RECORD OF CHANGE – DASR RELEASE 23 FEB 2023

1. This document records all changes to the Defence Aviation Safety Regulation (DASR) introduced in the 23 February 23 release. An overview of noteworthy changes is available in the Summary of Change.

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
General			
Updated terminology replacing AvRM with RM (DCP 2022-31)		Editorial	DASR AIRCREW.65 DASA SPA.05 DASA SPA.30 DASA SPA.40 DASR ORO.05 DASR ORO.10 DASR ORO.70 DASR ARO.40 DASR UAS.30 DASR Glossary DASR Acronym List
DASR 21 – Aircraft Design, Production and Certification			
Amendments to DASR 21 New MDOA Privileges (DCP 2022-032)		Major	Subpart J Minor Changes in Subpart D & E
DASR 145 – Requirements for Maintenance Organisations			
Inclusion of acceptable welding qualification – *AMC2 to DASR Part 145.A.30(f)* (DCP 2021-030)		Minor	AMC2 to 145.A.30(f)
Remove the word “regulation” from new AMC 145.A.35(b) and improve clarity of AMC2 to 145.A.35 (DCP 2022-036)		Minor	AMC1 to 145.A.35(b) AMC2 to 145.A.35(b)

DASR ARO – Authority Req for AO			
DASR ARO.80 removed (DCP 2022-25)		Minor	DASR ARO.80
DASR FT – Flight Test			
Delete the list of DoSA(FT) from GM FT05.D. (DCP 2022-005)		Editorial	GM FT.05.D
Editorial amendments to AMC FT.05.C and GM FT.05.D (DCP 2022-27)		Editorial	AMC FT.05.C GM FT.05.D
DASR M – Continuing Aw Management			
Correct various DASR M editorial and minor errors (DCP 2023-001)		Minor	AMC M.A.201(k) AMC M.A.301(a)(5)(iii) AMC M.A.302 AMC M.A.302(d) GM M.A.302(f) AMC M.A.702(b) AMC M.A.704 AMC M.A.707(a) AMC M.A.707(c) AMC M.A.708(c) AMC M.A.714 Appendix XI to AMC M.A.708(c)
DASR MED – Medical			
Replace MAO with AM in MED.10 and MED.15 (DCP 2022-29)		Editorial	MED.10 MED.15

DASR ORO – Org Req for AO			
Additional GM4 to DASR ORO.30.A.3. (DCP 2022-28)		Minor	GM4 to DASR ORO.30.A.3.
DASR SPA – Specific Purpose Approval			
New regulation for the effective management of Night Vision Imaging System - *DASR SPA.55 (NVIS)* (DCP 2022-007)		Major	DASR SPA.55

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022 - 031

DASR CLAUSE: DASR AIRCREW.65

RATIONALE FOR CHANGE

Previous versions of DASR made reference to Aviation Risk Management (AvRM). AvRM was replaced by seven step Risk Management (RM) because AvRM was considered not compliant with the *WHS Act 2011*. DASA has updated terminology to contemporary language, removing the term Aviation Risk Management and its acronym AvRM and replacing it with Risk Management and its acronym RM.

REVISION

Regulation	Sub paragraph	Change type	Current text	Revised text
AIRCREW.65	AIRCREW.65 Title	Editorial	AIRCREW.65 - AVIATION RISK MANAGEMENT (AvRM)	AIRCREW.65 - RISK MANAGEMENT (RM)
	AIRCREW.65.A	Editorial	The MAO must ensure that aviation risk management training is conducted in accordance with approved OIP.	The MAO must ensure that Risk Management training is conducted in accordance with approved OIP.
	AMC AIRCREW.65.A Title	Editorial	AMC AIRCREW.65.A - AvRM Training (AUS)	AMC AIRCREW.65.A - Risk Management Training (AUS)
	AMC AIRCREW.65.A.1	Editorial	The Defence Aviation Safety Manual provides the corporate solution for Aviation Risk Management Training.	The Defence Aviation Safety Manual provides the corporate solution for Risk Management Training.

DASR CLAUSE: DASR SPA

RATIONALE FOR CHANGE

Previous versions of DASR made reference to Aviation Risk Management (AvRM). AvRM was replaced by seven step Risk Management (RM) because AvRM was considered not compliant with the *WHS Act 2011*. DASA has updated terminology to contemporary language, removing the term Aviation Risk Management and its acronym AvRM and replacing it with Risk Management and its acronym RM.

REVISION

Regulation	Sub paragraph	Change type	Current text	Revised text
SPA.05	SPA.05.B	Editorial	Flying rules and requirements with applicability under this regulation must be based upon an AvRM assessment.	Flying rules and requirements with applicability under this regulation must be based upon a Risk Management assessment.
SPA.30	AMC SPA.30.A.15.C	Editorial	**AvRM**. Where the display sequence is not fully covered in existing MRPs, further risk management is completed to ensure all known risks are minimised SFARP.	**Risk Management**. Where the display sequence is not fully covered in existing Core Risk Profiles (CRP), Mission Risk Profiles (MRP) or Risk Management Plans (RMP), further risk management is completed to ensure all known risks are eliminated or otherwise minimised SFARP.
SPA.40	GM SPA.40.A.7	Editorial	**Risk Identification**. Once the context is clearly established, any hazards and associated risks should be identified. Identification of the hazards should consider impacts to the mission, equipment, personnel and the environment. Once the hazards are identified, the risks are determined, considering the six AvRM risk dimensions – personnel, mission, capability, reputation, financial and environment.	**Risk Identification**. Once the context is clearly established, any hazards and associated risks should be identified. Identification of the hazards should consider impacts to the mission, equipment, personnel and the environment. Once the hazards are identified, the risks are determined considering the six risk dimensions – personnel safety, mission, capability, reputation, financial and environment.

DASR CLAUSE: DASR ORO

RATIONALE FOR CHANGE

Previous versions of DASR made reference to Aviation Risk Management (AvRM). AvRM was replaced by seven step Risk Management (RM) because AvRM was considered not compliant with the *WHS Act 2011*. DASA has updated terminology to contemporary language, removing the term Aviation Risk Management and its acronym AvRM and replacing it with Risk Management and its acronym RM.

REVISION

Regulation	Sub paragraph	Change type	Current text	Revised text
ORO.05	GM ORO.05.A.12	Editorial	Since competency is measured against a standard of performance, flying organisations must determine what these standards are. Certain competencies are regarded as essential for the safe operation of all aircraft, so these are set under Defence-wide arrangements or articulated through common principles. For example, Defence has common principles relating to minimum levels of training and proficiency required to safely operate aircraft in general. There are also minimum training and qualification requirements stipulated for medical fitness and general aviation operations, such as basic flying training, Non-Technical Skills Training (NTS), aviation risk management (AVRM) and aviation safety. Flying organisations are responsible for establishing local requirements that relate more particularly to the organisation's operating environment, roles and aviation systems. Competency requirements must be sufficient in scope and detail to provide a suitable degree of confidence that a known level of safety can be achieved in flying operations when aviation systems are operated by personnel with prescribed qualifications and levels of experience and proficiency.	Since competency is measured against a standard of performance, flying organisations must determine what these standards are. Certain competencies are regarded as essential for the safe operation of all aircraft, so these are set under Defence-wide arrangements or articulated through common principles. For example, Defence has common principles relating to minimum levels of training and proficiency required to safely operate aircraft in general. There are also minimum training and qualification requirements stipulated for medical fitness and general aviation operations, such as basic flying training, Non-Technical Skills Training (NTS), Risk Management (RM) and aviation safety. Flying organisations are responsible for establishing local requirements that relate more particularly to the organisation's operating environment, roles and aviation systems. Competency requirements must be sufficient in scope and detail to provide a suitable degree of confidence that a known level of safety can be achieved in flying operations when aviation systems are operated by personnel with prescribed qualifications and levels of experience and proficiency.

Regulation	Sub paragraph	Change type	Current text	Revised text
ORO.10	ORO.10.A.5	Editorial	aviation risk management	Risk Management
	GM ORO.10.A.2.E	Editorial	**Aviation risk management. Aviation risk management (AvRM)** is a documented process to assess risks to safety resulting from aviation operations. Whilst the AvRM process is described in Defence Aviation Safety Manual and associated subordinate single-Service instructions, the FMS ensures the process is applied locally and that operations are authorised at the appropriate level. Additional guidance on AvRM management is included in the Defence Aviation Safety Manual.	**Risk Management (RM).** RM is a documented process to assess hazards resulting from aviation operations. Whilst the RM process is described in Defence Aviation Safety Manual and associated subordinate single-Service instructions, the FMS ensures the process is applied locally and that operations are authorised at the appropriate level. Additional guidance on RM management is included in the Defence Aviation Safety Manual.
	GM ORO.10.A.7	Editorial	**Wing (E) Level implementation**. Flying operations management at Wing level may satisfy the majority of the regulatory requirements for an FMS. Although the SOIU may be managed at a higher level, the Wing Level organisation should be the custodian of the aircraft roles and environment. The Wing may provide advice to COMAUSFLT/ COMD AVNCOMD/ ACAUST on any necessary changes to the SOIU, or identify new roles. With a number of operating units utilising the same aircraft type, the Wing may also be best placed to define and standardise currency and competency criteria, manage OIP and training devices, and define policy and processes for AvRM and aviation safety.	**Wing (E) Level implementation**. Flying operations management at Wing level may satisfy the majority of the regulatory requirements for an FMS. Although the SOIU may be managed at a higher level, the Wing Level organisation should be the custodian of the aircraft roles and environment. The Wing may provide advice to COMAUSFLT/ COMD AVNCOMD/ ACAUST on any necessary changes to the SOIU, or identify new roles. With a number of operating units utilising the same aircraft type, the Wing may also be best placed to define and standardise currency and competency criteria, manage OIP and training devices, and define policy and processes for RM and aviation safety.
ORO.70	GM ORO.70.B.4	Editorial	The subsequent CDF direction was aimed at Army Aviation; however, is equally applicable to all Defence aviation activities: "CA, in consultation with CAF is to review OCL requirements for aviation operations, to ensure OCL in training is limited to that which is necessary to meet specific training objectives. The review is to be conducted with cognisance of extant Occupational Health and Safety (OH&S) requirements and AVRM principles."	The subsequent CDF direction was aimed at Army Aviation. However, is equally applicable to all Defence aviation activities: 'CA, in consultation with CAF is to review OCL requirements for aviation operations, to ensure OCL in training is limited to that which is necessary to meet specific training objectives. The review is to be conducted with cognisance of extant Occupational Health and Safety (OH&S) requirements and [RM] principles.'

DASR CLAUSE: DASR ARO

RATIONALE FOR CHANGE

Previous versions of DASR made reference to Aviation Risk Management (AvRM). AvRM was replaced by seven step Risk Management (RM) because AvRM was considered not compliant with the *WHS Act 2011*. DASA has updated terminology to contemporary language, removing the term Aviation Risk Management and its acronym AvRM and replacing it with Risk Management and its acronym RM.

REVISION

Regulation	Sub paragraph	Change type	Current text	Revised text
ARO.40	GM ARO.40.A.4	Editorial	**Mission specific CP considerations**. 'Standing' risk assessments should be based on standard/routine aircraft CRE and any risks identified would be eliminated or otherwise minimised SFARP via Orders, Instructions, Procedures (OIP), hence it is assumed that any key risks will be identified and managed. Mission specific risks refers to risks that would arise from non-standard or operational contingency tasks where additional consideration should be given to any impacts on survivability in the event of a survivable crash. Assessment of mission specific risks can be an ongoing process and captured under Mission Risks Profiles (MRP) and the AvRM process. A balanced approach to treating risks is required, in order to achieve the mission. This may include assessing the benefits of exposing Defence personnel to any risks, for example, whether the need to carry passengers outweighs any risks associated with a contingency scenario, or the carriage of specific Dangerous Goods (DG).	**Mission specific CP considerations**. 'Standing' risk assessments should be based on standard/routine aircraft CRE and any risks identified would be eliminated or otherwise minimised SFARP via Orders, Instructions, Procedures (OIP). Hence, it is assumed that any key risks will be identified and managed. Mission specific risks refers to risks that would arise from non-standard or operational contingency tasks where additional consideration should be given to any impacts on survivability in the event of a survivable crash. Assessment of mission specific risks can be an ongoing process and captured under Core Risk Profiles (CRP), Mission Risk Profiles (MRP) or Risk Management Plans (RMP) through the Risk Management process. A balanced approach to treating risks is required, in order to achieve the mission. This may include assessing the benefits of exposing Defence personnel to any risks, for example, whether the need to carry passengers outweighs any risks associated with a contingency scenario, or the carriage of specific Dangerous Goods (DG).

DASR CLAUSE: DASR UAS

RATIONALE FOR CHANGE

Previous versions of DASR made reference to Aviation Risk Management (AvRM). AvRM was replaced by seven step Risk Management (RM) because AvRM was considered not compliant with the *WHS Act 2011*. DASA has updated terminology to contemporary language, removing the term Aviation Risk Management and its acronym AvRM and replacing it with Risk Management and its acronym RM.

REVISION

Regulation	Sub paragraph	Change type	Current text	Revised text
UAS.30	AMC UAS.30.B.4.3.E	Editorial	Aviation Risk Management (AvRM) is applied relevant to the impact of UAS operations on other airspace users, people and critical infrastructure	Risk Management (RM) is applied relevant to the impact of UAS operations on other airspace users, people and critical infrastructure

DASR CLAUSE: Glossary and Acronym List

RATIONALE FOR CHANGE

Previous versions of DASR made reference to Aviation Risk Management (AvRM). AvRM was replaced by seven step Risk Management (RM) because AvRM was considered not compliant with the *WHS Act 2011*. DASA has updated terminology to contemporary language, removing the term Aviation Risk Management and its acronym AvRM and replacing it with Risk Management and its acronym RM.

REVISION

Publication	Sub paragraph	Change type	Current text	Revised text
DASPMAN	Glossary of Terms	Editorial	**Aviation Risk Management (AvRM)** * A description of the application of Standards Australia Risk Management Standards in the context of Defence aviation operations. AvRM offers a systematic, logical approach to identifying and treating risks to Defence aviation resources and missions, while supporting initiative, flexibility and adaptability.	**Risk Management (RM)** * The application of Risk Management in the context of Defence aviation operations. RM offers a systematic, logical approach to identifying and treating risks to Defence aviation resources and missions, while supporting initiative, flexibility and adaptability.
	DASP Acronym List	Editorial	**AvRM** - Aviation Risk Management	**RM** - Risk Management
		Editorial		**CRP** - Core Risk Profiles
		Editorial		**MRP** - Mission Risk Profiles
		Editorial		**RMP** - Risk Management Plans

Australian Government
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DASR AMENDMENT RECORD
DCP 2022 - 032

DASR CLAUSE: DASR 21 Subpart J 21.A.263 – Privileges

RATIONALE FOR CHANGE

In March 2021 the European Defence Agency released Edition 2.0 of EMAR 21 which incorporated updates originating from several EASA Part-21 releases. Due to the scope of changes introduced in Edition 2.0, DASA has taken a phased approach to updating DASR 21 for alignment.

The changes include EMAR 21 edition 2.0 alignment for additional privileges for MDOA holder and holder of a Type Certificate. These privileges, to be awarded under specified scope and conditions, allow for:
- MDOA certification of certain major changes to a Type Certificate (TC) (or to an Supplementary Type Certificate (STC)), issue of STCs, and approval of major repair designs.
- holder of a Type Certificate to declare applicability and approve modifications to a product derivate from a civil type certified product when already approved by a recognised civil aviation authority.

The changes lay a voluntary basis and only introduce the possibility to have granted new privileges to approved organisations.

The changes offer opportunity for efficiency gains and greater autonomy to Design organisations that possess deep skills, experience and competence and efficiency gains for aircraft ostensibly the same as civil derivative types.

CURRENT REGULATION TEXT

SEE BELOW

REVISED REGULATION TEXT

SEE BELOW

TEXT - DASR CHANGE PROPOSAL 2022-032

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DCP 2022-032

PROPOSED CHANGES TO DASR 21

Notes to readers:

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

a. deleted text is marked with ~~strike through~~;

b. text highlighted in green is Australian unique text; and

c. new or amended text is highlighted in grey;

DASR 21 SUBPART D — CHANGES TO MILITARY TYPE-CERTIFICATES AND MILITARY RESTRICTED TYPE-CERTIFICATES

21.A.97 - Requirements for approval of a major change

a) Major changes to a type-certificate shall be classified and approved by:

1. the Authority; or

2. ~~(Reserved)~~ an approved design organisation or holder of a type certificate within the scope of its privileges provided for in (1) and (8) of DASR 21.A.263(c) or (2) of DASR 21.A.263(d), as recorded in the terms of approval.

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~~ AMC/GM to DASR 21.A.20 should be used for a major change approved by the Authority.

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.

4. For major changes approved by the military design organisation approval (MDOA) holder on the basis of their privilege as per DASR 21.A.263(c)(8), the process described under AMC No 2 to DASR 21.A.263(c)(5), (8) and (9) applies.

5. For major changes approved by the holder of a type certificate on the basis of their privilege as per DASR 21.A.263(d)(2), the process described under AMC No 1 to DASR 21.A.263(d)(1) and (2) applies.

GM 21.A.97(b) Requirements for the approval of a major 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.

SUBPART E - MILITARY SUPPLEMENTAL TYPE-CERTIFICATES

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).~~ an approved design organisation within the scope of its privileges provided for in (1) and (9) of DASR 21.A.263(c), as recorded in the terms of approval.

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.~~ For STCs approved by the Authority, 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.

d) For STCs approved by the military design organisation approval (MDOA) holder under their privilege as per DASR 21.A.263(c)(9), the process described under AMC No 2 to 21.A.263(c)(5), (8) and (9) applies.

DASR 21 SUBPART J — MILITARY DESIGN ORGANISATION APPROVAL

21.A.231 Scope

This Subpart establishes the procedure for the approval of design organisations and rules governing the rights and obligations ~~and privileges~~ of applicants for, and holders of, such approvals. In this Subpart, the references to type-certificates include type-certificates and restricted type-certificates.

21.A.233 Eligibility

At the discretion of the Authority, any organisation shall be eligible as an applicant for an approval under this Subpart:

(a) In accordance with DASR 21.A.14, DASR 21.A.112B, DASR 21.A.432B or DASR 21.A.602B; or

(b) For approval of minor changes or minor repair design, when requested for the purpose of obtaining privileges under DASR 21.A.263.

21.A.234 Application

Each application for a design organisation approval shall be made in a form and manner established by the Authority~~, or an alternative acceptable to the Authority,~~ and shall include an outline of the information required by DASR 21.A.243, and the terms of approval requested to be issued under DASR 21.A.251.

AMC 21.A.234 - Application - Form and manner (AUS)

DASR Form 80—Application for Design Organisation Approval, is to be obtained from the Authority, and completed by the Head of Design of the organisation.

The completed form, an outline of the design organisation ~~exposition~~ handbook, and details of the proposed terms of approval are to be forwarded to the Authority.

Organisations approved by recognised national ~~competent~~ aviation authorities or certified under AS/EN 9100 or the equivalent Aerospace Quality Assurance Program (AQAP), may re-use part or all of the same process evidences in the demonstration of compliance with DASR 21 Section A Subpart J, as agreed by the Authority.

21.A.235 Issue of Military design organisation approval

An organisation shall be entitled to have a design organisation approval issued by the Authority when it has demonstrated compliance with the applicable requirements under this Subpart.

GM to 21.A.235 Issue of a Design Organisation Approval

a) Where a design organisation has an extant EASA Part 21 design organisation approval, and when the military design activity is in the scope of the EASA terms of approval, the organisation may be accepted by the Authority to satisfy the DASR 21 requirements for that scope of work with any further investigation limited only to the delta between the two approvals. The Authority is to be kept informed by the design organisation of significant changes to the organisation and of any EASA findings that may impact the military design activity.

b) Where a design organisation has an extant EASA Part 21 design organisation approval, and when the scope of the EASA terms of approval does not entirely cover the military design activity, those parts of the organisation's EASA Part 21 handbook that are equally applicable to satisfy EMAR 21 may be accepted by the Authority as equivalent in respect of the DASR 21 requirements. It is permissible that only those parts of the organisation that are specific to the military activity or requirements are addressed in the DASR 21 handbook (Military Design Organisation Exposition). Those requirements covered by read-across of the sections of the EASA handbook are to be identified with a reference to the applicable procedures or other basic working documents as referred to in the EASA handbook.

21.A.239 Design assurance system and Safety Management System

a) The design organisation shall demonstrate that it has established and is able to maintain a design assurance system for the control and supervision of the design, and of design changes, of products, parts and appliances covered by the application. This design assurance system shall be such as to enable the organisation.

1. To ensure that the design of the products, parts and appliances or the design change or repair solution thereof, comply with the applicable type-certification basis and environmental protection requirements ~~(where applicable)~~ (where applicable); and

2. To ensure that its responsibilities are properly discharged in accordance with:

   i. The appropriate provisions of this DASR; and

   ii. The terms of approval issued under DASR 21.A.251.

3. To independently monitor the compliance with, and adequacy of, the documented procedures of the system. This monitoring shall include a feed-back system to a person or a group of persons having the responsibility to ensure corrective actions.

b) The design assurance system shall include an independent checking function of the showings of compliance on the basis of which the organisation submits compliance statements and associated documentation to the Authority.

c) The design organisation shall specify the manner in which the design assurance system accounts for the acceptability of the parts or appliances designed or the tasks performed by partners or subcontractor according to methods which are the subject of written procedures.

d) The organisation shall establish and maintain a Safety Management System (SMS), in accordance with DASR.SMS.

GM1 to DASR 21.A.239(a) – Design assurance system

1. Purpose

This GM outlines some basic principles and objectives of DASR 21.A.239(a).

2. Definitions

~~a)~~2.1 The design assurance system is the organisational structure, responsibilities, procedures and resources to ensure the proper functioning of the design organisation.

~~b)~~ 2.2 The design assurance means all those planned and systematic actions necessary to provide adequate confidence that the organisation has the capability:

~~i.~~ – to design products, or parts in accordance with the applicable airworthiness requirements and environmental protection requirements (where applicable);

~~ii.~~ – to demonstrate and verify the compliance with these requirements; and

~~iii.~~ – to demonstrate this compliance to the Authority.

~~c)~~ 2.3 The 'Type Investigation' means the tasks of the organisation in support of the type-certificate, supplemental type-certificate or other design approval processes necessary to demonstrate and verify and to maintain compliance with the applicable airworthiness requirements and environmental protection requirements (where applicable).

3. Design Assurance

The complete process, starting with the airworthiness and environmental protection (where applicable) requirements and product specifications and culminating with the issuing of a type-certificate, is shown in the diagram on Figure 3. This identifies the relationship between the design, the Type Investigation and design assurance processes.

Effective Design Assurance demands a continuing evaluation of factors that affect the adequacy of the design for intended applications, in particular that the product, or part, complies with applicable airworthiness and environmental protection (where applicable) requirements and will continue to comply after any change.

Two main aspects should therefore be considered:

~~a)~~ – How the planned and systematic actions are defined and implemented, from the very beginning of design activities up to and including the continued airworthiness activities;

~~b)~~ – How these actions are regularly evaluated and corrective actions implemented as necessary.

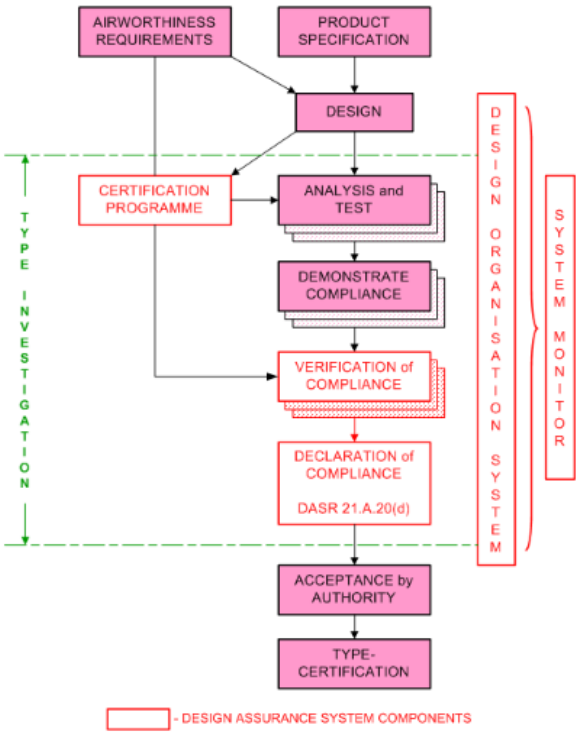

Figure 3 - Relationship between design, design assurance and type investigation

3.1 Planned and Systematic Actions

For design organisations carrying out Type Investigation of products, the planned and systematic actions should cover the following tasks and procedures should be defined accordingly:

3.1.1 General

a) To issue or, where applicable, supplement or amend the ~~Military Design Organisation Exposition (MDOE)~~ design organisation handbook in accordance with DASR 21.A.243, in particular to indicate the initiation of design activities on a product

b) To assure that all instructions of the ~~MDOE~~ handbook are adhered to.

c) To conduct Type Investigation.

d) To nominate staff as "compliance verification engineers" responsible to approve compliance documents as defined in paragraph 3.1.3.

e) To nominate personnel belonging to the Office of Airworthiness responsible as defined in paragraph 3.1.4.

f) In the case of an applicant for a supplemental type-certificate, to obtain the agreement of the type-certificate holder for the proposed supplemental type-certificate to the extent defined in DASR 21.A.115.

g) To ensure full and complete liaison between the type design organisation and related organisations having responsibility for products manufactured to the type-certificate.

h) To provide the assurance to the Authority that prototype models and test specimens adequately conform to the type design (see DASR 21.A.33(b)(1)).

3.1.2 Chief Executive and Head of design organisation (or their Deputy)

a) The Chief Executive should provide the necessary resources for the proper functioning of the design organisation.

b) The Head of the design organisation, or an authorised representative, should sign a declaration of compliance (see DASR 21A.20(d)) 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), their signature on the declaration of compliance confirms that the procedures as specified in the ~~MDOE~~ handbook have been followed (see also DASR GM 21.A.265(b)).

c) The functions of Chief Executive and Head of the design organisation may be performed by the same person.

3.1.3 Compliance Verification

a) Approval by signing of all compliance documents, including test programmes and data, necessary for the verification of compliance with the applicable airworthiness and environmental protection (where applicable) requirements as defined in the certification programme.

b) Approval of the technical content (completeness, technical accuracy...), including any subsequent revisions, of the manuals approved by the Authority (Aircraft Flight Manual, the Airworthiness Limitations section of the Instructions for Continuing Airworthiness and the Certification Maintenance Requirements (CMR) document, where applicable).

3.1.4 Office of Airworthiness

a) Liaison between the design organisation and the Authority with respect to all aspects of the certification programme.

b) Ensuring that a ~~MDOE~~ handbook is prepared and updated as required in DASR 21.A.243.

c) Co-operation with the Authority in developing procedures to be used for the type-certification process.

d) Issuing of guidelines for documenting compliance.

e) Co-operation in issuing guidelines to ensure compliance with the regulations for the preparation of the manuals, Service Bulletins, drawings, specifications, and standards.

f) Ensuring procurement and distribution of applicable airworthiness and environmental protection ~~(where applicable)~~ (where applicable) requirements and other specifications.

g) Co-operating with the Authority in proposing the type-certification basis

h) Interpretation of applicable airworthiness and environmental protection ~~(where applicable)~~ (where applicable) requirements and requesting decisions of the Authority in case of doubt.

i) Advising of all departments of the design organisation in all questions regarding airworthiness, environmental protection ~~(where applicable)~~ (where applicable) approvals and certification.

j) Preparation of the certification programme and co-ordination of all tasks related to Type Investigation in concurrence with the Authority.

k) Regular reporting to the Authority about Type Investigation progress and announcement of scheduled tests in due time.

l) Ensuring co-operation in preparing inspection and test programmes needed for demonstration of compliance.

m) Establishing the compliance checklist and updating for changes.

n) Checking that all compliance documents are prepared as necessary to demonstrate compliance with all airworthiness and environmental protection ~~(where applicable)~~ (where applicable) requirements, as well as for completeness, and signing for release of the documents.

o) Checking the required type design definition documents described in DASR 21.A.31 and ensuring that they are provided to the Authority for approval when required.

p) Preparation, if necessary, of a draft for a type-certificate data sheet and/or type-certificate data sheet modification.

q) Providing verification to the head of the design organisation that all activities required for Type Investigation have been properly completed.

r) Approving the classification of changes in accordance with DASR 21.A.91 and granting the approval for minor changes in accordance with DASR 21.A.95(b).

s) Monitoring of significant events on other aeronautical products as far as relevant to determine their effect on airworthiness products being designed by the design organisation

t) Ensuring co-operation in preparing Service Bulletins and the Structural Repair Manual, and subsequent revisions, with special attention being given to the manner in which the contents affect airworthiness and environmental protection ~~(where applicable)~~ (where applicable) and granting the approval on behalf of the Authority.

u) Ensuring the initiation of activities as a response to a failure (accident/incident/in-service occurrence) evaluation and complaints from the operation and providing of information to the Authority in case of airworthiness impairment (continuing airworthiness).

v) Advising the Authority with regard to the issue of airworthiness directives in general based on Service Bulletins.

w) Ensuring that the manuals approved by the Authority, including any subsequent revisions (the Aircraft Flight Manual, MMEL, the Airworthiness Limitations section of the Instructions for Continuing Airworthiness and the Certification Maintenance Requirements (CMR) document, where applicable) are checked to determine that they meet the respective requirements, and that they are provided to the Authority for approval.

3.1.5 Maintenance and Operating Instructions

a) Ensuring the preparation and updating of all maintenance and operating instructions (including instructions for continuing airworthiness and ~~S~~services ~~B~~bulletins) needed to maintain airworthiness (continuing airworthiness) in accordance with relevant airworthiness ~~requirements~~ requirements. For that purpose, the applicant should:

~~i.~~ – establish the list of all documents it is producing ~~to comply with the applicable airworthiness requirements~~ and that are to be delivered to the operator, such as Flight Manual, ICA, engine configuration and interface documentation (e.g as required to comply with the applicable airworthiness requirements);

– establish a system to collect in-service experience to be used for the improvement of the instructions;

ii. – define procedures and organisation to produce and issue these documents~~, using where applicable and so elected DASR 21A.263(c)(3) privilege.~~ under the obligation of DASR 21.A.265(h); the procedures should cover:

- preparation, including the format and language (available industrial standards can be referred to and used);
- proofreading (checking for clarity, readability, typos, etc.);
- checking of technical consistency with the corresponding approved change(s), repair(s) or approved data, including the effectivity, description, effects on airworthiness and environmental protection, especially when limitations are changed;
- checking of feasibility in practical applications; and
- responsibilities and authorised signatories.

