

DASR 139 Aerodrome Certification Practitioners Course – Module 1

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Admin and Formalities

- Actions to take in the event of an emergency are...
- Toilets are...
- Break-Out Areas are...
- Sign in sheet
- Course Critique forms – as we go – collect at end
- Unless essential, please switch off your mobile phones

Introductions

- Who are you?
 - Name/ Nickname
 - Current role/ appointment
 - Aerodrome operations experience



Aims and Scope

- The aim of this course is to provide
 - Knowledge of:
 - The intent and structure of DASR 139 regulations.
 - Aerodrome certification requirements under DASR 139.
 - The certification activities and processes that need to be complete to achieve an initial Aerodrome Certificate and maintain the certificate over the service life of the aerodrome.
 - Skills required to:
 - Undertake aerodrome certification activities.
 - Maintain an aerodrome certificate over the service life of the aerodrome.
 - Behaviours that reflect:
 - Positive attitude and safety culture in ensuring the aerodrome's design, construction and maintenance support safe flight operations.

Course Outline

Module	Support Learning Outcomes
Module 1 (LO 1.0): Describe the DASR 139 Regulatory Structure and Aerodrome Certification Activities	Describe the intent and structure of DASR.139. Describe the aerodrome certification activities.
Module 2 (LO 2.0): Describe Establishing Authority-agreed Certification Basis	Describe the importance of an aerodrome's operating intent to aerodrome certification. Identify the design requirements for Defence aerodromes, the baseline standard and other design standards for aerodrome design and construction. Explain tailoring of design requirements to meet aerodrome's operating intent. Identify the most appropriate means of compliance.
Module 3 (LO 3.0): Describe Compliance Demonstration and Declaration	Identify what is acceptable compliance evidence, and how to gather it. Describe 'Compliance Declaration' and when it can be made.
Module 4 (LO 4.0): Describe Compliance Shortfall Management Process	Describe how to identify non-compliances and how to address them using Military Aerodrome Certification Review Items (MACRIs). Define the Equivalent Safety Finding (ESF) MACRI process. Define the Exception MACRI process.
Module 5 (LO 5.0): Define Aerodrome Certification Maintenance	Describe arrangements for continued compliance with Authority-agreed CB. Describe information to support continuing safe flight operations. Describe management of changes to aerodrome design and construction. Define Aerodrome Maintenance Program. Identify Aerodrome Support Personnel and their Competency Requirements.

Course Timetable

Face to Face Delivery

Day 1

0830 – 0900: Introductions
0900 – 1000: Module 1: DASR 139 Introduction
1000 – 1100: Module 2: Establish CB
1100 – 1130: Exercise 1 (CB Development)
1130 – 1230: LUNCH
1230 – 1330: Module 3: Compliance Demonstration
1330 – 1400: Exercise 2 (Compliance Demonstration)
1400 – 1500: Module 4 (Part 1): MACRIs
1500 – 1530: Exercise 3 (MACRIs)
1530 – 1600: Module 5: Certificate Maintenance
1600 – 1630: Exercise 4 (Maintenance of Aerodrome Certificate)

Online Delivery

Day 1

0830 – 0900: Facilitated Introduction Session (Microsoft Teams)
0900 – 1630: Self Paced - Module 1 to Module 5 and Exercise 1 to Exercise 5 (ADELE)

Day 2*

1000 – 1130: Facilitated Discussion and Question and Answer Session (Microsoft Teams)

**The time for the Facilitated discussion session is flexible and will be discussed on Day 1*

Acronyms and Abbreviations

- ADIP – Aerodrome Issue Paper
- AEO – Authorised Engineering Organisation
- ATS – Air Traffic Services
- AUTHOP – Authority to Operate
- AvSS – Aviation Support System
- CASG – Capability Acquisition and Sustainment Group
- CB – Certification Basis
- CD – Compliance Demonstration
- CDD – Capability Definition Documents
- CPP – Certification Program Plan
- CRE – Configuration Role and Environment
- CSLC – Capability System Life Cycle
- DASA - Defence Aviation Safety Authority
- DASP – Defence Aviation Safety Program
- DASR – Defence Aviation Safety Regulation
- DoSA – Delegate of Safety Authority
- E3 – Electromagnetic Environmental Effects
- EMP – Engineering Management Plan
- ELOS – Equivalent Level of Safety
- ESF – Equivalent Safety Finding
- FPS – Functional and Performance Specification
- FSB – Fuel Services Branch

Acronyms and Abbreviations

- FTP – Flight Test Permit
- IP – Issue Paper
- MACRI – Military Aerodrome Certification Review Item
- MILAVREG – Military Aviation Regulations
- MoC – Means of Compliance
- MOS – Manual of Standards
- MOTS – Military Off The Shelf
- NVG – Night Vision Goggles
- NVIS – Night Vision Imaging System
- OCD – Operational Concept Document
- OE – Objective Evidence
- OQE – Objective Quality Evidence
- ORE – Operational Role and Environment
- OSI – Operating and Support Intent
- PCM – Project Certification Manager
- PCP – Project Certification Plan
- PE – Principle Engineer
- RADHAZ – Radiation Hazard
- SFARP – So Far As is Reasonably Practical
- SME – Subject Matter Expert
- SOI – Statement of Operating Intent
- SOIU – Statement of Operating Intent and Usage
- SQEP/ SQuEP – Suitably Qualified and Experience Person
- SRM – Safety Risk Management
- SSWG – System Safety Working Group
- STW – Set to Work
- V&V – Verification and Validation

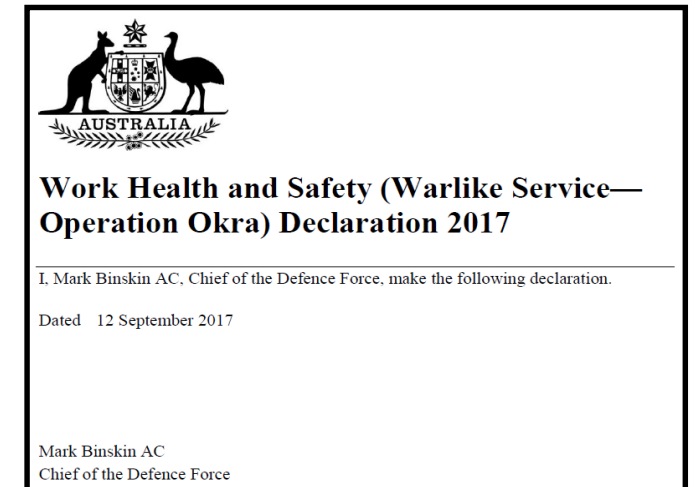
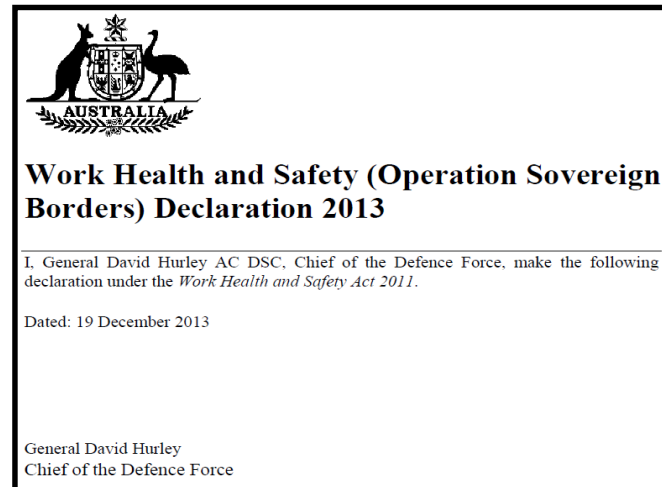
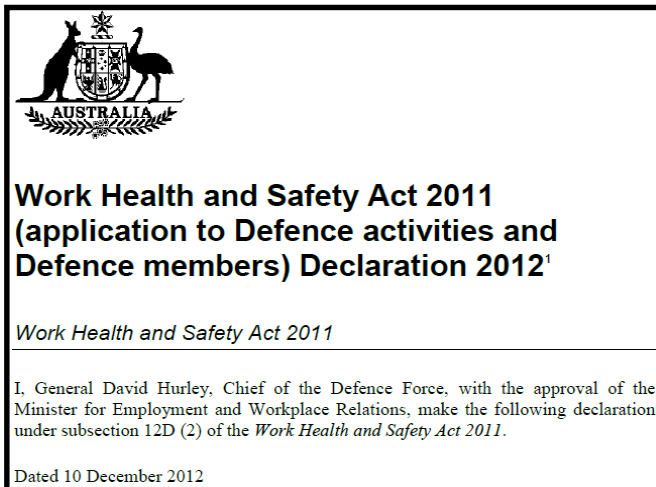


WHS Background and Airworthiness Regulations



WHS Legislation

- WHS Legislation
 - is applicable to Defence
 - ... apart from the few exemptions
 - Basis for DASRs
 - Provides role clarity
- (WHS Legislation = Act + Regulations)



Essential Concepts

Ensure:

‘to make sure, certain or safe (implying a responsibility to make it happen)’

Assure:

‘to give confidence, to reassure (implying a monitoring and reporting role)’

Source: Sea King Board of Inquiry report

S17 Management of risks

‘A duty imposed on a person to ensure health and safety requires the person:

- (a) to eliminate risks to health and safety, so far as is reasonably practicable; and
- (b) if it is not reasonably practicable to eliminate risks to health and safety, to minimise those risks so far as is reasonably practicable.

Source: WHS Act 2011

WHS Act 2011 – What is Reasonably Practicable

- **Section 18: What is reasonably Practicable in ensuring health and safety**
 -that which is reasonably able to be done weighing up all relevant matters including:
 - Likelihood of the hazard / risk
 - Degree of harm
 - What the person concerned knows (or ought to) about the hazard / risk and ways to eliminate or minimise
 - Availability and suitability of ways to eliminate or minimise
 - After assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating the risk, including whether the cost is grossly disproportionate to the risk

Note: The text on this slide is extracted for the convenience of the reader and doesn't represent the full wording from the legislation

WHS Act 2011 – Who Has a Duty?

- **Section 22: Duties of persons ... that design plant/structures**
 - applies to a person (the designer) ... **who designs plant/structure** that is to be used as/at a workplace
 - The designer must **ensure**, so far as is reasonably practicable, that the plant/structure is **designed to be without risks to the health and safety of persons ... who use the plant/structure for a purpose for which it was designed**
 - The designer must **carry out, or arrange the carrying out** of, any calculations, analysis, testing or examination that may be necessary
 - The designer must **give adequate information** to each person who is provided with the design for the purpose of giving effect to it

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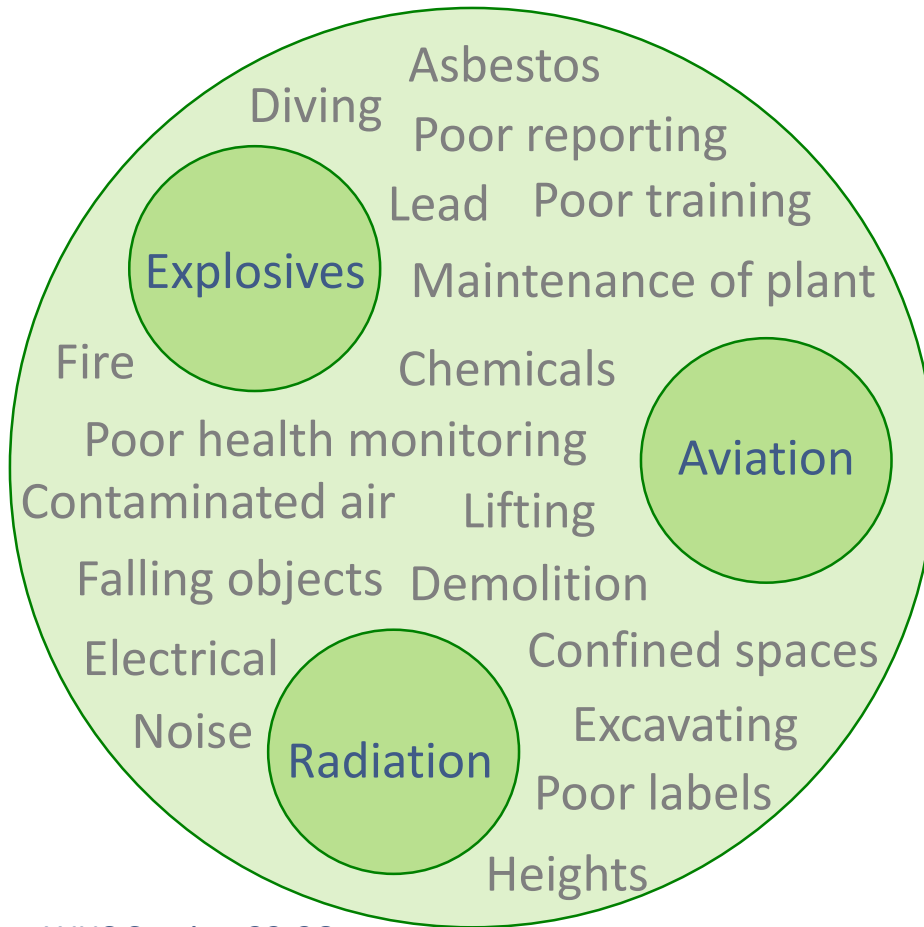
WHS Act 2011 – Who Has a Duty?

