portions of those changes may constitute a significant change to type design. A separate MSTC or an amended MTC may be required to remove the modifications and the resulting certification basis established for the changed product.

5.12 The certification basis is part of the change.

A new change may be installed in a product during its production or via a service bulletin or MSTC. In terms of DASR 21.A.101, each of the approved changes has its own basis of certification. If an applicant chooses to remove an approved installation (e.g. an interior installation, avionics equipment) and install a new installation, a new certification basis may be required for the new installation, depending on whether the change associated with the new installation is considered significant compared to the baseline configuration that the applicant chooses. If the new installation is a not significant change, the unmodified product's certification basis may be used (not the previous installation certification basis), provided the certification basis is adequate.

5.13 Sequential changes — cumulative effects.

5.13.1 Any applicant who intends to accomplish a product change by incorporating several changes in a sequential manner should identify this to the Authority up front when the first application is made. In addition, the cumulative effects arising from the initial change, and from all of the follow-on changes, should be included as part of

the description of the change in the initial proposal. The classification of the intended product change will not be evaluated solely on the basis of the first application, but rather on the basis of all the required changes needed to accomplish the intended product change. If the Authority determines that the current application is a part of a sequence of related changes, then the Authority will re-evaluate the determination of significance and the resulting certification basis as a group of related changes.

5.13.2 Example: Cumulative effects — advancing the certification basis.

The type certificate for aeroplane model X lists three models, namely X-300, X-200, and X-100. The X-300 is derived from the X-200, which is derived from the original X-100 model. An applicant proposes a change to the X-300 aeroplane model. During the review of the X-300 certification basis and the airworthiness requirements affected by the proposed change, it was identified that one requirement, damage tolerance, remained at the same amendment level as the X-100 original certification basis (exception granted on the X-200). Since the amendment level for this particular requirement was not changed for the two subsequent aeroplane models (X-200 and X-300), the applicant must now examine the cumulative effects of these two previous changes that are related to the proposed change and the damage tolerance requirements to determine whether the amendment level needs to advance.

Appendix A to GM 21.A.101 - Definitions and terminology (AUS)

A.1 Aeronautical product.

The terms 'aeronautical product' or 'product' used in this guidance material include type-certified aircraft, engines, or propellers and, for the purpose of this GM, an AUSMTSO approved APU.

A.2 Assumptions used for certification.

The assumptions used for certification are the evaluations and decisions that led to the approval of the baseline product's characteristics. Examples of the product's baseline characteristics include but are not limited to the following:

— Design methodologies, methods of compliance, and standards used to achieve compliance with the airworthiness requirements making up the certification basis;

— Structural, mechanical, electrical, propulsion, aerodynamic, performance, operational, and maintenance characteristics;

— Operational and flight envelopes defining the product performance and capabilities at specified weights, speeds, altitudes, load factors, and centres of gravity;

— Crashworthiness;

— Role or mission;

— Airworthiness and operational limitations; or

— Pilot training, if necessary.

A.3 Baseline product.

It is an aeronautical product with a specific, defined approved configuration and certification basis that the applicant proposes to change.

A.4 Certification basis.

The combination of the:

— airworthiness requirements as provided for in DASR 21.A.17A

— environmental protection requirements, as provided for in DASR 21.A.18

as established for the change according to DASR 21.A.101, as well as the:

— special conditions;

— equivalent safety findings;

— elects to comply; and

— exceptions

applicable to the product to be certified.

A.5 Certification requirements.

Refers to each requirement of the type-certification basis based on recognised airworthiness codes and/or standards, eg EASA CS, FAA FAR, MIL HDBK/MIL STD, JSSG, STANAG, DEF-STAN, etc.

A.6 Change.

The term 'change' refers to a change to a product type certificate (as defined in DASR 21.A.41) approved or to be approved under Subpart D or Subpart E (as a military supplemental type certificate) of Part 21, including a change to an MSTC or a change to the AUSMTSO approval for auxiliary power units (APUs) under Subpart O. A change may consist of a single stand-alone change to one MTC component or several interrelated changes to different MTC components (e.g. the type design, operating characteristics, environmental protection characteristics, etc. (see DASR 21.A.41 and GM to 21.A.90A)).

A.7 Design change.

The term 'design change' refers to a change to the type design (as defined in DASR 21.A.31) of an aeronautical product. In the context of this document, the terms 'change to the type design', 'modification', 'design change', and 'type design change' are synonymous.

A.8 Earlier standards.

The airworthiness requirements or previous standards in effect prior to the date of application for the change, but not prior to the existing certification basis.

A.9 Existing certification basis.

The airworthiness requirements or previous standards incorporated by reference in the type certificate of the baseline product to be changed.

A.10 Latest standards.

The airworthiness requirements in effect on the date of application for the change.

A.11 Previous relevant design changes.

Previous design changes, the cumulative effect of which could result in a product significantly or substantially different from the original product or model, when considered from the last time the latest standards were applied.

A.12 Product-level change.

A change or combination of changes that makes the product distinct from other models of the product (e.g. range, payload, speed, design philosophy).

A.13 Secondary change.

A change that is part of a significant physical change that does not contribute materially to the level of safety. Guidance is contained in paragraph 3.10.1.4 of this GM.

A.14 Significant change.

A change to the type certificate to the extent that it changes one or more of the following, but not to the extent to be considered a substantial change: the general configuration, principles of construction, or the assumptions used for certification. The significance of the change is considered in the context of all previous relevant design changes and all related revisions to the applicable standards. Not all product-level changes are significant.

A.15 Substantial change.

A change that is so extensive that a substantially complete investigation of compliance with the applicable certification basis is required, and consequently a new military type certificate is required pursuant to DASR 21.A.19.

21.A.105 - Record keeping

(a) For each change, all relevant design information, drawings and test reports, including inspection records for the changed product tested, shall be held by the applicant at the disposal of the Authority and shall be retained in order to provide the information necessary to ensure the continued airworthiness and compliance with applicable environmental protection requirements of the changed product.

(b) Unless otherwise laid down by the Authority, the records must be retained for at least two years after the removal of service of the last aircraft of the type certified.

21.A.107 - Instructions for continuing airworthiness

(a) The holder of a minor change approval to a type-certificate shall furnish at least one set of the associated variations, if any, to the instructions for continuing airworthiness of the product on which the minor change is to be installed, prepared in accordance with the applicable type-certification basis, to each known operator of one or more aircraft, engine, or propeller incorporating the minor change, upon its delivery, or upon issuance of the first certificate of airworthiness for the affected aircraft, whichever occurs later, and thereafter make those variations in instructions available, on request, to any other person or organisation required to comply with any of the terms of those instructions.

(b) In addition, changes to those variations of the instructions for continuing airworthiness shall be made available to all known operators of a product incorporating the minor change and shall be made available, on request, to any person or organisation required to comply with any of those instructions.

AMC 21.A.107 - Instructions for Continuing Airworthiness (AUS)

Instructions for Continuing Airworthiness (ICA) shall be distributed in accordance with DASR AMC 21.A.57 – Manuals (AUS).

The system for distributing ICA and their amendments to users shall ensure that:

a. details of the authorised distribution of ICA to each user is recorded; and

b. ICA are accessible to organisations and personnel.

GM 21.A.107 - Instructions for Continuing Airworthiness (AUS)

Instructions for Continuing Airworthiness (ICA) details the methods, inspections, processes, and procedures necessary for the air operator to keep aircraft and / or engine, propeller, parts and appliances airworthy during its intended life.

The contents of ICA can be divided into two categories:

a. an approved airworthiness limitations (AwL) section as defined by the applicable airworthiness codes during the certification process, which forms part of the type design / type-certificate (DASR 21.A.31(a)(3) and DASR 21.A.41):

   i. any limitations determined through the certification of the product, and instructions on how to determine that these limits have been exceeded.

   ii. any inspection, servicing or maintenance actions determined to be necessary by the certification process.

b. sections that do not contain approved data from the certification process and are not considered as part of type design/type-certificate:

   i. any inspection or troubleshooting actions determined to be necessary to establish the nature of faults and the necessary remedial actions.

   ii. sufficient general information on the operation of the product to enable an understanding of the instructions in paragraphs (a)(i), (a)(ii), and (b)(i) above.