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~~ known operators and all involved authorities ~~within the pMS~~.

3.1.6 (Reserved).

3.2 Continued Effectiveness of the design assurance system

The organisation should establish the means by which the continuing evaluation (system monitoring) of the design assurance system will be performed in order to ensure that it remains effective.

GM2 to 21.A.239(a) - Design assurance system for minor changes to type design or minor repairs to products

1. Purpose

This GM outlines some basic principles and objectives in order to comply with DASR 21.A.239(a) for organisations designing only minor changes to type design or minor repairs to products.

2. Design assurance system

The design assurance system should include the following:

a) an organisational structure to:

i. control the design;

ii. to demonstrate compliance with applicable airworthiness and environmental protection ~~(where applicable)~~ (where applicable) requirements;

iii. independently check demonstrations of compliance;

iv. liaise with the Authority;

v. continuously evaluate the design organisation;

vi. control sub-contractors.

b) Procedures and responsibilities associated with the functions listed above, taking due account of DASR 21 requirements applicable to design and approval of minor changes to type design or minor repairs to products.

AMC 21.A.239(a)(3) Design assurance system – Independent system monitoring

The system monitoring function required by DASR 21.A.239(a)(3) may be undertaken by the existing quality assurance organisation when the design organisation is part of a larger organisation.

AMC 21.A.239(b) - Design assurance system - Independent checking function of the demonstration of compliance

1. The independent checking function of the demonstration of compliance should consist of the verification by a person not creating the compliance data. Such person may work in conjunction with the individuals who prepare compliance data

~~a.~~2 The verification should be shown by signing compliance documents, including test programmes and data

~~b.~~ 3 For a product, there is normally only one compliance verification engineer nominated for each relevant subject. A procedure should cover the non-availability of nominated persons and their replacement when necessary.

~~c. A procedure should cover the non-availability of nominated persons and their replacement when necessary.~~

~~d.~~ 4 For MSTC cases, when compliance statement and associated documentation are produced by the MTC holder, and when these data are approved under the system of the authority of MTC holder, then the MSTC applicant ~~MDOEs~~ not need to provide, within its own MDOA, the independent checking function required in DASR 21.A.239(b) for these data.

GM 21.A.239(c) - Design assurance system

In meeting the requirements of DASR 21.A.239(c) the applicant for a design organisation approval under DASR 21 Section A Subpart J may adopt the following policy:

~~a.~~1 The satisfactory integration of the Partner/Sub-contractor and applicant's design assurance systems should be demonstrated for the activities covered under the applicant's terms of approval.

~~b.~~2 In the event that a Partner/Sub-contractor holds a military design organisation approval (MDOA), then in accordance with DASR 21.A.239(c), the applicant may take this into account in demonstrating the effectiveness of this integrated system.

~~c.~~3 When any Partner/Sub-contractor MDOEs not hold a MDOA then the applicant will need to establish to its own satisfaction and the satisfaction of the Authority, the adequacy of that partner's/sub-contractor's design assurance system in accordance with DASR 21.A.243(b).

21.A.243 Handbook (Design Organisation Exposition)

a) The design organisation shall furnish a ~~Design Organisation Exposition (DOE)~~ handbook to the Authority describing, directly or by cross-reference, the organisation, the relevant procedures and the products, or changes to products to be designed.

1. If flight tests are to be conducted, the design organisation shall furnish a flight test operations manual defining the organisation's policies and procedures in relation to flight tests.

b) Where any parts or appliances, or any changes to the products are designed by partner organisations or subcontractors, the ~~DOE~~ handbook shall include a statement of how the design organisation is able to give, for all parts and appliances, the assurance of compliance required by DASR 21.A.239(b), and shall contain, directly or by cross-reference, descriptions and information on the design activities and organisation of those partners or subcontractors, as necessary to establish this statement.

c) The ~~DOE~~ handbook shall be amended as necessary to remain an up-to-date description of the organisation, and copies of amendments shall be supplied to the Authority.

d) The design organisation shall furnish a statement of the qualifications and experience of the management staff and other persons responsible for making decisions affecting airworthiness and environmental protection ~~(where applicable)~~ (where applicable) in the organisation.

e) The organisation shall establish and maintain a Safety Management System (SMS), in accordance with DASR.SMS.

AMC1 21.A.243(a) – Handbook (Design Organisation Exposition) requirements

The ~~MDOE~~ handbook (design organisation exposition) should provide the following information for each product covered by the design organisation approval.

~~a.~~1. A description of the tasks which can be performed under the approval, according to the following classification:

~~i.~~ a. General areas, like turbojet and turbo-propeller aircraft, small aircraft, Uncrewed Aerial Vehicles (UAV) and rotorcraft;

~~ii.~~ b. Technologies handled by the organisation (composite, wood or metallic construction, electronic systems, etc.);

~~iii.~~ c. A list of types and models for which the design approval has been granted and for which privileges may be exercised, supported by a brief description for each product;

~~iv.~~ d. For repair design, classification and (if appropriate) approval activities it is necessary to specify the scope of activity in terms of structures, systems, engines, etc.

~~b.~~2. A general description of the organisation, its main departments, their functions and the names of those in charge; a description of the line management and of functional relationships between the various departments.

~~c.~~3. A description of assigned responsibilities and delegated authority of all parts of the organisation which, taken together, constitute the organisation's design assurance system together with a chart indicating the functional and hierarchical relationship of the design assurance system to Management and to other parts of the organisation; also the chains of responsibilities within the design assurance system, and the control of the work of all partners and sub-contractors.

~~d.~~4. A general description of the way in which the organisation performs all the design functions in relation to airworthiness and environmental protection ~~(where applicable)~~ (where applicable) approvals including:

~~i.~~ a. The procedures followed and forms used in the Type Investigation process to ensure that the design of, or the change to the design of, the product as applicable is identified and documented, and complies with the applicable airworthiness and environmental protection ~~(where applicable)~~ (where applicable) requirements, including specific requirements for import by importing authorities;

~~ii.~~ b. The procedures for classifying design changes as 'major' or 'minor' and for the approval of minor changes;

~~iii.~~ c. The procedures for classifying and approving unintentional deviations from the approved design data occurring in production (concessions or non-conformance's);

~~iv.~~ d. The procedure for classifying and obtaining approval for repairs.

~~e.~~5. A general description of the way in which the organisation performs its functions in relation to the ~~continuing~~ continued airworthiness of the product it designs, including co-operation with the

production organisation when dealing with any ~~continuing~~ continued airworthiness actions that are related to production of the product, part or appliance, as applicable.

~~f.~~6. A description of the human resources, facilities and equipment, which constitutes the means for design, and where appropriate, for ground and flight testing.

~~g.~~7. An outline of a system for controlling and informing the Staff of the organisation of current changes in engineering drawings, specifications and design assurance procedures.

~~h.~~8. A description of the recording system for:

~~i.~~ a. The type design, including relevant design information, drawings and test reports, including inspection records of test specimens;

~~ii.~~ b. The means of compliance;

~~iii.~~ c. The compliance documentation (compliance check list, reports...).

~~i.~~9. A description of the record keeping system to comply with DASR 21.A.55 and DASR 21.A.105.

~~j.~~10. A description of the means by which the organisation monitors and responds to problems affecting the airworthiness of its product during design, production and in service in particular to comply with DASR 21.A.3A (see also DASR GM1 to 21.A.239(a), paragraphs 3.1.4(s) and 3.1.4(u)).

~~k.~~11. The names of the design organisation authorised signatories. Nominated persons with specific responsibilities such as mentioned in DASR 21.A.33 and DASR 21.A.35 should be listed.

~~l.~~12. (Reserved).

~~m.~~13. A clear definition of the tasks, competence and areas of responsibility of the Office of Airworthiness.

~~n.~~14. 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).

~~o.~~15. A description of the means by which the continuing evaluation (system monitoring) of the design assurance system will be performed in order to ensure that it remains effective.

16. (Reserved).

AMC2 21.A.243(a) ~~– Data requirements –~~ Handbook (Design Organisation Exposition) Model content ~~of MDOE~~ for organisations designing minor changes to type design or minor repairs to products

PART 1 - Organisation

1.1 Objective of MDOE and binding statement

1.2 Responsible person for administration of ~~MDOE~~ handbook

1.3 Amendment procedure

1.4 List of effective pages

1.5 Distribution list

1.6 Presentation of design organisation (including locations)

1.7 Scope of work (with identification of type and models of products)

1.8 Organisation charts

1.9 Human resources

1.10 Management staff

1.11 Certifying personnel (see DASR GM2 to 21.A.243(d), paragraph 2)

1.12 Independent system monitoring

PART 2 - Procedures

2.1 Management of changes to type design and design of repairs

~~a)~~ configuration control

~~b)~~ classification

~~c)~~ approval of minor changes to type design and minor repairs

2.2 Control of design subcontractors

2.3 Collecting/Investigating of failures, malfunctions and defects

2.4 Co-ordination with production

2.5 Documentation control

~~a)~~ in relations with the changes and repairs

~~b)~~ in relation with failures/malfunctions and defects~~,~~ (ie Services Bulletins).

2.6 Record keeping

AMC 21.A.243(a)(1) - Flight Test Operations Manual (AUS)

The flight test operations manual shall include:

a. a description of the organisation's processes for flight test, including the flight test organisation involvement into the Military Permit to Fly issuance process. See DASR 21 Section A Subpart P – Military Permit to Fly;

b. crewing policy, including composition, competency, currency and flight time limitations;

c. procedures for the carriage of persons other than crew members and for flight test training, when applicable;

d. a policy for risk and safety management and associated methodologies;

e. procedures to identify the instruments and equipment to be carried; and

f. a list of documents that need to be produced for flight test.

The flight test operations manual should be owned by the organisation conducting flight test. If flight test is to be conducted by an organisation outside that of the MDOA holder, eg a Military Air Operator (MAO), reference to that organisation's flight test operations manual (or equivalent) is acceptable.

AMC 21.A.243(d) - Statement of qualifications and experience (AUS)

QUALIFICATIONS AND EXPERIENCE REQUIREMENTS FOR KEY PERSONNEL

HEAD OF DESIGN

Qualifications:

Bachelor of Engineering degree in Mechanical, Mechatronics, Aerospace, Aeronautical, Electronics, Software or Electrical Engineering.

NOTE: Qualifications shall be Australian accredited or assessed to be equivalent to Australian qualification by Engineers Australia, the Australian Computer Society, or the Australian Institute of Project Management.

Experience:

1. Chartered Professional Engineer (CPEng) in the Institute of Engineers Australia (IEAust) or an equivalent professional body recognised by the IEAust.

2. Ten years of aviation experience.

NOTE: For Commonwealth applicants: Ten years of aviation experience shall comprise of at least two years combined experience as staff of DASA, or an organisation holding a Design Organisation Approval under EASA, CASA, EMAR or DASR 21 Section A Subpart J—Military Design Organisation Approval.

CHIEF OF OFFICE OF AIRWORTHINESS

Qualifications:
Bachelor of Engineering degree in Mechanical, Mechatronics, Aerospace, Aeronautical, Electronics, Software or Electrical Engineering.

NOTE: Qualifications shall be Australian accredited or assessed to be equivalent to Australian qualification by Engineers Australia, the Australian Computer Society, or the Australian Institute of Project Management.

Experience:

1. Chartered Professional Engineer (CPEng) in the Institute of Engineers Australia or an equivalent professional body recognised by the IEAust.

2. Eight years of Aviation experience.

NOTE: For Commonwealth applicants: Eight years of aviation experience shall comprise of at least two years' experience as staff of DASA, or an organisation holding a Design Organisation Approval under EASA, CASA, EMAR or DASR 21 Section A Subpart J.

CHIEF OF THE INDEPENDENT MONITORING FUNCTION

Qualification:

Successfully completed a Lead Auditor course or a Diploma in Quality Auditing delivered by a registered training organisation.

Experience:

Eight years of aviation experience.

NOTE: For Commonwealth applicants: Eight years of aviation experience shall comprise:

1. Two years' experience as staff of DASA, or an organisation holding a Design Organisation Approval under EASA, CASA, EMAR or DASR 21 Section A Subpart J.

2. Three years' experience in aviation quality management.

GM1 to 21.A.243(d) - Statement of qualifications and experience

1. Purpose

This GM provides guidelines on the following points:

~~a)~~ Who are the persons covered by DASR 21.A.243(d)?

~~b)~~ What is requested from the applicant for these persons?

2. Who are the persons?

Three different types of functions are named or implicitly identified in the requirements of DASR 21 Section A Subpart J or in associated AMC and GM, using qualified and experienced personnel:

~~a)~~ the Chief Executive [see GM1 to 21A.239(a) paragraph 3.1.2, DASR GM 21.A.249 and DASR GM 21.A.265(b)].

~~b)~~ the other management staff:

~~i.~~ the Head of the design organisation [see DASR GM1 to 21.A.239(a) paragraph 3.1.2, DASR GM1 to 21A.245 paragraph 4.1, DASR GM 21.A.265(b)];

~~ii.~~ the Chief of the Office of Airworthiness, or [see DASR GM1 to 21.A.245 paragraph 4.2];

~~iii.~~ the Chief of the independent monitoring function of the design assurance system [see DASR AMC1 to 21.A.243(a)(3) and DASR AMC1 to 21.A.243(a) paragraph 2].

~~c)~~ the personnel making decisions affecting airworthiness and environmental protection ~~(where applicable)~~ (where applicable):

~~i.~~ compliance verification engineers [see DASR GM1 to 21.A.239(a) paragraph 3.1.3; DASR AMC 21.A.239(b)];

~~ii.~~ personnel of the Office of Airworthiness making decisions affecting airworthiness and environmental protection (where applicable), especially those linked with the DASR 21.A.263 privileges (signing documents for release, approving classification of changes and repairs, and granting the approval of minor changes and minor repairs, granting the approval of Service Bulletins, and minor revisions to the aircraft flight manual) [see GM1 to 21.A.239(a) paragraph 3.1.4].

3. Kind of statement

3.1 Chief Executive

The Chief Executive should provide the necessary resources for the proper functioning of the design organisation.

A statement of the qualification and experience of the Chief Executive is normally not required.

3.2 Other management staff

The person or persons nominated should represent the management structure of the organisation and be responsible through the Head of design organisation to the Chief Executive for the execution of all functions as specified in DASR 21 Section A Subpart J.

Depending on the size of the organisation, the functions may be subdivided under individual managers.

The nominated managers should be identified and their credentials furnished to the Authority on DASR Form 4—Nominated Personnel Approval, in order that they may be seen to be appropriate in terms of relevant knowledge and satisfactory experience related to the nature of the design activities as performed by the organisation.

The responsibilities and the tasks of each individual manager should be clearly defined, in order to prevent uncertainties about the relations, within the organisation. Responsibilities of the managers should be defined in a way that all responsibilities are covered.

3.3 Personnel making decisions affecting airworthiness and environmental protection ~~(where applicable)~~ (where applicable).

For these personnel, no individual statement is required. The applicant should show to the Authority that there is a system to select, train, maintain and identify them for all tasks where they are necessary.

The following guidelines for such a system are proposed:

~~a)~~– These personnel should be identified in the ~~MDOE~~ handbook, or in a document linked to the ~~MDOE~~ handbook. This, and the corresponding procedures, should enable them to carry out the assigned tasks and to properly discharge associated responsibilities.

~~b)~~– The needs, in terms of quantity of these personnel to sustain the design activities, should be identified by the organisation.

~~c)~~– These personnel should be chosen on the basis of their knowledge, background and experience.

~~d)~~– When necessary, complementary training should be established, to ensure sufficient background and knowledge in the scope of their authorization. The minimum standards for new personnel to qualify in the functions should be established. The training should lead to a satisfactory level of knowledge of the procedures relevant for the particular role.

~~e)~~– Training policy forms part of the design assurance system and its appropriateness forms part of investigation by the Authority within the organisation approval process and subsequent surveillance of persons proposed by the organisation.

~~f)~~– This training should be adapted in response to experience gained within the organisation.

~~g)~~– The organisation should maintain a record of these personnel which includes details of the scope of their authorisation. The personnel concerned should be provided with evidence of the scope of their authorisation.

~~h)~~– The following minimum information should be kept on record:

~~i.~~a) Name;

~~ii.~~b) Date of birth;

~~iii.~~c) Experience and training;

~~iv.~~d) Position in organisation;

~~v.~~e) Scope of the authorisation;

~~vi.~~ f) Date of first issue of the authorisation;

~~vii.~~ g) If appropriate, date of expiry of the authorisation;

~~viii.~~ h) Identification number of the authorisation.

The record may be kept in any format and should be controlled.

~~i)~~ – Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records do not become accessible to unauthorised persons.

~~j)~~ – Personnel should be given access to their own record.

~~k)~~ – Under the provision of DASR 21.A.257, the Authority has a right of access (subject to contract) to the data held in such a system.

~~l)~~ – The organisation should keep the record for at least 2 years after a person has ceased employment with the organisation or withdrawal of the authorisation, whichever is the sooner.

GM2 to 21.A.243(d) - Data requirements - Statement of the qualification and experience- Organisations designing minor changes to type design or minor repairs to products

For organisations designing minor changes to type design or minor repairs to products, the statement of the qualifications and experience required by DASR 21.A.243(d) should be addressed as follows:

1. The nominated managers should be identified and their credentials submitted to the Authority on DASR Form 4—Nominated Personnel Approval, in order that they may be seen to be appropriate in terms of relevant knowledge and satisfactory experience related to the nature of the design activities as performed by the organisation.

~~a.~~2 The persons responsible to:

~~i.~~ — classify changes to type design or repairs;

~~ii.~~ — verify compliance [DASR 21.A.239(b)];

~~iii.~~ — approve minor changes to type design and minor repairs [DASR 21A.263(c)(2)];

~~iv~~ — issue information or instructions [DASR ~~21A.263(c)(3)~~ 21.A.265(h)];

~~S~~should be selected by the organisation in accordance with a procedure and criteria agreed with the Authority.

21.A.245 Approval requirements

The design organisation shall demonstrate, on the basis of the information submitted in accordance with DASR 21.A.243 that, in addition to complying with DASR 21.A.239:

a) Tthe staff in all technical departments are of sufficient numbers and experience and have been given appropriate authority to be able to discharge their allocated responsibilities and that these, together with the accommodation, facilities and equipment are adequate to enable the staff to achieve the airworthiness environmental protection ~~(where applicable)~~ (where applicable) objectives for the product;

b) Tthere is full and efficient coordination between departments and within departments in respect of airworthiness and environmental protection ~~(where applicable)~~ (where applicable) matters.

GM1 to 21.A.245 - Requirements for approval

See DASR 21.A.245

1. General

The ~~MDOE~~ data submitted in accordance with DASR 21.A.243 should show that sufficient skilled personnel are available and suitable technical and organisational provisions have been made for carrying out the Type Investigation defined by DASR GM1 to 21.A.239(a), paragraph ~~2.c~~2.3.

2. Personnel

The applicant should show that the personnel available to comply with DASR 21.A.245(a) are, due to their special qualifications and number, able to provide assurance of the design or modification of a product, as well as the compilation and verification of all data needed to meet the applicable airworthiness and environmental protection ~~(where applicable)~~ (where applicable) requirements while taking into account the present state of the art and new experience.

3. Technical

The applicant should have access to:

a) Workshops and production facilities which are suitable for manufacturing prototype models and test specimens;

b) Accommodation and test facilities which are suitable for carrying out tests and measurements needed to demonstrate compliance with the airworthiness and environmental protection ~~(where applicable)~~ (where applicable) requirements. The test facilities may be subjected to additional technical conditions related to the nature of tests performed.

4. Organisation

The ~~MDOE~~ data submitted in accordance with DASR 21.A.243 should show that:

4.1 The Head of the design organisation for which an application for approval has been made, has the direct or functional responsibility for all departments of the organisation which are responsible for the design of the product. If the departments responsible for design are functionally linked, the Head of the design organisation still carries the ultimate responsibility for compliance of the organisation with DASR 21 Section A Subpart J.

4.2 An Office of Airworthiness, or equivalent function, has been established and staffed on a permanent basis to act as the focal point for co-ordinating airworthiness and environmental protection ~~(where applicable)~~ (where applicable) (see DASR GM1 to 21.A.239(a) paragraph 3.1.4); it reports directly to the Head of the design organisation or is integrated into an independent quality assurance organisation reporting to the Head of the design organisation.

4.3 [Reserved]

4.4 Responsibilities for all tasks related to Type Investigations are assigned in such a way that gaps in authority are excluded.

4.5 The responsibility for a number of tasks as in paragraph 4.4 may be assigned to one person especially in the case of simple projects.

4.6 Co-ordination between technical departments and the persons in charge of the system monitoring required by DASR 21.A.239(a)(3) has been established:

a) to ensure quick and efficient reporting and resolution of difficulties encountered using the ~~MDOE~~ handbook and associated procedures;

b) to maintain the design assurance system;

c) to optimise auditing activities.

GM2 to 21.A.245 - Requirements for approval - Organisations designing minor changes to type design or minor repairs to products

The ~~MDOE~~ data submitted in accordance with DASR 21.A.243 should show that:

~~a.~~1. The manager responsible for design has the direct or functional responsibility for all departments of the organisation which are involved in the design of minor changes to type design or minor repairs to products.

~~b.~~2. Person(s) have been nominated to liaise with the Authority and to co-ordinate airworthiness and environmental protection ~~(where applicable)~~ (where applicable) matters. Their position in the organisation should allow direct report to the manager responsible for design.

~~c.~~3. Responsibilities for all tasks related to the design and approval of minor changes to type design or minor repairs to products are assigned to ensure that all areas are covered

~~d.~~4. The responsibility for a number of tasks as in paragraph ~~(c)~~ 3 may be assigned to one person especially in the case of simple projects.

21.A.247 Changes in design assurance system

After the issue of a design organisation approval, each change to the design assurance system that is significant to the showing of compliance or to the airworthiness and environmental protection ~~(where applicable)~~ (where applicable) of the product, shall be approved by the Authority. An application for approval shall be submitted in writing to the Authority and the design organisation shall demonstrate to the Authority, on the basis of submission of proposed changes to the ~~DOE~~ handbook, and before implementation of the change, that it will continue to comply with this Subpart after implementation.

GM 21.A.247 - Significant changes in the design assurance system

In addition to a change in ownership (see DASR 21.A.249), the following changes to the design assurance system should be considered as 'significant' to the demonstration of compliance or to the airworthiness and environmental protection ~~(where applicable)~~ (where applicable) of the products:

1. Organisation

~~a)~~ – Relocation to new premises (see also DASR GM 21.A.249).

~~b)~~ – Change in the industrial organisation (partnership, suppliers, design worksharing) unless it can be shown that the independent checking function of the demonstration of compliance is not affected.

~~c)~~ – Change in the parts of the organisation that contribute directly to the airworthiness and environmental protection ~~(where applicable)~~ (where applicable) (independent checking function, office of airworthiness [or equivalent]).

~~d)~~ – Change to the independent monitoring principles [see DASR 21.A.239(a)(3)].

2. Responsibilities

~~a)~~ – Change of the management staff

~~i.~~ – the Head of the design organisation [DASR GM1 to 21.A.239(a), paragraph 3.1.2, DASR GM1 to 21.A.245, paragraph 4.1, DASR GM 21.A.265(b)];

~~ii.~~ – the Chief of the Office of Airworthiness [DASR GM1 to 21.A.245, paragraph 4.2];

~~iii.~~ – the Chief of the independent monitoring function of the design assurance system [DASR 21.A.239(a)(3) and DASR AMC1 to 21.A.243(a), paragraph 2].

~~b)~~ – New distribution of responsibilities affecting airworthiness and environmental protection ~~(where applicable)~~ (where applicable).

~~c)~~ – For organisations designing minor changes to type design or minor repairs to products, change of the persons identified in DASR GM2 to 21.A.243(d).

3. Procedures

Change to the principles of procedures related to:

~~a)~~ – the type-certification~~.~~;

~~b)~~ – the classification of changes and repairs as '~~MAJOR~~major' or '~~MINOR~~minor' [DASR 21.A.263(c)(1)]~~.~~;

~~c)~~ – the treatment of major changes and major repairs~~.~~;

~~d)~~ – the approval of the design of minor changes and minor repairs [DASR 21.A.263(c)(2)]~~.~~;

~~g)~~ – the approval of the design of certain major repairs [~~DASR 21.A.437~~ DASR 21.A.435(b) or DASR 21.A.263(c)(5)]~~.~~;

– the approval of the conditions under which a permit to fly can be issued (DASR 21.A.263(c)(6));

– the issue of a permit to fly (DASR 21.A.263(c)(7));

– the approval of certain major changes to a type certificate (DASR 21.A.263(c)(8));

– the approval of certain supplemental type certificates (DASR 21.A.263(c)(9));

– the approval of certain major changes to certain supplemental type certificates; (DASR 21.A.263(c)(9));

~~i)~~ – the configuration control, when airworthiness and environmental protection ~~(where applicable)~~ (where applicable).

~~h)~~ – ~~continuing~~ continued airworthiness (see DASR 21.A.3A).

~~j)~~ – the acceptability of design tasks undertaken by partners or subcontractors [DASR 21.A.239(c)].

~~e)~~ – the issue of information and instructions under ~~the privilege of DASR 21.A.263(c)(3)~~ the obligation of 21.A.265(h).

~~f) the approval of documentary changes to the Aircraft Flight Manual [DASR 21.A.263(c)(4)].~~

4. Resources

~~a)~~ – Substantial reduction in number and/or experience of staff (see DASR 21.A.245(a)).

21.A.249 - Transferability

Except as a result of a change in ownership, which is deemed significant for the purposes of DASR 21.A.247, a design organisation approval is not transferable.

GM 21.A.249 – Transferability

1. Transfer of the approval would normally only be agreed in cases where the organisation itself remains substantially unchanged.

2. An acceptable transfer situation could be for example a change of company name supported by the appropriate certificate from the Australian Securities and Investments Commission (ASIC) but with no changes to site address or Chief Executive. However, if the same legal entity were to relocate to new premises with a new Chief Executive and/or new departmental heads, then a substantial investigation by the Authority would be necessary such that the change would be classified as a re-approval.

3. In the event of receivership there may be good technical justification for continuation of the approval provided that the company continues to function in a satisfactory manner. It is likely that at a later stage the approval might be surrendered by the receiver or transferred to another organisation in which case the former paragraphs apply.

21.A.251 Terms of approval

The terms of approval shall identify the types of design work, categories of products, parts and appliances for which the design organisation holds a design organisation approval, and the functions and duties that the organisation is approved to perform in regard to the airworthiness~~, operational suitability and environmental characteristics~~ of products. For design organisation approval covering type-certification or AUSMTSO authorisation for Auxiliary Power Units (APUs), the terms of approval shall contain in addition the list of products or APUs. Those terms shall be issued as part of a design organisation approval.

GM1 to 21.A.251 - Terms of approval

1. The terms of approval are stated on the certificate of approval issued by the Authority. The certificate states the scope of work and the products, changes or repairs thereof, with the appropriate limitations for which the approval has been granted. For design organisation approval covering type-certification or AUSMTSO authorisation for APU, the list of product types covered by the design assurance system should be included.

2. Approval of a change in the terms of approval in accordance with DASR 21.A.253 will be confirmed by an appropriate amendment of the certificate of approval.

3. The certificate references the ~~MDOE~~ handbook of the approved design organisation, provided in accordance with DASR 21.A.243. This ~~MDOE~~ handbook defines the tasks which may be performed under the approval.

4. Scopes of work are, for example, 'subsonic turbojet aircraft', 'turbo-propeller aircraft', 'small aircraft', 'rotorcraft'. Technologies are quoted in the scope of work when it is considered by the Authority as a limitation for the military design organisation approval.

5. For repair design activities, the certificate states the scope of work with the appropriate limitations for which the approval has been granted.

GM2 to 21.A.251 - Terms of approval - Organisations designing minor changes to type design or minor repairs to products

Terms of approval issued for organisations designing minor changes to type design or minor repairs to products should contain:

1. Scope of work

   This design organisation approval has been granted for:

   ~~a)~~ designing minor changes to type design or minor repairs to (aircraft, engine, propeller) in accordance with the applicable airworthiness and environmental protection requirements ~~(where applicable)~~,

   ~~b)~~ demonstrating and verifying the compliance with these airworthiness and environmental protection requirements ~~(where applicable)~~ (where applicable).

2. Category of products

   Any other indication if the Authority has found a limitation related to aircraft systems or technologies and reducing the scope as defined in paragraph 1.

3. Privileges

   The holder of this approval is entitled to~~:~~ ~~L~~list of the privileges granted with the approval, pursuant to DASR 21.A.263(c)(1)~~-~~ and ~~DASR 21.A.263(c)~~(2) ~~and DASR 21.A.263(c)(3)~~.

21.A.253 - Changes to the terms of approval

Each change to the terms of approval shall be approved by the Authority. An application for a change to the terms of approval shall be made in a form and manner established by the Authority. The design organisation shall comply with the applicable requirements of this Subpart.

AMC 21.A.253 - Application - Form and manner (AUS)

DASR Form 82—Application for Significant Changes to Design Organisation Approval, is to be obtained from the Authority, and completed by the Accountable Manager of the organisation.

The completed form, an outline of the design organisation exposition (handbook), and details of the proposed terms of approval are to be forwarded to the Authority.

21.A.257 - Investigations

(a) The design organisation shall make arrangements that allow the Authority to make any investigations, including investigations of partners and subcontractors, necessary to determine compliance and continued compliance with the applicable requirements of this Subpart.

(b) The design organisation shall allow the Authority to review any report and make any inspection and perform or witness any flight and ground test necessary to check the validity of the compliance statements submitted by the applicant under DASR 21.A.239(b).

GM 21.A.257 - Investigations (AUS)

The Authority may grant a delegation to a Commonwealth person to make any investigations necessary for MDOAs, their partners and subcontractors supporting specific aircraft types under this Subpart.

GM 21.A.257(a) - Investigations

Arrangements that allow the Authority to make investigations include the complete design organisation including partners, sub-contractors and suppliers, whether they are in the State of the applicant or not, assisting and co-operating with the Authority in performing inspections and audits conducted during initial assessment and subsequent surveillance.

Assistance to the Authority includes all appropriate means associated with the facilities of the design organisation to allow the Authority to perform these inspections and audits, such as a meeting room and office support.