- **Section 21: Duties of persons ... that manages or controls plant/structures**
 - **Section 23: Duties of persons ... that manufactures plant/structures**
 - **Section 24: Duties of persons ... that import plant/structures**
 - **Section 25: Duties of persons ... that supplies plant/structures**
 - **Section 26: Duties of persons ... that install, construct, commission plant/structures**
-
- **ensure**, so far as is reasonably practicable, that the plant/structure is **without risks to the health and safety of persons ...**

Note: The text on this slide is extracted for the convenience of the reader and doesn't represent the full wording from the legislation

Safety is a Command Responsibility (WHS Section 20/21)

Command must **ensure** that risk is treated SFARP



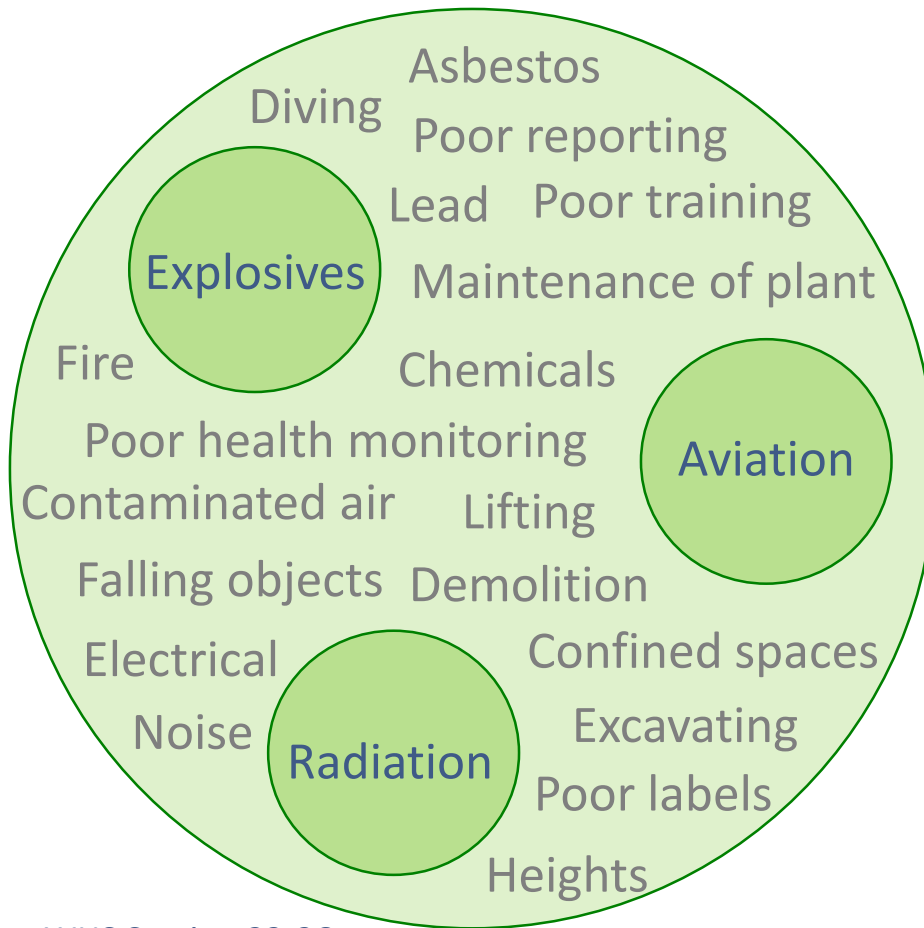
WHS Section 22-26

WHS Section 20/21

Section 16

Defence AA / DASA / DASP / DASR Amplify WHS legislation

Command must **ensure** that risk is treated SFARP



WHS Section 22-26

WHS Section 20/21

Section 16

Risk **decisions** regarding capability / safety

Risk **advice** regarding defensible standards

S14

DefenceAA **assures** Defence aviation safety

Defence AA

DASA

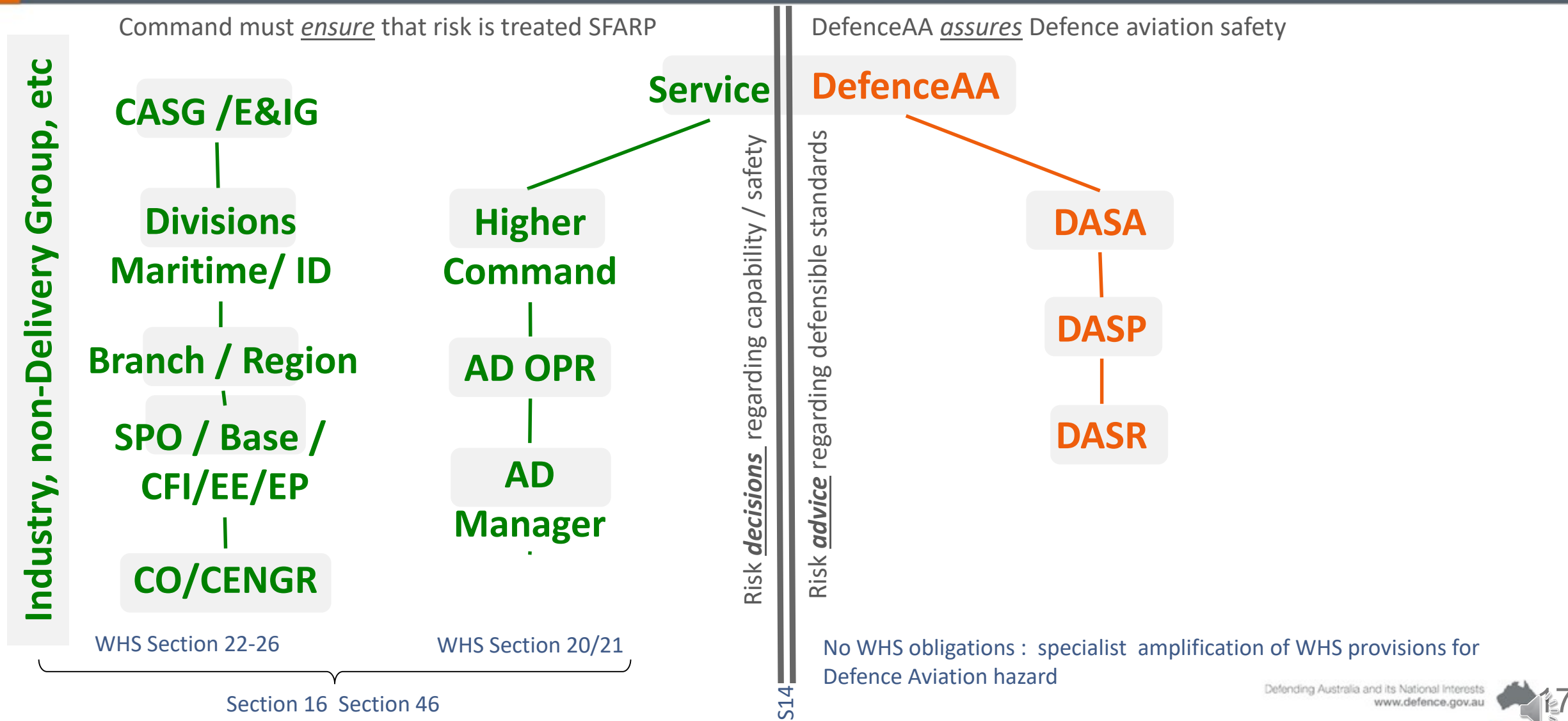
- DASA HQ
- DIA
- DCA
- DAVENG
- DAVNOPS
- DFSB

DASP

- Policy / regulation
- Promotion/education
- Initial Safety Case
- Ongoing Assurance

No WHS obligations : specialist amplification of WHS provisions for Defence Aviation hazards

Clear safety accountabilities under Legislation / Common Law



Defence AA/DASA/DASP/DASR amplify WHS legislation

Command must **ensure** that hazards are eliminated SFARP or if not, that risks are minimized SFARP

Command are to ensure the aerodrome does not compromise safety of flight

Commanders are accountable for **ensuring** that aviation safety hazards/risks are eliminated or otherwise minimised So Far As is Reasonably Practicable (SFARP)

Ensure – ‘to make sure, certain or safe (implying a responsibility to make it happen)’

Source: Sea King Board of Inquiry report

Risk **decisions** regarding capability / safety

Risk **advice** regarding defensible standards

DefenceAA **assures** Defence aviation safety

The DEF AA is to provide confidence [assure] that the aerodrome does not compromise safety of flight

DEF AA responsible for **assuring** aviation safety through the establishment of a framework for the management of aviation safety risks within Defence

Assure – ‘to give confidence, to reassure (implying a monitoring and reporting role)’

Source: Sea King Board of Inquiry report

Defence Aviation Safety Framework

DEFENCE AVIATION SAFETY FRAMEWORK

Source: Sea King Board of Inquiry Report

ASSURE:

‘to give confidence, to reassure (implying a monitoring and reporting role)’

ENSURE:

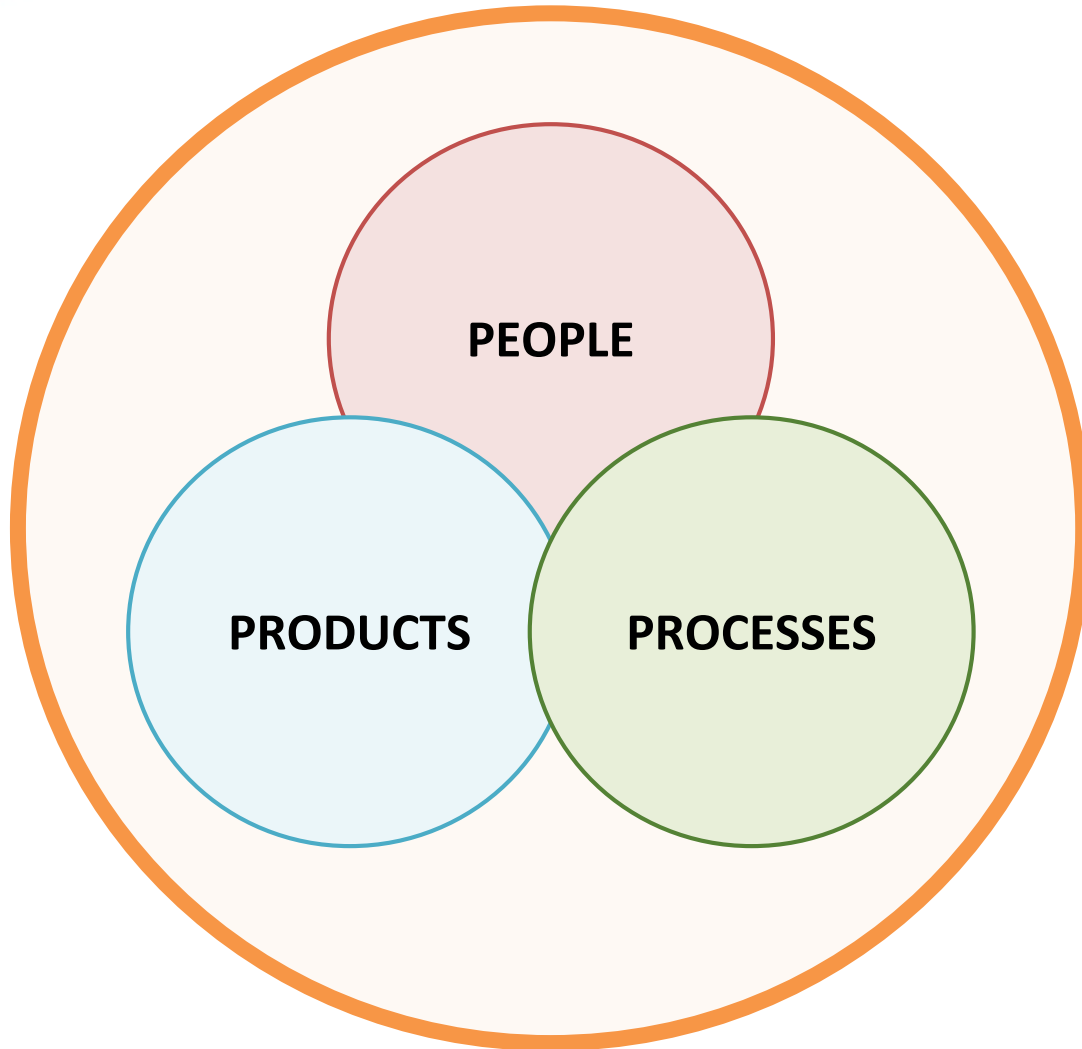
‘to make sure, certain or safe (implying a responsibility to make it happen)’



Roles and Responsibilities

- Command Chain: Exploit Air Power (Military Capability) whilst meeting statutory safety obligations. How:
 - manage Risk
 - work within the aviation safety system - be competent/informed
 - engender a generative safety culture
 - conduct Due Diligence (internal assurance)
- DASA: Independently assure aviation safety and support Commanders to meet their obligations: How:
 - rules, certification, approvals, acceptances, instruments, licences
 - educate and promote aviation safety
 - provide advice and remedy poor practice
 - provide tools/programs to support generative safety cultures

DASA – Independent Assurance



- **People**
licences, acceptances approvals
- **Processes**
procedures and systems
- **Products**
instruments, expositions and evidence

Module 1 (LO 1.0): Describe the DASR 139 Regulatory Structure and Aerodrome Certification Activities

SLO 1.1 Describe the intent and structure of DASR.139

SLO 1.2 Describe the aerodrome certification activities



Why regulate aerodromes?



Why regulate aerodromes?

- On 19 February 2003, a Boeing 737-300 aircraft landed at night on runway 29 at Darwin International Airport
 - The aircraft touched down close to the right edge of the runway and veered-off the sealed runway surface.
 - not equipped with centreline or touchdown zone lighting, nor was it required to be
 - ICAO / CASA recommended that centreline lighting be provided on runways where the width between runway edge lights greater than 50 m. Runway 29 was 60 m (197 ft) wide, which was significantly wider than other Australian runways used by the operator's Boeing 737 fleet. This meant that the visual cues and runway perspective available to the flight crew were different from those normally experienced.
 - the visual cues available to the flight crew in the final stages of the flight were insufficient for the pilot to safely land the aircraft, or control the aircraft's lateral position over the runway; and that the presence of runway centreline lighting would have increased the visual.



Why regulate aerodromes?