21.A.108 – Reserved

21.A.109 - Obligations and Australian Military Parts Approval marking

The holder of a minor change approval to a type-certificate shall:

(a) Undertake the obligations laid down in DASR 21.A.4, DASR 21.A.105, DASR 21.A.107 and DASR 21.A.108; and

(b) Specify the marking, including AUSMPA (herein 'Australian Military Part Approval') letters, in accordance with DASR 21.A.804.

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Subpart E - Military Supplemental Type-Certificates

21.A.111 – Scope

This Subpart establishes the procedure for the approval of major changes to the type-certificate under supplemental type-certificate procedures, and establishes the rights and obligations of the applicants for, and holders of, those certificates. In this Subpart, the references to type-certificates include type-certificates and restricted type-certificates.

21.A.112A - Eligibility

Any Organisation that has demonstrated, or is in the process of demonstrating, its capability under DASR 21.A.112B shall be eligible as an applicant for a Supplemental Type-Certificate (STC) under the conditions laid down in this Subpart.

21.A.112B - Demonstration of capability

(a) Any organisation applying for a supplemental type-certificate shall demonstrate its capability by holding a military design organisation approval (MDOA), issued by the Authority in accordance with DASR 21 Subpart J.

(b) By way of derogation from paragraph a, as an alternative procedure to demonstrate its capability, an applicant may seek Authority agreement for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this Subpart.

(c) By way of derogation from paragraph (a) and (b), any government organisation applying for a supplemental type-certificate may demonstrate its capability by having an agreement in place, accepted by the Authority, in accordance with DASR 21.A.2 with a design organisation which has access to the type design data. The agreement shall include detailed statements how the actions and obligations are delegated to enable the government organisation, in cooperation with the contracted organisation, to comply with the requirements of DASR 21 Subpart J, including demonstration of compliance with DASR 21.A.118A.

[GM 21.A.112B and AMC 21.A.112B(c) excluded for length. Nil changes.]

21.A.113 - Application for a Military Supplemental Type-certificate

(a) An application for a supplemental type-certificate shall be made in a form and manner established by the Authority.

(b) When applying for a supplemental type-certificate, the applicant shall:

  (i) include in the application the information required by DASR 21.A.93(b);

  (ii) specify whether the certification data has been or will be prepared completely by the applicant or on the basis of an arrangement with the owner of the type-certification data.

(c) DASR 21.A.93(c) applies to the requirements for the time limits of the application effectivity as well as the requirements related to the need to update the type-certification basis and environmental protection requirements, when the change has not been approved or it is evident that it will not be approved within the time limit established.

AMC 21.A.113(a) - Form and Manner

The application referenced in DASR 21.A.113 refers to the initial formal notification to the Authority of the intent to seek issue of an MSTC. This can be achieved through submission of DASR Form 31. In the absence of a Form 31, submission of the first version of the certification programme will be taken as the initial application.

Final applications for an MSTC should be made using DASR Form 31a.

21.A.115 - Requirements for approval of major changes in the form of a supplemental type-certificate

(a) Supplemental type-certificates shall be issued by:

1. the Authority; or
2. (Reserved).

(b) A supplemental type-certificate shall only be issued when:

1. The applicant has demonstrated its capability in accordance with DASR 21.A.112B;
2. It has been demonstrated that the change to a type-certificate and areas affected by the change comply with the type-certification basis and the environmental protection requirements, as established in accordance with DASR 21.A.101;
3. (Reserved);
4. Compliance with (2) has been demonstrated in accordance with DASR 21.A.20, as applicable to the change; and
5. In case the applicant has specified that it provided certification data on the basis of an arrangement with the owner of the type-certification data in accordance with DASR 21.A.113(b):
   (i) The type-certificate holder has indicated that it has no technical objection to the information submitted under DASR 21.A.93; and
   (ii) The type-certificate holder has agreed to collaborate with the supplemental type-certificate holder to ensure discharge of all obligations for continued airworthiness of the changed product through compliance with DASR 21.A.44 and DASR 21.A.118A.

(c) (Reserved)

(d) A supplemental type-certificate shall be limited to the specific configuration(s) in the type-certificate to which the related major change relates.

AMC 21.A.115 - Requirements for the approval of major changes in the form of a Military Supplemental Type Certificate (MSTC)

(a) For DASR 21.A.115(b)(4) the AMC and GM to DASR 21.A.20 should be followed by the applicant.

(b) (Reserved)

(c) In accordance with DASR 21.A.115(d), the compliance demonstration process must always cover the specific configuration(s) in the Military Type Certificate (MTC) to which the MSTC under approval is applied. These configurations should be defined by the change to the type certificate considering the type certificate data sheet (TCDS) and the relevant optional installations. The demonstration of compliance should cover these specific applicable configurations. Consequently, the approval of the MSTC excludes any other configurations, in particular those that already existed, but were not considered in the compliance demonstration process, and those that may be certified in future.

GM 21.A.115 - Issue of a Military Supplemental type Certificate (AUS)

In response to applications the Authority shall issue all MSTC or major design change approval to the relevant government MTC holder.

AMC 21.A.115(b) - Alternative demonstration (AUS)

Prior to issue of the type-certificate, and where the applicant has demonstrated its capability under DASR 21.A.112B(c) through the engagement of a foreign design organisation, the applicant should confirm, to the Authority, that the expected specific and generic DASA recognition requirements detailed in DASR AMC 21.A.14(c) continued to be valid during the design and certification programme, and specifically that

a. the DO's systems, processes and personnel used in developing other designs for certification by the parent NAA / NMAA were used in the design development or holder activities associated with the ADF design, and

b. that the DO provided an attestation of compliance against the Type Certification Basis for the provided design product.

21.A.116 - Transferability

A supplemental type-certificate shall only be transferred to an organisation that is able to undertake the obligations of DASR 21.A.118A and for this purpose has demonstrated its ability to qualify under the criteria of DASR 21.A.112B.

21.A.117 - Changes to that part of a product covered by a supplemental type-certificate

a. Minor changes to that part of a product covered by a supplemental type-certificate shall be classified and approved in accordance with DASR 21 Subpart D.

b. Each major change to that part of a product covered by a supplemental type-certificate shall be approved as a separate supplemental type-certificate in accordance with this Subpart.

c. By way of derogation from paragraph b, a major change to that part of a product covered by a supplemental type-certificate submitted by the supplemental type-certificate holder itself may be approved as a change to the existing supplemental type-certificate.

21.A.118A - Obligations and Australian Military Parts Approval marking

Each holder of a supplemental type-certificate shall:

(a) Undertake the obligations:

1. Laid down in DASR 21.A.3A, DASR 21.A.3B, DASR 21.A.4, DASR 21.A.105, DASR 21.A.119 and DASR 21.A.120A;

2. Implicit in the collaboration with the type-certificate holder under DASR 21.A.115(b)(5);

and for this purpose continue to meet the criteria of DASR 21.A.112B.

(b) Specify the marking, including AUSMPA letters, in accordance with DASR 21.A.804(a).

21.A.118B - Duration and continued validity

(a) A supplemental type-certificate shall be issued for an unlimited duration. It shall remain valid subject to:

1. The holder remaining in compliance with this DASR; and

2. The certificate not being surrendered or revoked under the applicable administrative procedures established by the Authority.

(b) Upon surrender or revocation, the supplemental type-certificate shall be returned to the Authority.

(c) The supplemental type-certificate holder shall inform the Authority, as soon as practicable, when it is no longer able to meet the supplemental type-certificate holder responsibilities defined by this DASR, for one or several types of product. In this case, it shall provide access to the Authority with all the information necessary for the latter to ensure, or have ensured, the continued airworthiness of the type design of the concerned products.

21.A.119 – Manuals

The holder of a supplemental type-certificate shall produce, maintain, and update master copies of variations in the manuals required by the applicable type-certification basis and environmental protection requirements for the product, necessary to cover the changes introduced under the supplemental type-certificate, and furnish copies of these manuals to the Authority, on request.