21.A.258 - Findings

a) When, during the investigations referred to in DASR 21.A.257 and GM 21.A.15(b)(6), objective evidence is found ~~showing~~ demonstrating non-compliance of the holder of a design organisation approval with the applicable requirements of this DASR, the finding shall be classified as follows:

1. ~~A~~a level one finding is any non-compliance with this DASR which could lead to uncontrolled non-compliances with applicable requirements and which could affect the safety of the aircraft;

2. ~~A~~a level two finding is any non-compliance with this DASR which is not classified as level one.

b) A level three finding is any item where it has been identified, by objective evidence, to contain potential problems that could lead to a non-compliance under paragraph (a).

c) After receipt of notification of findings under the applicable administrative procedures established by the Authority,

1. ~~I~~in case of a level one finding, the holder of the design organisation approval shall demonstrate ~~corrective action~~ to the satisfaction of the Authority that it has taken adequate corrective action within a period of no more than 21 working days after written confirmation of the finding;

2. ~~I~~in case of level two findings, ~~the corrective action period granted by the Authority~~ the holder of a design organisation approval shall ~~be appropriate~~ demonstrate to the satisfaction of the Authority that it has taken adequate corrective action within a time period set by the Authority which is appropriate to the nature of the finding but in any case initially shall not be more than three months. ~~In certain circumstances and subject to the nature of the finding t~~The Authority may extend the~~ three month period subject to a satisfactory corrective action plan agreed by the Authority.~~ initial time period where it

considers that the nature of the finding allows such extension and where the applicant has submitted a corrective action plan which the Authority finds satisfactory; and

3. ~~A~~a level three finding shall not require immediate action by the holder of the design organisation approval. ~~If appropriate, the Authority will specify a compliance time.~~

d) In case of level one or level two findings, the design organisation approval may be subject to a partial or full suspension or revocation under the applicable administrative procedures established by the Authority. The holder of the design organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the design organisation approval in a timely manner.

21.A.259 - Duration and continued validity

a) A design organisation approval can be issued for ~~a limited period,~~ an unlimited duration, unless otherwise specified by the Authority. It shall remain valid for that duration unless:

1. ~~T~~the design organisation fails to demonstrate compliance with the applicable requirements of this Subpart; or

2. ~~T~~the Authority is prevented by the holder or any of its partners or subcontractors to perform the investigations in accordance with DASR 21.A.257; or

3. ~~T~~there is evidence that the design assurance system cannot maintain satisfactory control and supervision of the design of products or changes thereof under the approval; or

4. ~~T~~the certificate has been surrendered or revoked under the applicable administrative procedures established by the Authority.

b) Upon surrender or revocation, the certificate shall be returned to the Authority.

21.A.263 – Privileges

~~The Authority may grant the following privileges, if national regulations allow:~~

a) ~~The holder of a design organisation approval shall be entitled to perform design activities under this DASR and within its scope of approval;~~ (Reserved);

b) ~~Subject to DASR 21.A.257(b), the Authority shall accept without further verification the following compliance documents submitted by the applicant for the purpose of obtaining:~~

~~1. The approval of flight conditions required for a military permit to fly; or~~

~~2. A type-certificate or approval of a major change to a type design; or~~

~~3. A supplemental type-certificate; or~~

~~4. An AUSMTSO authorisation under DASR 21.A.602B(b)(1); or~~

~~5. A major repair design approval.~~ (Reserved);

c) ~~The~~ A holder of a design organisation approval shall be entitled, within the scope of its terms of approval, as established by the Authority, and under the relevant procedures of the design assurance system:

1. ~~T~~to classify changes to ~~type design~~ a type-certificate or to a supplemental type-certificate and repairs as ‘major’ or ‘minor’;

2. ~~T~~to approve minor changes to ~~type design~~ type-certificates or to supplemental type-certificates and minor repairs;

3. ~~To issue information or instructions containing the following statement: 'The technical content of this document is approved under the authority of MDOA reference AUS.DASA.21J.[XXXX]~~ (Reserved);

4. ~~To approve minor revisions to the aircraft flight manual and supplements, and issue such changes containing the following statement: 'Revision number: YY to AFM (or supplement) reference: (ZZ), is approved under the authority of MDOA reference: AUS.DASA.21J.[XXXX]~~ (Reserved);

5. ~~T~~to approve ~~the design of~~ certain major repair designs under Subpart M to products or Auxiliary Power Units (APUs) ~~for which it holds the type-certificate or the supplemental type-certificate or AUSMTSO authorisation~~;

6. ~~T~~to approve for certain aircraft the flight conditions under which a military permit to fly can be issued in accordance with DASR 21.A.710(a)(2), except for permits to fly to be issued for the purpose of DASR 21.A.701(a)(15), (16) and (17);

7. ~~T~~to issue a military permit to fly in accordance with DASR 21.A.711(b) for an aircraft it has designed or modified, or for which it has approved ~~under~~, in accordance with DASR 21.A.263(c)(6), the flight conditions under which the military permit to fly can be issued, and when the holder of a design organisation approval itself: ~~is controlling under its MDOA the~~

   i. controls the configuration of the aircraft, and

   ii. ~~is attesting~~ attests conformity with the design conditions approved for the flight;

8. to approve certain major changes to a type-certificate under Subpart D; and

9. to issue certain supplemental type-certificates under Subpart E and approve certain major changes to those certificates.

d) For a military product derived from a civil type certified product, the holder of a MDOA or holder of a MTC approved organisation shall be entitled, within its terms of approval and under the relevant procedures of the design assurance system:

1. To declare the applicability, through validation of no impact to the military certification basis and the intended use, of the following when it is has already been approved by a recognized civil airworthiness authority:

   i. ~~A~~a modification; or

   ii. ~~A~~an instruction for continuing airworthiness; or

   iii. ~~R~~revisions to the flight manual; or

   iv. ~~R~~revisions to the maintenance manual.

2. To approve the following, when it is has already been approved by a recognized civil airworthiness authority and when it has been declared to be applicable to the military product:

   i. ~~A~~a major modification; or

   ii. ~~R~~revisions to the flight manual; or

   iii. ~~R~~revisions to the approved sections of the maintenance manual.

~~GM 21.A.263(b) - MDOA privilege related to compliance documents~~

~~A compliance document is the end result of a certification process, where the demonstration of compliance is recorded. For each specific certification process, the Authority is involved in the process itself at an early stage, especially through the establishment of the certification programme. The inspections or tests under DASR 21.A.257(b) may be performed at various stages of the whole certification process, not necessarily when the compliance document is presented.~~

~~Therefore, according to the scheduled level of involvement, the Authority should agree with the MDOA holder documents to be accepted without further Authority verification under the MDOA privilege of DASR 21.A.263(b).~~

~~AMC 21.A.263(b)(1) - Compliance documents with conditions related to engine or propeller without a type-certificate or with unapproved changes and fitted on aircraft for which a military permit to fly is requested~~

~~The establishment of flight conditions may include conditions related to engines/propellers without a type-certificate or with unapproved changes and fitted on the aircraft for which a military permit to fly is requested. These conditions, ie installation, operating, maintenance conditions or limitations, are defined by the organisation responsible for the design of the engine/propeller and provided to the organisation responsible for the design of the aircraft.~~

AMC1 21.A.263(c)(1) - Procedure for the classification of changes to a type certificate (TC) or a supplemental type certificate (STC) and of repair designs as minor and major

1. ~~Intent~~ INTENT

This ~~acceptable means of compliance~~ AMC provides means to develop a procedure for the classification of changes to ~~type design~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs.

Each MDOA applicant should develop its own internal classification procedure following this AMC, in order to obtain the associated privilege under DASR 21.A.263(c)(1) ~~privilege~~.

2. ~~Procedure for the classification of changes to type design and repairs~~ PROCEDURE FOR THE CLASSIFICATION OF CHANGES TO A TC, APU AUSMTSO, OR TO THAT PART OF THE PRODUCT COVERED BY AN STC, AND REPAIR DESIGNS

2.1 Content

The procedure should address the following points:

a) the identification of changes to ~~type design~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs;

b) classification;

c) justification of the classification;

d) authorised signatories; and

e) supervision of changes to ~~type design~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs initiated by subcontractors.

For changes to ~~type design~~ TC, APU AUSMTSO or to that part of the product covered by an STC, criteria used for classification should be in compliance with DASR 21.A.91 and DASR GM 21.A.91.

For repairs, criteria used for classification should be in compliance with DASR 21.A.435 and DASR GM 21.A.435~~(a)~~.

2.2 Identification of changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs.

The procedure should indicate how the following are identified:

~~a)~~ – major changes to ~~type design~~ a TC, APU AUSMTSO or to that part of the product covered by an STC or major repairs;

~~b)~~ – those minor changes to ~~type design~~ a TC, APU AUSMTSO or to that part of the product covered by an STC or minor repairs where additional work is necessary to demonstrate compliance with the applicable airworthiness and environmental protection requirements ~~(where applicable)~~; and

~~c)~~ – other minor changes to ~~type design~~ a TC, APU AUSMTSO or to that part of the product covered by an STC or minor repairs requiring no further demonstration of compliance.

2.3 Classification

The procedure should show how the effects on airworthiness and environmental protection ~~(where applicable)~~ are analysed, from the very beginning, by reference to the applicable requirements.

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

2.3.1 Consultation with operational authorities (AUS)

For designs that require demonstration of compliance with certification basis elements that can only be conducted by aircrew, eg flight characteristics, human machine interface, the procedure should state requirements for consultation with an appropriate operational authority, eg Force Element Group/Wing representatives, Air Warfare Centre, prior to classifying the change.

2.4 Justification of the classification

All decisions of classification of changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs as 'major' or 'minor' should be recorded and, for those which are not straightforward, also documented. These records should be easily accessible to the Authority for sample check.

2.5 Authorised signatories

All classifications of changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs should be accepted by an appropriate authorised signatory~~.~~ , belonging to or tasked by the Office of Airworthiness, as explained in GM No 1 to DASR 21.A.239(a)(3.1.4)(r).

The procedure should indicate the authorised signatories for the various products listed in the terms of approval.

For those changes or repairs that are handled by subcontractors, as described under paragraph 2.6, it should be described how the MDOA holder manages its classification responsibility.

2.6 Supervision of changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs initiated by subcontractors

The procedure should indicate, directly or by cross-reference to written procedures, how changes to ~~type design or~~ that part of the product covered by an STC, and repair~~s~~ designs may be initiated and classified by subcontractors and are controlled and supervised by the MDOA holder.

AMC2 21.A.263(c)(1) - Privileges – Organisations that design~~ing~~ minor changes to type ~~design~~ certificate (TC) or a supplemental type certificate (STC) and ~~or~~ minor repairs to products: Classification procedure

1. Content

The procedure should address the following points:

~~a)~~ – configuration control rules, especially the identification of changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs;

~~b)~~ – classification, in compliance with DASR 21.A.91 and DASR GM 21.A.91 for changes and DASR GM 21.A.435~~(a)~~ for repairs;

~~c)~~ – justification of the classification;

~~d)~~ – authorised signatories.

2. Identification of changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs

The procedure should indicate how the following minor changes to ~~type design~~ a TC or minor repairs are identified:

~~a)~~ – those minor design changes to type design or minor repairs where additional substantiation data is necessary to demonstrate compliance with the airworthiness or environmental protection requirements ~~(where applicable)~~ (where applicable);

~~b)~~ – other minor design changes to ~~type design or~~ a TC or minor repairs requiring no further demonstration of compliance.

3. Classification

The procedure should show how the effects on airworthiness and environmental protection ~~(where applicable)~~ are analysed, from the very beginning, by reference to the applicable requirements.

If no specific requirements are applicable to the change or the repair, the above review should be done at the level of the part or system where the change or repair is integrated and where specific airworthiness or environmental protection ~~(where applicable)~~ requirements are applicable.

For repair, see also DASR GM 21.A.435~~(a)~~.

4. Justification of the classification

All decisions of the classification of changes ~~type design or~~ to a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs as 'minor' should be recorded and, for those which are not straightforward, also documented.

These records should be easily accessible to the Authority for sample check.

It may be in the format of meeting notes or register.

5. Authorised signatories

All classifications of changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and repair~~s~~ designs should be accepted by an appropriate authorised signatory.

The procedure should indicate the authorised signatories for the various products listed in the terms of approval.

AMC1 21.A.263(c)(2) - Procedure for the approval of minor changes to ~~type design or~~ a type certificate (TC), APU AUSMTSO or a supplemental type certificate (STC), and minor repairs

1. ~~Intent~~ INTENT

This ~~acceptable means of compliance~~ AMC provides means to develop a procedure for the approval of minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs.

Each MDOA applicant should develop its own internal procedures following this AMC, in order to obtain the associated privilege under DASR 21.A.263(c)(2).

2. ~~Procedure for the approval of minor changes to type design or minor repairs~~ PROCEDURE FOR THE APPROVAL OF MINOR CHANGES TO A TC, APU AUSMTSO OR TO THAT PART OF THE PRODUCT COVERED BY AN STC, AND MINOR REPAIRS

2.1 Content

The procedure should address the following points:

~~a)~~ – compliance documentation;

~~b)~~ – approval under the MDOA privilege;

~~c)~~ – authorised signatories;

~~d)~~ – supervision of minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs handled by subcontractors.

2.2 Compliance documentation

For those minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the applicable airworthiness and environmental protection requirements ~~(where applicable)~~ (where applicable) is necessary, compliance documentation should be established and independently checked as required by DASR 21.A.239(b).

The procedure should describe how the compliance documentation is produced and checked.

2.3 Approval under the MDOA privilege

2.3.1 For those minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the applicable airworthiness and environmental protection requirements ~~(where applicable)~~ is necessary, the procedure should define a document to formalise the approval under the MDOA privilege.

This document should include at least:

~~a)~~ – identification and brief description of the change or repair and reasons for change or repair;

~~b)~~ applicable airworthiness and environmental protection requirements ~~(where applicable)~~ and methods of compliance;

~~c)~~ reference to the compliance documents;

~~d)~~ effects, if any, on limitations and on the approved documentation;

~~e)~~ evidence of the independent checking function of the demonstration of compliance;

~~f)~~ evidence of the approval under the privilege of DASR 21.A.263(c)(2) by an authorised signatory;

~~g)~~ date of the approval.

For repairs, see DASR AMC 21.A.433~~(a).~~(b) and DASR AMC 21.A.447.

2.3.2 For the other minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs, the procedure should define a means to identify the change or repair and reasons for the change or repair, and to formalise its approval by the appropriate engineering authority under an authorised signatory. This function may be delegated by the Office of Airworthiness but should be controlled by the Office of Airworthiness, either directly or through appropriate procedures of the MDOA holder's design assurance system.

2.4 Authorised signatories

The persons authorised to sign for the approval under the privilege of DASR 21.A.263(c)(2) should be identified (name, signature and scope of authority) in appropriate documents that maybe linked to the ~~MDOE~~ design organisation handbook.

2.5 Supervision of minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs handled by subcontractors

For the minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs described in paragraph 2.3.2, that are handled by subcontractors, the procedure should indicate, directly or by cross-reference to written procedures how these minor changes to type design or minor repairs are approved at the subcontractor level and the arrangements made for supervision by the MDOA holder.

AMC2 to 21.A.263(c)(2) - Privileges - Organisations designing minor changes to ~~type design or~~ a type certificate (TC), APU AUSMTSO or a supplemental type certificate (STC) and minor repairs to products: ~~P~~procedure for the approval of minor changes to ~~type design~~ TC, APU AUSMTSO or minor repairs

1. Content

The procedure should address the following points:

~~a)~~ compliance documentation;

~~b)~~ approval under the MDOA privilege;

~~c)~~ authorised signatories.

2. Compliance documentation

For those minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the applicable airworthiness and environmental protection requirements ~~(where applicable)~~

(where applicable) is necessary, compliance documentation should be established and independently checked as required by DASR 21.A.239(b).

The procedure should describe how the compliance documentation is produced and checked.

3. Approval under the MDOA privilege

3.1 For those minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the applicable airworthiness and environmental protection requirements ~~(where applicable)~~ is necessary, the procedure should define a document to formalise the approval under the MDOA privilege.

This document should include at least:

a) identification and brief description of the change or the repair and reason for change or repair;

b) applicable airworthiness and environmental protection requirements ~~(where applicable)~~ and methods of compliance;

c) reference to the compliance documents;

d) effects, if any, on limitations and on the approved documentation;

e) evidence of the independent checking function of the demonstration of compliance;

f) evidence of the approval under the privilege of DASR 21.A.263(c)(2) by an authorised signatory;

g) the date of the approval.

For repairs, see also DASR 21.A.433(b) and DASR 21.A.447.

3.2 For the other minor changes to ~~type design or~~ a TC, APU AUSMTSO or to that part of the product covered by an STC, and minor repairs, the procedure should define a means to identify the change or repair and reasons for the change or repair, and to formalise its approval by the appropriate engineering authority under an authorised signatory. This function should be controlled through appropriate procedures of the MDOA holder's design assurance system.

4. Authorised signatories

The persons authorised to sign for the approval under the privilege of DASR 21.A.263(c)(2) should be identified (name, signature and scope of authority) in appropriate documents that may be linked to the ~~MDOE~~ handbook.

AMC No 3 to 21.A.263(c)(2) Procedure for the approval of minor changes to a type certificate (TC) which affect the aircraft flight manual (AFM)

1. Intent

This AMC provides additional guidance for developing a procedure for the approval of minor changes to a TC which affect the aircraft flight manual (AFM).

Each military design organisation approval (MDOA) applicant/holder should develop its own internal procedure, based on these guidelines. For guidance on the classification of changes to a TC which affect the AFM, see DASR GM 21.A.91.

2. Procedure for the approval of minor changes to a TC which affect the AFM

2.1 Content

The procedure should address the following points:

- assessment of any change to a TC for the impact of the change on the AFM;
- preparation of revisions or supplements to the AFM;
- classification of the change to a TC, taking into account the impact on the AFM;
- classification of stand-alone revisions or supplements to the AFM;
- control of the configuration of the AFM;
- approval of the revisions or supplements to the AFM; and
- the approval statement.

2.2 Assessment of a change for its impact on the AFM

The procedure should include an assessment of whether or not the AFM is impacted by the change.

2.3 Preparation

The procedure should indicate how revisions or supplements to the AFM are prepared and how the coordination among the persons in charge of design changes is performed.

2.4 Classification

The procedure should indicate how changes to a TC which affect the AFM are classified, in accordance with the criteria of DASR GM 21.A.91 Section 3.4.

The procedure should indicate how classification decisions are recorded, documented and signed.

Easy accessibility of these records to the Authority for sample checking should be ensured. All classifications should be accepted by an appropriately authorised signatory. The procedure should indicate the authorised signatories for the various products listed in the terms of approval.

2.5 Configuration control of the AFM

The procedure should explain the traceability of changes in order to understand who has approved what. Especially if a given page or data module has been revised several times, it should be traceable which part(s) of the page or data module has (have) been approved directly by the Authority under which approval, and which part(s) has (have) been approved under the privilege of a DOA holder.

2.6 Approval

The procedure should indicate how the approval under the privilege of DASR 21.A.263(c)(2) is formalised.

The authorised signatories should be identified (name, signature), together with the scope of the authorisation, in a document that is linked to the DOA handbook.

2.7 Approval statement

The amended AFM, or the supplement to the AFM, approved under the privilege of DASR 21.A.263(c)(2) should be issued under the obligation of DASR 21.A.265(h) (see DASR 21.A.265(h) and the related GM) with a respective statement in the log of revisions.

~~GM 21.A.263(c)(3) - Issue of information or instructions~~

~~1. Intent~~

~~This GM provides guidelines to address the various aspects the MDOA should cover in order to have a comprehensive procedure for the issue of information or instructions.~~

~~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).~~

~~This 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. As the overall responsibility, through the privilege, is allocated to the MDOA holder, the three aspects should be properly handled under the MDOA to obtain the privilege 'to issue information or instructions containing a statement that the technical content is approved', and a procedure should exist.~~

~~3. Procedure~~

~~For the information and instructions issued under DASR 21.A.263(c)(3), the MDOA holder should establish a procedure addressing the following points :~~

~~a) Preparation;~~

~~b) verification of technical consistency with corresponding approved change(s), repair(s) or approved data, including effectivity, description, effects on airworthiness and environmental protection (where applicable), especially when limitations are changed;~~

~~c) verification of the feasibility in practical applications;~~

~~d) authorised signatories.~~

~~The procedure should include the information or instructions prepared by subcontractors or vendors, and declared applicable to its products by the MDOA holder.~~

~~4. Statement~~

~~The statement provided in the information or instructions should also cover the information or instructions prepared by subcontractors or vendors and declared applicable to its products by the MDOA holder.~~

~~The technical content is related to the design data and accomplishment instructions, and its approval means that:~~

~~a) the design data has been appropriately approved; and~~

~~b) the instructions provide for practical and well defined installation/inspection methods, and, when accomplished, the product is in conformity with the approved design data.~~

~~NOTE: Information and instructions related to required actions under DASR 21.A.3B(b) (airworthiness directives) are submitted to the Authority to ensure compatibility with~~

Airworthiness directive content (see DASR 21.A.265(e)), and contain a statement that they are, or will be, subject to an airworthiness directive issued by the Authority.

GM 21.A.263(c)(4) - Procedure for the approval of minor revisions to the aircraft flight manual

1. Intent

This GM provides guidelines to develop a procedure for the approval of minor revisions to the aircraft flight manual (AFM).

Each MDOA applicant should develop its own internal procedure, based on these guidelines, in order to obtain the associated privilege under DASR 21.A.263(c)(4).

2. Minor revisions to the aircraft flight manual

2.1 The following revisions to the AFM are defined as minor revisions:

a) Revisions to the AFM associated with changes to type design classified as minor in accordance with DASR 21.A.91.

b) Revisions to the AFM not associated with changes to type design (also identified as stand-alone revisions), that falls under one of the following:

- Changes to limitations or procedures that are achieved without altering or exceeding certification data, eg weight, structural, noise.

- Consolidation of two or more previously approved and compatible AFMs into one, or compilation of different parts taken from previously approved and compatible AFMs that are directly applicable to the subject aircraft

- The introduction of compatible and previously approved AFM amendments, revisions, appendices or supplements.

c) Administrative revisions to the AFM, defined as follows:

(1) For AFM issued by the MTC holder

- Editorial revisions or corrections to the AFM

- Changes to parts of the AFM that are not required to be approved by the Authority

- Conversions of previous Authority approved combinations of units of measurement added to the AFM in a previously approved manner.

- The addition of aircraft serial numbers to an existing AFM where the aircraft configuration, as related to the AFM, is identical to aircraft already in that AFM.

- The removal of reference to aircraft serial numbers no longer applicable to that AFM.

- The translation of an Authority approved AFM (possibly through recognition) into the national language of the Authority.

(2) For AFM supplements issued by MSTC holders

- Editorial revisions or corrections to the AFM supplement.

- Changes to parts of the AFM that are not required to be approved by the Authority

- Conversions of previous Authority approved combinations of units of measurement added to the AFM supplement in a previously approved manner.

- The addition of aircraft serial numbers to an existing AFM supplement where the aircraft configuration, as related to the AFM supplement, is identical to aircraft already in that AFM supplement.

- The addition of a new MSTC to an existing AFM supplement, when this supplement is fully applicable to the new MSTC

- The removal of reference to aircraft serial numbers no longer applicable to that AFM supplement.

- The translation of an Authority approved AFM (possibly through recognition) into the national language of the Authority

2.2 No other revision can be classified as minor, unless specifically agreed by the Agency.

3. Procedure for the approval of minor revisions to the AFM

3.1 Content

The procedure should address the following points:

a) preparation of all revisions to the AFM;

b) classification as minor of the revision to the AFM;

c) approval of revisions to the AFM;

d) approval statement.

3.2 Preparation

The procedure should indicate how revisions to the AFM are prepared and how the co-ordination with people in charge of design changes is performed.

3.3 Classification

The procedure should indicate how revisions to the AFM are classified as minor, in accordance with the criteria of paragraph 2.

All decisions of classification of minor revisions to the AFM that are not straightforward must be recorded and documented. These records must be easily accessible to the Authority for sample check.

All classifications of minor revisions to AFM must be accepted by an appropriate authorised signatory.

The procedure must indicate the authorised signatories for the various products listed in the terms of approval.

3.4 Approval

The procedure should indicate how the approval under the privilege of DASR 21.A.263(c)(4) will be formalised.

The authorised signatories should be identified (name, signature), together with the scope of authorisation, in a document that can be linked to the MDOA handbook.

~~3.5 Approval statement and authorised signatories~~

~~Revisions of the AFM under the privilege of DASR 21.A.263(c)(4) containing only documentary changes should be issued with the approval statement defined in DASR 21.A.263(c)(4) on the front page and/or in the log of revisions.~~

~~AMC 21.A.263(c)(5) - Privileges - Of an organisation that is the type-certificate holder (AUS)~~

~~An MDOA holder executing the obligations of a type-certificate holder on their behalf, as described by DASR 21.A.44 - Obligations of the holder, shall also be entitled to seek an Authority privilege to include the approval of designs for 'MAJOR' repairs.~~

AMC 21.A.263(c)(6) - Procedure for the approval of the conditions for issue of a military permit to fly

1. ~~Intent~~ INTENT

This AMC provides means to develop a procedure to determine that an aircraft can fly, under the appropriate restrictions compensating for non-compliance with the airworthiness requirements applicable to the aircraft category.

Each MDOA applicant or holder should develop its own internal procedure following this AMC, in order to obtain the privilege to make this determination and approve associated conditions without Authority involvement, under DASR 21.A.263(c)(6). When the privilege ~~MDOEs~~ does not apply, the MDOA holder will prepare all necessary data required for the determination in accordance with the same procedure required for the privilege, and will apply for Authority approval.

The establishment of flight conditions may include conditions related to engines/propellers without a type certificate or with unapproved changes that are fitted to the aircraft, for which a military permit to fly (MPTF) is requested. These conditions (i.e. the installation, operating, maintenance conditions or limitations) should be defined by the organisation responsible for the design of the engine/propeller and provided to the organisation responsible for the design of the aircraft. In this context, the organisation responsible for the design of the engine/propeller acts as a supplier of the organisation responsible for the design of the aircraft.

These conditions should be established and substantiated under an arrangement between the organisation responsible for the design of the aircraft and the organisation responsible for the design of the engine/propeller. However, the establishment and substantiation of the flight conditions for the aircraft, including its engine(s), is ultimately the responsibility of the organisation responsible for the design of the aircraft.

2. ~~Procedure for the approval of the conditions for issue of a military permit to fly~~ PROCEDURE FOR THE APPROVAL OF THE CONDITIONS FOR ISSUE OF A MILITARY PERMIT TO FLY

2.1 Content

The procedure should address the following points:

~~a)~~ – decision to use the privilege;

~~b)~~ – management of the aircraft configuration;

~~c)~~ – determination of the conditions that should be complied with to perform safely a flight;

~~d)~~ – documentation of flight conditions substantiation;

~~e)~~ – approval under the MDOA privilege, when applicable;

~~f)~~ – authorised signatories.

2.2 Decision to use the privilege of DASR 21.A.263(c)(6)

The procedure should include a decision to determine:

~~a)~~ – flights for which the privilege of DASR 21.A.263(c)(6) will be exercised.

2.3 Management of the aircraft configuration

The procedure should indicate:

~~a)~~ – how the aircraft, for which an application for military permit to fly is made, is identified;

~~b)~~ – how changes to the aircraft will be managed.

2.4 Determination of the conditions that should be complied with to perform safely a flight

The procedure should describe the process used by the MDOA holder to justify that an aircraft can perform the intended flight(s) safely. This process should include:

~~a)~~ – identification of deviations from applicable airworthiness requirements or non-compliance with DASR 21 conditions for the issue of a certificate of airworthiness;

~~b)~~ – analysis, calculations, tests or other means used to determine under which conditions or restrictions the aircraft can perform safely a flight;

~~c)~~ – the establishment of specific maintenance instructions and conditions to perform these instructions;

~~d)~~ – independent technical verification of the analysis, calculations, tests or other means used to determine under which conditions or restrictions the aircraft can perform the intended flight(s) safely;

~~e)~~ – statement by the office of airworthiness (or equivalent), that the determination has been made in accordance with the procedure and that the aircraft has no features and characteristics making it unsafe for the intended operation under the identified conditions and restrictions;

~~f)~~ – approval by an authorised signatory.

2.5 Documentation of flight conditions substantiation

1. The analysis, calculations, tests, or other means used to determine under which conditions or restrictions the aircraft can perform safely a flight, should be compiled in compliance documents. These documents should be signed by the author and by the person performing the independent technical verification.

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

3. The data submitted and approved by the type certificate holder can be used as substantiation. In that case, the independent technical verification referred to in paragraph 2.4 is not required.

2.6 Approval under the MDOA privilege

If a Category 1 or Category 2 flight test is to be conducted by an organisation outside of the MDOA holder approving the MPTF, flight conditions may only be approved by ~~aDelahate~~ a Delegate of the Safety Authority (DoSA) - Flight Test (DoSA(FT)).

2.6.1 Initial approval

The procedure should include DASR Form 18a—Flight Conditions, (see DASR Forms document) to support the approval under the MDOA privilege:

When the privilege of DASR 21.A.263(c)(6) is not applicable, the signed form should be presented by the office of airworthiness (or equivalent) to the Authority.

2.6.2 Approval of changes

Except for changes that do not affect the conditions approved for the issue of the military permit to fly, the procedure should specify how changes will be approved by the MDOA holder. The DASR Form 18a should be updated.

2.7 Authorised signatories

The person(s) authorised to sign the approval form should be identified (name, signature and scope of authority) in the procedure, or in an appropriate document linked to the MDOA ~~exposition~~ handbook.

AMC 21.A.263(c)(7) - Procedure for the issue of a military permit to fly

1. ~~Intent~~ INTENT

This acceptable means of compliance provides means to develop a procedure for the issue of a military permit to fly.

Each MDOA applicant or holder should develop its own internal procedure following this AMC, in order to obtain the privilege of DASR 21.A.263(c)(7) to issue military permits to fly for aircraft it has designed or modified, or for which it has approved under DASR 21.A.263(c)(6) the conditions under which the military permit to fly can be issued, and when the design organisation itself is controlling under its MDOA the configuration of the aircraft and is attesting conformity with the design conditions approved for the flight.

2. ~~Procedure for the issue of a military permit to fly~~ PROCEDURE FOR THE ISSUE OF A MILITARY PERMIT TO FLY

2.1 Content

The procedure should address the following points:

~~a)~~ – conformity with approved conditions;

~~b)~~ – issue of the military permit to fly under the MDOA privilege;

~~c)~~ – authorised signatories;

~~d)~~ – interface with the local Authority for the flight.

2.2 Conformity with approved conditions

The procedure should indicate how conformity with approved conditions is made, documented and attested by an authorised person.

2.3 Issue of the military permit to fly under the MDOA privilege

The procedure should describe the process to prepare the DASR Form 20b — Military Permit to Fly (Approved Organisation), and how compliance with DASR 21.A.711(b) and DASR 21.A.711(e) is established before signature of the military permit to fly.

2.4 Authorised signatories

The person(s) authorised to sign the military permit to fly under the privilege of DASR 21.A.263(c)(7) should be identified (name, signature and scope of authority) in the procedure, or in an appropriate document linked to the MDOA exposition.