Context and History - DASRs

2013

- Defence Aviation Authority (Defence AA) acknowledge that regulation of state aircraft and supporting arrangements relating to Defence aerodromes no longer represented good practice and was not likely to be defensible under *WH&S Act 2011*.

2016

- The **Defence Aviation Safety Regulation (DASR)** was introduced in **2016** replacing the Military Operational and Technical Airworthiness Regulations. On the technical side DASR aligns with the **European Military Airworthiness Regulations** which is an emerging convention.
 - In accordance with **Joint Directive 24/2016 and 04/2018 The Defence Aviation Safety Framework**, the Defence Aviation Safety Authority (DASA) is responsible for enhancing and promoting the safety of military aviation. Now superseded by Joint Directive 21/2021

Context and History – Civil Aerodromes

2014

- 2014, Civil Aviation Safety Authority (CASA) and industry recognised that a comprehensive review of CASR Part 139 legislative framework for Australian Aerodromes, was necessary to:

- Reflect ICAO Standards and Recommended Practices (SARPs) for Annex 14 Aerodromes.
- Re-write existing regulations to an outcome-based format.
- Provide more clarity and a streamlined regulatory framework.

2017

- Notice of Proposed Rule Making (NPRM) 142AS released in 2017 to update CAR Part 139 and subsidiary Manual of Standards (MOS) 139.

2019/ 2020

- New regulations and standards released in Feb 2019 and effective from August 2020.

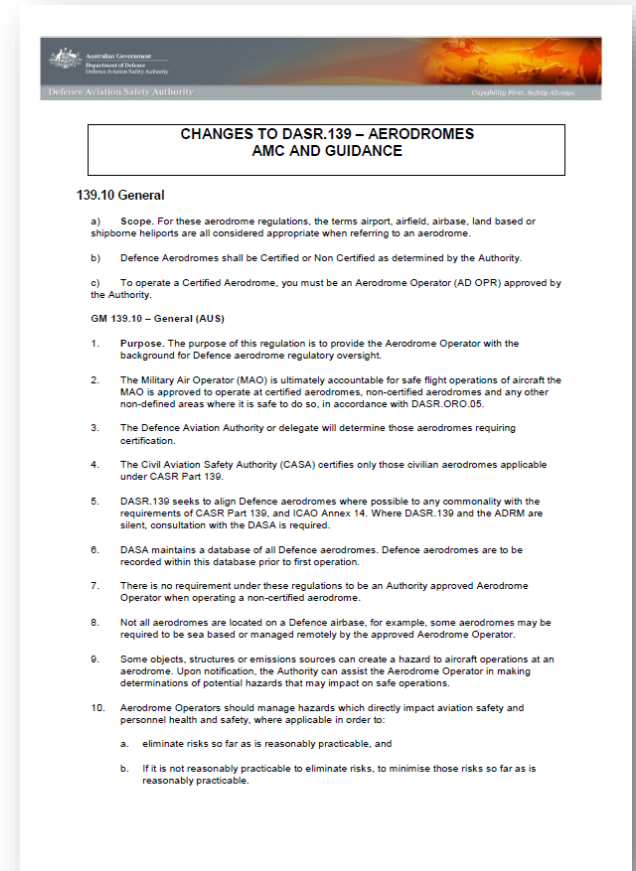
Context and History – DASR 139

2019

- DASA evaluated approach and aligned to ICAO/CASA and with other applicable Flight Ops and IA regs (ANSP and 21 certification) for militarisation
- Notice of Proposed Amendment 02/2019 was released on 01 July 2019.
- Responses accepted until 30 Sep 2019
 - Responses received from: HQAC (incl. A9), Infrastructure Division, COMFAA (incl. HQ FAA), DGSCA (Navy), E&IG (incl. DIRD and ESD), FORCOM (Army), SURFOR

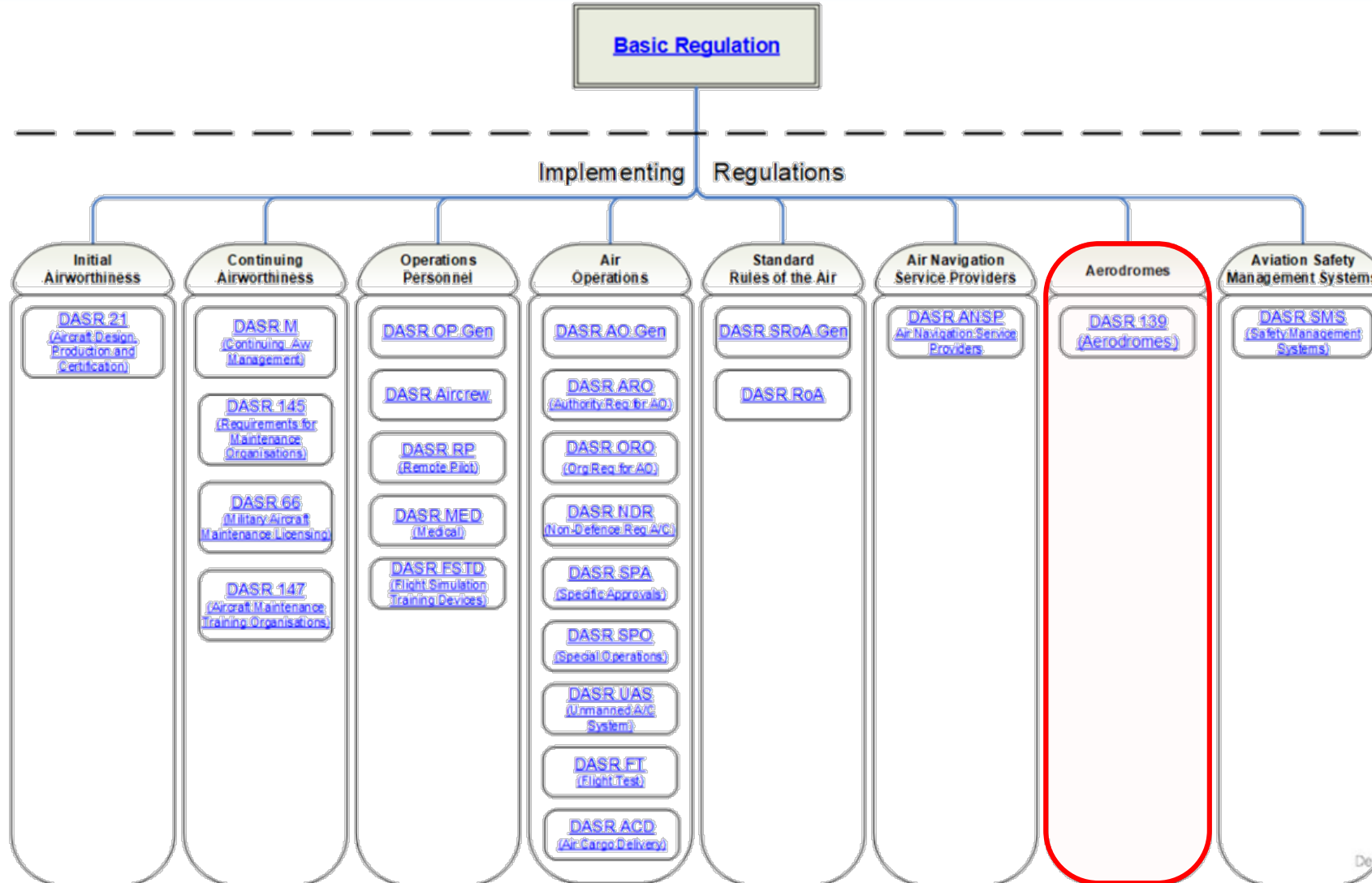
2020

- Changes incorporated and updated regulations released on 10 April 2020.





DASR 139 Aerodromes



Purpose of DASR 139

- Influence behaviours to support ensuring the ongoing safe flight operations of Defence Aerodromes;
- The enhancing of overall accountability and means to prioritise effort to address perceived aerodrome existing shortfalls;
- Align with civil and military, domestic and international good practice.

Changes Introduced by DASR 139

- Include shipborne heliports, land-based heliports and land-based aerodromes primarily used for fixed wing operations within a single aerodrome regulation.
- Organisational Approval for Aerodrome Operators (Aerodrome Operators) – with a designated Accountable Manager.
- Classification of aerodromes to: ‘Certified’ or ‘Non-Certified’.
- Certify Defence Aerodromes based on design requirements contained within AAP 7001.054 Airworthiness Design Requirement Manual (ADRM), Section 6 (Released 10 April 2020).
- Formalise the regulatory requirement for aerodrome Safety Management System (SMS) and Quality Managements System (QMS).

Structure of DASR 139

DASR 139.10

General

DASR 139.20

Organisational
Approval (AUS)

DASR 139.30

Requirements for
Approval (AUS)

DASR 139.40

Organisational
Structure

DASR 139.50

Aerodrome
Manual (AUS)

DASR 139.60

Safety
Management
System (AUS)

DASR 139.70

Quality
Management
System (AUS)

DASR 139.80

Aerodrome
Certification

DASR 139.90

Maintenance of
Aerodrome

DASR 139.100

Personnel
Competency
(AUS)

DASR 139 Overview

Number	Description	Regulation
139.10	General	<ul style="list-style-type: none"> Defence Aerodromes shall be Certified or Non Certified as determined by the Authority. To operate a certified aerodrome, you must be an Aerodrome Operator approved by the Authority.
139.20	Organisational Approval	<ul style="list-style-type: none"> Certified aerodromes must only be operated by an approved Aerodrome Operator to approved standards and procedures as defined by the level and scope of the approval issued by the Authority.
139.30	Requirements for Approval	<ul style="list-style-type: none"> The applicant organisation seeking to achieve Aerodrome Operator approval must submit a Compliance Statement to the Authority.
139.40	Organisational Structure	<ul style="list-style-type: none"> An Aerodrome Operator must define its organisational structure.
139.50	Aerodrome Manual	<ul style="list-style-type: none"> The Aerodrome Operator of a certified aerodrome must have an aerodrome manual that describes the relevant information and procedures that underpin the safe and effective use of an aerodrome.

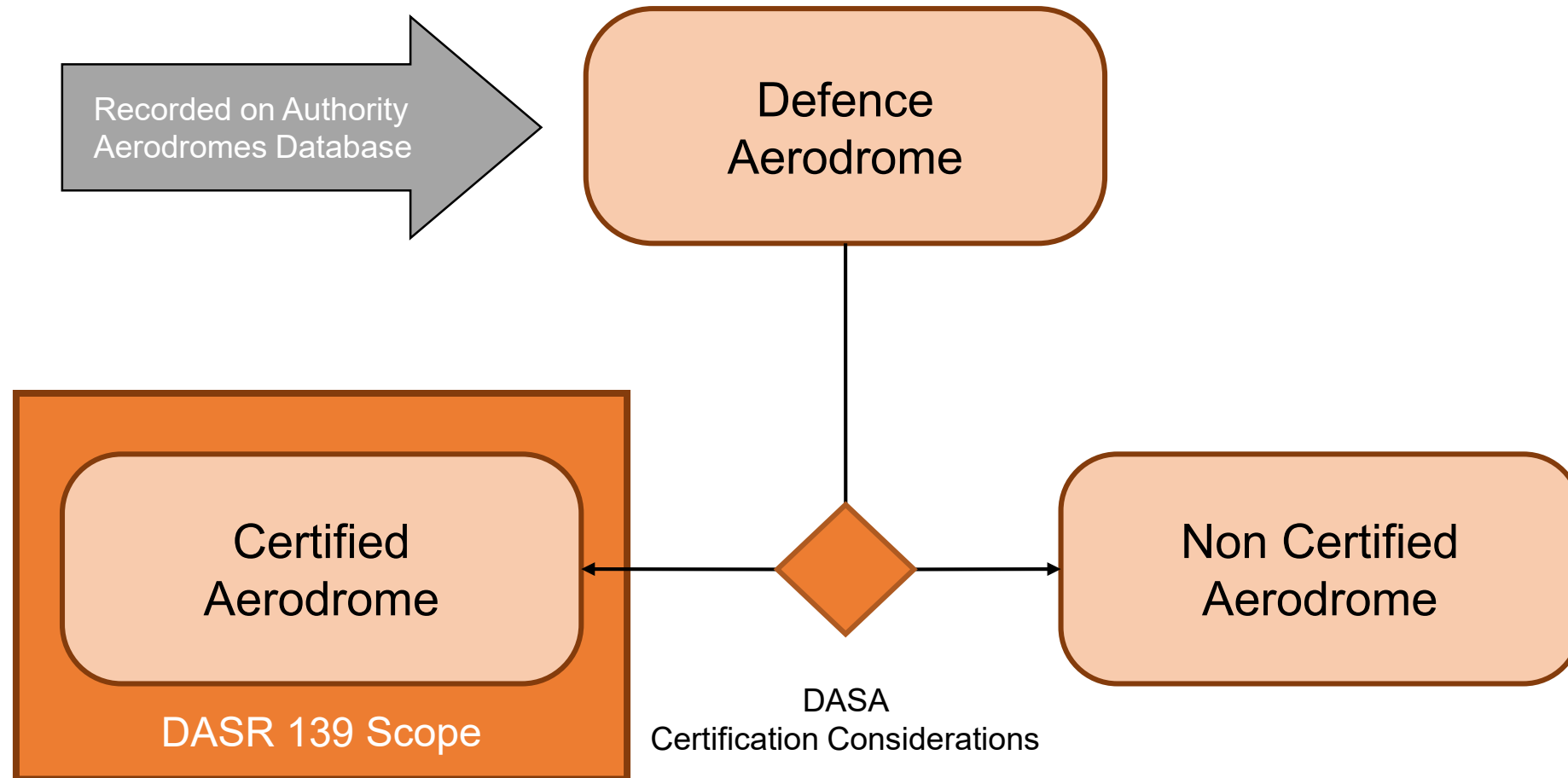
DASR 139 Overview

Number	Description	Regulation
139.60	Safety Management System	<ul style="list-style-type: none"> The Aerodrome Operator must incorporate a Safety Management System for the operation of a Certified Aerodrome.
139.70	Quality Management System	<ul style="list-style-type: none"> An Aerodrome Operator must have and maintain a Quality Management System.
139.80	Aerodrome Certification	<ul style="list-style-type: none"> The purpose of these regulations are to define the actions required by an applicant to attain aerodrome certification by the Authority.
139.80. A	Aerodrome Initial Certification	<ul style="list-style-type: none"> To be issued an aerodrome certificate by the Authority, the applicant must: <ul style="list-style-type: none"> Define an Authority-agreed certification basis for the aerodrome; Demonstrate that the aerodrome design and construction complies with the agreed certification basis; Declare that the aerodrome design and construction complies with the agreed certification basis; Implement arrangements to support continued aerodrome compliance with the agreed certification basis; and Provide design information to support continuing safe operation of the aerodrome.