AMC 21.A.119 - Manuals (AUS)

The system to produce, maintain and update manuals shall ensure:

a. manuals are complete, current, and uniquely identified;

b. manuals contain their authority for use, document name, date of issue, and document / amendment status details;

c. manuals are provided in a medium compatible with user requirements;

d. new issues, re-issues and/or amendments are approved and/or endorsed by appropriate appointments prior to their release, noting that the process to update a manual may be separate from the process to approve or authorise the content of the manual, eg approve AwL limitations in ICA;

e. manual management records are accurately maintained, controlled, traceable and are accessible; and

f. manuals can be reproduced to any previous amendment status.

21.A.120A - Instructions for Continuing Airworthiness

(a) The holder of the supplemental type-certificate for an aircraft, engine, or propeller, shall furnish at least one set of the associated variations to the instructions for continuing airworthiness, prepared in accordance with the applicable type-certification basis, to each known operator of one or more aircraft, engine, or propeller incorporating the features of the supplemental type-certificate, upon its delivery, or upon issuance of the first certificate of airworthiness for the affected aircraft, whichever occurs later, and thereafter make those variations in instructions available, on request, to any other operator required to comply with any of the terms of those instructions. Availability of some manual or portion of the variations to the instructions for continuing airworthiness, dealing with overhaul or other forms of heavy maintenance, may be delayed until after the product has entered into service, but shall be available before any of the products reaches the relevant age or flight-hours/cycles.

(b) In addition, changes to those variations of the instructions for continuing airworthiness shall be made available to all known operators of a product incorporating the supplemental type-certificate and shall be made available, on request, to any operators required to comply with any of those instructions. A programme showing how changes to the variations to the instructions for continuing airworthiness are distributed shall be submitted to the Authority.

AMC 21.A.120A - Instructions for Continuing Airworthiness (AUS)

Instructions for Continuing Airworthiness (ICA) shall be distributed in accordance with DASR AMC 21.A.57 – Manuals (AUS).

The system for distributing ICA and their amendments to users shall ensure that:

a. details of the authorised distribution of ICA to each user is recorded; and

b. ICA are accessible to organisations and personnel.

GM 21.A.120A - Instructions for Continuing Airworthiness (AUS)

Instructions for Continuing Airworthiness (ICA) details the methods, inspections, processes, and procedures necessary for the air operator to keep aircraft and / or engine, propeller, parts and appliances airworthy during its intended life.

The contents of ICA can be divided into two categories:

g. an approved airworthiness limitations (AwL) section as defined by the applicable airworthiness codes during the certification process, which forms part of the type design / type-certificate (DASR 21.A.31(a)(3) and DASR 21.A.41):

   i. any limitations determined through the certification of the product, and instructions on how to determine that these limits have been exceeded.

   ii. any inspection, servicing or maintenance actions determined to be necessary by the certification process.

h. sections that do not contain approved data from the certification process and are not considered as part of type design/type-certificate:

   i. any inspection or troubleshooting actions determined to be necessary to establish the nature of faults and the necessary remedial actions.

ii. sufficient general information on the operation of the product to enable an understanding of the instructions in paragraphs (a)(i), (a)(ii), and (b)(i) above.

21.A.120B – Reserved

Cross-reference amendments

Clause	Title	Was (Content)	Is (Content)	Reason for changes
AMC1 to 21.A.3A(a)	AMC1 to 21.A.3A(a) - System for collection, investigation and analysis of data for structure and propulsion systems (AUS)	... Investigation and ...(see DASR 21.A.61, DASR 21.A.107, DASR 21.A.120 and DASR 21.A.449).	... Investigation and ...(see DASR 21.A.61, DASR 21.A.107, DASR 21.A.120A and DASR 21.A.449).	Updated reference to 21.A.120, with 21.A.120A in line with EMAR change.
21.A.4	21.A.4 - Co-ordination between design and production	Each holder of a type-certificate, restricted type-certificate, supplemental type-certificate, AUSMTSO authorisation, approval of a change to type design or approval of a repair design, shall ensure collaboration between the design organisation and the production organisation as necessary to achieve...	Each holder of a type-certificate, restricted type-certificate, supplemental type-certificate, AUSMTSO authorisation, approval of a change to type-certificate or approval of a repair design, shall ensure collaboration between the design organisation and the production organisation as necessary to achieve...	EMAR 2.0 wording incorporated to replace 'approval of a change to type design' with 'approval of a change to type-certificate' to align with changes in subpart D.
GM1 to 21.A.239(a)	GM1 to 21.A.239(a) - Design assurance system	3.1.2 Chief Executive ... a. ... b. The Head of the design organisation, or an authorised representative, should sign a declaration of compliance (see DASR 21A.20(d) and DASR 21.A.97(a)(3)) with the applicable airworthiness and environmental protection (where applicable) requirements after verification of satisfactory completion of the Type Investigation. In accordance with DASR 21.A.20(e) and DASR 21.A.97(a)(4), his or her signature on the declaration of compliance confirms that the procedures as specified in the MDOE have been followed (see also DASR GM 21.A.265(b)). c. ...	3.1.2 Chief Executive ... a. ... b. The Head of the design organisation, or an authorised representative, should sign a declaration of compliance (see DASR 21.A.20(d)) with the applicable airworthiness and environmental protection (where applicable) requirements after verification of satisfactory completion of the Type Investigation. In accordance with 21.A.20(e), his or her signature on the declaration of compliance confirms that the procedures as specified in the handbook have been followed (see also GM 21.A.265(b)). c. ...	References to 21.A.97(a)(3) and 21.A.97(a)(4) removed as these clauses no longer exist. Declarations of compliance for major changes are covered via reference back to 21.A.20.
GM1 to 21.A.239(a)	GM1 to 21.A.239(a) - Design assurance system	3.1.5 - Maintenance and Operating Instructions... a.... b. In accordance with DASR 21.A.57, DASR 21.A.61, DASR 21.A.107, DASR 21.A.119, DASR 21.A.120 and DASR 21.A.449, ensuring that these documents are provided to all affected operators and authorities within the pMS.	3.1.5 - Maintenance and Operating Instructions... a.... b. In accordance with DASR 21.A.57, DASR 21.A.61, DASR 21.A.107, DASR 21.A.119, DASR 21.A.120A and DASR 21.A.449, ensuring that these documents are provided to all affected operators and authorities within the pMS.	Updated reference to 21.A.120, with 21.A.120A in line with EMAR change.
AMC1 to 21.A.243(a)	AMC1 to 21.A.243(a) - Design Organisation Exposition requirements	The MDOE should… n. A description of the procedures for the establishment and the control of the maintenance and operating instructions (see DASR 21.A.57, DASR 21.A.61, DASR 21.A.107, DASR 21.A.119, DASR 21.A.120 and DASR 21.A.449).	The MDOE should… n. A description of the procedures for the establishment and the control of the maintenance and operating instructions (see DASR 21.A.57, DASR 21.A.61, DASR 21.A.107, DASR 21.A.119, DASR 21.A.120A and DASR 21.A.449).	Updated reference to 21.A.120, with 21.A.120A in line with EMAR change.
GM 21.A.263(c)(3)	GM 21.A.263(c)(3) - Issue of information or instructions	1. Intent... 2. Scope The information or instructions referred to in DASR 21.A.263(c)(3) are issued by a MDOA holder to make available to the owners or operators of a product with all necessary data to implement a change on the product or a repair, or to inspect it. Some are also issued to provide maintenance organisations and other interested persons with all necessary maintenance data for the performance of maintenance, including implementation of a change on the product or a repair, or inspection, in accordance with DASR 21.A.61, DASR 21.A.107, DASR 21.A.120 or DASR 21.A.449 (Instructions for Continuing Airworthiness).	1. Intent... 2. Scope The information or instructions referred to in DASR 21.A.263(c)(3) are issued by a MDOA holder to make available to the owners or operators of a product with all necessary data to implement a change on the product or a repair, or to inspect it. Some are also issued to provide maintenance organisations and other interested persons with all necessary maintenance data for the performance of maintenance, including implementation of a change on the product or a repair, or inspection, in accordance with DASR 21.A.61, DASR 21.A.107, DASR 21.A.120A or DASR 21.A.449 (Instructions for Continuing Airworthiness).	Updated reference to 21.A.120, with 21.A.120A in line with EMAR change.
AMC1 21.A.433(a)	AMC1 21.A.433(a) - Repair Design (AUS)	Notification of .... Compliance demonstration evidence may use prior certification by an NAA / NMAA, whose certification is recognised by the Authority, in accordance with AMC to DASR 21.A.20 – Compliance with the type-certification basis and environmental protection requirements (where applicable) (AUS).	Notification of a.... Compliance demonstration evidence may use prior certification by an NAA / NMAA, whose certification is recognised by the Authority, in accordance with AMC DASR 21.A.20 – Demonstration of compliance with the type certification basis and environmental protection requirements (AUS).	Reference to 21.A.20 updated with new regulation title.
AMC 21.A.608(a)	AMC 21.A.608(a) - Declaration of Design and Performance (AUS)	Compliance demonstration evidence for AUSMTSO Authorisation applications may use prior certification by an NAA / NMAA, whose certification is recognised by the Authority, in accordance with the principles of AMC to DASR 21.A.20 – Compliance with the type-certification basis and environmental protection requirements (where applicable) (AUS).	Compliance demonstration evidence for AUSMTSO Authorisation applications may use prior certification by an NAA / NMAA, whose certification is recognised by the Authority, in accordance with the principles of AMC DASR 21.A.20 – Demonstration of compliance with the type certification basis and environmental protection requirements (AUS).	Reference to 21.A.20 updated with new regulation title.