2.5 Interface with the local Authority for the flight

The procedure should include provisions describing the communication with the local Authority for compliance with the local requirements which are outside the scope of the conditions of DASR 21.A.708(b) (see DASR 21.A.711(e))

GM 21.A.263(c)(7) - Procedure for the issue of a military permit to fly

The privilege under DASR 21.A.263(c)(7) will generally be granted only for Category 4 flight test activities. See Categories of Flight 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.

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.

AMC1 to 21.A.263(c)(5), (8) and (9) Scope and criteria

1. Definition of 'certain major repairs'

'Certain major repairs' for which privileges may be granted as per DASR 21.A.263(c)(5) are:

(a) major repairs to products or auxiliary power units (APUs) for which the military design organisation approval (MDOA) holder holds the type certificate (TC) or the supplemental type certificate (MSTC) or the Australian Military technical standard order authorisation (AUSMTSOA); or

(b) major repairs to products or APUs for which the MDOA holder does not hold the TC or the STC or AUSMTSOA and that meet the criteria of 3(a), (b) and (c) below.

1.1 Criteria for limitations on eligibility

An Authority approval may be required in cases of major repairs proposed by MDOA holders who are the MTC, MSTC or APU AUSMTSOA holders if the major repair is:

(a) related to a new interpretation of any item of the certification basis as used for the type certification (such as the airworthiness requirements, certification review items for special conditions, equivalent safety findings, deviations or 'elect to comply'); and

(b) related to the application of an airworthiness code or standard that is different from the one used for type certification.

Note: This should be established at the time of granting the privilege to the MDOA holder, or later through an Authority-agreed procedure.

2. Definition of 'certain major changes' and 'certain supplemental type certificates'

'Certain major changes' and 'certain supplemental type certificates' for which privileges may be granted as per DASR 21.A.263(c)(8) and (9) are changes similar to those that have been previously approved by the Authority for the same MDOA holder.

The similarity of the changes is to be seen in terms of the design, the installation, and the operational characteristics, whereas their repetitiveness is seen in terms of the applicable requirements and the compliance demonstration.

In this context, a 'requirement' means any element of the type-certification basis as specified in DASR 21.A.17A, or the environmental protection requirements (where applicable) as specified in DASR 21.A.18.

2.1 Criteria for limitations on eligibility

The following types of changes are not eligible:

(a) changes that require a revision to a type certificate data sheet (TCDS) (e.g. the introduction of a derivative model or variant) or a type certificate data sheet for noise (TCDSN);

(b) changes that require an amendment to the existing certification basis by a special condition, equivalent safety finding, deviation or 'elect to comply';

(c) changes that revise airworthiness limitations or operating limitations, unless otherwise agreed with the Authority;

(d) changes that are intended to be used as alternative method of compliance (AMOC) to an airworthiness directive (AD);

(e) changes that are made mandatory by an AD or that are the terminating action of an AD;

(f) changes that are classified as 'significant' in accordance with DASR 21.A.101;

(g) changes for which, in the affected area and for the operations for which the design is to be certified, more conservative airworthiness requirements are applicable which were not used in the description of the Authority-approved procedure of the MDOA holder, e.g. in the case of a type, model or modification with a later, more stringent certification basis;

(h) changes that affect the noise and/or emissions characteristics of the changed product, unless otherwise agreed with the Authority;

(i) changes that affect a part or system, a single failure of which may have a catastrophic effect upon the product, and for which critical characteristics have been identified, which should be controlled to ensure the required level of integrity;

(j) changes to engines or propellers, a single failure of which may have a hazardous effect upon the product, and for which critical characteristics have been identified, which should be controlled to ensure the required level of integrity; and

(k) changes for which a non-compliance has been found in the referenced change during the continued-airworthiness process.

3 Criteria for major repairs, major changes and STCs for which the privileges of DASR 21.A.263(c)(5), (8) and (9) may be granted

The following criteria need to be met:

(a) Similarity

The installation on the product, the design, the operation, and the equipment qualification are basically the same as in projects for which the Authority has already been involved and issued an approval for the same MDOA holder.

(b) Repetitiveness of the certification process

The whole certification process is repetitive, i.e. identical to, or part of, an already approved referenced process. For a change or repair that is a part of the referenced 'certain major repairs', 'certain major changes' or 'certain supplemental type certificates', the certification process is still identical to the one for the affected change. This is the case when each compliance demonstration is performed to the same extent in accordance with the same requirements, GM, and content of the interpretative material,

as well as with the same means and method of compliance (not only the same means-of-compliance (MoC) code).

Note: In this AMC, a 'requirement' means any element of the type-certification basis as specified in DASR 21.A.17A, or the environmental protection requirements (where applicable) as specified in DASR 21.A.18.

(c) Performance and experience in previous projects

To demonstrate 'similarity' and 'repetitiveness, the Authority should have classified the level of performance of the organisation as 'medium' or 'high' during at least the latest project referenced.

In addition, the Authority should have classified the likelihood of an unidentified non-compliance as 'low' or 'very low' for all the included compliance demonstration items (CDIs) identified in at least the latest project referenced, to demonstrate 'similarity' and 'repetitiveness' (applying the criteria for the determination of the Authority's level of involvement (LoI) in product certification, see DASR AMC 21.A.15(b)(6)

The process to obtain and to use the privileges of DASR 21.A.263(c)(5), (8) and (9) is described in AMC2 to DASR 21.A.263(c)(5), (8) and (9).

AMC2 to 21.A.263(c)(5), (8) and (9) Procedure for the approval of a major repair, a major change to a type certificate (TC), or a supplemental type certificate (STC) by a military design organisation approval (MDOA) holder under their privileges

This AMC describes the process to be followed in order to obtain and use the privilege to approve 'certain major repairs' and 'certain major changes' to a TC, and 'certain supplemental type certificates' as defined in points 1(b) and 2 of AMC 1 to DASR 21.A.263(c)(5), (8) and (9).

1. PROCESS FOR OBTAINING A PRIVILEGE

A MDOA holder that applies for the privileges referred to in DASR 21.A.263(c)(5), (8) or (9) should do the following:

(a) Submit to the Authority an application for a significant change in the design assurance system (see DASR 21.A.247 and 21.A.253).

(b) Establish internal procedures for the application of the privilege covering the following elements, and add them to the application:

(1) The definition of the 'list associated with the privilege' of certain major repairs/changes/STCs. The 'list associated with the privilege' is a list of all 'certain major changes', 'certain STCs' and 'certain major repairs' (or families thereof) plus the associated 'justification document' references for which the privileges as per DASR 21.A.263(c)(5), (8) and (9) have been granted.

(2) A 'justification document' for a 'certain major repair', 'certain major change' or a 'certain STC', as applicable. The 'justification document' should contain:

(i) The reference(s) to the Authority-approved major change(s), STC(s) and major repair(s), which is (are) used to demonstrate the MDOA holder's experience and performance.

Note: The number of already Authority-approved major change(s), STC(s) or major repair(s) used to demonstrate the MDOA holder's experience and performance is based on an assessment of the scope of the 'certain major repairs', 'certain major changes' or 'certain supplemental type certificates' which is requested to be added to the 'list associated with the privilege', as well as on the performance of the MDOA holder during previous projects.

(ii) The certification programme(s) of the major change(s), STC(s), or major repair(s), accepted by the Authority, used to demonstrate the applicant's experience and performance.

(iii) The applicable product configuration(s).

The applicant should list the type(s) and model(s) to which the major change(s)/STC(s)/repair(s) applies (apply) or may apply. Exceptionally, this may be done for a dedicated product, system or equipment if the type or model has no technical influence on the major change(s)/STC(s)/repair(s), i.e. when the installation issues are negligible (e.g. the TCAS 7.1 software change for a certain equipment), such a listing is not mandatory, but it needs to be justified.

(iv) The list of 'requirements' for the demonstration of compliance, if not identical to the ones referenced in the certification programme.

(v) The certification process, if not identical to the one referenced in the certification programme.

(vi) A detailed description with all the technical data relevant to the installation of the product, the design, the operation and the qualification which ensures the proper use of the privilege for future major changes, major repairs or STCs. This description should include the criteria defining the conditions that should be met in order to apply the privileges.

(vii) Any other limits on the use of the privilege.

(3) The assessment of the acceptability of using the privilege for major repairs, major changes or STCs against the 'list associated with the privilege' and the 'justification document' of 'certain major repairs', 'certain major changes' or 'certain STCs'.

(4) The approval process, including the templates to be used, the authorised signatories, records management and the provision of a 'summary list' of major changes, major repairs and STCs approved under the privilege of DASR 21.A.263(c)(5), (8) and (9). This process should clarify that the approval is issued under the MDOA holder's privilege.

The persons authorised under the privilege of DASR 21.A.263(c)(5), (8) and (9) should be identified by their names, signatures and scopes of authority in the appropriate documents and referenced in the procedure.

A 'summary list' of all the major changes, STCs and major repairs approved under a privilege should be provided to the Authority on a regular basis, as agreed with the Authority.

(5) Extension of the 'list associated with the privilege' after the privilege is granted.

After the granting of the privilege, the initial list of 'certain major repairs', 'certain major changes' and 'certain STCs' under the privilege may be further extended by an agreement with the Authority, as shown in Section 2 as well as in Figures 2 and 3 below.

(c) Identify in the 'list associated with the privilege' the eligible major changes, major repairs or STCs proposed for inclusion in the scope of the privilege (see also AMC1 to DASR 21.A.263(c)(5), (8) and (9)).

(d) Provide a 'justification document' for each proposed certain major change, certain major repair or certain STC identified under (c) above.

Note: The 'list associated to the privilege' identifying all certain major repairs, certain major changes and certain STCs and the associated 'justification document(s)' are to be referenced in the DOA holder procedure mentioned under (b) above.

The process for obtaining the privilege, referred to in DASR 21.A.263(c)(5), (8) and (9), is summarised in Figure 1 below:

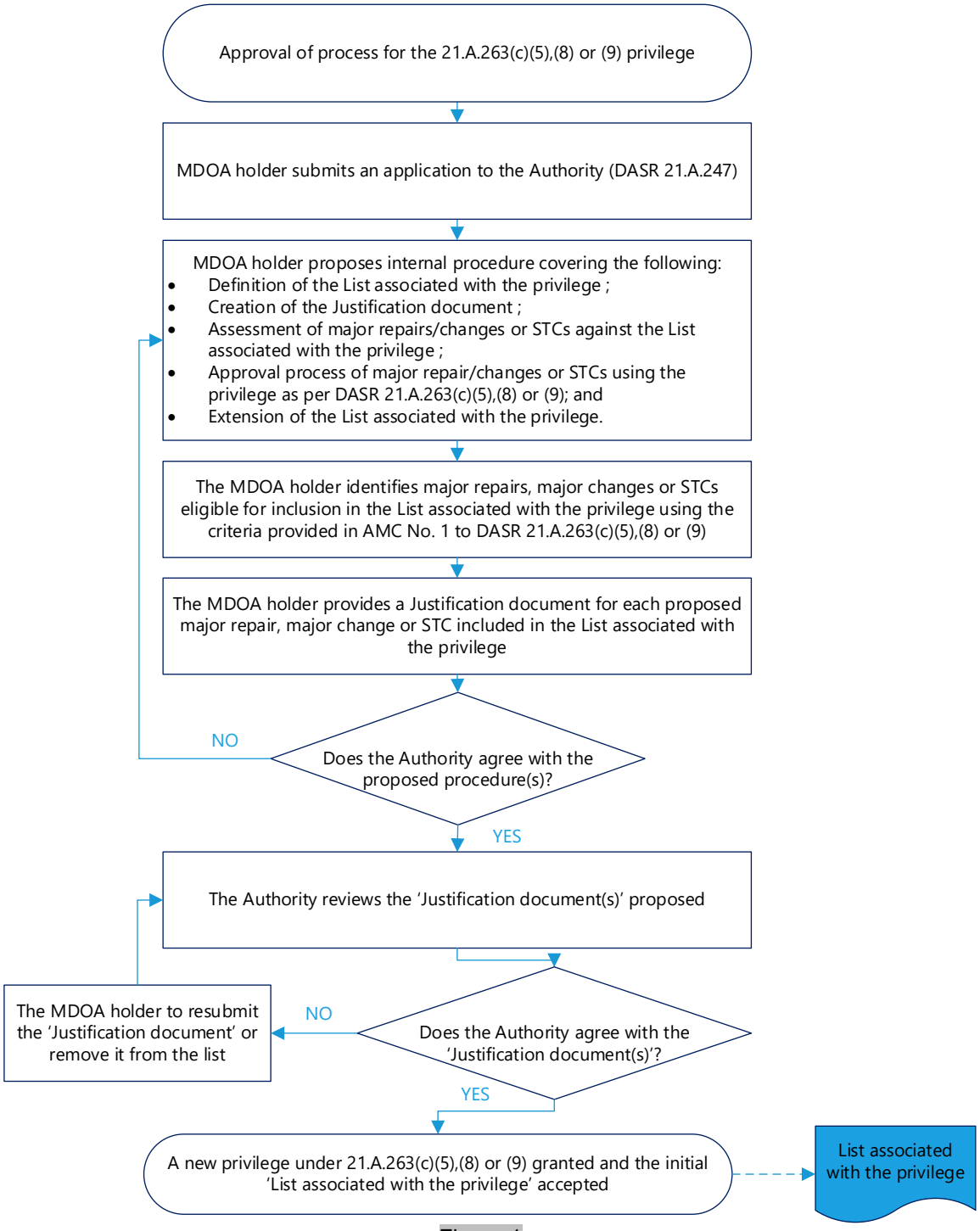

Figure 1

The privilege referred to in DASR 21.A.263(c)(5), (8) and (9) may be used by a MDOA holder for the approval of major repairs, major changes or STCs, as applicable, under the following conditions:

(a) the privilege has already been granted by the Authority;

(b) the major repair/change/STC to be approved falls under the ‘List associated with the privilege’ agreed by the Authority; and

(c) the criteria established in the relevant ‘Justification document’ are met and the relevant assessment is recorded.

If all the above conditions are met, the privilege may be used and the approval of major repairs, major changes or STCs, as applicable, can be obtained by the MDOA holder without the Authority’s involvement.

2. EXTENSION OF THE ‘PRIVILEGE LIST’ OF ‘CERTAIN MAJOR REPAIRS’, ‘CERTAIN MAJOR CHANGES’ OR ‘CERTAIN STCs’ AFTER THE PRIVILEGE IS GRANTED

When the MDOA holder intends to update the ‘List associated with the privilege’, a ‘Justification document’ needs to be provided to the Authority, as described in Section 1(b)(2) above. After the Authority agrees with the updated ‘privilege list’ as part of the MDOA holder’s procedure, the MDOA holder may proceed as per Section 4 below.

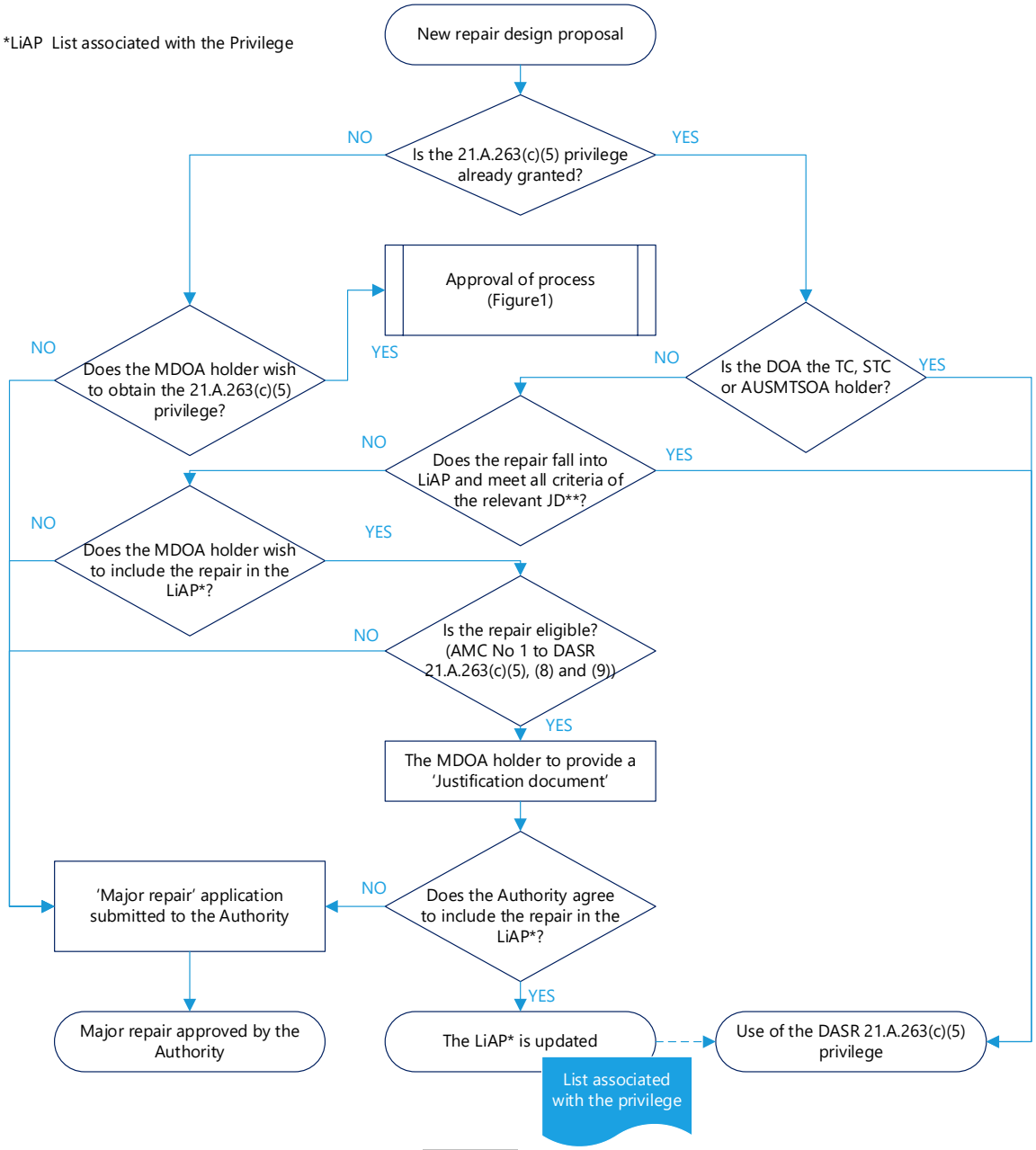
*LiAP List associated with the Privilege
New repair design proposal
Is the 21.A.263(c)(5) privilege already granted?
NO
YES
Approval of process (Figure1)
Does the MDOA holder wish to obtain the 21.A.263(c)(5) privilege?
NO
YES
Is the DOA the TC, STC or AUSMTSOA holder?
NO
YES
Does the repair fall into LiAP and meet all criteria of the relevant JD**?
NO
YES
Does the MDOA holder wish to include the repair in the LiAP*?
NO
YES
Is the repair eligible? (AMC No 1 to DASR 21.A.263(c)(5), (8) and (9))
NO
YES
The MDOA holder to provide a 'Justification document'
Does the Authority agree to include the repair in the LiAP*?
NO
YES
'Major repair' application submitted to the Authority
Major repair approved by the Authority
The LiAP* is updated
List associated with the privilege
Use of the DASR 21.A.263(c)(5) privilege

Figure 2

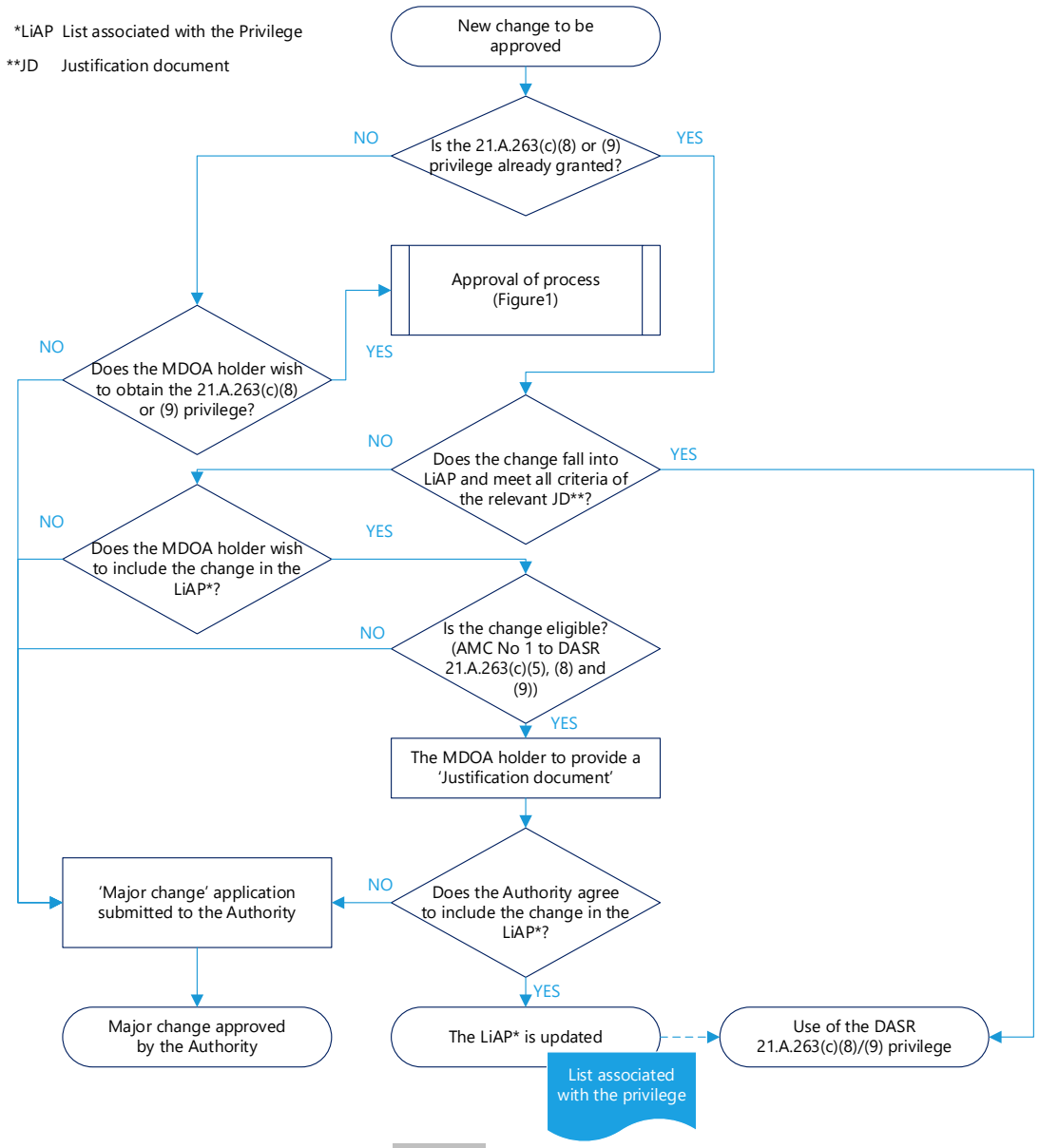

Figure 3

3. TC, STC OR APU AUSMTSOA HOLDER APPROVAL OF A MAJOR REPAIR UNDER A MAJOR REPAIR PRIVILEGE — SPECIFIC CONSIDERATIONS

TC, STC or APU AUSMTSOA MDOA holders that intend to approve a major repair design under the privilege of DASR 21.A.263(c)(5) should ensure that:

(a) the type-certification basis for the product, part or appliance to be repaired is identified, together with all the other relevant requirements;

(b) all the records and substantiation data, including the documents that demonstrate compliance with all the relevant requirements, are provided to the Authority for review; and

(c) for repair designs created for a specific product serial number, an assessment is made as to whether or not the repair design is affected by the presence of any embodied STC, change or repair.

4. MDOA HOLDER'S APPROVAL BASED ON THE PRIVILEGE FOR A MAJOR REPAIR, MAJOR CHANGE OR STC — SPECIFIC CONSIDERATIONS

For the approval of:

- major repairs by MDOA holders that are not the TC, STC or APU AUSMTSO authorisation holders;
- major changes; and
- STCs

by a MDOA holder under the privilege of DASR 21.A.263(c)(5), (8) and (9), the following should be considered.

4.1 Eligibility of the proposed major repair, major change or STC

The MDOA holder should assess the proposed major repair, major change or STC against the 'list associated with the privilege' and the 'justification document' of 'certain major repairs', 'certain major changes' or 'certain supplemental type certificates' in order to determine whether the criteria of AMC1 to DASR 21.A.263(c)(5), (8) and (9), are met.

4.2 Forms for approval certificates

For the issuance of an approval under their privilege the MDOA holder should use forms provided by the Authority.

If such forms are not available or if the MDOA holder chooses to use their own forms, it must be ensured that at least the information as requested by the Authority is presented.

4.3 Approval under the MDOA holder's privilege

When the MDOA holder makes use of the privilege of DASR 21.A.263(c)(5), (8) or (9), they should include the following in the certification data package:

- a record of the assessment as described in 4.1 above;
- the reference to the 'justification document';
- the applicable product configuration;
- the applicable airworthiness requirements or environmental protection requirements and methods of compliance;
- the compliance documents;
- the effects, if any, on limitations and on the approved documentation;
- the evidence of the independent checking of the compliance demonstration;
- the approval document containing the statement of the approval under the privilege of DASR 21.A.263(c)(5), (8) and (9) by an authorised signatory; and
- the date of approval.

In any case, before the major change, STC or major repair is approved under the MDOA privilege, the MDOA holder should ensure that the Part 21 requirements, in particular DASR 21.A.97, 21.A.115 and 21.A.433, are met.

4.4 Authorised signatories

An authorised person that is identified and authorised as described in Section 1(b)(4) above should sign the approval under the privilege of DASR 21.A.263(c)(5), (8) and (9).

4.5 Summary list

The MDOA holder should add to the 'summary list' as described in Section 1(b)(4) above the major change, STC or major repair approved under the privilege of DASR 21.A.263(c)(5), (8) and (9).

AMC 21.A.263(d)(1) - Declaration of applicability

1. Intent

This acceptable means of compliance provides means for an MDOA applicant to obtain the associated privileges under DASR 21.A.263(d)(1) to declare the applicability of a modification, or of an instruction for continuing airworthiness, or of a modification to the flight manual or of a modification to the maintenance manual, as relevant, when it is already approved by a recognized civil airworthiness authority, to a product derivate from a civil type certified product.

2. Procedure for declaring the applicability

In order to obtain the associated DASR 21A.263(d)(1) privilege for a scope of derivative product, an MDOA applicant should respect the following conditions:

a) Agree with the authority the procedures to evaluate within the scope of its DASR 21 MDOA a modification, or an instruction for continuing airworthiness, or a modification to the flight manual or a modification to the maintenance manual being already approved by a recognized civil airworthiness authority. Such procedures shall include necessary arrangements with the civil DOA to ensure access to the data related to the type design.

~~a) Being approved under DASR 21 Section A Subpart J under a civil DOA and being the type certificate holder from which the product is derived~~.

~~b) Demonstrate they have access to the whole Type Certificate definition of the derivative product when applying its privileges.~~

~~c)~~b) Develop its own internal procedure addressing the following points as agreed with the Authority:

i. Identification of the derivative delta to be assessed:

- type design definition including modifications
- operational characteristics
- performances
- limitation
- certification requirements
- means of demonstration of compliance

ii. Impact assessment

iii. Document formalise the declaration of applicability and conditions

iv. Records.

~~d)~~c) Assessment results should be documented and recorded. These records should be easily accessible to the Authority for sample check.

~~e)~~d) The declaration of applicability should be signed by an appropriate authorised signatory.

In case further investigation is needed for analysis of impact due to STC or because the specific configuration is not known by the applicant, the applicant will provide the data requested by the Authority for complementary analysis.

AMC1 21.A.263(d)(1) Declaration of applicability for a holder of a type certificate (AUS)

1 Intent

This acceptable means of compliance provides means for a military type certificate holder to obtain the associated privileges under DASR 21.A.263(d)(1) to declare the applicability of a modification, or of an instruction for continuing airworthiness, or of a modification to the flight manual or of a modification to the maintenance manual, as relevant, when it is already approved by a recognized civil National Aviation Authority (NAA), to a product derivate that is ostensibly equivalent to the civil type certified product.

Note: Ostensibly equivalent relates to having the configuration, role and operating environment predominately the same – where changes between types are:

- few in nature,
- easily identified,
- simple to understand and
- considered to have no appreciable effect on airworthiness

2 Procedure for declaring the applicability

In order to obtain the associated DASR 21.A.263(d)(1) privilege for a scope of derivative product, an applicant should respect the following conditions:

a) Agree with the authority the procedures to assess within the scope of its organisational capability per DASR 21.A.14(c), a modification, or an instruction for continuing airworthiness, or a modification to the flight manual or a modification to the maintenance manual being already approved by a recognized NAA. Such procedures shall include obtaining the ICA and manuals related to the change and addressing any caveats or conditions of the NAA recognition.

b) Develop its own internal procedure addressing the following points as agreed with the Authority:

i. confirm the certification is within the scope, conditions and caveats specific to DASA Recognition of the certifying NAA;

ii. identification of any CRE deltas requiring assessment;

iii. confirm no CRE delta impacts applicability of the NAA approved product;

iii. document to formalise the declaration of applicability and conditions;

iv. records.

c) Assessment results should be documented and recorded. These records should be easily accessible to the Authority for sample check.

d) The declaration of applicability should be signed by an appropriate authorised signatory.

AMC 21.A.263(d)(2) - Approval

1. Intent

This acceptable means of compliance provides means for an MDOA applicant to obtain the associated privileges under DASR 21.A.263(d)(2) to approve a major modification, or the approved parts of the maintenance manual, or of the flight manual, and their evolutions, when it is already approved by a recognized civil airworthiness authority and when it has been declared applicable to the product derivate from the civil type certified product.

Applying this privilege implies that no additional work to show compliance to the (military) airworthiness requirements is needed.

In case the applicability to the specific definition of the derivative needs further demonstration of compliance (ie the assessment of “no impact” is not confirmed) the applicant will apply the relevant procedures of its military design assurance system for getting approval of the change.

Approval of minor changes is to be considered under relevant privileges DASR 21.A.263(c)(2).

2. Procedure for approving

In order to obtain the associated DASR 21A.263(d)(2) privilege, a MDOA applicant should comply with the following:

a) The conditions related to privileges DASR 21.A263(d)(1)

b) Its own internal approval procedure as agreed by the Authority

In addition, the applicant should:

c) Define how the approval under the MDOA privilege will be formalized and how the link with the civil approval is made visible

d) Provide records and substantiation data including documents showing compliance with the airworthiness requirements required for the civil approval, to the Authority when requested.

e) Maintain a summary list of approvals under this privilege to the Authority on a regular basis as agreed with the Authority.