DASR 139 Overview

Number	Description	Regulation
139.80.B	Changes to Aerodrome Certification	<ul style="list-style-type: none">Changes to the design and construction of a certified aerodrome must be presented to the Authority for certification, except where those changes have no appreciable effect on the safety of flight operations.
139.90	Maintenance of Aerodrome	<ul style="list-style-type: none">The Aerodrome Operator must develop, document and undertake an aerodrome maintenance program to ensure the aerodrome remains in a condition to support safe flight operations.
139.100	Personnel Competency	<ul style="list-style-type: none">Aerodrome Operators must ensure that personnel responsible for the conduct of activities in support of individual aerodromes are competent, qualified and authorised to undertake their duties.

DASA 139 Scope



DASA 139 Organisation & Approvals

- Aerodrome Operator
- Aerodrome Approval
 - Aerodrome Manual
 - Aerodrome Certification

DASA 139 Artefacts Processes



DASA 139 Aerodrome Operator

- Certified Aerodromes must be operated by an Aerodrome Operator to approved STDS and procedures, to defined level and scope.
- Aerodrome Operator submits a Compliance Statement (CS) for approval.
- Aerodrome Operator retains responsibility
 - Routine oversight of DASR 139 compliance.
- Aerodrome Operator have arrangements in place to achieve specific tasks by qualified personnel or organisations.
- The Aerodrome Operator does not subordinate or undermine command accountabilities. ACAUST/COMD FORCOMD/COMAUSFLT retain accountability for capability and safety decisions.

Aerodrome Operator Specification

- Aerodrome Operator organisation name.
- Identify Hazard Tracking Authority (HTA) and other key appointments.
- Evidence of SMS.
- Evidence of QMS.
- Annex for each aerodrome:
 - Evidence of aerodrome certification status with limitations and conditions
 - Key aerodrome/base management and safety appoints
 - Aerodrome Manual
 - Aerodrome management arrangements
 - Evidence of SMS
 - Evidence of QMS

Aerodrome Operator Compliance Statement

- CS is used to apply for or amend an approval – dynamic document
- CS content:
 - Aerodrome Operator organisation name
 - Aerodrome Operator location
 - Evidence of Aerodrome/s certification status and limitations/conditions
 - HTA
 - Key Aerodrome appointments
 - Aerodrome Manual
 - SMS
 - QMS
 - Statement of compliance

Aerodrome Operator Organisational Structure

- Aerodrome Operator to define organisational structure.
- Aerodrome Operator organisation consist of operators, maintainers and engineers:
 - Aerodrome Operator Manager
 - 'Chain of Command' including an Aerodrome MGR
 - Qualified personnel
 - Hazard Tracking Authority (HTA)
 - Key personnel
 - Sufficient and suitable facilities
 - Aerodrome management arrangements
 - SMS
 - QMS

When to certify?

- DASR 139 only applies to aerodromes that are to be 'certified'.
- DASA has developed 'certification considerations' to determine which Defence aerodromes require an DASR 139 Aerodrome Certificate (released 26 Jun 20).
- 'Non-certified' and 'un-defined' aerodromes are not regulated under DASR.139.

When to certify?

- DASA will make a determination that a Defence aerodrome must be certified if:
 - a) there is a terminal instrument flight procedure for the aerodrome; or
 - Note. If this is the only certification criteria met for an aerodrome, the Aerodrome Operator and primary Military Air Operators may present a safety-based argument to the Authority, recommending that certification is not reasonably practicable in the circumstance.
 - b) there are regular civil commercial passenger operations at the aerodrome; or
 - c) there are frequent aircraft operations at the aerodrome; or
 - d) the Defence flight operations at the aerodrome are often inherently hazardous, well beyond normal civilian operations, and the provision of a well-designed / maintained aerodrome is a key safety risk control.

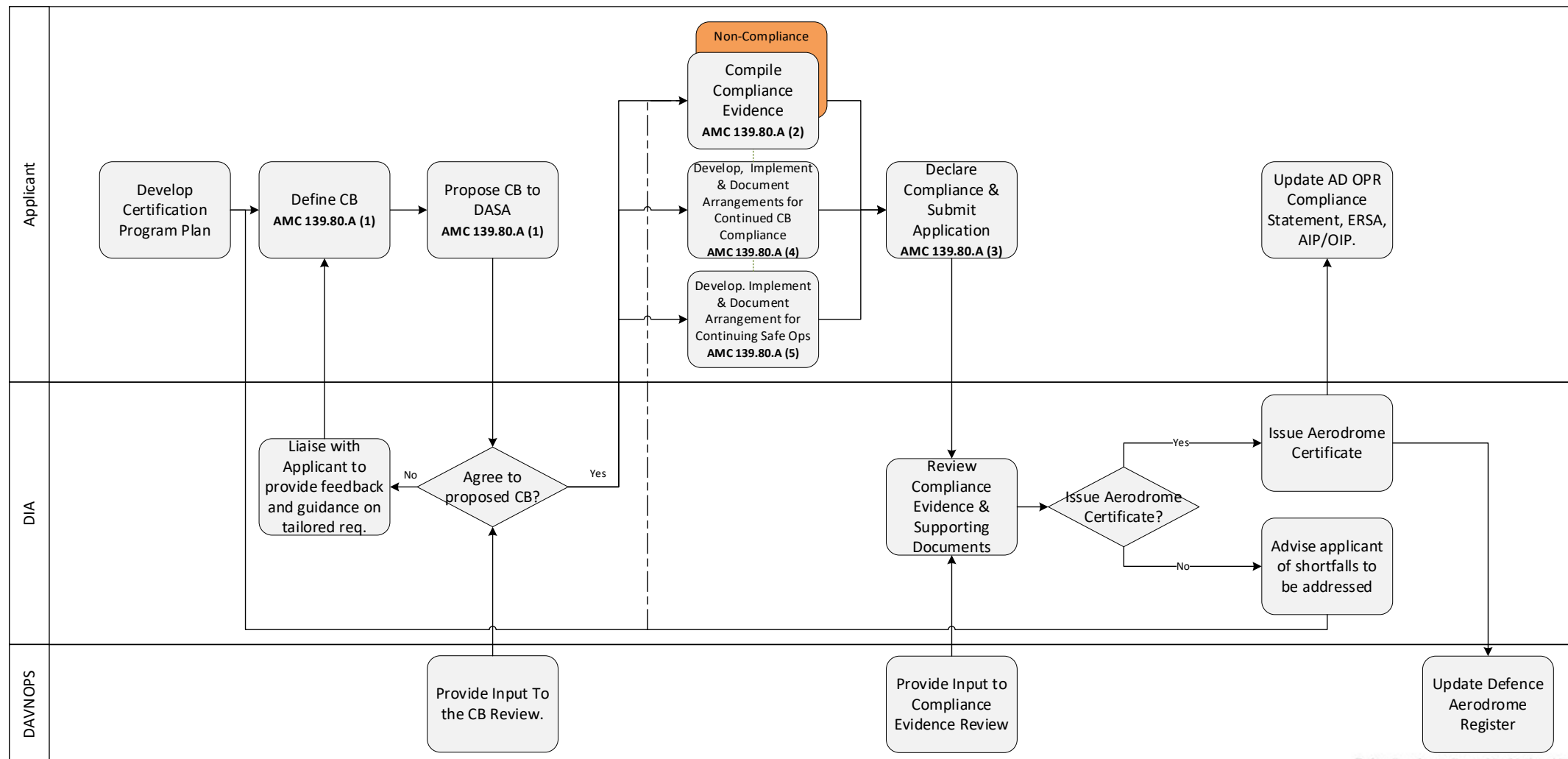


DASR 139.80 - Aerodrome Certification Process

Define Operating Intent	Define or Update the Operating Intent of the aerodrome (optional)	<ul style="list-style-type: none"> Aerodrome's operating intent / capability is to be captured and understood to support the certification process
Authority Agreement (CB)	Develop Certification Program Plan (optional) Define an Authority-agreed CB (139.80.A(1))	<ul style="list-style-type: none"> Certification Program Plan used to provide stakeholders an understanding of activities planned for the certification process Identify the ADRM requirements and any Tailoring Establish means of compliance (optional)
Design Aerodrome		<ul style="list-style-type: none"> Design and construct aerodrome to comply with provisional CB Plan and generate compliance demonstration evidence
Compliance Demonstration and Declaration	Demonstrate Compliance (139.80.A(2)) Prepare Military Aerodrome Certification Review Items (MACRIs) Declare Compliance (139.80.A(3))	<ul style="list-style-type: none"> Generate / document and collate compliance demonstration evidence Address non-compliances/shortfalls against the provisional CB (use the MACRI Template) Make a Declaration of Compliance (can use Application form)
Continued and Continuing Arrangements	Support continued compliance (139.80.A(4)) Support continuing safe operations (139.80.A(5))	<ul style="list-style-type: none"> Generate / document and collate continued compliance and continuing safe operations data / information
Submission	Apply for certification (or approval of major changes)	<ul style="list-style-type: none"> Apply for Aerodrome Certificate (use Application for Aerodrome Certificate form)
Certification	Authority assessment and issue of instrument (or approval of major change)	<ul style="list-style-type: none"> Authority review of compliance evidence (non-exhaustive) Authority Issue of Aerodrome Certificate
Maintain Certification	Changes to Aerodrome Certification (DASR 139.80.B) Maintenance of Aerodrome (DASR 139.90)	<ul style="list-style-type: none"> Re-certification of aerodrome for major changes Develop and maintain Aerodrome maintenance program



Aerodrome Certification Process



Aerodrome Certificate



DEFENCE AVIATION SAFETY AUTHORITY

AERODROME CERTIFICATE

AUS.DASA.AC.X00

This Aerodrome Certificate is issued by the Defence Aviation Safety Authority, acting in accordance with Defence Aviation Safety Regulation 139 and certifies that the aerodrome listed below complies with the applicable Certification Basis when operated within the conditions and limitations set out on page two of this certificate.

Aerodrome Name	ICAO Identifier	Date of issue
NAME	XXXX	DD MONTH YYYY

This certificate remains effective from the date of issue and remains in force until cancelled except during any period in which it is suspended.

For and on behalf of the Defence Aviation Safety Authority,

Date of issue: DD Month YYYY

Air Commodore

Aerodrome Certificate

Aerodrome Certification Basis - <Identify the approved Certification Basis for the aerodrome.>

Conditions applicable to Aerodrome Certificate AUS.DASA.AC.X00.
<Identify all controls from approved MACRIs. Identify any further limitations imposed on the aerodrome facilities required to support safe flight operations at the aerodrome>

Conditions Applied to the Air Operator		
#	Condition	Reference
<AO 1>	<C-27 must be weight limited to xxx kg for landing>	MACRI xxx
Conditions Applied to the Aerodrome Operator		
#	Condition	Reference
<AD 1>	<Taxi Way xxx lights must be extinguished during NVD operations>	MACRI yyy

Q1. Who is the Applicant?

- An applicant can be any organisation or operator (or its representative) which applies for an aerodrome certificate.
 - Example 1 – Aerodrome Operator - CSG, SURFOR, DGAVN, COMSHORE
 - Example 2 – Capability Sponsor – A10, DGSCA
 - Example 3 – Project – E&IG, CASG
- Note- The “Applicant” identified in the context of DASR.139.80 can be different to the “Applicant” identified in the remainder of the DASR.139 regulations.

Q2. Does the Applicant need to be the Aerodrome Operator?

- No, the Applicant does not need to be the Aerodrome Operator.

Q3. Who is the Authority?

- The Defence Aviation Safety Authority (DASA) is the relevant Authority that can provide certification. The Aerodrome and Heliport Certification (AH CERT) Section within the Directorate of Initial Airworthiness (DIA) will handle all relevant matters relating to DASR 139.80 and DASR 139.90.

Q4. How will the difference in the design, maintenance and flight operations of different aerodromes be taken into consideration in applying for certification?

- To be issued an aerodrome certificate, the applicant needs to define an Authority-agreed certification basis for the aerodrome (this is only one of the requirements – refer to DASR 139.80. A for the remaining requirements).
- The applicable design requirements (as obtained from Section 6 of the Airworthiness Design Requirements Manual (ADRM)) to be contained in the certification basis for the given aerodrome can vary based on the design, maintenance and flight operations of the aerodrome.
- Certain design requirements can be tailored (refer to AMC 2 (c) of DASR 139.80.A), requiring approval from the Authority.
- This is in keeping with the requirements outlined in Section 2.06 of the CASA MOS 139 (non-application of the standards).

Q5. Are the DASR 139.80 regulations scalable?

- No. The certification regulations are not scalable, the facilities / requirements of the aerodrome are aligned to the operating intent.