Attachment to DCP 2021-049 *Removal of gender-specific terms from DASR*

1. Purpose

This document describes all changes required in respect of DCP 2021-049 *Removal of gender-specific terms from DASR*. It includes changes to DASR for Initial and Continuing Airworthiness (see sections 2 and 3) as well as Flight Operations (see section 3 only).

2. General terms

Regulation	Sub paragraph	Current text (excerpt)	Proposed text (excerpt)
Glossary Of Terms	Chief Executive Officer (CEO)	Person who is responsible for a civil company within which the Approved Organisation operates. The CEO may report to a board of directors and may appoint other managers, or he/she may be one of very few people in a small company. In relation to EMAR/DASR, the CEO is mentioned as he/she may be senior to the Accountable Manager.	Person who is responsible for a civil company within which the Approved Organisation operates. The CEO may report to a board of directors and may appoint other managers, or they may be one of very few people in a small company. In relation to EMAR/DASR, the CEO is mentioned as they may be senior to the Accountable Manager.
	The Authority	The Authority collectively refers to the Defence Aviation Authority (Defence AA), and specific appointments within the Defence Aviation Safety Authority (DASA) who have been given a delegation from the Defence AA to exercise authority on his behalf.	The Authority collectively refers to the Defence Aviation Authority (Defence AA), and specific appointments within the Defence Aviation Safety Authority (DASA) who have been given a delegation from the Defence AA to exercise authority on their behalf.
BR.30 Aircrew (EASA BR Article 7)	BR.30 Aircrew (b)	A person may only act as aircrew if he or she is authorised and holds a medical certificate appropriate to the operation to be performed.	A person may only act as aircrew if they are authorised and hold a medical certificate appropriate to the operation to be performed.
	BR.30 Aircrew (c)	A person shall only be authorised as aircrew when he or she complies with the rules established to ensure compliance with the essential requirements on theoretical knowledge, practical skill, language proficiency and experience.	A person shall only be authorised as aircrew when they comply with the rules established to ensure compliance with the essential requirements on theoretical knowledge, practical skill, language proficiency and experience.
	BR.30 Aircrew (d)	Aircrew shall only be issued a medical certificate when he or she complies with the rules established to ensure compliance with the essential requirements on medical fitness. This medical certificate may be issued by aero-medical examiners.	Aircrew shall only be issued a medical certificate when they comply with the rules established to ensure compliance with the essential requirements on medical fitness. This medical certificate may be issued by aero-medical examiners.
BR.50 Air Traffic Controllers (EASA BR Article 8C)	BR.50 ATC (c)	The authorisation referred to in BR.50.B shall only be issued when the applicant for the authorisation demonstrates that he or she complies with the rules established to ensure compliance with the essential requirements regarding theoretical knowledge, practical skill, language proficiency and experience.	The authorisation referred to in BR.50.B shall only be issued when the applicant for the authorisation demonstrates that they comply with the rules established to ensure compliance with the essential requirements regarding theoretical knowledge, practical skill, language proficiency and experience.
	BR.50 ATC (h)	Persons responsible for providing practical training or for assessing air traffic controllers' skill may hold a certificate. The certificate shall be issued when the person concerned has demonstrated that he or she complies with the rules established to ensure compliance with the relevant essential requirements. The privileges granted by the certificate shall be specified therein.	Persons responsible for providing practical training or for assessing air traffic controllers' skill may hold a certificate. The certificate shall be issued when the person concerned has demonstrated that they comply with the rules established to ensure compliance with the relevant essential requirements. The privileges granted by the certificate shall be specified therein.

Regulation	Sub paragraph	Current text (excerpt)	Proposed text (excerpt)
21.A.3B - Airworthiness Directives	GM 21.A.3B(b) - Determination of an unsafe condition - 2.1 Analysis method for aircraft - 2.1.1	When an accident/incident does not involve any component malfunction or failure but when a crew human factor has been a contributing factor, this has to be assessed from a man-machine interface standpoint to determine whether the design is adequate or not. Paragraph 2.5 gives further details on this aspect.	When an accident/incident does not involve any component malfunction or failure but when a crew human factor has been a contributing factor, this has to be assessed from a human-machine interface standpoint to determine whether the design is adequate or not. Paragraph 2.5 gives further details on this aspect.
21.A.124 - Application	GM 21.A.124(a) – Application – Application form - a.	An application may be accepted from: An individual applying on his or her own behalf, or …	An application may be accepted from: An individual applying on their own behalf, or …
21.A.126 - Production inspection system	GM 21.A.126(b)(6) - Production Inspection System – Recording and record keeping - b. - viii	Data related to supplied parts may be retained by the supplier if the supplier has a system agreed under DASR 21 Section A Subpart F by the Authority. The manufacturer is to, in each case, define the archiving period and satisfy himself or herself and the Authority that the recording media are acceptable.	Data related to supplied parts may be retained by the supplier if the supplier has a system agreed under DASR 21 Section A Subpart F by the Authority. The manufacturer is to, in each case, define the archiving period and satisfy themselves and the Authority that the recording media are acceptable.
21.A.129 - Obligations of the manufacturer	AMC 21.A.129(f)(2) - Reporting to the Authority - Form and manner (AUS) - a.	Form AE 061 and DASR Form 44 may be accepted from: An individual reporting on his or her own behalf, or …	Form AE 061 and DASR Form 44 may be accepted from: An individual reporting on their own behalf, or …
21.A.143 - Production Organisation Exposition	(a) - 6.	A general description of man-power resources;	A general description of human resources;
21.A.145 - Approval requirements	(c) - 1.	A manager has been nominated by the production organisation, and is accountable to the Authority. His or her responsibilities within the organisation shall consist of ensuring that all production is performed to the required standards …	A manager has been nominated by the production organisation, and is accountable to the Authority. Their responsibilities within the organisation shall consist of ensuring that all production is performed to the required standards …
	GM 21.A.145(c)(1) - Approval Requirements – Accountable Manager	The manager needs to be able to demonstrate that he or she is fully aware of and supports the quality policy and maintains adequate links with the quality manager.	The manager needs to be able to demonstrate that they are fully aware of and support the quality policy and maintains adequate links with the quality manager.
	GM 21.A.145(c)(1) - Approval Requirements – Accountable Manager	… This function may be carried out by the Chief Executive or by another person in the organisation, nominated by him or her to fulfil the function provided his or her position and authority in the organisation permits to discharge the attached responsibilities.	… This function may be carried out by the Chief Executive or by another person in the organisation, nominated by them to fulfil the function provided their position and authority in the organisation permits to discharge the attached responsibilities.
	GM 21.A.145(c)(2) - Approval Requirements – Responsible managers	… In cases where a manager does not directly report to the Accountable Manager, he or she is to have a formally established direct access to the Accountable Manager.	… In cases where a manager does not directly report to the Accountable Manager, they are to have a formally established direct access to the Accountable Manager.
	AMC 21.A.145(d)(2) - Approval Requirements – Record of certifying staff - d.	The certifying person should be given reasonable access on request to his or her own records.	The certifying person should be given reasonable access on request to their own records.
21.A.165 - Obligations of the holder	AMC 21.A.165(f)(2) - Reporting to the Authority - Form and manner (AUS) - a.	Form AE 061 and DASR Form 44 may be accepted from: An individual reporting on his or her own behalf, or …	Form AE 061 and DASR Form 44 may be accepted from: An individual reporting on their own behalf, or …
21.A.239 - Design assurance system and Safety Management System	GM1 to 21.A.239(a) - Design assurance system - 3.1.2	Title - Chief Executive and Head of design organisation (or his or her Deputy)	Title - Chief Executive and Head of design organisation (or their Deputy)