AMC1 21.A.263(d)(2) Approval for a holder of a type certificate (AUS)

1 INTENT

This acceptable means of compliance provides means for a military type certificate holder to obtain the associated privileges under DASR 21.A.263(d)(2) to approve a major modification, or the approved parts of the maintenance manual, or of the flight manual, and their evolutions, when it is already approved by a recognized civil National Aviation Authority (NAA) and when it has been declared applicable to the product derivate that is ostensibly equivalent to the civil type certified product.

Applying this privilege implies that no additional work to show compliance to the (military) airworthiness requirements are needed.

Approval of minor changes is to be considered under relevant privileges DASR 21.A.263(c)(2).

2 PROCEDURE FOR APPROVING

In order to obtain the associated DASR 21A.263(d)(2) privilege, an applicant should comply with the following:

a) The conditions related to privileges DASR 21.A263(d)(1)

b) Its own internal approval procedure as agreed by the Authority

In addition, the applicant should:

c) Define how the approval under the organisation privilege will be formalized and how the link with the civil approval and applicability declaration completed under DASR 21.A.263 (d)(1) is made visible

d) Maintain a summary list of approvals under this privilege to the Authority on a regular basis as agreed with the Authority.

21.A.265 - Obligations of the holder

The holder of a design organisation approval shall, within the scope of its terms of approval, as established by the Authority:

a) Mmaintain the ~~DOE~~ handbook required under DASR 21.A.243 in conformity with the design assurance system;

b) Eensure that this ~~DOE~~ handbook or relevant procedures included by cross-reference ~~is~~ are used as a basic working document within the organisation;

c) Ddetermine that the design of products, or changes or repairs thereof~~, as applicable,~~ comply with applicable ~~airworthiness~~ specifications and requirements and have no unsafe feature;

d) ~~Except for minor changes or repairs approved under the privilege of DASR 21.A.263,~~ provide to the Authority statements and associated documentation confirming compliance with paragraph (c), except for approval processes carried out in accordance with DASR 21.A.263(c);

e) Pprovide to the Authority data and information ~~or instructions~~ related to required actions under DASR 21.A.3B;

f) ~~Where applicable, under the privilege of~~ determine, in accordance with DASR 21.A.263(c)(6), ~~determine~~ the flight conditions under which a military permit to fly can be issued; and

g) ~~Where applicable, under the privilege of~~ establish, in accordance with DASR 21.A.263(c)(7), ~~establish~~ compliance with DASR 21.A.711(b) and DASR 21.A.711(e) before issuing a military permit to fly (DASR Form 20b—Military Permit to Fly (Approved Organisation))~~,~~ for an aircraft.

h) designate data and information issued under the authority of the approved design organisation within the scope of its terms of approval as established by the Authority with the following statement: “The technical content of this document is approved under the authority of the MDOA ref. [3-letter designation of country].[Military Authority].21J.[XXXX]”.

AMC 21.A.265(a) - Administration of the Handbook (Military Design Organisation Exposition)

~~a)~~1. The handbook (Military Design Organisation Exposition ~~(MDOE~~) of the applicant ~~should~~ must be in the language which will permit the best use of it by all personnel charged with the tasks performed for the purpose of the design organisation. The applicant may be requested to provide an English translation of the ~~MDOE~~ handbook and other supporting documents as necessary for the investigation.

~~b)~~2. The ~~MDOE~~ handbook should be produced in a concise form with sufficient information to meet DASR 21.A.243 relevant to the scope of approval sought by the applicant. The ~~MDOE~~ handbook ~~should~~ must include the following:

~~i.~~a. Organisation name, address, telephone ~~number, website and email address details.~~ telex and facsimile numbers.

~~ii.~~b. Document title, and company document reference No (if any).

~~iii.~~c. Amendment or revision standard identification for the document.

~~iv.~~d. Amendment or revision record sheet.

~~v.~~e. List of effective pages with revision/date/amendment identification for each page.

~~vi.~~f. Contents list or index.

~~vii.~~g. A distribution list for the ~~MDOE~~ handbook.

~~viii.~~h. An introduction, or foreword, explaining the purpose of the document for the guidance of the organisation's own personnel. Brief general information concerning the history and development of the organisation and, if appropriate, relationships with other organisations which may form part of a group or consortium, should be included to provide background information for the Authority.

~~ix.~~i. The certificate of approval should be reproduced in the document.

~~x.~~j. Identification of the department responsible for administration of the ~~MDOE~~ handbook.

NOTE: In the case of an initial or revised approval it is recognised that certificate will be issued after Authority agreement to the ~~MDOE~~ handbook content in draft form. Arrangements for formal publication in a timely manner should be agreed before the certificate of approval is issued.

~~c)~~3. An updating system should be clearly laid down for carrying out required amendments and modifications to the ~~MDOE~~ handbook.

~~d)~~4. The ~~MDOE~~ handbook may be completely or partially integrated into the company organisation manual. In this case, identification of the information required by DASR 21.A.243 should be provided by giving appropriate cross references, and these documents should be made available, on request, to the Authority.

GM 21.A.265(b) - Use of the Handbook (Military Design Organisation Exposition) ~~MDOE~~

~~a)~~1. The ~~MDOE~~ handbook should be signed by the Chief Executive and the Head of the design organisation and declared as a binding instruction for all personnel charged with the development and type investigation of products.

~~b)~~2. All procedures referenced in the ~~MDOE~~ handbook are considered as parts of the ~~MDOE~~ handbook and therefore as basic working documents.

GM 21.A.265(h) Designation of data and information issued under the authority of a military design organisation approval (MDOA) holder

1. INTENT

This GM provides guidance for complying with the obligation of DASR 21.A.265(h), and addresses the various aspects that the MDOA holder should cover in order to have a comprehensive procedure for the designation of data and information.

2. SCOPE

The term ‘data and information’ as used in DASR 21.A.265(h) also includes instructions.

Data and information referred to in DASR 21.A.265(h) are issued by a MDOA holder and cover the following:

- embodiment instructions for design changes or repairs (usually in the form of a service bulletin, a modification bulletin, repair instructions or engineering order, etc.);
- manuals required by DASR 21 or the applicable airworthiness codes and standards (such as the aircraft flight manual (AFM), instructions for continued airworthiness (ICAs), etc.);
- (reserved);
- continued-airworthiness instructions (usually in the form of service bulletins) which may be covered by airworthiness directives (ADs);
- additional data to be defined by the MDOA holder (e.g. alternative maintenance instructions that are not, per se, ICAs).

Note: This data and information may be issued in a digital or paper format.

The obligation does not apply to, and the statement provided with the data and information should not be used on, the following documents:

- certification documents (e.g. the certification programme, compliance checklist, etc.);
- compliance documents;
- design data transferred to production organisations; and
- production deviations (also referred to as ‘unintended deviations’ or ‘concessions’).

3. RATIONALE

The purpose of this obligation is to give certainty to the end users about the approval status of the data and information issued by the MDOA holder.

4. STATEMENT

The statement provided with the data and information should also cover those items prepared by subcontractors or vendors that the MDOA holder has declared as applicable to their products. The technical content of the statement is related to the type certificate data and information.

The approval included in the statement means that:

- the type certificate data has been appropriately approved; and
- the information contains practical and well-defined installation or inspection methods, and, when those methods are implemented, the product is in conformity with the approved type certificate data.

Note: Data and information related to the measures required by DASR 21.A.3B(b) (airworthiness directives (ADs)) are submitted to the Authority to ensure their compatibility with the content of an AD (see DASR 21.A.265(e)), and contain a statement that they are, or will be, subject to an AD issued by the Authority.

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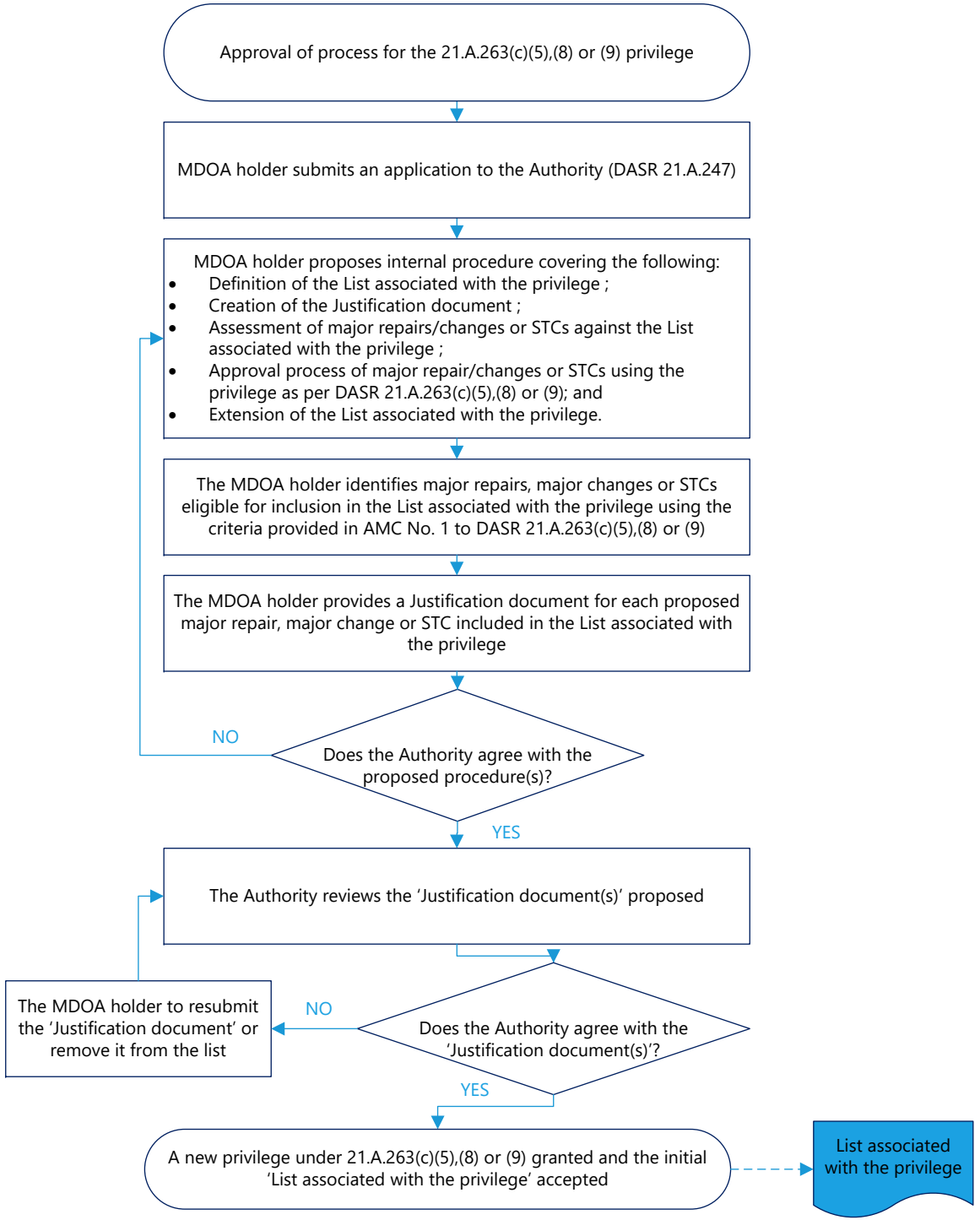
Final Amendments from Penultimate Copy (BP27976401 – Version 2.0)

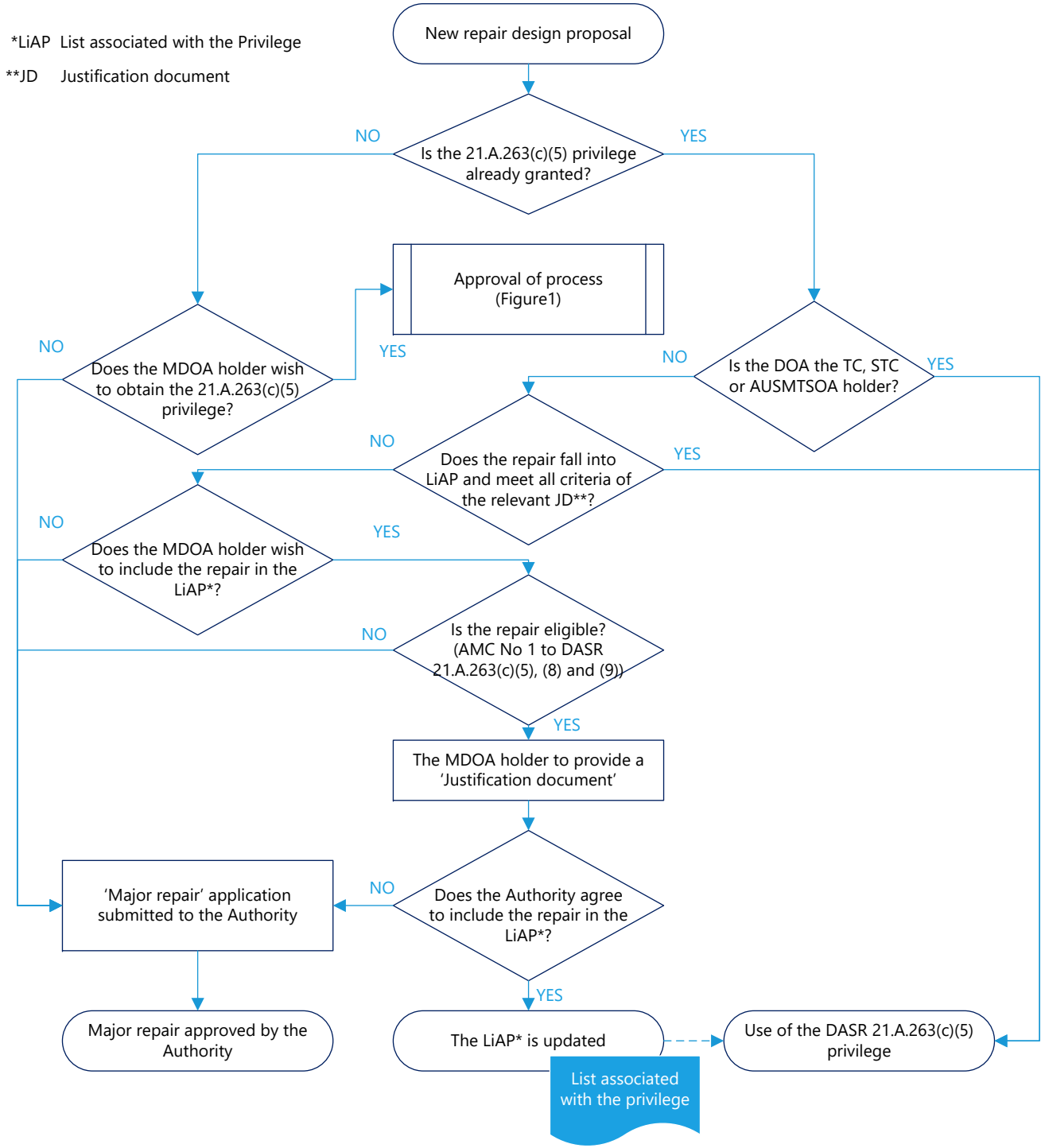
Clause	Description	Penultimate	**Final**
GM1 to DASR 21.A.239(a) – Design assurance system	Insert Para 2.2 (third point) "to the Authority"	– to demonstrate this compliance	– to demonstrate this compliance to the Authority.
AMC1 21.A.243(a) - Handbook (Design Organisation Exposition) requirements	Title change	**AMC1 21.A.243(a) - Design Organisation Exposition requirements**	**AMC1 21.A.243(a) - Handbook (Design Organisation Exposition) requirements**
21.A.263 – Privileges	Insert green text in 21.A.263(d) "holder of a MTC"	d) For a military product derived from a civil type certified product, the holder of a MDOA or approved organisation shall be entitled…	d) For a military product derived from a civil type certified product, the holder of a MDOA or **holder of a MTC** approved organisation shall be entitled…
AMC1 to 21.A.263(c)(5), (8) and (9) Scope and criteria	Remove Para 1(c)	(c) An MDOA holder executing the obligations of a type-certificate holder on their behalf, as described by DASR 21.A.44 - Obligations of the holder, shall also be entitled to seek an Authority privilege to include the approval of designs for 'MAJOR' repairs.	~~(c) An MDOA holder executing the obligations of a type-certificate holder on their behalf, as described by DASR 21.A.44 - Obligations of the holder, shall also be entitled to seek an Authority privilege to include the approval of designs for 'MAJOR' repairs.~~
AMC2 to 21.A.263(c)(5), (8) and (9) Procedure for the approval of a major repair, a major change to a type certificate (TC), or a supplemental type certificate (STC) by a military design organisation approval (MDOA) holder under their privileges	Remove "NOTE" at the end of Paragraph 1 Remove "Section 2.2" from Paragraph 4.1	Note: If a MDOA holder applies for a third-country validation after having approved a modification under its MDOA holder privilege, the Authority may review some of the compliance demonstration data in order to support the validation activity. ….. 4.1 Eligibility of the proposed major repair, major change or STC The MDOA holder should assess the proposed major repair, major change or STC against the 'list associated with the privilege' and the 'justification document' of 'certain major repairs', 'certain major changes' or 'certain supplemental type certificates' in order to determine whether the criteria of AMC1 to DASR 21.A.263(c)(5), (8) and (9), Section 2.2, are met.	~~Note: If a MDOA holder applies for a third-country validation after having approved a modification under its MDOA holder privilege, the Authority may review some of the compliance demonstration data in order to support the validation activity.~~ ….. 4.1 Eligibility of the proposed major repair, major change or STC The MDOA holder should assess the proposed major repair, major change or STC against the 'list associated with the privilege' and the 'justification document' of 'certain major repairs', 'certain major changes' or 'certain supplemental type certificates' in order to determine whether the criteria of AMC1 to DASR 21.A.263(c)(5), (8) and (9), ~~Section 2.2,~~ are met.
AMC1 21.A.263(d)(1) Declaration of applicability for a holder of a type certificate (AUS)	Replace "confirm" with "assess" in Para 2a). Insert "a" before modification in Para 2a). Replace "consumption" with "applicability" in Para 2b) iii.	a) Agree with the authority the procedures to confirm within the scope of its organisational capability per DASR 21.A.14(c), modification, or an instruction for continuing airworthiness, or a modification to the flight manual or a modification to the maintenance manual being already approved by a recognized NAA. Such procedures shall include obtaining the ICA and manuals related to the change and addressing any caveats or conditions of the NAA recognition.	a) Agree with the authority the procedures to ~~confirm~~ **assess** within the scope of its organisational capability per DASR 21.A.14(c), **a** modification, or an instruction for continuing airworthiness, or a modification to the flight manual or a modification to the maintenance manual being already approved by a recognized NAA. Such procedures shall include obtaining the ICA and manuals related to the change and addressing any caveats or conditions of the NAA recognition.

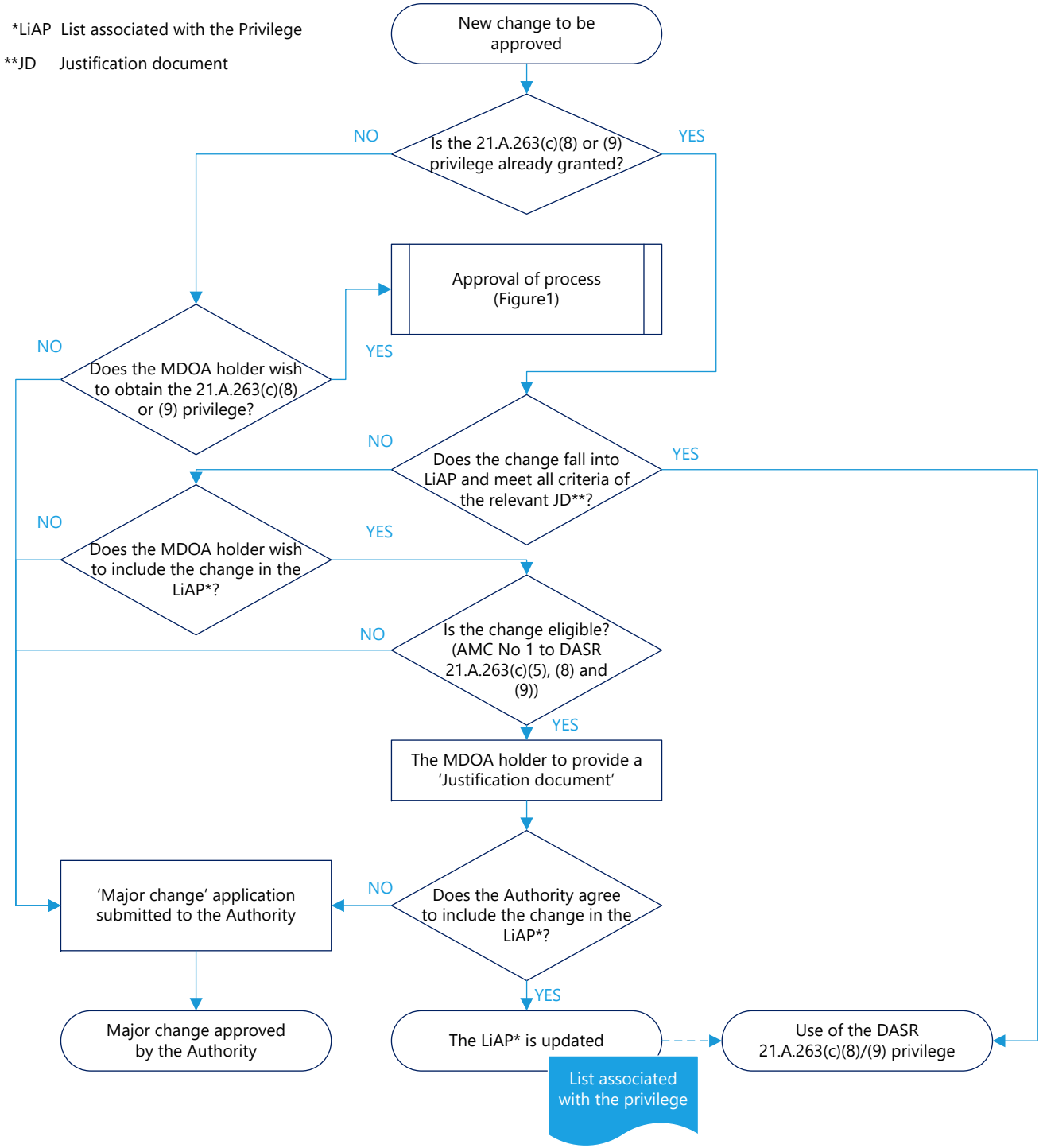
	Lower case in the beginning of sentences 2b) ii, iii and iv. Insert semi-colon and full stop.	b) Develop its own internal procedure addressing the following points as agreed with the Authority: i. confirm the certification is within the scope, conditions and caveats specific to DASA Recognition of the certifying NAA; ii. Identification of any CRE deltas requiring assessment iii. confirm no CRE delta impacts consumption of the NAA approved product iii. Document to formalize the declaration of applicability and conditions iv. Records	b) Develop its own internal procedure addressing the following points as agreed with the Authority: i. confirm the certification is within the scope, conditions and caveats specific to DASA Recognition of the certifying NAA; ii. ~~I~~identification of any CRE deltas requiring assessment iii. confirm no CRE delta impacts ~~consumption~~ **applicability** of the NAA approved product; iii. ~~D~~document to formalize the declaration of applicability and conditions; iv. ~~R~~records.

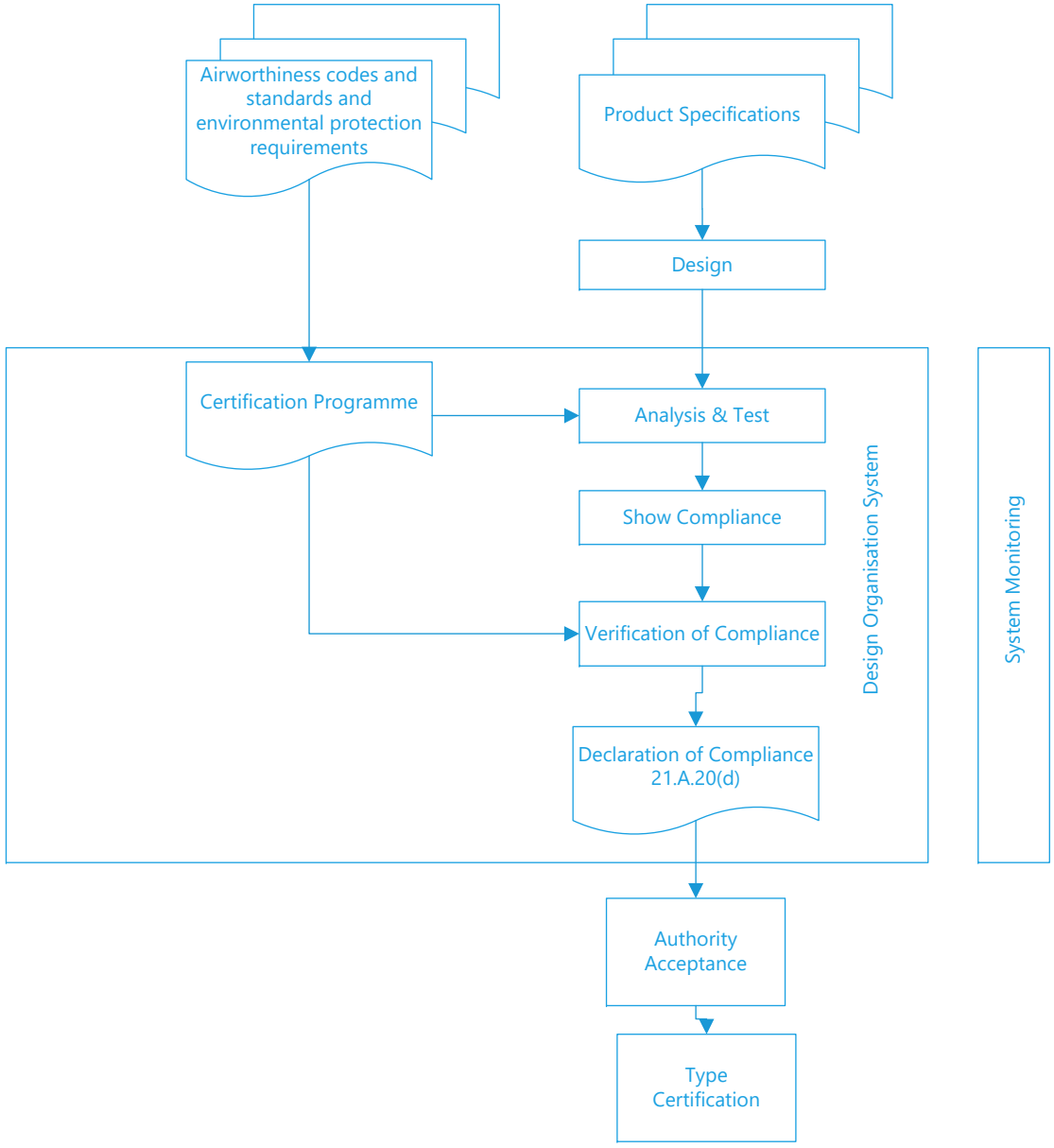

Approval of process for the 21.A.263(c)(5),(8) or (9) privilege
MDOA holder submits an application to the Authority (DASR 21.A.247)
MDOA holder proposes internal procedure covering the following:
Definition of the List associated with the privilege ;
Creation of the Justification document ;
Assessment of major repairs/changes or STCs against the List associated with the privilege ;
Approval process of major repair/changes or STCs using the privilege as per DASR 21.A.263(c)(5),(8) or (9); and
Extension of the List associated with the privilege.
The MDOA holder identifies major repairs, major changes or STCs eligible for inclusion in the List associated with the privilege using the criteria provided in AMC No. 1 to DASR 21.A.263(c)(5),(8) or (9)
The MDOA holder provides a Justification document for each proposed major repair, major change or STC included in the List associated with the privilege
NO
Does the Authority agree with the proposed procedure(s)?
YES
The Authority reviews the 'Justification document(s)' proposed
The MDOA holder to resubmit the 'Justification document' or remove it from the list
NO
Does the Authority agree with the 'Justification document(s)'?
YES
A new privilege under 21.A.263(c)(5),(8) or (9) granted and the initial 'List associated with the privilege' accepted
List associated with the privilege

*LiAP List associated with the Privilege

**JD Justification document




*LiAP List associated with the Privilege
**JD Justification document
New change to be approved
Is the 21.A.263(c)(8) or (9) privilege already granted?
NO
YES
Approval of process (Figure1)
Does the MDOA holder wish to obtain the 21.A.263(c)(8) or (9) privilege?
NO
YES
Does the change fall into LiAP and meet all criteria of the relevant JD**?
NO
YES
Does the MDOA holder wish to include the change in the LiAP*?
NO
YES
Is the change eligible? (AMC No 1 to DASR 21.A.263(c)(5), (8) and (9))
NO
YES
The MDOA holder to provide a 'Justification document'
Does the Authority agree to include the change in the LiAP*?
NO
YES
'Major change' application submitted to the Authority
Major change approved by the Authority
The LiAP* is updated
List associated with the privilege
Use of the DASR 21.A.263(c)(8)/(9) privilege


Airworthiness codes and standards and environmental protection requirements
Product Specifications
Design
Certification Programme
Analysis & Test
Show Compliance
Verification of Compliance
Declaration of Compliance 21.A.20(d)
Design Organisation System
System Monitoring
Authority Acceptance
Type Certification

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2021 - 030

DASR CLAUSE: AMC1 145.A30(f)

RATIONALE FOR CHANGE

Correct typographical error, change the word 'standards' to 'standard'.

CURRENT REGULATION TEXT

AMC1 145.A.30(f) - Personnel requirements (AUS)

For conduct of composite repairs, SAE AIR4938 is the accepted standards for training and certification of personnel.

REVISED REGULATION TEXT

AMC1 145.A.30(f) - Personnel requirements (AUS)

For conduct of composite repairs, SAE AIR4938 is the accepted standard for training and certification of personnel.

DASR CLAUSE: AMC2 145.A30(f)
RATIONALE FOR CHANGE
DASA considers a welding authority, granted in accordance with CASA CAAP 33-1(1), to be an acceptable qualification when authorising personnel to perform the specialised task of aircraft welding. New AMC to be added to DASR to advise regulated community that a CASA welding authority granted in accordance with CAAP 33-1(1) is acceptable.
CURRENT REGULATION TEXT
N/A new AMC2
REVISED REGULATION TEXT
AMC2 145.A.30(f) - Personnel requirements (AUS) For conduct of aircraft manual welding repairs, a CASA welding authority granted in accordance with CAAP 33-1(1) is an appropriate qualification.