Questions

DASR 139 Aerodrome Certification

Practitioners Course – Module 2

Mr Daniel Grosse

Director of Initial Airworthiness

Directorate of Initial Airworthiness (DIA-DASA)



Defence Aviation
Safety Authority 

Module 2 (LO 2.0): Describe Establishing Authority-agreed Certification Basis

SLO 2.1 Describe the importance of an aerodrome's operating intent to aerodrome certification.

SLO 2.2 Identify design requirements for aerodrome design and construction.

SLO 2.3 Explain tailoring of ADRM Design Requirements to meet aerodrome's operating intent.

SLO 2.4 Identify the most appropriate means of compliance.

DASR 139.80 - Aerodrome Certification Activities

Define Operating Intent	Define or Update the Operating Intent of the aerodrome (optional)	<ul style="list-style-type: none"> Aerodrome's operating intent / capability is to be captured and understood to support the certification process
Authority Agreement (CB)	Develop Certification Program Plan (optional) Define an Authority-agreed CB (139.80.A(1))	<ul style="list-style-type: none"> Certification Program Plan used to provide stakeholders an understanding of activities planned for the certification process Identify the ADRM requirements and any Tailoring Establish means of compliance (optional)
Design Aerodrome		<ul style="list-style-type: none"> Design and construct aerodrome to comply with provisional CB Plan and generate compliance demonstration evidence
Compliance Demonstration and Declaration	Demonstrate Compliance (139.80.A(2)) Prepare Military Aerodrome Certification Review Items (MACRIs) Declare Compliance (139.80.A(3))	<ul style="list-style-type: none"> Generate / document and collate compliance demonstration evidence Address non-compliances/shortfalls against the provisional CB (use the MACRI Templates) Make a Declaration of Compliance (can use Application form)
Continued and Continuing Arrangements	Support continued compliance (139.80.A(4)) Support continuing safe operations (139.80.A(5))	<ul style="list-style-type: none"> Generate / document and collate continued compliance and continuing safe operations data / information
Submission	Apply for certification (or approval of major changes)	<ul style="list-style-type: none"> Apply for Aerodrome Certificate (use Application for Aerodrome Certificate form)
Certification	Authority assessment and issue of instrument (or approval of major change)	<ul style="list-style-type: none"> Authority review of compliance evidence (non-exhaustive) Authority Issue of Aerodrome Certificate
Maintain Certification	Changes to Aerodrome Certification (DASR 139.80.B) Maintenance of Aerodrome (DASR 139.90)	<ul style="list-style-type: none"> Re-certification of aerodrome for major changes Develop and maintain Aerodrome maintenance program



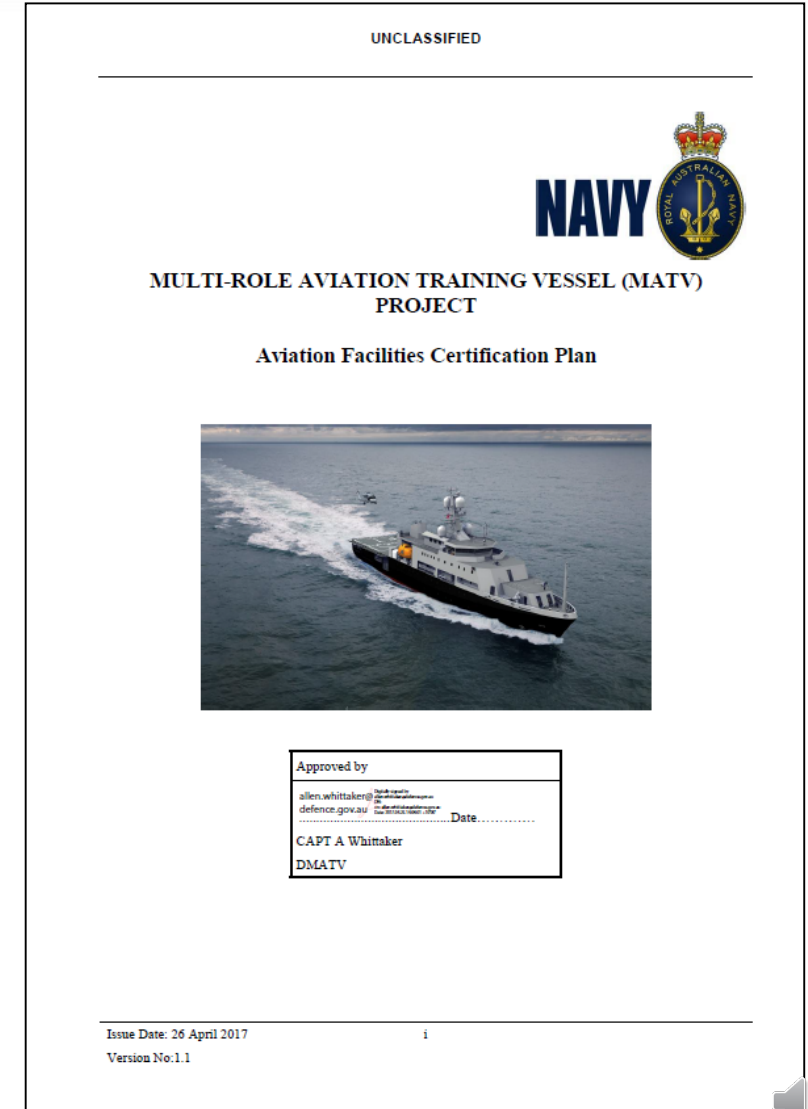


Developing a Certification Program Plan (CPP)

Optional

Certification Program Plan

- Prior to commencing certification activities, the Applicant may choose to develop a Certification Program Plan (CPP).
- Note: CPP is not required by DASR.139.
- A CPP is useful in planning and documenting:
 - approach to certification activities
 - certification timeframes and milestones
 - key areas of the aerodrome design, construction and operations that may require additional certification activities



CPP Contents

- CPP may contain the following information:
 - General information identifying the Applicant, Aerodrome Operator, aerodrome and relevant organisations that support design and maintenance of the facilities.
 - Description of the project activities including design, engineering, construction and test and evaluation
 - Description of the aerodrome configuration, support systems and equipment, limitations and any novel/unusual design features to be considered.
 - Description of the certification activities following the process steps of the certification process
 - Certification program schedule, major milestones, plans for compliance demonstration activities.
 - Plan for submitting data to support declaration of compliance.
- CPP Template under development

SLO 2.1 Describe the importance of an aerodrome's operating intent to aerodrome certification.

Documented Operating Intent - SOI / SOIU / OSI

- Before commencing development of the CB, it is important to first understand the drivers of an aerodrome's design and construction.
- Defining / understanding the aerodrome's operating intent and capability regarding the flight operations to occur at the aerodrome lays the foundations for defining the design requirements for the aerodrome.
- This information may be found in the aerodrome's
 - Statement of Operating Intent (SOI), Statement of Operating Intent and Usage (SOIU) or Operating and Support Intent (OSI) or other such documents.


SOI/ SOIU/ OSI Contents

- **Aerodrome Description**
 - Aerodrome description and characteristics, resident units.
- **Operational Roles and Tasks**
 - Mission description, authorised tasks and roles, mission roles, preparedness requirements.
- **Operating Environment**
 - Airbase critical facilities and services, strategies, tactics and procedures, ground defence and security.
- **Operational Profiles and Configurations**
 - Approved configuration, operating states and modes.
- **Operational Limits / Requirements**
 - Extant operational requirements, system operating constraints and limitations.
- **Development Environment**
 - Life of aerodrome, development strategy, future upgrades, test and evaluation.

PROTECTED



STATEMENT OF OPERATING INTENT
FOR
RAAF BASE WILLIAMTOWN

 steven.roberton
2018.08.23
14:23:31 +10'00'

SP Roberton, DSC, AM
AVM
Air Commander Australia

PROTECTED

Understanding the Operating Intent

- With the operating intent known, the assessment will inform:
 - The selection of the correct design requirements
 - Fixed wing aerodrome
 - Land-based heliport
 - Shipborne Heliport
 - Tailoring of the design requirements – as example
 - Aerodrome Reference Code
 - Emergency Runway
 - Ordnance Readiness Platforms
 - Arrestor Systems
 - NVD
- For **certification**, the operating intent assessment will:
 - Support definition of the CB
 - Inform compliance evidence development.

Documented Operated Intent– Roles and Responsibilities

- Command is responsible to approve and manage the SOI/SOIU/ OSI throughout the service life of the aerodrome.
- **Any changes to the documented operating intent must be reviewed for any impact to the Aerodrome Certificate.**
 - See Module 5 for ‘Maintenance of Aerodrome Certificate’.
- Changes to the operating intent may impact Aerodrome Certificate. As an example:
 - additional landing spots
 - changes to NVG operations
 - introduction of new aircraft type at the aerodrome

SLO 2.2 Identify design requirements for aerodrome design and construction

Aerodrome Design Requirements – ADRM Section 6

- The Authority recognises a primary aerodrome design standards that provide a sound foundation for the prescribed design requirements contained within the ADRM
 - They are identified from international good practice, are integrated, are internally consistent and are kept up-to-date by the sponsoring authority.
 - They form the basis of facility designs to support safe flight operations of aircraft at Defence aerodromes.
- The design requirements provide the starting point for developing the certification basis – the requirements for which the aerodrome is to comply with to achieve certification.
- Note: design requirements prescribed by the Authority are only aviation safety-related design requirements.
 - Non-aviation safety-related design requirements necessary for Defence capability, standardisation and interoperability with other defence forces are not included.

ADRM Aerodrome Design Requirements

- Aerodrome design requirements are identified in AAP 7001.054 Airworthiness Design Requirements Manual (ADRM), Section 6

Aerodrome Type	Applicable ADRM Chapter	Primary Aerodrome Design Standard
Land based aerodromes	Section 6, Chapter 2	Civil Aviation Safety Authority (CASA) Part 139 (Aerodromes) Manual of Standards 2019 (Part 139 MOS) (September 2019), including the MOS Part 139H - Standards Applicable to the Provision of Aerodrome Rescue and Fire Fighting Services (MOS Part 139H) (January 2005).
Land based heliports	Section 6, Chapter 3	International Civil Aviation Organisation (ICAO) Annex 14 Aerodromes Volume 2 Heliports (July 2020, Fifth Edition) supplemented for expanded military context based on UFC for heliport design.
Shipborne heliports	Section 6, Chapter 4	Australian Defence Force Maritime Materiel Requirements Set - DEF (AUST) 5000 - Volume 11 Ship Aviation Requirements (November 2017) for the Royal Australian Navy (RAN). To be aligned to flight safety.

Systems Covered by Design Requirements

- Systems and functions covered by the design requirements include:
 - The physical characteristics of the movement area.
 - Aircraft arresting systems.
 - Obstacle restrictions and limitations.
 - Visual aids for the movement area and other areas (e.g. aerodrome markings, markers, signals, wind direction indicators).
 - Visual approach slope indicator systems.
 - Visual aids provided by aerodrome lighting systems.
 - Communications, Navigation, Surveillance (CNS) and Meteorological (MET) facilities.
 - Earthing points.
 - Light aircraft tie-down facilities Reference code systems.
 - Radio communication facilities.
 - Aircraft Rescue and Firefighting (ARFF) requirements.
 - Access to an aerodrome, including requirements relating to fencing.
 - Design requirements to avoid the creation of hazards from aircraft propulsion systems.

Other Aerodrome Design Elements

- Other aerodrome design elements – outside the scope of ADRM, Section 6:
 - facilities that may be on aerodromes associated with maintaining aircraft, such as hangars, corrosion control (including washes), spares storage, refuelling, ground power and de-icing
 - facilities that may be on aerodromes associated with aviation training and operations support
 - amenities on aerodromes such as accommodation and catering
 - aerodrome roads (apart from 'roadways' on aprons and emergency access roads) except to the extent that their lighting affects pilot vision.

Authority Supplementation of Primary Aerodrome Design Standards

- Supplementation refers to tailoring of the primary standards conducted by the Authority to address Defence specific requirements.
- Where required, the Authority tailors or prescribes supplementation to the primary design standards for specific aerodrome design requirements. The tailoring or supplementation is made to specifically address situations where:
 - Primary standard is silent on specific design elements (e.g. military-specific aerodrome design requirements)
 - Defence experience has unequivocally demonstrated that the primary design standard needs to be varied/supplemented when applied to Defence aerodromes.
 - Australian legislative design requirements need to be followed (e.g. electrical wiring)
- Note: The Authority provides tailoring/supplementation only where there is no conflict with the requirements in the primary standard for other design elements (given that the primary standard comprises an integrated set of requirements).

Examples

- Design element: Obstacle restrictions and limitations
- Design requirement. *The design of obstacle restrictions and limitations must comply with the requirements of MOS Part 139 (Aerodromes) Chapter 7, except for the following:*
 1. Paragraph 7.01(2). *Obstacle data requirements must be obtained from AIS-AF, as the relevant Air Navigation Service Provider (ANSP).*
 2. Paragraph 7.02(1). *Objects or structures, other than approved visual and navigational aids or Aircraft Arrestor Systems, must not be constructed or erected within the obstacle restriction area of an aerodrome without the written approval of the Authority. When making a determination on whether objects or structures should be considered an obstacle, the Authority will seek advice from E&IG Estate Planning – Land Planning.*
 3. Paragraph 7.03(4) Note. *E&IG Estate Planning – Land Planning will provide advice to the Authority on development requests for buildings and other infrastructure to be built in the obstacle limitation surface of Defence aerodromes, beyond the aerodrome boundary.*
 4. *Paragraphs 7.18-25 do not contain design requirements and are therefore not applicable to Defence aerodrome certification.*
 5. Emergency runways. *Emergency runways must meet ARC code 2B non-instrument approach OLS requirements.*

SLO 2.3 Explain tailoring of the ADRM Design Requirements to meet aerodrome's Operating Intent

Tailoring Design Requirements

- Establishing a CB involves defining a set of design requirements, starting with the design requirements within ADRM, Section 6 and tailoring these to meet an aerodrome's operating intent.
- Tailoring in this context of establishing a CB may involve:
 - Removing requirements from the design requirements that are not applicable to the aerodrome's operating intent (i.e. attesting requirements are 'Not Applicable').
 - Developing and using a special detailed technical requirement (i.e. bespoke requirement) that addresses a unique aspect of the aerodrome that is beyond the scope of the design requirements.