Regulation	Sub paragraph	Current text (excerpt)	Proposed text (excerpt)
	3.1.2 - b.	… In accordance with DASR 21.A.20(e) and DASR 21.A.97(a)(4), his or her signature on the declaration of compliance confirms that the procedures as specified in the MDOE have been followed (see also DASR GM 21.A.265(b)).	… In accordance with DASR 21.A.20(e) and DASR 21.A.97(a)(4), their signature on the declaration of compliance confirms that the procedures as specified in the MDOE have been followed (see also DASR GM 21.A.265(b)).
21.A.263 - Privileges	AMC 21.A.263(d)(1) - Declaration of applicability	b) Demonstrate he has access to the whole Type Certificate definition of the derivative product when applying its privileges.	b) Demonstrate they have access to the whole Type Certificate definition of the derivative product when applying its privileges.
66.A.10 Application	(c)	In addition to the documents required in DASR 66.A.10(a) the applicant for additional basic categories or subcategories to a MAML shall submit his/her current MAML to the NMAA together with the DASR Form 19.	In addition to the documents required in DASR 66.A.10(a) the applicant for additional basic categories or subcategories to a MAML shall submit their current MAML to the NMAA together with the DASR Form 19.
66.A.20 Privileges	(b) 2.	The holder of a MAML shall not exercise its privileges unless: in the preceding 2-year period he/she has, either had 6 months of maintenance experience in accordance with the privileges granted by the MAML or, met the provision for the issue of the appropriate privileges; and …	The holder of a MAML shall not exercise its privileges unless: in the preceding 2-year period the holder has, either had 6 months of maintenance experience in accordance with the privileges granted by the MAML or, met the provision for the issue of the appropriate privileges; and …
	AMC1 66.A.20(b)2 - Privileges (AUS) - 3. c)	the licence holder has exercised his or her licence for a minimum of five years on the aircraft type	the licence holder has exercised their licence for a minimum of five years on the aircraft type
	(b) 3.	he/she has the adequate competence to certify maintenance on the corresponding aircraft; and	they have the adequate competence to certify maintenance on the corresponding aircraft; and
	AMC 66.A.20(b)3 Privileges	The wording "has the adequate competence to certify maintenance on the corresponding aircraft" means that the MAML holder and, if applicable, the Approved Maintenance Organisation where he/she is contracted/employed, should ensure that he/she has acquired the appropriate knowledge, skills, attitude and experience to release the aircraft being maintained. …	The wording "has the adequate competence to certify maintenance on the corresponding aircraft" means that the MAML holder and, if applicable, the Approved Maintenance Organisation where they are contracted/employed, should ensure that the MAML holder has acquired the appropriate knowledge, skills, attitude and experience to release the aircraft being maintained. …
	(b) 4.	… he/she is able to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the issue of the certificate of release to service are written.	… they are able to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the issue of the certificate of release to service are written.
66.A.30 Basic experience requirements	AMC1 66.A.30(a)(5)(ii) Basic experience requirements (AUS) - 1.	The phrase '6 months of observation of Base maintenance' means that the TQ engineer is to understudy and be mentored by C category licence holder(s) such that the engineer is competent to exercise the privileges of the C licence holder when he/she becomes eligible for it.	The phrase '6 months of observation of Base maintenance' means that the TQ engineer is to understudy and be mentored by C category licence holder(s) such that the engineer is competent to exercise the privileges of the C licence holder when they become eligible for it.
66.A.45 Military Aircraft Type Ratings	(a)	In order to be entitled to exercise certification privileges on a specific aircraft type, the holder of a MAML shall have his/her MAML endorsed with the relevant Military Aircraft Type Ratings, following satisfactory completion of the relevant Military Aircraft Type Training within an DASR 147 approved MTO.	In order to be entitled to exercise certification privileges on a specific aircraft type, the holder of a MAML shall have their MAML endorsed with the relevant Military Aircraft Type Ratings, following satisfactory completion of the relevant Military Aircraft Type Training within an DASR 147 approved MTO.
66.A.70 Conversion provisions	GM 66.A.70 Conversion provisions - 2.	The person has been authorised only for a very limited range of tasks (lower than what he/she would be entitled if his/her qualification were considered) since the person is working in a line station where the scope of tasks is very limited;	The person has been authorised only for a very limited range of tasks (lower than what they would be entitled if their qualification were considered) since the person is working in a line station where the scope of tasks is very limited;

Regulation	Sub paragraph	Current text (excerpt)	Proposed text (excerpt)
	-2	A person may hold a "certifying staff qualification" while not having certification privileges (or while exercising very limited certification privileges below his/her qualification) for different reasons such as, for example, the following: …	A person may hold a "certifying staff qualification" while not having certification privileges (or while exercising very limited certification privileges below their qualification) for different reasons such as, for example, the following: …
	-2	The person holds a licence or national equivalent with a wider scope than the scope of the organisation where he/she is employed	The person holds a licence or national equivalent with a wider scope than the scope of the organisation where they are employed
	-4	The applicant is entitled to have the conversion performed irrespective of when he/she applies for conversion.	The applicant is entitled to have the conversion performed irrespective of when they apply for conversion.
66 Appendix I - Basic Knowledge Requirements	LEVEL 2 - Objectives: e.	The applicant should be able to apply his knowledge in a practical manner using detailed procedures.	The applicant should be able to apply their knowledge in a practical manner using detailed procedures.
	LEVEL 3 - Objectives: e.	The applicant should be able to apply his knowledge in a practical manner using manufacturer's instructions.	The applicant should be able to apply their knowledge in a practical manner using manufacturer's instructions.
66 Appendix III - Military Aircraft Type Training and Examination Standard, and On-the-Job Training (OJT)	AMC to Appendix III - Evaluation of the competence: assessment and assessors - 2.	At the conclusion, the trainee should have no doubt about what he/she did well, what he/she did poorly and how he/she can improve.	At the conclusion, the trainee should have no doubt about what they did well, what they did poorly and how they can improve.
		One method might be an initial assessment to be performed by the trainee himself, then discussing areas where the perceptions of the trainee's performance by the assessors differ in order to:	One method might be an initial assessment to be performed by the trainee themselves, then discussing areas where the perceptions of the trainee's performance by the assessors differ in order to:
145.A.30 Personnel requirements	(d)	The maintenance organisation shall have a maintenance man-hour plan showing that the maintenance organisation has sufficient competent staff to plan, perform, supervise, inspect and quality monitor the maintenance organisation in accordance with the approval.	The maintenance organisation shall have a maintenance person-hour plan showing that the maintenance organisation has sufficient competent staff to plan, perform, supervise, inspect and quality monitor the maintenance organisation in accordance with the approval.
145.A.30 Personnel requirements	AMC 145.A.30 - Management Personnel (AUS)	… As a consequence a manager can be only assigned duties (not responsibilities) of the nominated personnel to whom he/she reports.	… As a consequence a manager can be only assigned duties (not responsibilities) of the nominated personnel to whom they report.
145.A.30 Personnel requirements	Appendix IV to AMC3 145.A.30(e) - Phase 2 – Detailed training	To be familiar, an instructor should have attended himself a similar course in a classroom and made additionally some lecture of related subjects.	To be familiar, an instructor should have attended themselves a similar course in a classroom and made additionally some lecture of related subjects.
145.A.30(d) Personnel requirements AMC	-1	'Sufficient' means that the maintenance organisation employs or contracts/tasks competent staff, as detailed in the man-hour plan, of which at least half the staff that perform maintenance in each workshop, hangar or flight line on any shift should be employed to ensure organisational stability.	'Sufficient' means that the maintenance organisation employs or contracts/tasks competent staff, as detailed in the person-hour plan, of which at least half the staff that perform maintenance in each workshop, hangar or flight line on any shift should be employed to ensure organisational stability.
	-2	The maintenance man-hour plan should take into account all activities carried out outside the scope of the DASR 145 approval	The maintenance person-hour plan should take into account all activities carried out outside the scope of the DASR 145 approval
	-2	The planned absence (for training, vacations, etc.) should be considered when developing the man-hour plan.	The planned absence (for training, vacations, etc.) should be considered when developing the person-hour plan.
	-3	1. The maintenance man-hour plan should relate to the anticipated maintenance work load except that when the maintenance organisation cannot predict such workload …	1. The maintenance person-hour plan should relate to the anticipated maintenance work load except that when the maintenance organisation cannot predict such workload …
	-4	In the case of aircraft base maintenance, the maintenance man-hour plan should relate to the aircraft hangar visit plan as specified in	In the case of aircraft base maintenance, the maintenance person-hour plan should relate to the aircraft hangar visit plan as specified in