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022-036

DASR CLAUSE: AMC1 and AMC2 to 145.A.35(b)

RATIONALE FOR CHANGE

DASR has AMC 1 and AMC 2 for 145.A.35(b). DASR AMC 1 is the same as EMAR AMC 145.A.35(b) and DASR AMC 2 145.A.35(b) is unique Australian green text. To maintain alignment with EMAR the AMC numbering of DASR should be changed as follows:

- AMC1 145.A.35(b) - Certifying staff and support staff to AMC 145.A.35(b) - Certifying staff and support staff
- AMC2 to 145.A.35(b) - Certifying staff and support staff (AUS) to AMC1 145.A.35(b) - Certifying staff and support staff (AUS)

Also, remove the word “regulation” from new AMC 145.A.35(b) - Certifying staff and support staff to align with EMAR.

CURRENT REGULATION TEXT

AMC1 145.A.35(b) - Certifying staff and support staff

Moved to DASR 145.A.35(b) regulation.

REVISED REGULATION TEXT

AMC 145.A.35(b) - Certifying staff and support staff

Moved to DASR 145.A.35(b).

DASR AMENDMENT RECORD
DCP 2022-036

DASR CLAUSE: AMC2 to 145.A.35(b)

RATIONALE FOR CHANGE

Current green text is ambiguous and leading to a large number of questions and unnecessary capability impacts (delay in issuing authorisations to certifying staff in DASR 145 Maintenance Organisations). DASR to be amended to remove the ambiguity.

Note DASR has AMC 1 and AMC 2 for 145.A.35(b). DASR AMC 1 is the same as EMAR AMC 145.A.35(b) and DASR AMC 2 145.A.35(b) is unique Australian green text. To maintain alignment with EMAR the AMC numbering of DASR should also be changed.

CURRENT REGULATION TEXT

AMC2 to 145.A.35(b) - Certifying staff and support staff (AUS)

DASR 145 maintenance organisations may temporarily amend Certificate of Release to Service (CRS) certification authorisations after licence holders have undertaken additional training which qualify the individual to have their licence amended by the Authority, ie a new Type rating to be added; a licence exclusion to be removed or a licence extension to be added.

In such cases, the DASR 145 maintenance organisation is to report the CRS certification authorisation change to the Authority within two working days and to concurrently submit the licence application to the Authority to change the licence.

REVISED REGULATION TEXT

AMC1 145.A.35(b) - Certifying staff and support staff (AUS)

DASR 145 maintenance organisations may temporarily amend authorisations of certifying staff, immediately following submission to DASA of a Form 19/19a associated with the completion of additional training that qualify the individual to have their licence amended by DASA (e.g. a new licence category, a new type rating, or a licence exclusion to be removed / licence extension to be added).

In such cases, the DASR 145 maintenance organisation is to report certifying staff authorisation changes to their relevant DASA desk officer within two working days.

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022 - 025

DASR CLAUSE: DASR ARO.80

RATIONALE FOR CHANGE

The high-level policy for independent boards of review is now located within DASP Manual Volume 1 Chapter 6 *Independent Review of Aviation Safety*.

CURRENT REGULATION TEXT

(a) The Authority must prescribe mechanisms to independently review the safety of aviation systems within the scope of the DASP.

(b) Regulated entities must support independent reviews of aviation safety as prescribed by the Authority.

REVISED REGULATION TEXT

Removal of DASR ARO.80 *Independent Review of Aviation Safety*

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022 - 005 & DCP 2022 - 027

DASR CLAUSE: GM FT.05.D

RATIONALE FOR CHANGE

DASA made editorial amendments to AMC FT.05.C and GM FT.05.D to:

a. update the list of existing DoSA(FT) and allow for future changes to the DASA DoSA Appointment Register.

b. more precisely describe the 'assure' role of DoSA(FT).

CURRENT REGULATION TEXT

Purpose. The purpose of this regulation is to ensure the Military Air Operator (MAO) has suitable personnel, processes and data to undertake flight test.

A Delegate of the Safety Authority - Flight Test (DoSA(FT)), will act as subject matter expert to assess the MAO capability to conduct flight test and will establish minimum standards/qualifications required.

Delegates of the Safety Authority - Flight Test (DoSA(FT)), include:

Air Warfare Centre, Director Test & Evaluation (Army and Air Force),

OIC Aircraft Maintenance and Flight Trials Unit (AMAFTU) (Navy).

REVISED REGULATION TEXT

Purpose. The purpose of this regulation is to ensure the Military Air Operator (MAO) has suitable personnel, processes and data to undertake flight test.

A Delegate of the Safety Authority - Flight Test (DoSA(FT)), will act as a subject matter expert to assess the MAO's capability to conduct flight test and will assure that the MAO applies the appropriate minimum standards/qualifications.

DASR CLAUSE: AMC FT.05.C
RATIONALE FOR CHANGE
DASA made editorial amendments to AMC FT.05.C and GM FT.05.D to: a. update the list of existing DoSA(FT) and allow for future changes to the DASA DoSA Appointment Register. b. more precisely describe the 'assure' role of DoSA(FT).
CURRENT REGULATION TEXT
Military Air Operators should consult an appropriate Delegate of the Safety Authority (DoSA) - Flight Test (DoSA(FT)), as follows: a. Director Test and Evaluation, Air Warfare Centre (AWC) for Air Force and Army aircraft, or b. Officer in Charge Aircraft Maintenance and Flight Trials Unit (AMAFTU) for Navy aircraft.
REVISED REGULATION TEXT
Military Air Operators should consult an appropriate Delegate of the Safety Authority (DoSA) - Flight Test (DoSA(FT)), as follows: a. Director Test and Evaluation, Air Warfare Centre (AWC) for Air Force and Army aircraft b. Commanding Officer Aircraft Maintenance and Flight Trials Unit (AMAFTU) for Navy aircraft c. Delegates appointed in the DASA DoSA Appointment Register with the approval of 'Flight Test' as amended from time to time.

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022 - 005 & DCP 2022 - 027

DASR CLAUSE: GM FT.05.D

RATIONALE FOR CHANGE

DASA made editorial amendments to AMC FT.05.C and GM FT.05.D to:

a. update the list of existing DoSA(FT) and allow for future changes to the DASA DoSA Appointment Register.

b. more precisely describe the 'assure' role of DoSA(FT).

CURRENT REGULATION TEXT

Purpose. The purpose of this regulation is to ensure the Military Air Operator (MAO) has suitable personnel, processes and data to undertake flight test.

A Delegate of the Safety Authority - Flight Test (DoSA(FT)), will act as subject matter expert to assess the MAO capability to conduct flight test and will establish minimum standards/qualifications required.

Delegates of the Safety Authority - Flight Test (DoSA(FT)), include:

Air Warfare Centre, Director Test & Evaluation (Army and Air Force),

OIC Aircraft Maintenance and Flight Trials Unit (AMAFTU) (Navy).

REVISED REGULATION TEXT

Purpose. The purpose of this regulation is to ensure the Military Air Operator (MAO) has suitable personnel, processes and data to undertake flight test.

A Delegate of the Safety Authority - Flight Test (DoSA(FT)), will act as a subject matter expert to assess the MAO's capability to conduct flight test and will assure that the MAO applies the appropriate minimum standards/qualifications.

DASR CLAUSE: AMC FT.05.C
RATIONALE FOR CHANGE
DASA made editorial amendments to AMC FT.05.C and GM FT.05.D to: a. update the list of existing DoSA(FT) and allow for future changes to the DASA DoSA Appointment Register. b. more precisely describe the 'assure' role of DoSA(FT).
CURRENT REGULATION TEXT
Military Air Operators should consult an appropriate Delegate of the Safety Authority (DoSA) - Flight Test (DoSA(FT)), as follows: a. Director Test and Evaluation, Air Warfare Centre (AWC) for Air Force and Army aircraft, or b. Officer in Charge Aircraft Maintenance and Flight Trials Unit (AMAFTU) for Navy aircraft.
REVISED REGULATION TEXT
Military Air Operators should consult an appropriate Delegate of the Safety Authority (DoSA) - Flight Test (DoSA(FT)), as follows: a. Director Test and Evaluation, Air Warfare Centre (AWC) for Air Force and Army aircraft b. Commanding Officer Aircraft Maintenance and Flight Trials Unit (AMAFTU) for Navy aircraft c. Delegates appointed in the DASA DoSA Appointment Register with the approval of 'Flight Test' as amended from time to time.

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.201(k) paragraphs 2 and 3

RATIONALE FOR CHANGE

Paragraphs 2 and 3 have been combined and the current paragraph 3 text should be the fifth dot point of paragraph 2. All other paragraph numbers are correct. The error was introduced in the DASR 28 Apr 22 release. Dot point symbol should be a dash to align with EMAR

CURRENT REGULATION TEXT

2. The arrangement should be developed taking into account the requirements of DASR M and should define the obligations of the signatories in relation to the management of the continuing airworthiness of the aircraft.
   The arrangement should contain as a minimum the:

   - aircraft registration(s); and
   - aircraft type / model / series; and
   - aircraft serial number(s); and
   - aircraft Operating Organisation including the address; and

3. DASR M.A. Subpart G CAMO details including the address.

REVISED REGULATION TEXT

2. The arrangement should be developed taking into account the requirements of DASR M and should define the obligations of the signatories in relation to the management of the continuing airworthiness of the aircraft.

3. The arrangement should contain as a minimum the:

   - aircraft registration(s); and
   - aircraft type / model / series; and
   - aircraft serial number(s); and
   - aircraft Operating Organisation including the address; and
   - DASR M.A. Subpart G CAMO details including the address.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.301(a)(5)(iii)

RATIONALE FOR CHANGE

In the DASR 28 Sep 17 release, EMAR M AMC & GM Edition 1.0 dated 7 June 2017 was incorporated into DASR and EMAR AMC M.A.301(a)5 was incorporated into DASR as AMC M.A.301(a)5. In the DASR 13 Dec 17 release AMC M.A.301(a)5 was moved to AMC M.A.301(a)5(iii). No documented reason has been found for the move of the DASR AMC.

DASR AMC M.A.301(a)5(iii) to be moved back to AMC M.A.301(a)(5) as this is the top level clause and will maintain alignment with EMAR

CURRENT REGULATION TEXT

AMC M.A.301(a)5(iii) - Continuing airworthiness tasks
Operational directives with a continuing airworthiness impact include operating rules such as Extended Twin-engine Operations (ETOPS) / Long Range Operations (LROPS), Reduced Vertical Separation Minima (RVSM), Minimum Navigation Performance Specification (MNPS), All Weather Operations (AWOPS), Area Navigation (RNAV), etc.

Any other continued airworthiness requirement made mandatory by the NMAA includes (M)TC related requirements such as: Certification Maintenance Requirements (CMR), certification life limited parts, airworthiness limitations from the aircraft type-certification basis, fuel tank system airworthiness limitations including Critical Design Configuration Control Limitations (CDCCL), etc.

REVISED REGULATION TEXT

AMC M.A.301(a)(5) - Continuing airworthiness tasks
Operational directives with a continuing airworthiness impact include operating rules such as Extended Twin-engine Operations (ETOPS) / Long Range Operations (LROPS), Reduced Vertical Separation Minima (RVSM), Minimum Navigation Performance Specification (MNPS), All Weather Operations (AWOPS), Area Navigation (RNAV), etc.

Any other continued airworthiness requirement made mandatory by the NMAA includes (M)TC related requirements such as: Certification Maintenance Requirements (CMR), certification life limited parts, airworthiness limitations from the aircraft type-certification basis, fuel tank system airworthiness limitations including Critical Design Configuration Control Limitations (CDCCL), etc.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.302 paragraph 4

RATIONALE FOR CHANGE

The last sentence of paragraph 4 'Appendix I to DASR AMC M.A.302 provides detailed information on the contents of an AMP.' should not be part of paragrah 4 as it is actually a separate sentence between paragraphs 4 and 5 as per EMAR AMC M.A.302. The error in DASR was introduced in the DASR 28 Apr 22 release when the publishing format of DASR changed.

DASR is also missing '*' from the DASR AMC heading and the associated note after paragraph 5 '* see Appendix I to AMC DASR M.A.302'

CURRENT REGULATION TEXT

AMC M.A.302 - Aircraft Maintenance Programme

4. The AMP should contain a preface which will define the AMP contents, the inspection standards to be applied, permitted variations to task frequencies and, where applicable, any procedure to manage the evolution of established check or inspection intervals. Appendix I to DASR AMC M.A.302 provides detailed information on the contents of an AMP.

5. Repetitive maintenance tasks derived from modifications and repairs should be incorporated into the AMP.

REVISED REGULATION TEXT

AMC M.A.302 - Aircraft Maintenance Programme (*)(AMP)

4. The AMP should contain a preface which will define the AMP contents, the inspection standards to be applied, permitted variations to task frequencies and, where applicable, any procedure to manage the evolution of established check or inspection intervals.

   Appendix I to DASR AMC M.A.302 provides detailed information on the contents of an AMP.

5. Repetitive maintenance tasks derived from modifications and repairs should be incorporated into the AMP.

   * see Appendix I to AMC DASR M.A.302

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.302(d) paragraph 2

RATIONALE FOR CHANGE

In DASR, AMC M.A.302(d), paragraph 2, has two sub paragraphs 'a' and 'b' in EMAR they are just dot points. The discrepancy was introduced in the DASR 28 Apr 22 release when the publishing format of DASR changed, prior to this DASR had dot points.

The two sub paragraphs should be changed back to dot points for consistency in DASR.

CURRENT REGULATION TEXT

2. Instructions issued by the NMAA can encompass all types of instructions from a specific task for a particular aircraft to complete recommended maintenance schedules for certain aircraft types that can be used by the CAMO directly. These instructions may be issued by the NMAA in the following cases:

   a. in the absence of specific recommendations of the (Military) Type Certificate Holder;

   b. to provide alternative instructions to those described in the subparagraph 1 above, with the objective of providing flexibility to the Operating Organisation.

REVISED REGULATION TEXT

2. Instructions issued by the NMAA can encompass all types of instructions from a specific task for a particular aircraft to complete recommended maintenance schedules for certain aircraft types that can be used by the CAMO directly. These instructions may be issued by the NMAA in the following cases:

   - in the absence of specific recommendations of the (Military) Type Certificate Holder;

   - to provide alternative instructions to those described in the subparagraph 1 above, with the objective of providing flexibility to the Operating Organisation.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: GM M.A.302(f)

RATIONALE FOR CHANGE

DASR text is 'Appendix I to AMC M.A.302 provides further guidance and EMAR text is 'Appendix I to AMC EMAR M.A.302 and EMAR M.B.301(b) gives further guidance.'

No documented reason has been found for DASR using the word ‘provides’ instead of the EMAR word ‘gives’. Though the use of ‘provides’ in DASR instead of ‘gives’ has no impact to regulatory intent, DASR to be amended to maintain alignment with EMAR.

CURRENT REGULATION TEXT

1. NOT APPLICABLE.
2. NOT APPLICABLE.
3. The purpose of a reliability programme is to ensure that the AMP tasks are effective and their periodicity is adequate.
4. The reliability programme may result in the extension or reduction of a maintenance task interval, as well as the deletion or addition of a maintenance task.
5. A reliability programme provides an appropriate means of monitoring the effectiveness of the AMP.
6. Appendix I to AMC M.A.302 provides further guidance.

REVISED REGULATION TEXT

1. NOT APPLICABLE.

2. NOT APPLICABLE.

3. The purpose of a reliability programme is to ensure that the AMP tasks are effective and their periodicity is adequate.

4. The reliability programme may result in the extension or reduction of a maintenance task interval, as well as the deletion or addition of a maintenance task.

5. A reliability programme provides an appropriate means of monitoring the effectiveness of the AMP.

6. Appendix I to AMC M.A.302 gives further guidance.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.702(b)

RATIONALE FOR CHANGE

The DASR 28 Apr 22 update changed the publishing format of DASR and this caused the error of combining the first two paragraphs into one paragraph and this results in the numbering of the remaining paragraphs not aligning with the source EMAR text. The final paragraph should be unnumbered.

CURRENT REGULATION TEXT

1. Draft documents should be submitted at the earliest opportunity so that NMAA investigation of the application can begin. ‘Issue’ or ‘Change’ cannot be achieved until the NMAA is in possession of completed documents.
   This information is required to enable the NMAA to conduct its investigation, to assess the volume of maintenance work necessary and the locations at which it will be accomplished.

2. The applicant should inform the NMAA where base and scheduled line maintenance is to take place and give details of any contracted/tasked maintenance which is in addition to that provided in response to DASR M.A.201(h)2 or DASR M.A.708(c).

3. At the time of application, arrangements should be in place for all base and scheduled line maintenance for an appropriate period of time, as acceptable to the NMAA. Further arrangements should be established in due course before the maintenance is due.

4. Base maintenance contracts for high-life time checks may be based on one time contracts/taskings, when the NMAA considers that this is compatible with the Operating Organisation’s fleet size.

REVISED REGULATION TEXT

1. Draft documents should be submitted at the earliest opportunity so that NMAA investigation of the application can begin. ‘Issue’ or ‘Change’ cannot be achieved until the NMAA is in possession of completed documents.

2. This information is required to enable the NMAA to conduct its investigation, to assess the volume of maintenance work necessary and the locations at which it will be accomplished.

3. The applicant should inform the NMAA where base and scheduled line maintenance is to take place and give details of any contracted/tasked maintenance which is in addition to that provided in response to DASR M.A.201(h)2 or DASR M.A.708(c).

4. At the time of application, arrangements should be in place for all base and scheduled line maintenance for an appropriate period of time, as acceptable to the NMAA. Further arrangements should be established in due course before the maintenance is due.

   Base maintenance contracts for high-life time checks may be based on one time contracts/taskings, when the NMAA considers that this is compatible with the Operating Organisation’s fleet size.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.704

RATIONALE FOR CHANGE

DCP 2020-016 was approved to amend AMC M.A.704 to remove green text and to align DASR with EMAR. DCP 2020-016 has not been correctly incorporated into DASR. Some text is missing, separate lines have been incorrectly combined, paragraph 10 has duplicate sentences and some formatting and sentence spacing are not correct. DASR to be amended to correctly incorporate the amended text as per the approved DCP 2020-016 and to align with EMAR AMC 704 Continuing Airworthiness Management Exposition (CAME).

CURRENT REGULATION TEXT

1. The purpose of the CAME is to set forth the procedures, means and methods of the CAMO.

2. Compliance with its contents will assure compliance with DASR M requirements.
   The CAME should comprise:

   Part 0 - General organisation

   Part 1 - Continuing airworthiness management procedures

   Part 2 - Quality system

   Part 3 - Contracted / tasked maintenance

   Part 4 - Airworthiness review procedures (if applicable)

   Part 5 – Appendices

3. Where an Operating Organisation is also the DASR 145, the Exposition required by DASR 145 may form the basis of the CAME in a combined document:

   DASR 145 Exposition (see equivalent paragraphs in DASR AMC 145.A.70 (a)) - Part 1 – Management

   Part 2 - Maintenance procedures

   Part 3 - Quality system

   Part 4 - Contracts/tasking with Operating Organisations

   Part 5 – Appendices

   Additional parts should be introduced covering the following:

   Part 0 - General organisation

   Part 6 - Continuing airworthiness management procedures

CURRENT REGULATION TEXT continued

Part 9 - Airworthiness review procedures (if applicable)

4. Personnel should be familiar with those parts of the CAME that are relevant to their tasks.

5. The CAMO should specify in the CAME who is responsible for the amendment of the document.

6. Unless otherwise agreed by the NMAA, the person responsible for the management of the quality system should be responsible for monitoring and amending the CAME, including any associated procedures manuals, and the submission of proposed amendments to the NMAA. The NMAA may agree a procedure, which will be stated in the amendment control section of the CAME, defining the class of amendments which can be incorporated without the prior consent of the NMAA

7. The CAMO may use Electronic Data Processing (EDP) for publication of the CAME. The CAME should be made available to the NMAA in a form acceptable to the NMAA. Attention should be paid to the compatibility of EDP publication systems with the necessary dissemination of the CAME, both internally and externally.

8. Part 0 "General organisation" of the CAME should include a corporate commitment by the CAMO, signed by the Accountable Manager, confirming that the CAME and any associated manuals define the organisation's compliance with DASR M and will be complied with at all times.

9. The Accountable Manager's Exposition statement should embrace the intent of the following paragraph, and this statement may be used without amendment. Any modification to the statement should not alter the intent:

This exposition defines the organisation and procedures upon which the DASR M.A. Subpart G continuing airworthiness management approval is based.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that the (NMAA*) will approve this organisation whilst the (NMAA*) is satisfied that the procedures are being followed and the work standard is maintained. It is understood that the (NMAA*) reserves the right to suspend, limit or revoke the DASR M.A. Subpart G continuing airworthiness management approval of the organisation, if the (NMAA*) has evidence that the procedures are not followed and the standards not upheld."

Signed.....

Dated.....

CURRENT REGULATION TEXT continued

For and on behalf of..... (quote organisation's name).....

NOTE: Where it states (NMAA*), please insert the actual name of the NMAA, for example DASA

10. Whenever the Accountable Manager changes, it is important to ensure that the new Accountable Manager signs the paragraph 9 statement at the earliest opportunity as part of the acceptance by the NMAA. Whenever the accountable manager is changed it is important to ensure that the new accountable manager signs the paragraph 9 statement at the earliest opportunity as part of the acceptance by the NMAA.

11. The CAME should contain information as applicable, on how the CAMO complies with CDCCL instructions.

REVISED REGULATION TEXT

AMC M.A.704 - Continuing Airworthiness Management Exposition (CAME)

1. The purpose of the CAME is to set forth the procedures, means and methods of the CAMO. Compliance with its contents will assure compliance with DASR M requirements.

2. A CAME should comprise:

   Part 0 General organisation
   Part 1 Continuing airworthiness management procedures
   Part 2 Quality system
   Part 3 Contracted/tasked maintenance
   Part 4 Airworthiness review procedures (if applicable)
   Part 5 Appendices

3. Where an Operating Organisation is also approved to DASR 145, the Exposition required by DASR 145 may form the basis of the CAME in a combined document:

   DASR 145 Exposition (see equivalent paragraphs in DASR AMC 145.A.70 (a))
   Part 1 Management
   Part 2 Maintenance procedures
   Part L2 Additional line maintenance procedures
   Part 3 Quality system
   Part 4 Contracts/tasking with Operating Organisations
   Part 5 Appendices
   Part 7 (Not Applicable)
   Part 8 (Not Applicable)

   Part 3 should also cover the functions specified by DASR M.A.712 Quality system.
   Part 4 should also cover contracted/tasked maintenance.

   Additional parts should be introduced into the combined Exposition covering the following:

   Part 0 General organisation
   Part 6 Continuing airworthiness management procedures
   Part 9 Airworthiness review procedures (if applicable)

REVISED REGULATION TEXT continued

4. Personnel should be familiar with those parts of the CAME that are relevant to their tasks.

5. The CAMO should specify in the CAME who is responsible for the amendment of the document.

6. Unless otherwise agreed by the NMAA, the person responsible for the management of the quality system should be responsible for monitoring and amending the CAME, including any associated procedures manuals, and the submission of proposed amendments to the NMAA. The NMAA may agree a procedure, which will be stated in the amendment control section of the CAME, defining the class of amendments which can be incorporated without the prior consent of the NMAA.

7. The CAMO may use Electronic Data Processing (EDP) for publication of the CAME. The CAME should be made available to the NMAA in a form acceptable to the NMAA. Attention should be paid to the compatibility of EDP publication systems with the necessary dissemination of the CAME, both internally and externally.

8. Part 0 “General organisation” of the CAME should include a corporate commitment by the CAMO, signed by the Accountable Manager, confirming that the CAME and any associated manuals define the organisation’s compliance with DASR M and will be complied with at all times.

9. The Accountable Manager’s Exposition statement should embrace the intent of the following paragraph, and this statement may be used without amendment. Any modification to the statement should not alter the intent:

   “This Exposition defines the organisation and procedures upon which the (NMAA - * see note below) DASR M.A. Subpart G continuing airworthiness management approval is based.

   These procedures are approved by the undersigned and should be complied with, as applicable, in order to ensure that all continuing airworthiness tasks of... (quote Operating Organisation’s name) fleet of aircraft and/or of all aircraft under contract/tasking in accordance with DASR M.A.201(k) with ... (quote CAMO’s name) ... are carried out on time to an approved standard.

   It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published from time to time where these new or amended regulations are in conflict with these procedures.

   It is understood that the (NMAA*) will approve this organisation whilst the (NMAA*) is satisfied that the procedures are being followed and the work standard is maintained. It is understood that the (NMAA*) reserves the right to suspend, limit or revoke the DASR M.A. Subpart G continuing airworthiness management approval of the organisation, if the (NMAA*) has evidence that the procedures are not followed and the standards not upheld.”

REVISED REGULATION TEXT continued

Signed.....

Dated.....

Accountable Manager and..... (quote position).....

For and on behalf of..... (quote organisation's name).....

Note: Where it states (NMAA*), please insert the actual name of the NMAA, for example DASA

10. Whenever the Accountable Manager changes, it is important to ensure that the new Accountable Manager signs the paragraph 9 statement at the earliest opportunity.

Failure to carry out this action could invalidate the DASR M.A. Subpart G approval.

11. The CAME should contain information as applicable, on how the CAMO complies with CDCCL instructions.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.707(a) paragraph 4

RATIONALE FOR CHANGE

The last sentence after paragraph 4 'It is not necessary to satisfy the experience requirements of DASR 66.A.20(b)(2) at the time of the review.' is indented after the last dot point. It should not be indented as it could be interpreted that it is only related to the last dot point. EMAR has the sentence aligned with the paragraph 4 text.

Note the dot point symbol should be a dash for consistency

CURRENT REGULATION TEXT

4. An appropriate MAML in compliance with DASR 66 is any one of the following:

- a category B1 licence in the subcategory of the aircraft reviewed, or
- a category B2 or C licence.

It is not necessary to satisfy the experience requirements of DASR 66.A.20(b)(2) at the time of the review.

REVISED REGULATION TEXT

4. An appropriate MAML in compliance with DASR 66 is any one of the following:

- a category B1 licence in the subcategory of the aircraft reviewed, or
- a category B2 or C licence.

It is not necessary to satisfy the experience requirements of DASR 66.A.20(b)(2) at the time of the review.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.707(a) paragraph 5

RATIONALE FOR CHANGE

Paragraph 5 the sentence before the first dot point 'Independence from the airworthiness management process may be achieved, among other ways, by:' should not be indented as it is the top level paragraph as per EMAR AMC M.A.707(a). Error introduced in DASR 28 Apr 22 release.

Paragraph 5 the sentence after the fourth dot point 'Overall authority on the airworthiness management process of complete aircraft may be achieved, among other ways, by:' should not be indented as it is the top level paragraph as per EMAR AMC M.A.707(a). Error introduced in DASR 29 Apr 21 release.

CURRENT REGULATION TEXT

5. To hold a position with appropriate responsibilities means the airworthiness review staff should have a position in the CAMO independent from the airworthiness management process or with overall authority on the airworthiness management process of complete aircraft.

Independence from the airworthiness management process may be achieved, among other ways, by:

- Being authorised to perform airworthiness reviews only on aircraft for which the person has not participated in their management. For example, performing airworthiness reviews on a specific type or series, while being involved in the airworthiness management of a different type or series.
- CAMOs that are part of an Operating Organisation that also has a DASR 145 approval, may nominate maintenance personnel from their DASR 145 organisation as airworthiness review staff, as long as they are not involved in the airworthiness management of the aircraft. These personnel should not have been involved in the release to service of that particular aircraft (other than maintenance tasks performed during the physical survey of the aircraft or performed as a result of findings discovered during such physical survey) to avoid possible conflict of interests.
- Nominating as airworthiness review staff personnel from the Quality Department of the CAMO.
- Contracting/tasking staff from another organisation.

Overall authority on the airworthiness management process of complete aircraft may be achieved, among other ways, by:

- Nominating as airworthiness review staff the Accountable Manager or the Continuing Airworthiness Manager.
- Being authorised to perform airworthiness reviews only on those particular aircraft for which the person is responsible for the complete continuing airworthiness management process.

REVISED REGULATION TEXT

5. To hold a position with appropriate responsibilities means the airworthiness review staff should have a position in the CAMO independent from the airworthiness management process or with overall authority on the airworthiness management process of complete aircraft.

Independence from the airworthiness management process may be achieved, among other ways, by:

- Being authorised to perform airworthiness reviews only on aircraft for which the person has not participated in their management. For example, performing airworthiness reviews on a specific type or series, while being involved in the airworthiness management of a different type or series.

- CAMOs that are part of an Operating Organisation that also has a DASR 145 approval, may nominate maintenance personnel from their DASR 145 organisation as airworthiness review staff, as long as they are not involved in the airworthiness management of the aircraft. These personnel should not have been involved in the release to service of that particular aircraft (other than maintenance tasks performed during the physical survey of the aircraft or performed as a result of findings discovered during such physical survey) to avoid possible conflict of interests.

- Nominating as airworthiness review staff personnel from the Quality Department of the CAMO.

- Contracting/tasking staff from another organisation.

Overall authority on the airworthiness management process of complete aircraft may be achieved, among other ways, by:

- Nominating as airworthiness review staff the Accountable Manager or the Continuing Airworthiness Manager.

- Being authorised to perform airworthiness reviews only on those particular aircraft for which the person is responsible for the complete continuing airworthiness management process.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.707(c)

RATIONALE FOR CHANGE

The last paragraph should not be indented in line with the dot points as it is a higher level paragraph as per EMAR AMC M.A.707(c), error introduced in the DASR 13 Dec 17 release.

CURRENT REGULATION TEXT

In order to keep their authorisations valid, the airworthiness review staff should have either:

- been involved in continuing airworthiness management activities for at least six months in every two year period; or
- conducted at least one airworthiness review in the last twelve month period.

In order to restore the validity of the authorisation, the airworthiness review staff should conduct at a satisfactory level an airworthiness review under the supervision of the NMAA or, if accepted by the NMAA, under the supervision of another currently valid authorised airworthiness review staff of the CAMO in accordance with an approved procedure.

REVISED REGULATION TEXT

In order to keep their authorisations valid, the airworthiness review staff should have either:

- been involved in continuing airworthiness management activities for at least six months in every two year period; or
- conducted at least one airworthiness review in the last twelve month period.

In order to restore the validity of the authorisation, the airworthiness review staff should conduct at a satisfactory level an airworthiness review under the supervision of the NMAA or, if accepted by the NMAA, under the supervision of another currently valid authorised airworthiness review staff of the CAMO in accordance with an approved procedure.