Examples of Tailoring

- Removing requirements from the ADRM design requirements that are not applicable to the aerodrome's operating intent.
- Example justification for removing requirements that are not applicable.
 - NVD requirements for an aerodrome are not required – the aerodromes operating intent does not require NVD ops.
 - Arrestor cables / ASIST systems are not required - the operating intent does not identify the aircraft that utilise such systems as operating at such an aerodrome

Examples of Tailoring

- Developing and using a special detailed technical requirement (i.e. bespoke requirement) that addresses a unique aspect of the aerodrome that is beyond the scope of recognised standards.
- Example justification for using bespoke requirements
 - Example only – Aerodrome required to support space shuttle – need to identify bespoke requirements (if any)



Certification Basis

Recording the CB in the CB Template

- The DASA has developed a template to use to develop the Certification Basis
- The template starts with a the full list of requirements in the CB
 - All requirements from the ADRM (Aerodrome Design Requirements Manual)
 - Chapter 2 – Land based aerodromes primarily used for Fixed Wing aircraft
 - Chapter 3 – Land-Based Heliport
 - Chapter 4 – Shipborne Heliport

Example CB

Requirements				For Applicant		
I.D.	Requirement Source	Requirement Number	Requirement	Applicability	Justification (Brief summary of why the requirement is or is not applicable)	Reference for Applicability (Objective ID)
1	ADAMS6C02	-	Design Element: Physical characteristics of movement facilities	Yes	Refer to sub-requirements	Refer to sub-requirements
2	Part 139 MOS (2019)	-	CHAPTER 6 AERODROME PLANNING, DESIGN AND MAINTENANCE - PHYSICAL CHARACTERISTICS OF MOVEMENT FACILITIES	Yes	Refer to sub-requirements	Refer to sub regulation
3	Part 139 MOS (2019)	-	Division 1 Runways	Yes	Refer to sub-requirements	Refer to sub regulation
4	Part 139 MOS (2019)	6.01	Location of runway threshold	Yes	Refer to sub-requirements	Refer to sub regulation
5	Part 139 MOS (2019)	6.01(1)	Subject to this section, as far as possible, a runway threshold must be located at the extremity of a runway.	Yes	Justified	BP2004
6	Part 139 MOS (2019)	6.01(2)	A runway threshold must be located:	Yes	Not Required	Not Required
7	Part 139 MOS (2019)	6.01(2)(a)	for a code 1 runway — not less than 30 m; or	Yes	Please Specify	Please Specify
8	Part 139 MOS (2019)	6.01(2)(b)	in any other case — not less than 60 m;	No	Please Specify	Please Specify
9	Part 139 MOS (2019)		after the point at which the approach surface for aircraft using the runway meets the extended runway centreline.	Yes	Not Required	Not Required
10	Part 139 MOS (2019)	6.01(3)	Subject to subsection (2), a runway threshold may be displaced from the extremity of a runway if:			
11	Part 139 MOS (2019)	6.01(3)(a)	the OLS would otherwise be infringed by an obstacle; or			
12	Part 139 MOS (2019)	6.01(3)(b)	the PANS-OPS airspace would otherwise be infringed by an obstacle; or			
13	Part 139 MOS (2019)	6.01(3)(c)	an immovable object or structure would otherwise extend above the approach surface.			
14	Part 139 MOS (2019)	Note	Note 1 CASA Advisory Circular (AC) 139.A-04: Applying for aerodrome authorisations, exemptions and approvals, and AC 139.C-08: Aerodrome obstacle control, as existing from time to time and freely available on the CASA website, contain important guidance on the various safety factors that an aerodrome operator should consider before displacing a runway threshold.			
15	Part 139 MOS (2019)	Note	Note 2 Thresholds should not be displaced without consideration of aircraft operational factors, such as approach angle and LDA. Large approach angles (above 3.5 degrees) can only be flown by aircraft that have been certified for steep approaches and where the aircraft operator has received approval. Furthermore, displaced thresholds will result in a reduced LDA which may affect the safety and efficiency of the operation even if the approach angle remains at 3 degrees.			
16	Part 139 MOS (2019) Tailored for Defence Context	6.01(4)	A runway threshold must be displaced from the extremity of a runway in accordance with a written direction by DASA given in the interests of aviation safety.			
17	Part 139 MOS (2019)	6.01(5)	If a runway threshold is temporarily displaced, the aerodrome operator must:			
18	Part 139 MOS (2019) Tailored for Defence Context	6.01(5)(a)	assess the revised approach splay for the OLS, and notify DASA in writing of any new obstacles in the approach surface; and			
19	Part 139 MOS (2019)	6.01(5)(b)	recalculate the TODA, the critical obstacle gradient, and the STODA in the reciprocal direction from the displacement; and			
20	Part 139 MOS (2019)	6.01(5)(c)	report any changes resulting from the recalculation to the AIS provider and request that a NOTAM be issued.			
21	Part 139 MOS (2019)	6.02	Runway width			
22	Part 139 MOS (2019)	6.02(1)	For a runway with a code number mentioned in a row of column 1 of Table 6.02 (1), the minimum width of runway for an aircraft with an OMGWs mentioned in the same row in column 2, 3, 4 or 5, is the width in metres mentioned in the cell that is common to the code number and the aircraft's OMGWs.			



Example CB

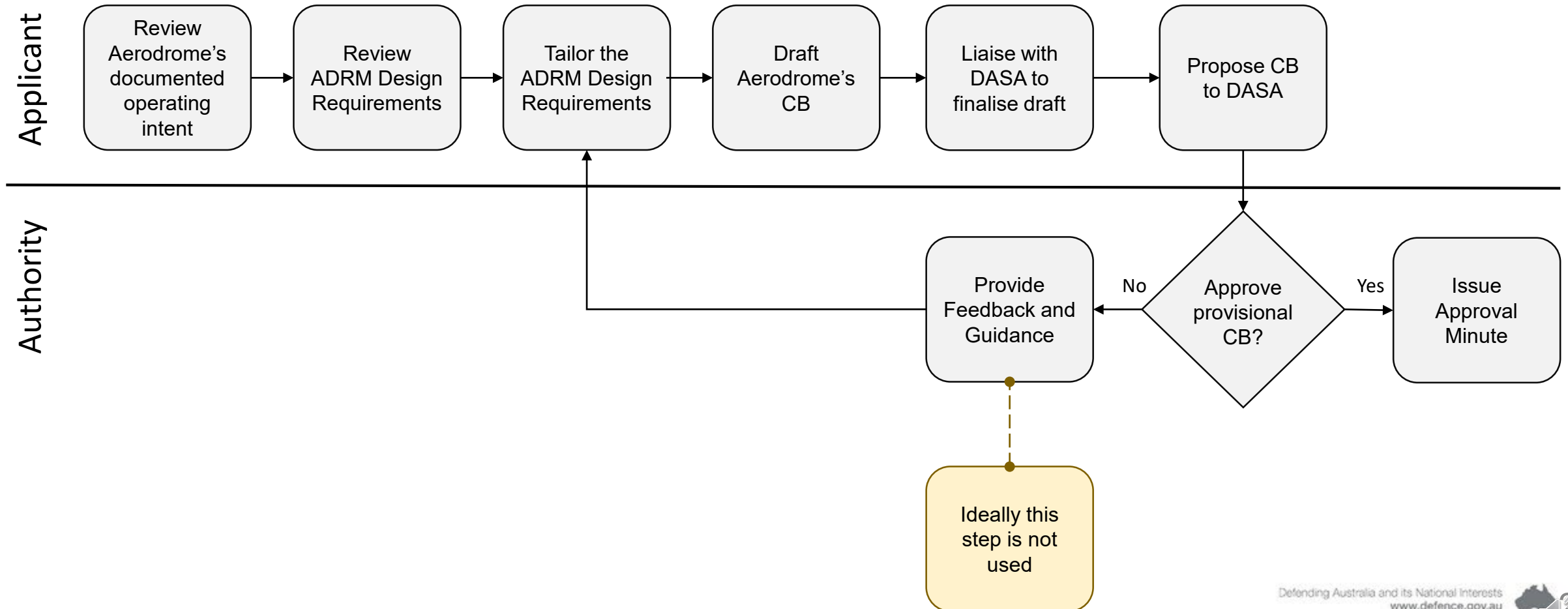
- I.D. - **Pre Populated** - Unique requirement identifier
- Requirement Source - **Pre Populated** - The provides the original source of the requirement. If there is any supplementation/ variation provided, this will be identified here.
- Requirement Number - **Pre Populated** - This provides the requirement number from the original requirement source. Allows the requirement to easily be traced for reference or further information.
- Requirement - **Pre Populated** – The design requirement
- Requirement Applicability – Applicant determination if required for aerodrome operating intent
- Justification – Applicant provide one sentence summary of why the requirement is not applicable
- Reference for Applicability – Applicant to provide reference to detailed justification, if required (Objective ID)

Authority Review and Approval

- Upon receipt of the proposed CB, DASA's will review and consider:
 - Whether the right requirement set from the ADRM has been selected.
 - Whether the tailoring of the ADRM design requirements aligns with the aerodrome's operating intent and capability requirements.
 - Whether the tailoring is justified.
 - Whether the proposed tailoring integrates/ interfaces with the other design requirements and any follow on impact does not cause a deficiency.
- Mature draft submissions welcomed to get an 'acceptable' version prior to formal submission.
- Upon successful review, DASA will approve a provisional CB via minute.

Define Authority-agreed CB Process

- The figure below depicts the high level process for defining an Authority-agreed CB.





SLO 2.4 Identify the most appropriate means of compliance

Method and Means of Compliance

- Method of compliance – part of a standard which describes how compliance to a requirement is to be demonstrated.
 - For example – STANAG 1278 Friction – utilise a Slip-Stop FSC 2000
 - For example – Un-grooved runway surface - measured using sand patch tests in accordance with subsection (2) (6.09 (1) (b)).
- Means of Compliance – techniques that are used to demonstrate the compliance.
 - The Applicant identifies MoC (e.g. ‘Analysis’, ‘Inspection’, ‘Demonstration’ or ‘Test’ may need to be employed to generate compliance evidence).
 - Part of the verification and validation planning that occurs for a Project.

Defining Means of Compliance

- Applicant may select the most appropriate Means of Compliance for each requirement in the CB.
 - MoC is not mandatory
- Some design requirements may specify what MoC are required to demonstrate compliance.
- Otherwise, use other MoCs such as those in figure (MoCs specified in the DASR Appendix 1 to AMC 21.A.20(b)).
- The Applicant may change the MoC during the compliance demonstration phase (e.g. engineering reports are not available to demonstrate compliance by 'Analysis', therefore, 'Inspection', 'Demonstration' or 'Test' may need to be employed to generate compliance evidence).

TYPE OF COMPLIANCE	MEANS OF COMPLIANCE CODES	ASSOCIATED COMPLIANCE DOCUMENTS
Engineering evaluation	MC0:– <ul style="list-style-type: none"> • Compliance statement • Reference to Type Design documents • Election of methods, factors, etc • Definitions 	Type Design documents Recorded statements
	MC1:– <ul style="list-style-type: none"> • Design review 	Descriptions Drawings
	MC2:– <ul style="list-style-type: none"> • Calculation / Analysis 	Substantiation reports
	MC3:– <ul style="list-style-type: none"> • Safety assessment 	Safety analysis
Tests	MC4:– <ul style="list-style-type: none"> • Laboratory tests 	Test programmes Test reports Test interpretations
	MC5:– <ul style="list-style-type: none"> • Ground tests on related product 	
	MC6:– <ul style="list-style-type: none"> • Flight tests 	
	MC8:– <ul style="list-style-type: none"> • Simulation 	
Inspection	MC7:– <ul style="list-style-type: none"> • Design inspection / audit 	Inspection and audit reports
Equipment qualification	MC9:– <ul style="list-style-type: none"> • Equipment qualification 	NOTE: Equipment qualification is a process which may include all previous means of compliance

Defining Means of Compliance

- Identifying the means of compliance
 - provides parties involved (project, SME, Authority, ...) with an understanding of what evidence is planned to be generated.
 - Allows early identification of possible shortfalls
 - Ship Flight Deck AFFF system MoC - should be at sea test.

Q1. Who creates the CB?

- It is the Applicant's responsibility to create the CB for the aerodrome.

Q2. What is the Authorities role in the CB?

- The Authority provides approval that the CB captured Defence's prescribed design requirements and reflects the operating intent of the aerodrome.

Q3. When does the Authority need to get involved in the CB?

- Whilst the Authority may assist during the development of the CB, the Authority's mandated role is in CB approval.

Q4. Where do these requirements for the CB come from?

- Requirements for the CB come from the aerodrome design requirements specified in ADRM, Section 6, and bespoke requirements developed to address unique aspects of the aerodrome not covered by the ADRM.

Q5. Are all the requirements for the aerodrome captured in the CB?

- No. The aerodrome CB only captures requirements related to supporting safe flight operations at the aerodrome. Other design requirements that do not impact safe flight operations are not detailed in the CB.

Q5. Why the term provisional CB?

- Provisional is a term to describe the CB created at the start of a Project, is not likely to be the CB that underpins the Certificate (more later).



Group Exercise 1: Certification Basis Establishment

Assessment Description

- You are provided with information regarding an aerodrome's:
 - Operating Intent
 - ADRM Section 6
- You will need to:
 - Identify the appropriate design requirements and the relevant supplementation
 - Tailor the requirements in the ADRM Design Requirements to meet the aerodrome's Operating Intent
 - Justify the CB design requirements in the CB template.