Regulation	Sub paragraph	Current text (excerpt)	Proposed text (excerpt)
	-5	In the case of aircraft component maintenance, the maintenance man-hour plan should relate to the aircraft component planned maintenance as specified in DASR 145.A.25(a)(2).	In the case of aircraft component maintenance, the maintenance person-hour plan should relate to the aircraft component planned maintenance as specified in DASR 145.A.25(a)(2).
	-6	The quality monitoring compliance function man-hours should be sufficient to meet the requirement of DASR 145.A.65(c) which means taking into account AMC DASR 145.A.65(c).	The quality monitoring compliance function person-hours should be sufficient to meet the requirement of DASR 145.A.65(c) which means taking into account AMC DASR 145.A.65(c).
	-7	2. The maintenance man-hour plan should be reviewed at least every three months and updated when necessary.	The maintenance person-hour plan should be reviewed at least every three months and updated when necessary.
	-8	Significant deviation from the maintenance man-hour plan should be reported through the appropriate manager to the quality manager and the Accountable Manager for review. Significant deviation means more than a 25% shortfall in available man-hours during a calendar month for any one of the functions specified in DASR 145.A.30(d), or an inability to achieve military tasking due to personnel shortfalls.	Significant deviation from the maintenance person-hour plan should be reported through the appropriate manager to the quality manager and the Accountable manager for review. Significant deviation means more than a 25% shortfall in available person-hours during a calendar month for any one of the functions specified in DASR 145.A.30(d), or an inability to achieve military tasking due to personnel shortfalls.
145.A.47 Maintenance planning	AMC 145.A.47(a) Maintenance planning - 3 (dash #4)	man-hours estimation,	person-hours estimation,
	AMC 145.A.47(a) Maintenance planning - 3 (dash #5)	man-hours availability,	person-hours availability,
145.A.55 Maintenance records	GM 145.A.55(c)(1) Maintenance records (AUS) - 18.	An electronic signature should prevent a signatory from denying that he or she affixed a signature to a specific record, record entry, or document. …	An electronic signature should prevent a signatory from denying that they affixed a signature to a specific record, record entry, or document. …
145.A.65 Safety and quality policy, maintenance procedures, quality system and safety management system	GM 145.A.65(b)(3) Safety and quality policy, maintenance procedures, quality system and safety management system	1. Critical Tasks might not jeopardise safety on their own, but there could be a cumulative effect if the same maintainer reproduces the same error when he does the same tasks on several systems. …	1. Critical Tasks might not jeopardise safety on their own, but there could be a cumulative effect if the same maintainer reproduces the same error when they do the same tasks on several systems. …
145.A.70(a) - Maintenance Organisation Exposition - Appendix V to AMC	Throughout	All instances of "He / she is"	"They are"
147.A.100 - Facility requirements	(b) - 2.	The size of accommodation for examination purposes shall be such that no student can read the paperwork or computer screen of any other student from his/her position during examinations.	The size of accommodation for examination purposes shall be such that no student can read the paperwork or computer screen of any other student from their position during examinations.
147.A.140 - Maintenance Training Organisation Exposition - Annex A to AMC	1.3.1 – Accountable Manager - Notes	The MTO should decide who will be responsible for liaison with the DASA and show this in his / her terms of reference.	The MTO should decide who will be responsible for liaison with the DASA and show this in their terms of reference.
	1.3.2 – Training Manager - Notes	This paragraph should emphasise that the nominated post holder for training is responsible to ensure that all training is carried out to an approved standard and describes the extent of his / her authority as regards his / her DASR 147 responsibility.	This paragraph should emphasise that the nominated post holder for training is responsible to ensure that all training is carried out to an approved standard and describes the extent of their authority as regards their DASR 147 responsibility.
	1.3.3 – Quality Manager (point 3)	Implementing a quality audit programme in which compliance with all training procedures is reviewed at regular intervals, and any observed non-compliances or poor standards are brought to the attention of the person concerned via his / her Manager.	Implementing a quality audit programme in which compliance with all training procedures is reviewed at regular intervals, and any observed non-compliances or poor standards are brought to the attention of the person concerned via their Manager.

Regulation	Sub paragraph	Current text (excerpt)	Proposed text (excerpt)
	1.3.5 – Instructor	he instructor is a nominated person who will carry out instructional duties for which he / she is qualified (type / basic training).	he instructor is a nominated person who will carry out instructional duties for which they are qualified (type / basic training).
		Additionally, the instructor can: - Draft questions for examination banks for courses he / she is authorised; - Undertake duties of invigilator where he / she is not involved in the instruction of that particular phase examination.	Additionally, the instructor can: - Draft questions for examination banks for courses they are authorised; - Undertake duties of invigilator where they are not involved in the instruction of that particular phase examination.
	1.3.5 – Instructor - Note	The instructor is not necessarily the person involved into the drafting of the course material (content, duration etc…), however he must be involved at some point into the organisation of the lessons themselves (creation of the instructor notes, slides, sequencing etc…).	The instructor is not necessarily the person involved into the drafting of the course material (content, duration etc…), however they must be involved at some point into the organisation of the lessons themselves (creation of the instructor notes, slides, sequencing etc…).
	1.5 – List of Instructional and Examination staff - COMPETENCIES:	type of aircraft and the specific areas he / she is qualified to instruct, ie Airframe, Engine, Electrical Instrument, Auto flight, Radio or Radar.	type of aircraft and the specific areas they are qualified to instruct, ie Airframe, Engine, Electrical Instrument, Auto flight, Radio or Radar.
	2.6 – Records of training carried out	There should also be reference to the basic work experience' records required to be kept by the student whilst he is undergoing his live operating aircraft experience.	There should also be reference to the basic work experience' records required to be kept by the student whilst they are undergoing their live operating aircraft experience.
	3.8 – Records of qualified instructors, examiners and practical assessors	The training staff should be given reasonable access on request to his/her own records.	The training staff should be given reasonable access on request to their own records.
M.A.708 Continuing airworthiness management	Appendix XI to AMC M.A.708(c) - Contracted/tasked maintenance	Accordingly there should be established organisational responsibility, procedures and routines in the CAMO and DASR 145 AMOs to take care of these functions in a satisfactory way such that any person involved is informed about his/her responsibility and the procedures which apply.	Accordingly there should be established organisational responsibility, procedures and routines in the CAMO and DASR 145 AMOs to take care of these functions in a satisfactory way such that any person involved is informed about their responsibility and the procedures which apply.

3. References to (un)manned aircraft etc.

All instances of (un)manned at the references listed below will be replaced with (un)crewed, maintaining capitalisation as appropriate.