DASR AMENDMENT RECORD
DCP 2023 -001

DASR CLAUSE: AMC M.A.708(c) paragraph 1

RATIONALE FOR CHANGE

Editorial, paragraph 1, part of first sentence 'formal tasking or a contract should be agreed between the Operating Organisation/CAMO and an DASR 145 AMO which specifies' The 'an' should be 'a'. Error introduced in the DASR 28 Sep 17 release.

CURRENT REGULATION TEXT

1. Where an Operating Organisation is not approved under DASR 145 or where an Operating Organisation's maintenance organisation is an independent organisation, formal tasking or a contract should be agreed between the Operating Organisation/CAMO and an DASR 145 AMO which specifies, in detail the work to be performed by the DASR 145 AMO. Appendix XI to DASR AMC M.A.708(c) gives further details on the subject.

REVISED REGULATION TEXT

1. Where an Operating Organisation is not approved under DASR 145 or where an Operating Organisation's maintenance organisation is an independent organisation, formal tasking or a contract should be agreed between the Operating Organisation/CAMO and a DASR 145 AMO which specifies, in detail the work to be performed by the DASR 145 AMO. Appendix XI to DASR AMC M.A.708(c) gives further details on the subject.

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.708(c) last paragraph

RATIONALE FOR CHANGE

The reference to '* see Appendix XI to AMC to EMAR M.A.708(c)' is missing after the last paragraph of the AMC text. The reference was in DASR at the end of the AMC text but it was not included in the DASR 28 Apr 22 release when the publishing format of DASR changed. Also the AMC heading should include the '*'

Note the last paragraph should not be indented but should align with the numbered paragraphs

CURRENT REGULATION TEXT

AMC M.A.708(c) - Continuing airworthiness management

In essence, this does not alter the intent of DASR M.A.201(h) in that it also requires that the Operating Organisation has to establish formal tasking or a written maintenance contract and, whatever type of acceptable arrangement is made, the Operating Organisation/CAMO is required to exercise the same level of control on contracted or tasked maintenance, particularly through the DASR M.A.706(c) continuing airworthiness management group of persons and quality system as referred to in DASR M.A.712—Quality system and Safety Management System.

REVISED REGULATION TEXT

AMC M.A.708(c) - Continuing airworthiness management (*)

In essence, this does not alter the intent of DASR M.A.201(h) in that it also requires that the Operating Organisation has to establish formal tasking or a written maintenance contract and, whatever type of acceptable arrangement is made, the Operating Organisation/CAMO is required to exercise the same level of control on contracted or tasked maintenance, particularly through the DASR M.A.706(c) continuing airworthiness management group of persons and quality system as referred to in DASR M.A.712—Quality system and Safety Management System.

* see Appendix XI to DASR AMC M.A.708(c)

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: AMC M.A.714 paragraph 3

RATIONALE FOR CHANGE

Paragraph 3, last sentence is 'The record should remain legible throughout the required retention period.' it should be 'The record should remain readable and accessible throughout the required retention period.'.

This will align with EMAR as well as with the separate sentence after paragraph 3 ''Readable and accessible' is defined in AMC DASR M.A.305(h).' Note this sentence should not be indented.

CURRENT REGULATION TEXT

3. Keeping continuing airworthiness records in a form acceptable to the NMAA means in paper form or on a computer database or a combination of both methods. Records stored in microfilm or optical disc form are also acceptable. The record should remain legible throughout the required retention period.

'Readable and accessible' is defined in AMC DASR M.A.305(h).

REVISED REGULATION TEXT

3. Keeping continuing airworthiness records in a form acceptable to the NMAA means in paper form or on a computer database or a combination of both methods. Records stored in microfilm or optical disc form are also acceptable. The record should remain readable and accessible throughout the required retention period.

'Readable and accessible' is defined in AMC DASR M.A.305(h).

DASR AMENDMENT RECORD
DCP 2023 - 001

DASR CLAUSE: Appendix XI to AMC M.A.708(c) paragraph 2.16

RATIONALE FOR CHANGE

Paragraph **2.16. Deferred maintenance**, the last three words 'should be addressed' are green text in DASR. As the words are EMAR text they should be black text. Error introduced in the 28 Apr 22 release.

CURRENT REGULATION TEXT

2.16. Deferred maintenance

See paragraphs 2.14 and 2.15 above and AMC DASR 145.A.50(e). In addition, for aircraft line and base maintenance the use of the MEL and CDL (if applicable) or deferred defect process at AMC M.A.301(a)2 should be addressed.

REVISED REGULATION TEXT

2.16. Deferred maintenance

See paragraphs 2.14 and 2.15 above and AMC DASR 145.A.50(e). In addition, for aircraft line and base maintenance the use of the MEL and CDL (if applicable) or deferred defect process at AMC M.A.301(a)2 should be addressed.

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022 - 029

DASR CLAUSE: DASR MED

RATIONALE FOR CHANGE

MAO is not appropriate terminology when referring to ANSP organisations.

DASA replaced MAO with Accountable Manager in MED.10 and MED.15.

REVISION

All instances of 'MAO' at the listed references will be replaced with the appropriate variant of 'Accountable Manager' as specified in column 3.

Regulation	Sub paragraph	Revised text
MED.10	MED.10.A	Accountable Manager
	AMC MED.10.A.2	Accountable Manager (AM)
	AMC MED.10.A.3	AM
	AMC MED.10.A.4	AM
	AMC MED.10.A.5 first instance	AM
	AMC MED.10.A.5 second instance	AM
	AMC MED.10.A.9	AM
	GM MED.10.A.3 first instance	Accountable Manager (AM)
	GM MED.10.A.3 second instance	AM
MED.15	MED.15.A	Accountable Manager
	AMC MED.15.A.3	Accountable Manager (AM)
	AMC MED.15.A.31	AM
	GM MED.15.A.3	Accountable Manager

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022 - 028

DASR CLAUSE: GM ORO.30.A.3

RATIONALE FOR CHANGE

DQF 33/2022 from ACG queried the intent of AMC ORO.30.A.3.X. In drafting the response DASA determined further GM should be added to clarify the intent of sub para X. DASA added additional GM4 to DASR ORO.30.A.3.

CURRENT REGULATION TEXT

REVISED REGULATION TEXT

[GM4 ORO.30(a)3 – Flight following maintenance where the Aircraft Captain is a trainee (AUS)]

a. The purpose of AMC ORO.30.A.3.X is to require MAOs to risk manage flights, in which the Aircraft Captain is a trainee, following maintenance to Aircraft systems critical to flight safety—to eliminate or otherwise minimise so far as is reasonably practicable the hazard that an incorrect maintenance procedure, or inadequately managed modification, would lead to an adverse safety outcome.

b. This AMC does not preclude trainee Aircraft Captains flying Aircraft immediately following routine maintenance activities (eg an After Flight Servicing, Before Flight Servicing or Turn-around Servicing) in respect of such systems. Nor does this AMC preclude trainee Aircraft Captains flying Aircraft immediately following replenishment of consumables, including tyre changes.

c. Further, the list of Aircraft systems to which a MAO should place restrictions on trainee Aircraft Captains flying on the first flight following significant maintenance is not limited to those detailed in AMC ORO.30.A.3.X. MAOs may identify, through risk assessment, additional Aircraft maintenance activities for which it is appropriate to place restrictions on trainee Aircraft Captains for the first flight following such maintenance.

Australian Government
Department of Defence
Defence Aviation Safety Authority

Defence Aviation Safety Authority

DASR AMENDMENT RECORD
DCP 2022 - 007

DASR CLAUSE: DASR SPA.55

RATIONALE FOR CHANGE

DASA drafted new regulation DASR SPA.55 NVIS to address the absence of Defence regulation for the effective management of NVIS aviation safety hazards.

Note:
1. GPCAPT C Pouncey, Dir AVNOPS, signed section 5 and 7a, in lieu of the Def AA Delegate and DG DASA, on the basis that those authorities recorded their endorsement and approval via the DBs at BP24151584, and BP26902686, respectively (see section 5 and 6 hyperlinks). This is consistent with advice on acceptable process from Dr A Shrimpton, DD PER (HQ DASA).

2. DG DASA approved version 10 (in pdf) of BP24979703 at BP26902686 with the following caveat:

'Approval is subject to rework of SPA.55(a).2 in consultation with DDIA. Reference to the ADRM in the Implementing Regulation needs to be removed. Instead the IR should use a broader description, such as 'approved equipment design and certification reqts', with reference to the ADRM included in AMC. Please work with DDIA and DD DTS on the revised wording and associated GM/AMC. I will do a final approval of all DASR updates as part of the scheduled Feb 23 release.'

Accordingly, DAVNOPS created version 24 (word) to address DG DASA's direction. DAVNOPS consulted version 24 with Dir DIA. Dir DIA endorsed (including on behalf of DD DTS) v24 on 10 Jan 23. DAVNOPS subsequently created v27 incorporating some editorial changes to paragraph numbering and AMC/GM titles. Please publish v27 (word) of BP24979703.

CURRENT REGULATION TEXT

REVISED REGULATION TEXT

SEE BELOW

BP24797903

DASR SPA.55 FOR FEB 2023 DASR RELEASE

‘NIGHT VISION IMAGING SYSTEM (NVIS)’

Contents

SECTION 1: NEW DASP GLOSSARY DEFINITIONS

1. DASA will add the following new or modified definitions to the DASP Manual Glossary of Terms:

Area Safe Height (ASH)*

The lowest altitude which will provide safe terrain clearance within a defined area.

Lowest Safe Altitude (LSALT)

The lowest altitude which will provide safe terrain clearance at a given place.

Minimum Sector Altitude (MSA)

The lowest altitude which may be used which will provide a minimum clearance of 1,000FT above all objects located in an area contained within a circle or a sector of a circle of 25NM or 10NM radius centred on a significant point, the ARP or the HRP.

Night Vision Device (NVD)

Any electro-optical device that is used to detect visible and infrared energy and provide a visible image.

Night Vision Goggles (NVG)

An electro-optical image intensifying device that detects visible and near-infrared energy, intensifies the energy, and provides a visible image for night viewing.

Notes:
1. Night vision goggles can be either hand-held or helmet-mounted.
2. Plural form (Night Vision Goggles) refers to binocular equipment and the singular form (Night Vision Goggle) refers to monocular equipment.

Night Vision Imaging System (NVIS)*

A system in which all of the elements required to operate an Aircraft successfully and safely using NVDs are integrated, including NVDs, NVIS compatible lighting, Aircraft components and equipment, training and currency, operating procedures and Continuing Airworthiness.

Safety Critical

Applied to a condition, event, operation, process, or item whose proper recognition, control, performance, or tolerance is essential for safe system operation or use; eg safety critical function, safety critical path, safety critical component.

2. DASA will add the following new acronyms to the DASP Acronym List:

ACRONYM	EXPANSION
ASH	Area Safe Height
CFIT	Controlled Flight Into Terrain
CRP	Core Risk Profile
IAW	In accordance with
LSALT	Lowest Safe Altitude
mlx	millilux
MRP	Mission Risk Profile
MSA	Minimum Sector Altitude
NVD	Night Vision Device
NVG	Night Vision Goggles
NVIS	Night Vision Imaging System
RMP	Risk Management Plan

SECTION 2: NEW DASR SPA.55 IR ONLY

The following is new DASR.

SPA.55 – NIGHT VISION IMAGING SYSTEM (NVIS) (AUS)

GM

(a) The MAO or Sponsor must utilise a defined Night Vision Imaging System (NVIS) to ensure Suitability For Flight for Defence Aircraft when using Night Vision Devices (NVDs) as the primary means of vision for Safety Critical tasks. The defined NVIS must include:

1. Aircraft Type Design compatibility IAW DASR 21

2. compliance to approved equipment design requirements **GM** **AMC**

3. NVIS equipment and NVIS-specific aircraft components applicable to each Aircraft Type, which meets the: **GM** **AMC**

   i. requirements of DASR ORO.40

   ii. NVIS maintenance requirements promulgated in OIP approved by the MAO or Sponsor.

4. integration into DASR ORO.10 Flying Management System (FMS), to ensure: **GM** **AMC**

   i. NVIS Aircrew composition, qualifications, Currency and training are defined IAW DASR AIRCREW.10 **GM** **AMC**

   ii. Flight Authorisation system risk controls are utilised IAW DASR ORO.30 **GM**

   iii. Safety Management System (SMS) controls are utilised, incorporating:

      a. risk management IAW DASR SMS **GM** **AMC**

      b. fatigue management IAW DASR AVFM.20 **AMC**

      c. defined environmental minimums for Aircraft Type's roles and tasks **GM** **AMC**

      d. defined minimum NVIS equipment required for aided Flight operations. **AMC**

   iv. OIP details:

      a. the illumination level below which additional Aircrew training, qualifications and hazard controls are required **GM** **AMC**

      b. normal and emergency procedures for the Aircraft Type's roles and tasks **GM** **AMC**

      c. instructions and limitations for the Aircraft Type's roles and tasks. **GM** **AMC**

SECTION 3: NEW DASR SPA.55 IR, AMC and GM

The following is the DASR SPA.55 IR, AMC and GM. AMC is in purple text. GM is in brown text.

SPA.55 – NIGHT VISION IMAGING SYSTEM (NVIS) (AUS)

▾ GM

GM SPA.55 – Night Vision Imaging System (NVIS) (AUS)

a. **Purpose**. **(Context)** The safe and effective delivery of military aviation capabilities is enhanced by exploiting evolving Night Vision Imaging System (NVIS) technologies. However, these technologies have limitations, particularly in military aviation applications, when used as the primary means of vision for Safety Critical tasks. **(Hazard)** Suitability For Flight can be compromised by an inadequately defined NVIS, or ineffective management of NVIS equipment and operations. **(Defence)** This regulation requires the MAO or Sponsor to utilise a defined NVIS that ensures Suitability For Flight when Night Vision Devices (NVDs) are used as the primary means of vision for Safety Critical tasks.

b. **Applicability**. This regulation applies to MAOs or Sponsors operating Aircraft crewed by NVIS-qualified Aircrew (including Mission Crew) utilising NVDs as the primary means of vision while performing Safety Critical tasks—where Safety Critical tasks in the NVIS context include:

i. Aircraft control (ie managing the Aircraft Flight path) during: taxi, take-off, cruise, in-Flight manoeuvring, approach, and landing

ii. terrain and obstacle avoidance, Aircraft separation, visual navigation, and other tasks where direction, spacing, distance or rate of closure information is obtained from the NVD.

c. Note: DASR SPA.55 does not apply when any NVIS component is utilised for a non-Safety Critical task (eg as a sensor for targeting or search) where the primary defences against Controlled Flight Into Terrain (CFIT) and collision with other Aircraft are achieved via other means. For example, for operations at or above Area Safe Height (ASH), Lowest Safe Altitude (LSALT) or Minimum Sector Altitude (MSA) the regulatory hazard controls contained with SPA.55 defending against CFIT are not applicable. Similarly, when using height blocks or radar trail to ensure de-confliction between Aircraft, the regulatory hazard controls contained with SPA.55 defending against collision with other Aircraft do not apply.

d. **DASR SPA.55 NVIS-terminology and definitions**:

i. **Night aided**. Flight at night using NVD.

ii. **Night unaided**. Flight at night without the use of NVD.

iii. '**NVIS equipment'** includes items such as: NVD, NVD Head Up Display (HUD), optical cueing device, Helmet Mounted Sight and Display (HMSD), and any other aviation night vision enhancing technology or equipment that delivers an image directly, or indirectly (ie from single, multiple or blended sources) to Aircrew.

iv. '**Visual acuity'** is the ability of the eye to distinguish shapes and the details of objects at a given distance (note, use of the term 'visual acuity' is synonymous with 'visual definition').

(a) The MAO or Sponsor must utilise a defined Night Vision Imaging System (NVIS) to ensure Suitability For Flight for Defence Aircraft when using Night Vision Devices (NVDs) as the primary means of vision for Safety Critical tasks. The defined NVIS must include:

1. Aircraft Type Design compatibility IAW DASR 21

2. compliance to approved equipment design requirements ▾ **GM** ▾ **AMC**

AMC SPA.55(a)2 – Night Vision Imaging System (NVIS) equipment design (AUS)

The MAO or Sponsor should ensure NVIS equipment complies with the approved design requirements prescribed in the *Airworthiness Design Requirements Manual (ADRM)*.

GM SPA.55(a)2 – Night Vision Imaging System (NVIS) equipment design (AUS)

a. The *Airworthiness Design Requirements Manual (ADRM)* prescribes NVIS equipment design and integration requirements, minimum operational performance standards, and key considerations for the introduction of NVIS equipment, or modification of existing configurations. Design requirements for NVIS equipment categorised as Aeronautical Life Support Equipment (ALSE) can be found in the ADRM *Aeronautical Life Support Equipment* chapter. Aircraft and aerodrome lighting design requirements are found in the ADRM *Lighting Systems* chapter and *Aerodrome Design Requirements* chapter respectively.

b. Aircrew NVIS equipment (eg NVG) is categorised as ALSE under the *Night Vision Systems* domain IAW the ADRM *Aeronautical Life Support Equipment* chapter. NVIS ALSE certification and management is regulated through DASR ORO.40. The process for NVIS ALSE certification and approval, will depend on whether the NVIS ALSE is included in the Aircraft's Type design, as detailed in DASR GM ORO.40.B(1) – *Certified ALSE (AUS)*, or not. NVIS integration requirements (equipment integration with Aircraft and Aircrew) may be included in the DASR 21 Aircraft Type design and certification process, whereas NVIS equipment design (eg NVG) is not normally part of the Aircraft Type design.

3. NVIS equipment and NVIS-specific aircraft components applicable to each Aircraft Type, which meets the: ▾ **GM** ▾ **AMC**

AMC SPA.55(a)3 – Night Vision Imaging System (NVIS) equipment and NVIS-specific Aircraft component management (AUS)

a. The MAO or Sponsor should:

i. manage and maintain Night Vision Device (NVD) Aeronautical Life Support Equipment (ALSE) (eg NVD and helmet mount equipment) IAW DASR ORO.40

ii. manage and maintain NVIS Aircraft components such as Aircraft lighting, instruments, Aircraft HUD, windshield and transparencies, IAW approved OIP

iii. ensure NVIS equipment is assessed to be serviceable and correctly set up for use prior to Flight, and Aircrew conduct NVD performance checks and calibration pre-Flight or at intervals recommended by the OEM

iv. define NVIS equipment unserviceability reporting requirements.

GM SPA.55(a)3 – Night Vision Imaging System (NVIS) equipment management (AUS)

a. **NVIS equipment approval and maintenance**. The MAO or Sponsor should consider approval of NVIS equipment (eg NVD, helmet, helmet mount and HMSD) for use by Aircrew after a test and evaluation process, including technical assessments IAW standards prescribed by Aeronautical Life Support Logistics Management Unit (ALSLMU). Qualified ALSE personnel should maintain NVIS equipment (designated as ALSE) IAW MAO or Sponsor approved OIP.

b. **NVD pre-Flight checks**. Pre-Flight checking of NVD serviceability and calibration (typically by Aircrew) normally involves a serviceability check conducted in a specially fitted darkened room, and a field check (outdoors or in the Aircraft). In the absence of an approved pre-Flight checking facility, NVD pre-Flight checks should be conducted IAW OEM manual(s) and as approved by the MAO or Sponsor.

c. **Minimum Equipment List (MEL).** The MAO or Sponsor may choose to add unserviceability deferral or relief options (if applicable) for NVIS equipment and NVIS-specific Aircraft components into the DASA approved aircraft MEL.

d. **Eye protection**. Where the helmet visor cannot be worn with NVDs, the MAO or Sponsor should consider (IAW *RAAF IAM Document-Aviation Medicine for ADF Aircrew, 3rd edition, 2012 AL6*) providing Aircrew with alternative NVIS compatible protective eyewear (eg plano safety lenses) to provide eye protection (where feasible). Safety lenses are less likely to shatter during an impact event than non-safety spectacle lenses. The ADRM ALSE chapter defines the required standards to be met for protective eyewear.

e. **Vision correction.** The DHM *Vol2 Part 9 Chapter 10* details the policy and guidelines for selection and use of Aircrew optical aids. RAAF IAM report *Guidelines for the Selection and Use of Spectacles and Contact Lenses by Aircrew* of 25 July 2016 provides AVMOs and Aircrew with additional guidance on implementation of DHM policy, including optical aids' integration considerations with ALSE such as NVDs.

f. **NVIS equipment integration with other Personal Protective Equipment (PPE).** Defence WHS policy prescribes MAO or Sponsor obligations for the provision of PPE in the workplace. The ADRM defines the requirements for certification of PPE such as safety goggles, Helicopter Aircrew Respiratory System (HARS), immersion suits, Chemical, Biological, Radiological and Nuclear (CBRN) suits or other protective equipment. If an NVD is to be used in conjunction with PPE, ALSLMU (or other appropriate organisation) should be consulted to inform MAOs and Sponsors about NVD compatibility.

   i. requirements of DASR ORO.40

   ii. NVIS maintenance requirements promulgated in OIP approved by the MAO or Sponsor.

4. integration into DASR ORO.10 Flying Management System (FMS), to ensure: ▾ **GM** ▾ **AMC**

AMC SPA.55(a)4 – Night Vision Imaging System (NVIS) integration with the Flying Management System (FMS) (AUS)

a. The MAO or Sponsor must ensure the FMS:

   i. integrates NVIS operations IAW DASR ORO.10

ii. includes Aircraft crewing and captaincy risk controls for NVIS operations IAW DASR ORO.50 and DASR ORO.55

iii. where applicable, includes NVIS-specific:

(a) training IAW DASR AIRCREW.55

(b) low flying risk controls IAW DASR SPA.20

(c) formation flying risk controls IAW DASR SPA.05

(d) procedures for operating with third parties, such as other Aircraft, Aerodromes, ships, Shipborne Heliports, vehicles or personnel at landing zones; and the third parties respective equipment, considering:

(i) lighting type, levels, and light discipline during NVIS operation

(ii) communication requirements (aural or visual), standard terminology, signals, and back-up procedures

(iii) hazard controls.

GM SPA.55(a)4 – Night Vision Imaging System (NVIS) integration with the Flying Management System (FMS) (AUS)

a. When planning NVIS operations with friendly third parties, MAOs and Sponsors should make every practicable effort to coordinate and standardise procedures in an effort to minimise the risk of the third party (inadvertently) introducing a hazard to Aircrew using NVDs, especially during Aircrew performance of a Safety Critical task while using NVDs. The intent of third party coordination procedures is to prevent recurrence of past aviation safety incidents. Third party (eg ship, tanker Aircraft, Aerodrome) use of NVIS-incompatible lighting during critical Flight phases (eg landing approach or Air to Air Refuelling (AAR)) have resulted in the degradation of Aircrew vision, and compromised Suitability For Flight.

b. When it is not feasible to coordinate with third parties, or attain their cooperation, MAOs or Sponsors should identify and treat NVIS-related hazards from third party interactions in order to eliminate or otherwise minimise risk SFARP.

i. NVIS Aircrew composition, qualifications, Currency and training are defined IAW DASR AIRCREW.10 ▼ **GM** ▼ **AMC**

AMC SPA.55(a)4(i) – Night Vision Imaging System (NVIS) Aircrew composition, qualification, Currency and training (AUS)

a. The MAO or Sponsor should define in OIP the minimum Crew composition, qualification, Currency and training requirements for NVIS roles and tasks, including for both normal and low illumination operations.

b. The MAO or Sponsor should define Currency requirements for the enablers to NVIS Flight and instruction. Currency in the following Flight disciplines should be met prior to NVIS Flight:

i. Instrument Flight (IF)

ii. day Flight

iii. night (unaided) Flight.

c. The MAO or Sponsor should provide Aircrew and instructor NVIS training IAW DASR AIRCREW.10, including:

i. an Aircrew and instructor NVIS Learning Management Plan (LMP)

ii. training OIP

iii. qualification, Currency, refresher and differences (or gap) training (where differences training addresses significant changes, modifications or updates to NVIS equipment or the Human Machine Interface (HMI) that impacts existing Aircraft capabilities, functions or procedures, or causes operational impacts to Aircrew).

iv. Aircrew training and standards for the award of:

(a) an NVIS qualification

(b) an MAO- or Sponsor-specified NVIS low illumination level qualification.

v. Aircrew NVIS initial training, and methods of maintaining and regaining currency, including:

(a) actions during NVIS critical Flight phases for NVD faults, failures or events that result in NVD vision degradation or loss

(b) formation flying (including procedures to ensure intra-formation de-confliction in the event a pilot loses visual on other Aircraft in formation, eg the requirement to establish positive vertical or lateral deconfliction)

(c) transition to and from aided Flight

(d) weather-related loss of visibility or entry into IMC during NVIS critical Flight phases

(e) Aircraft normal and emergency actions while operating with NVDs

(f) unusual attitude recovery.

d. **Flight Simulator Training Device (FSTD) Training.** The MAO or Sponsor should minimise or eliminate emergency training in the Aircraft through utilisation of the FSTD for emergency training. The FSTD should also be used to complement training for normal NVIS operations. MAOs or Sponsors should consider utilising virtual mission training systems, and other ground based training aids (eg physical or virtual terrain boards) to the maximum extent possible to complement NVIS training.

e. **In-Flight emergency training.** The MAOs or Sponsor should not permit intentional NVD shutdown in-Flight for the purpose of emergency training, unless the training benefit cannot be achieved by any other simulated failure method in-Flight, and appropriate controls are in place to minimise risk SFARP.

f. **Single-pilot NVIS operations.** Where single-pilot NVIS operations are conducted below Area Safe Height (ASH), Lowest Safe Altitude (LSALT) or Minimum Sector Altitude (MSA), MAOs or Sponsors should apply additional procedural controls to the risk of Controlled Flight Into Terrain (CFIT) (due to the loss of NVIS redundancy and increased aircrew workload).

g. **AVMED training.** Aircrew should complete Institute of Aviation Medicine (IAM) NVD training IAW DASR MED.05 before commencement of NVIS qualification training.

GM SPA.55(a)4(i) – Night Vision Imaging System (NVIS) Aircrew composition, qualification, Currency and training (AUS)

a. **Crew composition**. The MAO or Sponsor should consider the increased safety risk mitigation provided by multi-crew operations (in comparison to single pilot operations) when establishing the minimum Crew for NVIS operation below ASH, LSALT or MSA , or for other high workload tasks. However, the MAO or Sponsor may still approve single-pilot NVIS operations below ASH, LSALT or MSA . Where multi-pilot NVIS operations are mandated, single-pilot Flight below ASH, LSALT or MSA may be continued in an emergency situation, or during a return to base or diversion, following a non-normal situation, where remaining below ASH, LSALT or MSA is considered the safest option.

b. **Qualification, Currency and training.** The MAO or Sponsor should consider including physiology and Non-Technical Skills (NTS) associated with NVIS operations in initial and refresher training courses. The MAO or Sponsor should consider the following roles and tasks when setting NVIS qualification, Currency and training requirements:

i. instruction

ii. formation

iii. low-level or terrain Flight

iv. air drop

v. air land

vi. air intercepts

vii. air to air refuelling

viii. weapon employment

ix. helicopter operations such as:

(a) hoisting

(b) confined area approaches

(c) special operations approaches

(d) embarked operations.

c. **Critical Flight phases.** The MAO should determine critical Flight phases for their CRE. Critical Flight phases are those in which NVD vision degradation or loss, without prompt and effective treatment, could lead to an adverse safety outcome. Critical Flight phases are higher-risk phases of Flight including taxiing, departure, recovery, low flying, formation manoeuvring, Air to Air Refuelling, tactical manoeuvring, intercepts, combat manoeuvring, and weapons or payload delivery.

d. **Learning Management Plan (LMP).** A stand-alone NVIS LMP is not required where NVIS training is incorporated into existing approved LMPs (eg Flying Instructor course, conversion course, or refresher course).

e. **Difference (or gap) training**. Differences training may be tailored to the situation, dependent on the scale or impact of system change. However, training should normally consist of both theory (eg self-study, briefs, presentations, or CBT) and practical elements. Significant modifications and equipment changes may require Flight Simulator Training Device (FSTD) or Flight training with an Aircrew Instructor for qualification award.

f. **Prerequisites for NVIS Flight**. NVIS operations require Flight Crew to have a solid foundation in Instrument Flying (IF), night unaided flying, and day Flight. IF and night unaided Flight currency is particularly important in case of reversion to unaided Flight or inadvertent entry into IMC. Many tasks performed with NVD (eg low level Flight or formation) may require Aircrew prerequisite qualifications and equivalent task day or night unaided Currency.

ii. Flight Authorisation system risk controls are utilised IAW DASR ORO.30 ▾ **GM**

GM SPA.55(a)4(ii) – Night Vision Imaging System (NVIS) Flight Authorisation (AUS)

a. Flight Authorisation Officer (FLTAUTHO) NVIS qualification may support improved hazard identification through a better appreciation of factors affecting NVIS operations, including: Crew composition, qualifications, Currency, environmental aspects (illumination, contrast conditions, weather and visibility), task complexity, NVIS and supporting systems' (eg NVD, FLIR, IR searchlight, HMSD, Aircraft lighting) limitations, and associated risks and controls.

b. **Formation flying authorisation.** FLTAUTHOs should consider existing Core Risk Profiles (CRP), Mission Risk Profiles (MRP), and Risk Management Plans (RMP) controls, formation complexity, weather, visibility, illumination, Crew composition, NVIS equipment, formation experience and Currency, and contingency plans for loss of visual reference and collision avoidance. Additional procedural controls may be necessary for low illumination conditions.

iii. Safety Management System (SMS) controls are utilised, incorporating:

a. risk management IAW DASR SMS : ▾ **GM** ▾ **AMC**

AMC SPA.55(a)4(iii)a – Night Vision Imaging System (NVIS) risk management (AUS)

a. The MAO or Sponsor should define NVIS safety management controls for NVIS roles and tasks, utilising Core Risk Profiles (CRP), Mission Risk Profiles (MRP), and Risk Management Plans (RMP) as necessary, considering:

i. NVIS operations below ASH, LSALT or MSA, and the use of controls reducing risk of CFIT SFARP

ii. NVIS operations in formation, and the use of controls reducing risk of collision SFARP

iii. Aircraft external lighting requirements for NVIS operations in civil and military airspace and Aerodromes, and the implementation of controls to reduce risk of collision SFARP—IAW *Flight Information Handbook Australia (FIHA) - ENR 1.1 General Rules of the Air.*

b. The MAO or Sponsor should ensure NVIS-related hazards, faults, failures, incidents and accidents are reported and investigated IAW DASR SMS.