Notes for Instructor

- Documents to provide participants:
 - Aerodrome operating intent document.
 - ADRM Section 6 description of each chapter
 - Certification Basis Template excerpt.
- Exercise examples to include:
 - Land based aerodrome used for fixed wing operations.
 - Land based heliport
 - Shipborne heliport

Notes for Instructor

- Assessment Checklist:

- ☐ Participant can clearly describe the purpose of an aerodrome's operating intent.
- ☐ Participant can explain how the operating intent is used in creating the CB.
- ☐ Participant can identify aspects of the aerodrome design and construction that need to be certified.
- ☐ Participant is able to identify unique aspects of the aerodrome that may require additional consideration in the certification process.
- ☐ Participant is able to locate aerodrome section of AAP 7001.054 ADRM.
- ☐ Participant is able to describe the aerodrome Design Requirements most appropriate to their type of aerodrome.

Notes for Instructor

- Assessment Checklist:

- ☐ Participant is able to identify the supplementations to the design requirements detailed in the ADRM.
- ☐ Participant is able to explain the different ways in which the design requirements can be tailored to meet the aerodromes operating intent.
- ☐ Participant has successfully tailored the design requirements presented in the exercise.
- ☐ Participant can identify method of compliance and describe the different types of means of compliance.
- ☐ Participant has correctly populated the CB template.



Questions

DASR 139 Aerodrome Certification

Practitioners Course – Module 3

Mr Daniel Grosse

Director of Initial Airworthiness

Directorate of Initial Airworthiness (DIA-DASA)



Module 3 (LO 3.0): Describe Compliance Demonstration and Declaration

SLO 3.1 Identify what is acceptable compliance evidence, and how to gather it

SLO 3.2 Describe 'Compliance Declaration' and when it can be made

SLO 3.3 Describe arrangements for continued compliance with CB (**covered in module 5**)

SLO 3.4 Describe arrangements for continuing safe flight operations (**covered in module 5**)

DASR 139.80 - Aerodrome Certification Activities

Define Operating Intent	Define or Update the Operating Intent of the aerodrome (optional)	<ul style="list-style-type: none"> Aerodrome's operating intent / capability is to be captured and understood to support the certification process
Authority Agreement (CB)	Develop Certification Program Plan (optional) Define an Authority-agreed CB (139.80.A(1))	<ul style="list-style-type: none"> Certification Program Plan used to provide stakeholders an understanding of activities planned for the certification process Identify the ADRM requirements and any Tailoring Establish means of compliance (optional)
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Continued and Continuing Arrangements	Support continued compliance (139.80.A(4)) Support continuing safe operations (139.80.A(5))	<ul style="list-style-type: none"> Generate / document and collate continued compliance and continuing safe operations data / information
Submission	Apply for certification (or approval of major changes)	<ul style="list-style-type: none"> Apply for Aerodrome Certificate (use Application for Aerodrome Certificate form)
Certification	Authority assessment and issue of instrument (or approval of major change)	<ul style="list-style-type: none"> Authority review of compliance evidence (non-exhaustive) Authority Issue of Aerodrome Certificate
Maintain Certification	Changes to Aerodrome Certification (DASR 139.80.B) Maintenance of Aerodrome (DASR 139.90)	<ul style="list-style-type: none"> Re-certification of aerodrome for major changes Develop and maintain Aerodrome maintenance program

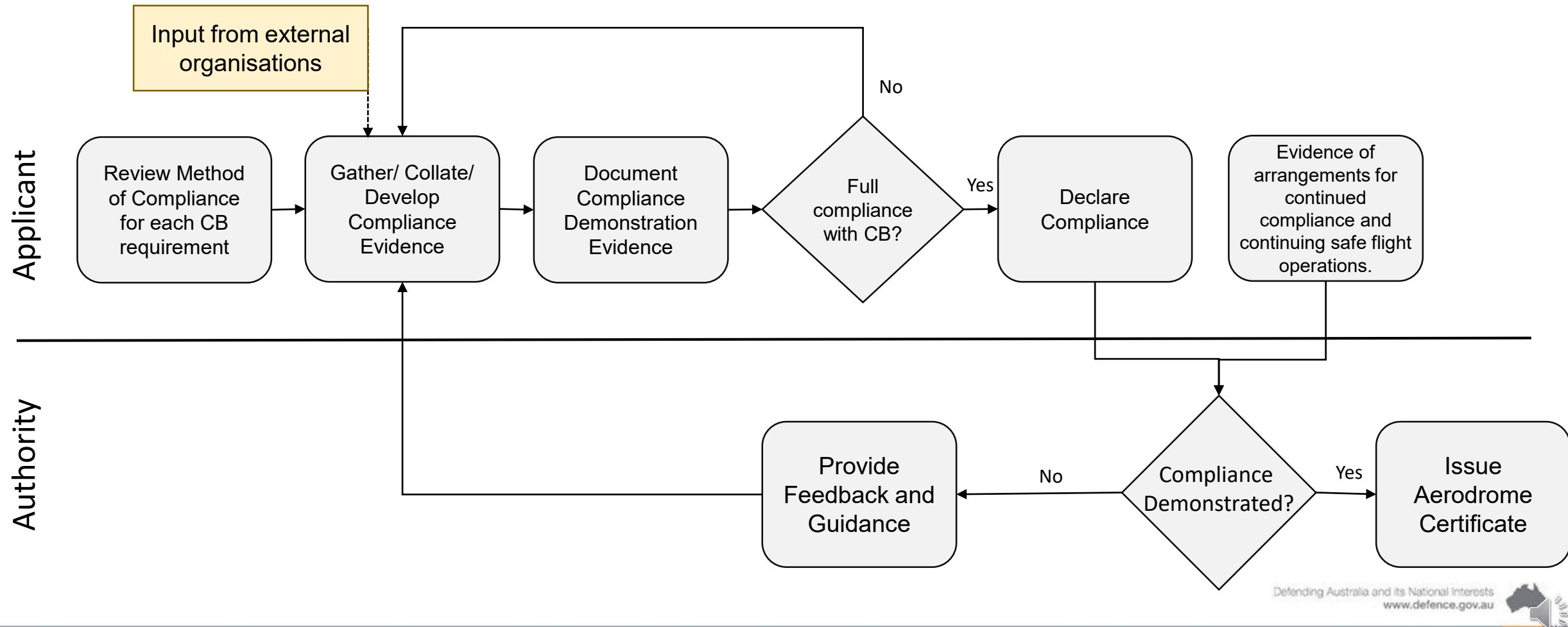


Compliance Demonstration Overview

- Once a provisional CB has been established, compliance demonstration involves demonstrating, through the production of evidence, that the design and construction of the aerodrome complies with the requirements in the CB.
- A compliance demonstration is.....
 - An engineering decision that the design and construction of the aerodrome satisfies the provisional CB requirements.
 - Based on relevant objective quality evidence.
 - Undertaken by a competent agency or individual.
 - Relevant to the operating intent of the aerodrome.
 - Ensuring the designers/contractors have provided the depth of evidence a reasonable engineer would expect to demonstrate compliance with a requirement.
- DASA must be satisfied that compliance with the CB has been ensured by the Applicant in order to certify the aerodrome and provide any timely recommendations to the Aerodrome Operators/ Force Commanders.

Compliance Demonstration and Declaration Process Overview

- The figure below depicts a high level process for demonstrating compliance and making a declaration of compliance.



Compliance Demonstration and Declaration

- To provide effective compliance demonstration
 - Early in a project, plan how the compliance demonstration will be made.
 - Obtain sound understanding of the relevant requirements in the CB.
 - Generate and gather various types of compliance demonstration evidence from range of sources.
 - Assess and then decide on whether the evidence presented demonstrates full compliance with the CB requirement.
 - Where evidence doesn't demonstrate full compliance, seek further information/insight/evidence in the first instance.
 - If compliance cannot be demonstrated follow the MACRI (Module 4).
 - Document the compliance evidence artefacts for each CB requirement.

Planning for Compliance Demonstration Activities

- Planning compliance demonstration activities will assist the Applicant in generating, gathering and collating compliance evidence. Plans may consider:
 - The means of compliance and type of evidence required for compliance demonstrations against each line item requirement in the CB.
 - The involvement, competence and authorisation of key individuals in compliance demonstration activities.
 - The external SMEs involvement in key activities.
 - The schedule of activities and delivery methods.
 - The link to the Safety Management System.

Method and Means of Compliance

- Remember this??
- Method of compliance – part of a standard which describes how a requirement is to be demonstrated.
- Means of Compliance – techniques that are used to demonstrate the compliance.

TYPE OF COMPLIANCE	MEANS OF COMPLIANCE CODES	ASSOCIATED COMPLIANCE DOCUMENTS
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Equipment qualification	MC9:– <ul style="list-style-type: none"> • Equipment qualification 	NOTE: Equipment qualification is a process which may include all previous means of compliance



Means of Compliance

DASR 139.80.A (1) - Define an Authority-agreed Certification Basis						
I.D.	Requirement Source	Requirement Number	Requirement	Type of Compliance	Means of Compliance	Type of Compliance Evidence
1	ADRS6C02	-	Design Element: Physical characteristics of movement facilities			
2	Part 139 MOS (2019)	-	CHAPTER 6. AERODROME PLANNING, DESIGN AND MAINTENANCE - PHYSICAL CHARACTERISTICS OF MOVEMENT FACILITIES			
3	Part 139 MOS (2019)	-	Division 1 Runways			
4	Part 139 MOS (2019)	6.01	Location of runway threshold			
5	Part 139 MOS (2019)	6.01(1)	Subject to this section, as far as possible, a runway threshold must be located at the extremity of a runway.	Test	Lab tests	Test Programmes
6	Part 139 MOS (2019)	6.01(2)	A runway threshold must be located:			
7	Part 139 MOS (2019)	6.01(2)(a)	for a code 1 runway — not less than 30 m; or			
9	Part 139 MOS (2019)		after the point at which the approach surface for aircraft using the runway meets the extended runway centreline.			
10	Part 139 MOS (2019)	6.01(3)	Subject to subsection (2), a runway threshold may be displaced from the extremity of a runway if:			
11	Part 139 MOS (2019)	6.01(3)(a)	the OLS would otherwise be infringed by an obstacle; or			
14	Part 139 MOS (2019)	Note	Note 1 CASA Advisory Circular (AC) 139.A-04: Applying for aerodrome authorizations, exemptions and approvals, and AC 139.C-08: Aerodrome			
15	Part 139 MOS (2019)	Note	Note 2 Thresholds should not be displaced without consideration of aircraft operational factors, such as approach angle and LDA. Large approach			

SLO 3.1 Identify what is acceptable compliance evidence, and how to gather it

Compliance Demonstration

- The Project / Applicant is responsible for developing, gathering and collating the compliance demonstration evidence.
- This is an inherent activity in any Project, proof must be obtained the supplies, as required by the contract / agreement have been delivered.
- In the case of aerodrome certification, the proof must be that the CB requirement has been met.

Sources of Compliance Evidence

- Compliance evidence may be sought from a range of sources:
 - Original equipment manufacturers (OEMs)
 - Suppliers
 - Engineering design organisations
 - SPOs
 - Operators
 - DSTG
 - SMEs – e.g. Fire Fighting experts

What constitutes compliance?

- The evidence should demonstrate **full** compliance to a CB requirement.
- '*partial compliance*' is not allowed.
- Where evidence does not support full compliance, the applicant is to seek further information, insight or evidence in the first instance.
- If full compliance still cannot be demonstrated, the non-compliance is addressed through the Military Aerodrome Certification Review Item (MACRI) (**Module 4**)

Compliance Demonstration Tips

- Do not review the design, review whether the design meets the CB.
- Ensure the evidence provided fully encompasses the requirements of the relevant standard and CB.
- Ensure any contractor that supplies compliance demonstration has taken full account of the aerodrome operating intent.
- Obtain assistance as required.
- Look for inconsistencies, and pursue as far as necessary to arrive at a defensible compliance position.
- A MACRI to be raised if a compliance shortfall is identified.

Compliance Demonstration Evidence Examples

- Example of compliance demonstration
 - Tie down points for Flight Deck
 - Suppliers Cert
 - Construction evidence – trace fitting serial
 - Weld Procedures and Qualifications
 - NDT
 - Pull Test
 - Pull test not suitable if test equipment calibration not correct / signed.

Compliance Demonstration Evidence Examples

- Example of compliance demonstration
 - Lighting at an aerodrome
 - Suppliers Cert
 - Factory Test Evidence
 - Installation Test evidence
 - Commissioning Flight Trial
 - NVD goggle check
 - Markings
 - General Arrangement Drawing not suitable if they have not been dimension checked.



Recording Compliance Demonstration Evidence

Documenting Compliance Demonstration Evidence

- The compliance evidence needs to be collated and available for review – it can be recorded in a Certification Checklist (CCL).
- CCL details:
 - Built on top of the CB.
 - Can contain the Means of Compliance.
 - Reference to evidence document (Objective ID).
 - Compliance outcome.
 - Reference to MACRIs that address any shortfalls.
 - *Note: Approved MACRIs update the requirement's compliance status to 'Compliant' – See Module 4.*
- The Applicant is responsible for collating all compliance evidence (in an Objective location), and populating the CCL.

Documenting Compliance Demonstration Evidence

DASR 139.30.A (1) - Define an Authority-agreed Certification Basis

DASR 139.30.A (2) - Demonstrate that the aerodrome design and construction complies with the agreed certification basis.