Regulation	Sub paragraph
BR.20.A Annex A	2.c.iii
BR.20 Airworthiness (EASA BR Article 5)	BR.20.A Annex A - Essential Airworthiness requirements referred to in BR.20 [EDA BFD Annex A] - 3. iii.
BR Appendix 1 - Occurrence Reporting (AUS)	REPORTABLE OCCURRENCES - General
21.A.151 - Terms of approval	GM 21.A.151 - Terms of approval – Scope and categories - b. (table)
21.A.243 - Design Organisation Exposition	AMC1 to 21.A.243(a) - Design Organisation Exposition requirements - a. i.
ARO.100 - MILITARY AIR OPERATOR CERTIFICATE (MAOC)	AMC ARO.100.C – Preparation of a Compliance Statement - Compliance with DASR - 6. d.
ORO.50 – AIRCRAFT CREWING	GM ORO.50.A - Aircraft Crewing (AUS) - 1.
NDR.05 – OPERATION OF NON DEFENCE REGISTERED AIRCRAFT BY DEFENCE ORGANISATIONS	AMC NDR.05.A –– Evidence of NAA or MAA oversight (AUS) - 4.
DASR UAS	Title
UAS.10 - UAS APPROVAL AND AUTHORISATION	GM3 UAS.10 - Definitions (AUS) - 1. a.
	GM3 UAS.10 - Definitions (AUS) - 1. b.
	GM2 UAS.10 - Applicability (AUS) - 2. (note)
	GM2 UAS.10 - Applicability (AUS) - 4. (note)
	GM UAS.10.C - Operation under UAS Categories (AUS) - 3. a.
	GM2 UAS.10 - Applicability (AUS) - 1.
	GM2 UAS.10 - Applicability (AUS) - Note (manned aircraft)
UAS.20 - CERTIFIED CATEGORY UAS	GM UAS.20.A - Scope (AUS) - 1.
	GM UAS.20.A - Scope (AUS) - 2.
	AMC UAS.20.A(3) - Initial Airworthiness (AUS) - 1.
	AMC UAS.20.A(6) - Standard Rules of the Air (AUS) - 1.
UAS.30 - SPECIFIC CATEGORY UAS	AMC UAS.30.B - Authority Requirements for Issue of a UASOP (AUS) - 8.
	AMC UAS.30.B - Authority Requirements for Issue of a UASOP (AUS) - 22. i. (note)
	GM2 UAS.30.B - Extent of Compliance (AUS) - 1.
UAS.50 - WEAPONISATION AND CARRIAGE OF PASSENGERS	GM UAS.50.B - Carriage of Persons (AUS)
UAS.70 - SUPPORT OF AUTHORITY COMPLIANCE ASSURANCE	GM UAS.70.A - Support for Authority Compliance Assurance (AUS) - 2.
UAS.80 - FOREIGN UAS OPERATIONS	GM UAS.80.A - Authorisation of Foreign Military UAS Operations (AUS) - 7
Glossary of Terms	Air Traffic Management Plan (ATMP)
	Aircraft *
	Autonomous Aircraft
	Autonomous Operation

Regulation	Sub paragraph
	Aviation System
	Critical Infrastructure * (UAS context)
	Military Aircraft
	Operational Airworthiness
	Remotely Piloted Aircraft (RPA) * (UAS context)
	Remotely Piloted Aircraft System (RPAS) * (UAS context)
	Sensor Operator *
	UAS Flight Termination System * (UAS context)
	Unmanned Aircraft (UA) * (UAS context)
	Unmanned Aircraft System (UAS) * (UAS context)
Acronym List	UA
	UAS
	UASOP
	UAT

DASR AMENDMENT RECORD
DCP 2021 - 051

DASR CLAUSE: AMC.FSTD.05.A.2
RATIONALE FOR CHANGE
The regulated community is directed to the "ACPA website" where the "DASA website" is more appropriate.
CURRENT REGULATION TEXT
2. **IOP template.** A FSTD IOP template is available on the ACPA Website.
REVISED REGULATION TEXT
2. **IOP template.** A FSTD IOP template is available on the DASA Key Documents webpage (DASR Templates).

DASR CLAUSE: GM.ORO.50.D.1
RATIONALE FOR CHANGE
The regulated community is directed to the "ACPA website" where the "DASA website" is more appropriate.
CURRENT REGULATION TEXT
1. Non-Defence registered aircraft covered by Implementation Procedure for Australian Civil Registered Aircraft Operated as State Aircraft and Aircrew Licensing may be operated in accordance with the CASA / Defence agreement, see ACPA website for details.
REVISED REGULATION TEXT
1. Non-Defence registered aircraft covered by Implementation Procedure for Australian Civil Registered Aircraft Operated as State Aircraft and Aircrew Licensing may be operated in accordance with the CASA / Defence agreement, see DASA Key Documents webpagefor details.

DASR CLAUSE: GM.SPA.20.A.3
RATIONALE FOR CHANGE
The regulated community is directed to the "ACPA website" where the "DASA website" is more appropriate.
CURRENT REGULATION TEXT
1. **Purpose.** The purpose of this regulation is to assure the safe management of low flying activities. 2. This regulation does not apply to non-Defence registered aircraft being operated by Defence aircrew; such operations are to be in accordance with the relevant civil air rules and regulations. 3. This regulation does not apply to non-Defence registered aircraft covered by Implementation Procedure for Australian Civil Registered Aircraft Operated as State Aircraft and Aircrew Licensing, See ACPA website for details.
REVISED REGULATION TEXT
1. **Purpose.** The purpose of this regulation is to assure the safe management of low flying activities. 2. This regulation does not apply to non-Defence registered aircraft being operated by Defence aircrew; such operations are to be in accordance with the relevant civil air rules and regulations. 3. This regulation does not apply to non-Defence registered aircraft covered by Implementation Procedure for Australian Civil Registered Aircraft Operated as State Aircraft and Aircrew Licensing, See DASA Key Documents webpage for details.

DASR AMENDMENT RECORD
DCP 2021 - 052

DASR CLAUSE: GM 21.A.179 – Transferability and re-issuance within States applying DASR (AUS)
RATIONALE FOR CHANGE
As a result of the FRR, the Airworthiness Coordination and Policy Agency (ACPA) will transition to Aviation Operations (AVNOPS); making the terms ACPA and DACPA no longer relevant to the regulated community.
CURRENT REGULATION TEXT
GM 21.A.179 – Transferability and re-issuance within States applying DASR (AUS) The Authority allows for the change of ownership of a Defence registered aircraft in certain circumstances. The Airworthiness Coordination and Policy Agency (ACPA) should be engaged as early as possible for specific advice.
REVISED REGULATION TEXT
GM 21.A.179 – Transferability and re-issuance within States applying DASR (AUS) The Authority allows for the change of ownership of a Defence registered aircraft in certain circumstances, and should be engaged as early as possible for specific advice.

DASR CLAUSE: AMC AO.GEN.05.D – OIP Sponsorship Responsibilities (AUS)
RATIONALE FOR CHANGE
As a result of the FRR, the Airworthiness Coordination and Policy Agency (ACPA) will transition to Aviation Operations (AVNOPS); making the terms ACPA and DACPA no longer relevant to the regulated community.
CURRENT REGULATION TEXT
AMC AO.GEN.05.D – OIP Sponsorship Responsibilities (AUS) 1. **OIP DEVELOPMENT AND PROMULGATION** 2. . **DEVIATING FROM OIP STANDARDS** 3. . 4. . 5. Further information and guidance on the management of OIP should be obtained from ACPA staff in the first instance. Specialist advice about the production, control and management of aviation publications should be sought from Air Training and Aviation Commons System Program Office (ATACSPO).
REVISED REGULATION TEXT
AMC AO.GEN.05.D – OIP Sponsorship Responsibilities (AUS) 1. **OIP DEVELOPMENT AND PROMULGATION** 2. . **DEVIATING FROM OIP STANDARDS** 3. . 4. . 5. Further information and guidance on the management of OIP should be obtained from DASA staff in the first instance. Specialist advice about the production, control and management of aviation publications should be sought from Air Training and Aviation Commons System Program Office (ATACSPO).