GM SPA.55(a)4(iii)a – Night Vision Imaging System (NVIS) risk management (AUS)

a. The MAO or Sponsor should consider (and mitigate where necessary) NVD characteristics and limitations, which may impact NVIS operations, including:

i. **Reduced Field Of View (FOV).** NVDs that utilise Image Intensifying Tubes (IITs) can have a significantly reduced FOV (approximately 40° cone) compared to normal unaided FOV (approximately 200° horizontal and 140° vertical). In order to compensate for the significantly reduced NVD FOV, pilots flying aided must increase head movement and scan rates. The Field Of Regard (FOR) may also be reduced compared with unaided flight due to narrow FOV combined with physical limitations of head movement, and may be restricted by cockpit obstructions such as canopy bows, frames, etc.

ii. **Visual acuity and contrast**. Although visual acuity with NVDs is greater than that obtained unaided at night, NVDs dos not turn 'night into day'. Visual acuity obtained with NVD is approximately 50% less than that which can be obtained with the naked eye in equivalent daytime conditions. This reduced NVD visual acuity can be further degraded by atmospheric and environmental factors (eg illumination, weather, obscurants, and low contrast terrain). Low illumination increases NVD background noise and results in reduced visual acuity as image contrast is reduced. High illumination or exposure to incompatible or bright light sources (visual or IR) can cause image 'blooming' or result in activation of automatic gain reduction features, resulting in reduced visual acuity.

iii. **Resolution.** Resolution is an objective measure of the ability to distinguish a separation between two objects. Resolution decreases with low illumination due to increases in NVD image background noise. This a design limitation of NVDs based primarily on the number of channels in the microchannel plate, optics and inherent video noise.

iv. **Fatigue.** In addition to physiological fatigue resulting from night operations, the use of NVIS equipment can result in additional physical fatigue, neck muscle strain or injury, asthenopia (eye fatigue), and headaches. Physical fatigue and muscle strain is largely dependent on NVD weight, position on helmet, head movement, and g-forces encountered during flight. The establishment of NVIS-specific fatigue control measures will support the reduction of fatigue or injury SFARP, and can include training, physical fitness and conditioning programs, adaption, and rest and recovery aided by duty cycle management. Flight time limits for NVIS operations may also vary for Aircraft Type and equipment combinations, and for different roles and tasks.

v. **Spatial disorientation.** The significant reduction (or absence) of peripheral vision when using NVDs (eg NVGs) requires Flight Crew to rely primarily on central (focal) vision for the maintenance of spatial orientation. Flight Crew must consciously process and assimilate information received from the NVD image (including, where applicable, the horizon, Stabilised Horizon Bar or ground reference), flight instruments (ie the instrument panel or HUD) or other Aircrew (eg verbal communication or gestures) in order to maintain, spatial orientation and situation awareness. Flight Crew reliance on focal vision during aided Flight significantly increases their cognitive workload. Flight Crew cognitive processing must be prioritised, between maintaining spatial orientation, and performing other Flight and mission tasks including navigation, communication, maintaining formation, targeting, weapons or

payload delivery and threat avoidance. There is a significant increase in the risk of spatial disorientation-related accidents during night aided Flight, compared with unaided Flight. It is crucial to train Flight Crew in the early recognition, intervention and recovery from spatial disorientation events to mitigate the increased risk of spatial disorientation associated with NVD operations. Early transition from visual (aided) Flight to instrument Flight (eg following NVD image degradation) is a critical defence in avoiding spatial disorientation. Effective Flight Crew training and competency in instrument flying is crucial to a successful recovery from spatial disorientation.

vi. **Reduced depth perception and distance estimation accuracy.** Binocular NVD systems are well-known for reduced depth perception and reduced accuracy in distance estimations, particularly for objects at close range. This is primarily due to eye physiology (eg stereopsis) and NVD optical performance, but can also be impacted by a degraded NVD image due to environmental factors (such as illumination and obscurants). Hyper-stereopsis can also result when using indirect (Type II) view NVD imaging systems (eg Top Owl) where the IITs are not aligned directly with the pilot's eyes. This can create a situation where objects appear closer when viewed through the NVD, or with a slight image shift compared to unaided vision, or to an image provided by other sensors.

vii. **Night vision recovery**. Following the removal of NVDs, and during transition to unaided flight, human eyes can take several minutes to adapt to 'natural' dark conditions. Safe transition from aided to unaided flight is best achieved by allowing sufficient time at a safe Flight altitude, under low workload, for the eyes to adapt.

b. **Hazard identification.** Although NVDs enhance the safety of night operations through increased night vision and situational awareness, NVIS operations also present unique challenges, limitations and hazards compared to day or night unaided operations. The creation of MRPs for specific NVIS roles and tasks will aid identification of NVIS hazards and risks controls required to eliminate, or where not possible, otherwise minimise risk SFARP. The conduct of additional risk assessments before each Flight will aid identification of contextual hazards and will provide an opportunity to implement additional controls. These additional risk assessments would be based on, for example, MRP controls; Crew composition, experience and Currency; knowledge of NVD characteristics and limitations; and environmental and weather conditions for the specific role and task.

c. **Risk assessments**. The MAO or Sponsor should consider conducting risk assessments for all NVIS operations. Additional preventative controls may be required for high risk NVIS activities such as those conducted in reduced visibility, low illumination, or in close proximity to terrain and other Aircraft. The MAO's or Sponsor's risk assessments should consider:

i. existing MRPs (including consideration of tactics, techniques and procedures; and other risk controls, employed in similar operations by other Defence and global operators)

ii. illumination variations expected during the task

iii. weather (such as cloud, visibility, obscurants)

iv. terrain features and contrast

v. Crew composition, NVIS qualifications, experience and Currency

vi. Aircrew fatigue levels as the task progresses

vii. NVD performance

viii. role and task to be conducted, and associated NVIS hazards

ix. Mission complexity

x. Role Equipment

xi. extant Aircraft unserviceability effects on NVIS operations

xii. Aerodrome and Aircraft lighting requirements

xiii. Light discipline and procedures for operations with third parties

xiv. emergency procedures.

d. **Environmental threats**. NVD performance can be affected by the availability of light or environmental visibility. Any atmospheric condition which absorbs, scatters, or refracts illumination, either before or after it strikes terrain, may reduce the usable energy available to NVGs. Although latest generation NVDs can provide improved performance in low illumination conditions, they still require some available light, favourable atmospheric and environmental conditions, terrain contrast and reflectivity. The MAO or Sponsor should consider the following environmental aspects when planning NVIS operations:

i. **Weather.** Light rain, mist and thin fog may be difficult to detect with NVD. These weather phenomena (despite not being visible to pilot on NVD) can reduce depth perception and contrast, affect distance estimation, mask terrain, and mask signs of impending IMC—creating a potential hazard to NVIS operations. Precipitation (eg snow, rain), hail and obscurants (eg fog, dust, and smoke) can also degrade NVD performance and create a hazard to NVIS operations. The MAO or Sponsor should consider the following controls relating to weather when planning NVIS operations:

(a) **Preventative controls** as follows:

(i) **NVD knowledge and pre-Flight planning.** NVD performance predictions can be improved during the mission planning stage, through knowledge of:

(A) NVD-specific characteristics and limitations

(B) the prevailing environmental conditions in anticipated operating areas (eg terrain features and contrast)

(C) accurate weather forecasts that include illumination levels and weather (eg cloud amount and level, precipitation, obscurants), and briefings which include consideration of the impacts of forecast conditions on NVD performance

(D) defined weather, visibility and illumination minimums.

(ii) **In-Flight weather detection and avoidance procedures**. As some obscurants and weather cannot be easily detected with NVDs, Aircrew should remain alert to changes or degradation in NVD performance. Weather, visibility or illumination deterioration may be indicated by the presence of halos, scintillation, loss of scene definition, or image degradation. It may be necessary to periodically look under NVDs, or assign a Crew member to periodically scan for weather unaided. Use of weather radar or FLIR will assist in detection and avoidance of rain and thunderstorms.

(iii) **Cockpit environmental control**. Appropriate use of cockpit environmental control systems can assist to minimise NVD fogging. Fogging can occur with exposure to high humidity in a cold soaked cockpit (eg exposure to outside air via the opening of Aircraft doors or windows in-Flight or on the ground).

(b) **Recovery controls** as follows:

(i) IFR Aircraft and Aircrew qualified and current in IF

(ii) carriage of a cleaning cloth for NVD fogging situations

(iii) emergency recovery procedures for inadvertent IMC entry

(iv) designated ASH, LSALT, MSA or visual manoeuvring altitudes and procedures

(v) unusual attitude recovery procedures (eg spatial disorientation).

ii. **Terrain and obstacles.** Visual acuity of terrain and obstacles is dependent on a number of factors, including NVD performance, illumination, in-Flight meteorological visibility, and contrast and reflectivity of terrain or water. The contrast of terrain being overflown will vary depending on topography and illumination, including cultural lighting and the angle of the moon. Mountainous terrain may be more perceptible than flat terrain with low reflection or low contrast. When flying over low contrast or low reflectivity featureless terrain, or over water, it may be difficult to judge height without reference to a RADALT. Without the use of an IR searchlight or supplemental IR or EO vision system (eg FLIR) it may also be difficult to detect objects and terrain in shadows or in low illumination conditions when flying over low contrast areas. The MAO or Sponsor should consider the following controls relating to terrain and obstacle when planning NVIS operations:

(a) pre-Flight planning to include pre-Flight study of:

(i) terrain features, predicted terrain contrast and shadows, obstacle locations and lighting

(ii) route surveys and topographical maps prior to aided low level or terrain Flight

(b) use of minimum visual manoeuvring altitudes in low illumination conditions

(c) utilising topographical map (electronic or physical) in-Flight

(d) use of the Automatic Flight Control System (AFCS) (eg autopilot or Flight Directors with RADALT or altitude hold) for over water Flights

(e) use of terrain awareness and avoidance equipment, including:

(i) RADALT for all operations below ASH, LSALT or MSA, especially for night low level aided Flight over low contrast terrain or over water

(ii) Terrain Awareness and Warning System (TAWS), Enhanced Ground Proximity Warning Systems (EGPWS), Ground Proximity Warning Systems (GPWS), and Ground Collision Avoidance system (GCAS) to provide advance alert and warning of terrain or obstacles

(iii) ground mapping and millimetre-wave radar that provide a radar presentation of terrain and reflective obstacles

(iv) IR searchlights and landing lights to illuminate terrain ahead of the Aircraft

(v) IR and EO vision systems (eg FLIR)

(vi) Synthetic Vision Systems (SVS) or equivalent, to provide a digital terrain graphic on MFD or NVDs

(f) defined scanning techniques, co-ordinated between Crew, scanning for terrain and obstacles while at low level; and including 'look under', or intervals of non-flying pilot unaided scan for obstacles (such as LED-lit masts that may be undetected on NVDs)

(g) Crew coordination and communication skills, and defined Aircrew roles and responsibilities during NVIS Safety Critical operations

(h) the application of defined Aircraft performance parameters (eg speed and configuration) to provide emergency terrain or obstacle avoidance manoeuvre capabilities.

(i) terrain threat recognition and recovery training, including:

(i) RADALT minimum height excursion recovery procedures

(ii) TAWS, EGPWS, GPWS, GCAS, caution and warning activation recovery procedures

(iii) visual terrain and obstacle threat recovery procedures

(j) IF training, including procedures to recover to ASH, LSALT or MSA when entering IMC from below ASH, LSALT or MSA.

b. fatigue management IAW DASR AVFM.20 ▼ **AMC**

AMC SPA.55(a)4(iii)b – Night Vision Imaging System (NVIS) fatigue management (AUS)

The MAO or Sponsor should define NVIS fatigue management IAW DASR AVFM–, including consideration of NVIS Human Factors when establishing Flight duty limitations.

c. defined environmental minimums for Aircraft Type's roles and tasks ▼ **GM** ▼ **AMC**

AMC SPA.55(a)4(iii)c – Environmental minimums (AUS)

a. The MAO or Sponsor should establish environmental minimums consistent with NVIS capability as determined for Aircraft Type, roles and tasks. MAOs or Sponsors may define environmental minimums applicable to all NVIS operations, or define minimums for individual roles and tasks. Environmental minimums should include the following:

i. **Weather.** When utilised as the primary means of vision for Safety Critical tasks, the MAO or Sponsor should ensure Aircrew only operate NVDs in VMC (as defined in FIHA ENR 1.2). Note, NVIS operations may be filed and operated under IFR. However, NVDs may not be used as the primary means of separation from terrain and other obstacles when operating in less than

VMC below ASH, LSALT or MSA unless the Aircraft Captain meets the requirements for visual approach as detailed in FIHA ENR 1.14.6 and 2.11.3. Where a MAO or Sponsor otherwise intends to operate below ASH, LSALT or MSA in IMC an alternate means of ensuring separation from terrain and obstacles is required (eg TFR; or if operating over the high seas, RADALT).

ii. **Visibility.** NVIS operations in visibility below VMC increase risks of disorientation, traffic confliction, inadvertent entry into IMC and CFIT. However, notwithstanding para i above, the MAO or Sponsor may approve NVIS operations below VMC, for high priority missions (eg search and rescue, combat, SO), provided risk can be eliminated or otherwise minimised SFARP. The MAO or Sponsor should limit Special VFR and reduced visibility (less than VMC) NVIS approvals to not less than:

(a) **Aeroplanes:**

(i) 3000 m visibility when above ASH, LSALT or MSA

(ii) 3000 m visibility for departure and arrival below ASH, LSALT or MSA IAW Special VFR

(b) **Helicopters:**

(i) 3000 m visibility when above 700ft AGL or ASL

(ii) 800 m visibility when below 700ft AGL or ASL

(iii) 800 m visibility IAW Special VFR.

iii. **Illumination Level.** MAOs and Sponsors should define illumination level minimums for all the relevant Aircraft Type's NVIS roles and tasks. To aid operational planning, risk decision making, OIP development, authorisation, and to improve standardisation across Defence, MAOs and Sponsors should use the Illumination Levels defined in Table 1, or specify a minimum illumination in millilux (mlx), when defining illumination minimums for the relevant Aircraft Type's NVIS roles and tasks.

	Defence Illumination Levels[1]		
	Illumination Level	**Illumination (mlx)**	**Night Sky[2]**
Normal Illumination	1-Very Light	≥ 40	Full Moon
Normal Illumination	2-Light	10 to <40	≥½ Moon
Low Illumination	3-Intermediate	2 to <10	<½ Moon
Low Illumination	4-Dark	0.7 to <2	No Moon + starlight
Low Illumination	5-Very Dark	< 0.7	No Moon + overcast

Note 1: Defence Illumination Levels define the atmospheric conditions for given location. Illumination level alone will not adequately inform an NVD performance estimate, without consideration of other environmental factors such as weather, visibility and contrast conditions. Failure to consider weather, visibility and contrast conditions can result in higher risk to NVIS operations.

Note 2: Indicative Night Sky conditions for equivalent illumination level shown. Many factors such as Moon elevation, environmental conditions and cultural lighting affect illumination levels.

Table 1 - AMC SPA.55(a)4(iii)c - Standardised Defence Illumination Levels (AUS)

b. **Forecasts**. The MAO or Sponsor should define requirements to obtain forecast weather, visibility and illumination in the area of operations, and on intended route, for the period of planned NVIS operations. Forecast illumination should be obtained from tools which incorporate the effect of cloud cover on illumination, such as the Bureau of Meteorology's Meteorology Office Night Illumination Model (MONIM). If using Flight Planning tools such as Solar Lunar Analysis Tool (SLAT), Solar Lunar Analysis Planner (SLAP), or other MAO-approved sources, the MAO or Sponsor should define and utilise procedures to account for the impact of:

i. cloud cover

ii. moon phase

iii. moon rise and set

iv. ambient and cultural lighting.

GM SPA.55(a)4(iii)c – Environmental minimums (AUS)

a. **Minimum weather and visibility.** The MAO or Sponsor should consider establishing weather and visibility minimums based on the fundamental requirement for NVIS operations to remain in VMC. Defining weather minimums for the conduct and continuance of NVIS Flights for training and operations will assist to reduce the risk of CFIT, collision, and inadvertent entry into IMC. Night aided Flight should normally be conducted in VMC, clear of cloud, and clear of obscurants (eg fog, smoke, haze, dust) likely to reduce visibility below VMC, or to reduce NVD visual acuity below that required for the safe conduct of the task.

b. The MAO or Sponsor should consider defining the environmental conditions for which additional qualifications, Currency, controls, and authorisations are required, and any other limitations for operations in those specified conditions. Aircrew should remain vigilant for signs of deteriorating visibility during Flight and ensure visual conditions remain suitable for NVIS operations, and within authorised limits.

c. The MAO or Sponsor should therefore consider defining:

i. the maximum cloud cover and minimum cloud base for low level or terrain Flight

ii. limitations and procedures for operating in reduced visibility caused by precipitation (rain, drizzle, snow, hail) or obscurants (mist, fog, dust, sand, smoke, ash, haze)

iii. thunderstorm avoidance criteria.

d. **Considering visual acuity when setting environmental minimums.** When establishing environmental minimums, the MAO or Sponsor should consider the effect weather, visibility, illumination and contrast may have on NVD performance, and the resultant visual acuity. Defined minimums increases safety by establishing the parameters of an operating environment to enable the appropriate visual acuity. This enables Aircrew to identify terrain and obstacles with ample time for detection, reaction and avoidance. Defining a minimum visual acuity based on low level operating speed ranges will reduce the threat of CFIT or collision. In most circumstances, visual acuity out to a distance equivalent to a minimum of 30 seconds flight time is sufficient. DASA recommends the following minimum visual acuity:

i. **Helicopter**. Minimum of 30 secs flight time based on ground speed, but not less than 800 m (0.5 nm*) (*rounded up to nearest 0.5 nm)

ii. **Aeroplane**. Minimum of 30 secs flight time based on ground speed, but not less than 5000 m (3 nm*) (*rounded up to nearest 0.5nm).

e. **Monitoring and maintenance of visual acuity.** Aircrew should continuously assess the actual visual acuity experienced airborne to ensure conditions remain safe for NVIS operations. MAO or Sponsor-defined environmental minimums may not guarantee the required visual acuity to safely conduct roles and tasks. Actual visual acuity may be significantly less than anticipated, based on forecast weather, visibility, illumination and contrast conditions. Visual acuity may also be degraded by obscurants such as dust, haze, fog, smoke or sea spray; or NVD performance degradation (eg activation of automatic gain reduction when subjected to bright light sources). Reducing flying speeds with decreasing visual acuity may reduce the risks of CFIT. However, it may not be tactically sound, or may compromise Aircraft manoeuvrability and safety by reducing aerodynamic performance.

f. **Illumination minimums.** Defined minimum illumination levels should support the visual acuity necessary for safe operations of NVIS roles and tasks. Roles and tasks which require a higher degree of Crew skill, or involve elevated risk, may require higher illumination minimums.

g. Illumination levels should be determined for the Flight en-route, in the area of operations, and during the period of operation. Illumination level should be categorised (see Table 1 in AMC SPA.55(a)4(iii)c to ensure Aircrew qualifications, Competency and Currency (when combined with anticipated NVD performance) will meet the requirements for the intended operation to be conducted.

h. **Actual conditions in Flight**. Actual illumination or light level may be determined by an approved light meter where available. However, Aircrew judgement will be necessary in-Flight, as it is generally impractical to measure illumination levels once airborne. While airborne, Aircrew should ensure illumination levels provide the visual acuity required for safe operation.

i. **Aircraft role or task minimums.** The MAO or Sponsor should consider defining minimum weather and illumination required for the following Aircraft roles and tasks (where applicable):

i. **Training.** The minimum illumination or night levels required for initial qualification (ab-initio), recurrent and refresher training.

ii. **Low level or terrain Flight**. The minimum weather, visibility and illumination conditions for low level or terrain Flight, including the following considerations:

(a) **Visual acuity**. The weather, visibility and illumination combinations to provide the minimum NVD visual acuity to enable terrain or obstacle identification and avoidance.

(b) **Operation in <2 millilux (mlx) illumination**. Additional controls (eg use of a visual safe altitude, IR Search light, formation limitations, training Flight limitations) to be considered and applied.

iii. **Formation**. The minimum weather, visibility and illumination conditions for formation Flight, including the following considerations:

(a) **Visual acuity**. The weather, visibility and illumination combinations (including the use of formation lights) to provide the minimum NVD visual acuity to enable Aircraft identification, position keeping and collision avoidance.

(b) **Operations in <2mlx illumination**. Additional controls (eg formation limitations, reduced formation complexity, procedural controls) to be considered and applied.

iv. **Specialised helicopter operations.** IR searchlight and landing light availability and performance should be considered when establishing illumination minimums for low level Flight and approaches. The MAO or Sponsor should consider defining minimum weather, visibility and illumination required for specialised helicopter operations, roles and tasks, such as those with increased risk and requiring additional Aircrew training and skills, including:

(a) low level or terrain Flight

(b) formation

(c) confined area approaches

(d) special operations approaches

(e) embarked operations

(f) hoisting.

d. defined minimum NVIS equipment required for aided Flight operations.
▼ **AMC**

AMC SPA.55(a)4(iii)d – Minimum Night Vision Imaging System (NVIS) equipment (AUS)

a. **Aircraft and Aircrew equipment.** The MAO or Sponsor should define the minimum Aircraft and Aircrew equipment required for NVIS Flight. Minimum serviceable equipment to be available for NVIS operations should include:

i. For all NVIS operations:

(a) the NVD type and configuration permitted to be worn by Flight Crew

(b) the NVD type and configuration permitted to be worn by Mission Crew

(c) a spare or back-up power source or battery pack for NVDs (where applicable)

(d) compatible internal and external Aircraft lighting

(e) Aircrew NVIS compatible role equipment lights (eg torch, finger light, lip light or cyalume stick)

(f) instruments and equipment required for IFR operations

(g) a weather radar (where fitted).

ii. For NVIS Operations below ASH, LSALT or MSA:

(a) a RADALT capable of visual and audio warnings when below the minimum set height

(b) an autopilot (with the helicopter autopilot capable of RADALT or Barometric height hold) for overwater operations

(c) a topographical map with hazards and obstacles annotated (electronic or physical)

(d) a ground mapping radar (where fitted)

(e) TAWS or EGPWS or GPWS (where fitted)

(f) IR searchlight and IR landing light (required for Helicopters, and as applicable to fixed-wing aircraft)

(g) FLIR or other EO or IR device (where fitted)

(h) NVD HUD, helmet mounted display or Aircraft HUD (where fitted and certified).

iv. OIP details:

a. the illumination level below which additional Aircrew training, qualifications and hazard controls are required ▼GM ▼AMC

AMC SPA.55(a)4(iv)a – Night Vision Imaging System (NVIS) low illumination (AUS)

a. The MAO or Sponsor should provide OIP which defines:

i. the illumination level (expressed in mlx) below which NVIS roles, tasks or activities require additional controls to minimise risk SFARP

ii. low illumination levels by role, task or activity where multiple high risk, specialised or complex NVIS operations are conducted (or alternatively, the MAO or Sponsor may choose to define one low illumination level applicable to all NVIS operations, below which additional controls are required for all roles and tasks)

iii. additional qualifications, training, and hazard controls required for the safe conduct of roles and tasks below the defined low illumination level.

GM SPA.55(a)4(iv)a – Night Vision Imaging System (NVIS) low illumination (AUS)

a. NVGs require natural light (moonlight, starlight, sky glow) or artificial light (searchlights, cultural lights) to produce an image. Weather and illumination will normally be evaluated during Flight planning, immediately pre-Flight, and continuously in-Flight. NVIS operations should not commence, or continue, when actual environmental conditions may compromise Suitability For Flight. NVIS ab-initio, initial qualification, and refresher training should ideally be conducted in good weather and illumination conditions, thereby allowing trainees to build confidence and competence before being exposed to low illumination or poor weather conditions. Weather limits defined for training should be more conservative than those for operational activities (which are crewed by qualified and current Aircrew, none of whom are under training).

b. **Low illumination level.** When defining low illumination levels (below which additional qualification, training or hazard controls are necessary) the MAO or Sponsor should consider the following factors:

i. NVD performance in low illumination

ii. type of operations conducted using NVDs, and associated risk

iii. Aircrew experience levels

iv. other aircraft systems and controls in place to support NVIS safety in low illumination condition.

b. normal and emergency procedures for the Aircraft Type's roles and tasks ▾ **GM** ▾ **AMC**

AMC SPA.55(a)4(iv)b – Normal and emergency procedures (AUS)

a. The MAO or Sponsor should include the following in documented NVIS normal and emergency procedures:

i. transition to and from aided Flight, and minimum transition altitude

ii. loss of visibility and inadvertent entry into IMC

iii. NVD fault or failure (including optical degradation such as blooming) actions during critical Flight phases

iv. unusual attitude recovery

v. Aircrew and third party actions and responsibilities.

GM SPA.55(a)4(iv)b – Normal and emergency procedures (AUS)

a. The MAO or Sponsor is responsible for the provision of OIP detailing training, policy and procedures for the management of normal and emergency conditions while flying aided. MAO or Sponsor training and procedures should include:

i. guidance as to whether to remain on NVDs or transition to unaided Flight following defined faults, failures or emergencies

ii. immediate actions (drills) to be conducted following NVD failure (or vision impairment or loss) during critical Flight phases such as take-off, approach, landing and low level Flight.

c. instructions and limitations for the Aircraft Type's roles and tasks. ▾ **GM** ▾ **AMC**

AMC SPA.55(a)4(iv)c – Role and task instructions and limitations (AUS)

a. The MAO or Sponsor should define procedures and limitations for the following (where applicable):

i. operations below ASH, LSALT or MSA and low flying

ii. formation (including procedures for loss of visual contact)

iii. Air to Air Refuelling (AAR)

iv. weapons employment

v. Air Intercepts (AI) and Air Combat Manoeuvring (ACM)

vi. aerodrome, Ship deck, Heliport and other landing zones

vii. embarked operations

viii. hot refuelling and Forward Arming and Refuelling Point (FARP) tasks

ix. transition from aided to unaided, and unaided to aided Flight

x. use of Aircraft lighting

xi. Aircrew and ATC communication.

GM SPA.55(a)4(iv)c – Role and task instructions and limitations (AUS)

a. When defining instructions and limitations for NVIS Aircraft Type roles and tasks, the MAO or Sponsor should consider the following:

i. **Operations below ASH, LSALT or MSA and low flying**. NVIS Low flying operations should be conducted IAW DASR SPA.20, specifically:

(a) **Visibility**. Minimum visibility should be expressed in metres—not less than VMC.

(b) **Weather**. Weather minimums should support the requirement to remain VMC, clear of cloud and in continuous visual contact with the ground or water.

(c) **Visual acuity**. Minimum visual acuity should enable terrain and obstacle detection and avoidance, providing enough time for Aircrew detection, recognition and avoidance.

(d) **Illumination**. Minimum illumination (expressed in mlx) should support the requirement for a minimum visual acuity, and include consideration of NVD performance, IR searchlight or landing light performance (where applicable), Aircraft role and Aircrew experience.

(e) **Safety altitudes**. Definitions, methods for calculation, and use of visual and non-visual safety altitudes during NVIS operations.

(f) **Minimum level**. Minimum height permitted above terrain, water or obstacles when using NVDs as the primary means of vision for Safety Critical tasks.

(g) **Degraded Visual Environment (DVE).** (Synonymous with Restricted (or Reduced) Visual Operations (RVO)). A DVE is considered conditions that impair the visual orientation of Aircrew during take-off, Flight and landing. DVE includes circumstances wherein weather, obscurants or obstacles impede the ability of Aircrew to see properly or accurately know where they are in relation to surrounding terrain. Conditions include brown-out, white-out, night glare, fog and mist (and any combinations of these). DVE can lead to reduced situation awareness, increased Aircrew workload, and the partial or total loss of aircraft control. Notably, DVE can also occur in circumstances of high illumination but very low contrast–where the NVD spectral response is uniform across the image, and hence not providing any definition to the observer. Examples include operating over vast flat areas (eg over water, featureless terrain or paddocks with uniform texture). In these circumstances, Aircrew can have difficulty discerning height above terrain, and perceiving gradual climb and descent rates, with the potential to compromise obstacle and terrain clearance.

(h) **Speed restrictions**. Speed flown should allow sufficient reaction time for weather, obstacle, terrain and collision avoidance: while maintaining adequate Aircraft aerodynamic performance.

(i) **Navigation tolerance**. Navigation criteria, position keeping, required accuracy and tolerances (ie maximum distance allowable off track) for continued NVIS operations below ASH, LSALT or MSA.

(j) **Equipment.** Minimum Aircraft equipment for Flight below ASH, LSALT or MSA, including low level or terrain Flight, or Flight at defined operational or tactical safety altitudes.

(k) **Formation**. NVIS low level formation OIP including:

(i) formation type, composition, positions and limitations

(ii) minimum Aircrew complement

(iii) minimum visibility and illumination, and procedures in the event of loss of formation visual contact

(iv) minimum height above terrain.

ii. **Formation.** Formation procedures and limitations, including:

(a) **Aircraft lights**. Use of external lighting such as IR lights, navigation, formation, anti-collision and strobe lights.

(b) **Minimum illumination levels**. Minimum illumination levels required for NVIS formation should allow for safe formation join (or rejoin) and position keeping. Formation in low illumination conditions requires consideration of additional risk controls due to the increased potential for collision.

(c) **Formation positions**. Day formation positions and procedures should be adapted to account for NVIS limitations such as reduced peripheral vision (narrow FOV), reduced field of regard (FOR), reduced depth perception and difficulty in accurately assessing closure rates.

iii. **Air to Air Refuelling (AAR).** Training, policy and procedures for the conduct of AAR with NVDs, including AAR normal and emergency procedures while using NVDs.

iv. **Weapons employment**. Procedures and limitations for use of weapons or expendables that may degrade NVD performance (such as IR flares, missiles or high explosive munitions).

v. **Air intercepts (AI) and Air Combat Manoeuvring (ACM).** Procedures and limitations for air interception or air combat manoeuvres during NVIS Flight.

vi. **Aerodrome, Ship deck, Heliport or other landing zones**. Procedures and limitations for each landing site, including:

(a) aerodrome and ATC coordination and lighting requirements

(b) deck landings and integration with ship procedures and NVIS lighting

(c) contingencies and procedures for DVE

(d) confined area landing procedures.

vii. **Embarked operations**. Integration, policy and procedures for NVIS embarked operations.

viii. **Hot refuelling and Forward Arming and Refuelling Point (FARP).** Safety protocols, lighting, normal and emergency procedures, and Aircrew and ground Crew and ATC and Rescue and Fire Fighting (RFF) communication and coordination.

ix. **Transition procedures**. Requirements for the conduct of transition to or from aided Flight at a safe altitude, including minimum altitudes, and goggle-up (donning) or de-goggle (doffing) procedures for normal and emergency conditions.

x. **Lighting.** NVIS lighting requirements and configurations for Aircraft interior and exterior, including formation exterior lighting configurations, and controls for contingencies such as light interference from internal (cockpit) or external sources.

xi. **Communication.** NVIS procedures for Crew communication and coordination, including common terms for use in emergency situations, to avoid miscommunication or delays.