DASR CLAUSE: GM ARO.60.A – 'Defence Register' (AUS)
RATIONALE FOR CHANGE
As a result of the FRR, the Airworthiness Coordination and Policy Agency (ACPA) will transition to Aviation Operations (AVNOPS); making the terms ACPA and DACPA no longer relevant to the regulated community.
CURRENT REGULATION TEXT
GM ARO.60.A – 'Defence Register' (AUS) 1. **Purpose.** The purpose of this regulation is to allow capability managers to best determine whether an aircraft should be on the Defence register. There may be occasions when it is in Defence's interest for aircraft to remain on another register. 2. DACPA is the custodian of the Defence Register on behalf of the DASA and is responsible to ensure the validity of the Defence Register. Information pertaining to the management of the Defence register, including addition and removal of aircraft is detailed in the Defence Aviation Safety Assurance Manual, Section 3 Chapter 2.
REVISED REGULATION TEXT
GM ARO.60.A – 'Defence Register' (AUS) 1. **Purpose.** The purpose of this regulation is to allow capability managers to best determine whether an aircraft should be on the Defence register. There may be occasions when it is in Defence's interest for aircraft to remain on another register. 2. DASA is the custodian of the Defence Register and is responsible to ensure its validity. Information pertaining to the management of the Defence register, including addition and removal of aircraft is detailed in the Defence Aviation Safety Assurance Manual, Section 3 Chapter 2.

DASR CLAUSE: AMC NDR.05.A — Evidence of NAA or MAA oversight (AUS)
RATIONALE FOR CHANGE
As a result of the FRR, the Airworthiness Coordination and Policy Agency (ACPA) will transition to Aviation Operations (AVNOPS); making the terms ACPA and DACPA no longer relevant to the regulated community.
CURRENT REGULATION TEXT

AMC NDR.05.A — Evidence of NAA or MAA oversight (AUS)

1. .
2.
3. Where a NDRA is oversighted by a NAA / MAA not recognised by Defence, advice should be sought from DACPA or DASA regarding flexibility provisions.
4. A Sponsor considering use of a non-Defence Registered Unmanned Aircraft (NDRUA) should seek ACPA advice regardless of NAA / MAA recognition.

REVISED REGULATION TEXT

AMC NDR.05.A — Evidence of NAA or MAA oversight (AUS)

1. .
2.
3. Where a NDRA is oversighted by a NAA / MAA not recognised by Defence, advice should be sought from DASA regarding flexibility provisions.
4. A Sponsor considering use of a non-Defence Registered Unmanned Aircraft (NDRUA) should seek DASA advice regardless of NAA / MAA recognition.

DASR CLAUSE: NDR.15 – FOREIGN MILITARY OPERATIONS IN AUSTRALIA

RATIONALE FOR CHANGE

As a result of the FRR, the Airworthiness Coordination and Policy Agency (ACPA) will transition to Aviation Operations (AVNOPS); making the terms ACPA and DACPA no longer relevant to the regulated community.

CURRENT REGULATION TEXT

AMC NDR.15.A – Managing Approvals (AUS)

1. Foreign militaries seeking to operate aircraft in Australian airspace may require additional clearances that are separate to this regulation, such as a diplomatic clearance. Diplomatic approvals for foreign military of government aircraft are managed by the Diplomatic Clearance Cell within the Air and Space Operations Centre. Agencies involved in such clearances include the Department of Foreign Affairs and Trade.
2. **Coordination.** Foreign military flight operations within Australian airspace should be planned with an Australian Defence aviation command or HQJOC. Advice from DACPA may help ensure this outcome is achieved.
3. **Assessment requirements.** This regulation requires that an assessment of the operational and technical airworthiness systems be completed to provide the Defence AA confidence that foreign military aircraft are operated safely within Australian airspace. If the MAA is not Defence AA recognised, advice should be sought from DACPA.
4. **Operational restrictions.** Implementing operational restrictions is an acceptable control. For example, foreign fast jets might be based at RAAF Base Tindal and required to transit to / from the designated training area via routes constrained over sparsely populated areas where possible.
5. If the MAA is not Defence AA recognised, the Sponsor should request a Defence AA recommendation (from DACPA / DASA) that would consider evidence that the MAA has a system in place for type certification and continuing airworthiness management of the foreign military aircraft and whether the system might provide the required assurances for the intended operations.

GM NDR.15.B – Suspension of Foreign Military Operations in Australia (AUS)

1. **Purpose.** The purpose of this regulation is to assure that foreign military aircraft are operated safely within Australian airspace.
2. The authority suspending flight operations should advise COMAUSFLT / COMD AVNCOMD / ACAUST and DACPA as soon as practicable.

REVISED REGULATION TEXT
AMC NDR.15.A – Managing Approvals (AUS)
1. Foreign militaries seeking to operate aircraft in Australian airspace may require additional clearances that are separate to this regulation, such as a diplomatic clearance. Diplomatic approvals for foreign military of government aircraft are managed by the Diplomatic Clearance Cell within the Air and Space Operations Centre. Agencies involved in such clearances include the Department of Foreign Affairs and Trade. 2. **Coordination.** Foreign military flight operations within Australian airspace should be planned with an Australian Defence aviation command or HQJOC. Advice from the Authority may help ensure this outcome is achieved. 3. **Assessment requirements.** This regulation requires that an assessment of the operational and technical airworthiness systems be completed to provide the Defence AA confidence that foreign military aircraft are operated safely within Australian airspace. If the MAA is not Defence AA recognised, advice should be sought from the Authority. 4. **Operational restrictions.** Implementing operational restrictions is an acceptable control. For example, foreign fast jets might be based at RAAF Base Tindal and required to transit to / from the designated training area via routes constrained over sparsely populated areas where possible. 5. If the MAA is not Defence AA recognised, the Sponsor should request a Defence AA recommendation (from the Authority) that would consider evidence that the MAA has a system in place for type certification and continuing airworthiness management of the foreign military aircraft and whether the system might provide the required assurances for the intended operations.
GM NDR.15.B – Suspension of Foreign Military Operations in Australia (AUS)
1. **Purpose.** The purpose of this regulation is to assure that foreign military aircraft are operated safely within Australian airspace. 2. The authority suspending flight operations should advise COMAUSFLT / COMD AVNCOMD / ACAUST and the Authority (through DASA) as soon as practicable.

DASR CLAUSE: GM2 UAS.10 – Applicability (AUS)
RATIONALE FOR CHANGE
As a result of the FRR, the Airworthiness Coordination and Policy Agency (ACPA) will transition to Aviation Operations (AVNOPS); making the terms ACPA and DACPA no longer relevant to the regulated community.
CURRENT REGULATION TEXT
GM2 UAS.10 - Applicability (AUS) 1. . 2. . 3. . 4. . 5. Where the role and extent of involvement of another NAA or MAA is unclear, or the NAA or MAA is not recognised by the Authority, Authorrity advice, through Airworthiness Coordination and Policy Agency (ACPA), must be sought.
REVISED REGULATION TEXT
GM2 UAS.10 - Applicability (AUS) 1. . 2. . 3. . 4. . 5. Where the role and extent of involvement of another NAA or MAA is unclear, or the NAA or MAA is not recognised by the Authority, Authority advice, through DASA, must be sought.

DASR CLAUSE: AMC UAS.30.C - Operations under a Standard Scenario (AUS)
RATIONALE FOR CHANGE
As a result of the FRR, the Airworthiness Coordination and Policy Agency (ACPA) will transition to Aviation Operations (AVNOPS); making the terms ACPA and DACPA no longer relevant to the regulated community.
CURRENT REGULATION TEXT
AMC UAS.30.C - Operations under a Standard Scenario (AUS) 1. If a Standard Scenario is to be employed by the Command/Group, the requirements of the Standard Scenario must be met in their entirety. Where an element of a Standard Scenario cannot be met, use of that Standard Scenario is precluded and the Command/Group are to pursue a UASOP under DASR.UAS.30.B. 2. The Command/Group's intention to operate a UAS under a Standard Scenario must be communicated in writing to the Authority prior to commencement of UAS operations. Written notification must be via **DASR Form 150** through the ACPA Registry email address: dasa.registry@defence.gov.au. This notification should include: …
REVISED REGULATION TEXT
AMC UAS.30.C - Operations under a Standard Scenario (AUS) 1. If a Standard Scenario is to be employed by the Command/Group, the requirements of the Standard Scenario must be met in their entirety. Where an element of a Standard Scenario cannot be met, use of that Standard Scenario is precluded and the Command/Group are to pursue a UASOP under DASR.UAS.30.B. 2. The Command/Group's intention to operate a UAS under a Standard Scenario must be communicated in writing to the Authority prior to commencement of UAS operations. Written notification must be via **DASR Form 150** through the DASA Registry email address: dasa.registry@defence.gov.au. This notification should include: …