I.D.	Requirement Source	Requirement Number	Requirement	Compliance Result	Notes - Justification/ Reasoning (Brief summary. Provide reference to further details in next column)	Reference for Compliance Evidence and result (Objective ID)	MACRI Required	MACRI Type	MACRI Number	MACRI Title	MACRI Status	Reference for MACRI (Objective ID)
1	ADRM5002	-	Design Element: Physical characteristics of movement facilities	Please Specify	Please Specify	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation for details
2	Part 139 MOS (2019)	-	CHAPTER 4: AERODROME PLANNING, DESIGN AND MAINTENANCE - PHYSICAL CHARACTERISTICS OF MOVEMENT FACILITIES	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation for details
3	Part 139 MOS (2019)	-	Division 1: Runways	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation for details
4	Part 139 MOS (2019)	6.01	Location of runway threshold	Refer to sub-regulation	Refer to sub-regulation	Placeholder	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation	Refer to sub-regulation for details
5	Part 139 MOS (2019)	6.01(1)	Subject to this section, as far as possible, a runway threshold must be located at the extremity of a runway.	Not Compliant	Please Specify		Yes	Exception MACRI	AHI	Why this should be except	Approved	U123
6	Part 139 MOS (2019)	6.01(2)	A runway threshold must be located:	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
7	Part 139 MOS (2019)	6.01(2)(a)	for a code 1 runway – not less than 30 m; or	Compliant	Please Specify		No	N/A	N/A	N/A	N/A	N/A
9	Part 139 MOS (2019)		after the point at which the approach surface for aircraft using the runway meets the extended runway centreline.	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
10	Part 139 MOS (2019)	6.01(3)	Subject to subsection (2), a runway threshold may be displaced from the extremity of a runway if:	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
11	Part 139 MOS (2019)	6.01(3)(a)	the OLS would otherwise be infringed by an obstacle; or	Please Specify	Please Specify							
14	Part 139 MOS (2019)	Note	Note 1: OASD Advisory Circular (AC) 139.A-04: Applying for aerodrome authorisation, exemptions and approval, and AC 139.O-08: Aerodrome	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
15	Part 139 MOS (2019)	Note	Note 2: Thresholds should not be displaced without consideration of aircraft operational factors, such as approach angle and LDA. Large approach angles	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required



SLO 3.2 Describe 'Compliance Declaration' and when it can be made

Declaration of Compliance

- The declaration of compliance is made by the Applicant.
- The Applicant is declaring that:
 - the Design meets the Certification Basis;
 - the Construction meets the Design;
 - any issues are addressed (MACRIs and Hazards and associated risks are captured).
- Declaration of compliance can only be completed:
 - If compliance has been shown against ALL requirements in the provisional CB; and
 - After DASA approval of all MACRIs
- Declaration can be made in the Aerodrome Certification application form.
 - The CCL is to be made available – can be attached as an Annex to the application form.
 - The Authority must be given access to all compliance evidence referenced in the CCL.



Declaration of Compliance and Application

4. Aerodrome Identification and Use		
4.1 Aerodrome Identification	Aerodrome Name	
	ICAO Identifier	
4.2 Aerodrome SOI/SIOU/OSI	<Identify the SOI/SIOU/OSI for the aerodrome>	
4.3 Air Operators	<Identify all the MAOs and civilian operators who use the aerodrome and their major usage(s) e.g. fixed wing training operations, rotary wing commercial transport, ...>	
5. Details to Support Declaration of Compliance		
5.1 Certification Basis	<Provide the approved provisional CB identification i.e. CB.XXXXX-OBJXX####>	
5.2 Demonstration of Compliance to Certification Basis Requirements		
<Provide a summary of the compliance demonstration activities and the location of the CB along with their MoC and the compliance demonstration evidence. Additional Details (or reference to document where this is addressed) if required.>		
5.3 Non-Compliant CB Requirements (Military Aerodrome Certification Review Items)		
<Provide a list of all the MACRIs raised for the initial certification/major change. Suggest identification using the MACRI number (unique number/code) and the short title/description of the MACRI. Additional Details (or reference to document where this is addressed) if required.>		
6. Demonstration of Eligibility to Make Declaration of Compliance		
Identify and confirm that the representative of the applicant has appropriate qualification, competence and authority to make the declaration of compliance.		
<Provide details regarding the applicant's eligibility to make the declaration of compliance.>		
7. Applicant declarations		
7.1 Declaration of Compliance (To be completed by the person nominated at item 6)		
As an authorised representative of <Applicant organisation> I declare the following:		
<input type="checkbox"/> Compliance with the applicable aerodrome Certification Basis (CB) has been shown (in accordance with the Certification Programme).		
<input type="checkbox"/> All Military Aerodrome Certification Review Items (MACRIs) have been submitted and approved.		
The above declaration is made on the basis of (detail the basis on which the Declaration of Compliance has been made. May be a reference if this detail is contained in another document(s)) <Any additional comments relating to the Declaration of Compliance should also be made here.>		
_____ _____ _____ _____		
_____ _____ _____	_____ _____ _____	_____ _____ _____
Date	Name / Position	Signature

DASA Review of Compliance Evidence

- Prior to completion of the Declaration of Compliance and all supporting documentation, the Applicant may choose to invite DASA to review completed compliance demonstration evidence and/or supporting documents.
 - The Applicant should be pro-active and engage with DASA as early as possible in the certification process to plan for early reviews of completed documents.
 - DASA will not review early draft versions, only mature drafts of documents.

Application for Certification

- Once all compliance demonstration has been completed including all MACRIs approved, the applicant should start completing the application form for an Aerodrome Certificate
 - *Note: Compliance can be declared on the form*
- When submitting for an aerodrome certificate, the submission of the Declaration of Compliance must be accompanied with:
 - Evidence of arrangements to support continued compliance with the CB
 - Evidence of arrangements to manage design information for continuing safe operations.
 - These aspects will be further explored in module 5.

Application for Certification

DEFENCE AVIATION SAFETY AUTHORITY X DADR-Form-139 X
Application for Aerodrome Certificate X

Guidance

[These guidelines are designed to assist you, the applicant, to complete the DADR-Form-139 requesting Approval of an Aerodrome Certificate under Defence Aviation Safety Regulation (DASR) 139 Aerodromes.]

IMPORTANT

It is the applicant's responsibility to apply for DASA approval only if they have a requirement for the approval and can demonstrate compliance with all the relevant regulatory requirements.

Please carefully read this document and any relevant Acceptable Means of Compliance or Guidance Material issued by DASA. This information is available on the [Defence Aviation Safety Authority](#) (DASA) website and will assist with the application process.

About this form and application process

Application Process

Completing this application form is the first step in the application process. Once received, DASA will review your application including all supporting documentation provided.

Applicants are to complete and sign the application form electronically and submit to the nominated DASA email.

NOTE: DASA may not consider an application, or may cease to consider it further, while the applicant has not complied with all DASR requirements. Mature draft submission to the DASA will support developing a complete application.

DADR-Form-139

This DADR-Form-139 is the official DASA form to obtain an Aerodrome Certificate under DASR 139 Aerodromes. This form is considered part of an application pack and should be submitted with the appropriate evidence to support the application.

Withdrawal of Application

An application can be withdrawn in writing at any time.

Section 1 – Applicant Information

Insert details of the applicant organisation and contact person for the application. The applicant should be any organisation or operator or its representative which applies for a Defence aerodrome certificate.

Section 2 – Aerodrome Operator Information

Insert details of the Aerodrome Operator (must be an approved Aerodrome Operator under DASR 139) who is responsible for operating the aerodrome seeking certification. The contact person would be expected to be the Aerodrome Manager or delegate.

Section 3 – Identification of Activity

This form may be used for applying for initial certification of an aerodrome or for applying for approval of a major change. Identify the type of application, and if for a major change provide details of the systems impacted.

Section 4 – Aerodrome Identification and Use

Identify the Aerodrome to be certified and the configuration role and operating environment of the aerodrome through reference to the SOI/SOIU/OSI. Also identify the air operators, both Military and Civilian, which frequently use the

DADR-Form-139
Objective ID: BP10447680 ~ Page 1 of 2

Application for Certification

DEFENCE AVIATION SAFETY AUTHORITY DASA Form 001

Application for Aerodrome Certificate

aerodrome. Also identify the main aircraft and role that the air operator undertake(s), for example, fixed wing training operations.

Section 5 -- Details to Support Declaration of Compliance

Identify the activities and list the evidence used to demonstrate that the aerodrome, or part thereof for a major change, complies with the requirements in the Certification Basis (CB). Include all approved Military Aerodrome Certification Review Items (MACRIs).

Section 6 -- Demonstration of Eligibility to Make Declaration of Compliance

Identify why the person making the declaration of compliance is considered eligible and suitable. Include the members, qualifications, competence and authorisation as part of a suitable engineering organisation.

Section 7 -- Applicant declarations

Provide a formal declaration that the design and construction of the aerodrome entirely meets the requirements of the CB. All compliance demonstrations are to be completed including approval of all required MACRIs. Also provide a declaration that all required information for an application for an aerodrome certification is provided and correct.

Section 8 -- Aerodrome Operator Accountable Manager Declaration

An authorised representative of the approved Aerodrome Operator organisation is to provide a formal declaration that the responsibilities for managing the aerodrome are known and understood.

Privacy Policy

DASA requires the provision of information as listed in this form. All such information received will be treated as in confidence and will not be disclosed to any third parties unless that disclosure is required or authorised by law. DASA will safeguard personal information however, please be aware that DASA policy is to publish approvals on its website.

Form Submission

Applicants are to complete and sign the form electronically and submit to the DASA Aerodromes group mailbox: dasa.aerodromes@defence.gov.au

NOTE: This template contains example text within the < >, edit, delete and add as required to suit the form.

..... Section Break (Next Page).....



Application for Certification

DEFENCE AVIATION SAFETY AUTHORITY DADR-Form-1001

Application for Aerodrome Certificate

Application

1. Applicant Information					
1.1 Name and Address	Organisation Name				
	Street No and Name				
	Suburb		State		Post Code
	Country				
1.2 Contact Person	Title/Rank				
	Full Name				
	Position Title				
	Phone				
	Email				
2. Aerodrome Operator Information					
2.1 Name and Address	Organisation Name				
	AD-OPR Organisational Approval	<Enter details of the Aerodrome Operator Organisational Approval / Certificate Number>			
	Street No and Name				
	Suburb		State		Post Code
	Country				
2.2 Contact Person	Title/Rank				
	Full Name				
	Position Title				
	Phone				
	Email				
3. Identification of Activity					
<input type="checkbox"/> Initial Aerodrome Certification → → <input type="checkbox"/> Major Change to Aerodrome Design and Construction					
3.1 Scope of Major Change/ Affected Aerodrome Systems (for Major Change applications only)					
[Text area for scope of major change]					
3.2 Certification Programme (optional)					
<input type="checkbox"/> Previously submitted					
<input type="checkbox"/> Submitted as part of this Application (Certification programmes can be submitted as part of this application where they are deemed simple.)					



Application for Certification

DEFENCE AVIATION SAFETY AUTHORITY		DASH-Form-1
Application for Aerodrome Certificate		
Reference: <input type="text"/>	Reference: <input type="text"/>	
Approval Date: <input type="text"/>	Approval Date: <input type="text"/>	
<Any additional aerodrome certification programme details are to be recorded here.>		
4. Aerodrome Identification and Use		
4.1 Aerodrome Identification	Aerodrome Name: <input type="text"/>	<input type="text"/>
	ICAO Identifier: <input type="text"/>	<input type="text"/>
4.2 Aerodrome SOL/SOIU/OSI	<Identify the SOL/SOIU/OSI for the aerodrome>	
4.3 Air Operators	<Identify all the MAOs and civilian operators who use the aerodrome and their major usage(s) e.g. fixed wing training operations, rotary wing commercial transport, ...>	
5. Details to Support Declaration of Compliance		
5.1 Certification Basis	<Provide the approved/provisional CB identification i.e. CB.XXXXX-OB.DXX####>	
5.2 Demonstration of Compliance to Certification Basis Requirements		
<Provide a summary of the compliance demonstration activities and the location of the CB along with their MoC and the compliance demonstration evidence. Additional Details (or reference to document where this is addressed) if required.>		
5.3 Non-Compliant CB Requirements (Military Aerodrome Certification Review items)		
<Provide a list of all the MACRIs raised for the initial certification/major change. Suggest identification using the MACRI number (unique number/code) and the short title/description of the MACRI. Additional Details (or reference to document where this is addressed) if required.>		
6. Demonstration of Eligibility to Make Declaration of Compliance		
Identify and confirm that the representative of the applicant has appropriate qualification, competence and authority to make the declaration of compliance.		
<Provide details regarding the applicant's eligibility to make the declaration of compliance.>		
7. Applicant declarations		
7.1 Declaration of Compliance (To be completed by the person nominated at item 6)		
As an authorised representative of <Applicant organisation> I declare the following:		
<input type="checkbox"/> Compliance with the applicable aerodrome Certification Basis (CB) has been shown (in accordance with the Certification Programme).		
<input type="checkbox"/> All Military Aerodrome Certification Review Items (MACRIs) have been submitted and approved.		
The above declaration is made on the basis of (detail the basis on which the Declaration of Compliance has been made. May be a reference if this detail is contained in another document(s)).		
<Any additional comments relating to the Declaration of Compliance should also be made here.>		
Date: <input type="text"/>	Name / Position: <input type="text"/>	Signature: <input type="text"/>

Application for Certification

DEFENCE AVIATION SAFETY AUTHORITY		DASR Form 1-13
Application for Aerodrome Certificate		
7.2 Declaration of Completion (to be completed by an Authorised Representative of the Applicant Organisation)		
As an authorised representative of <Applicant organisation> I declare the following:		
<input type="checkbox"/> That the information provided on this form is true and correct.		
<input type="checkbox"/> All arrangements to support continued aerodrome compliance with the agreed Certification Basis (CB) have been implemented.		
<input type="checkbox"/> All design information to support continuing safe operations of the aerodrome have been provided.		
<input type="checkbox"/> All aerodrome conditions and limitations detailed in Annex A have been approved.		
<input type="checkbox"/> The aeronautical data and information in Annex B has been reviewed and provided to RAAF Aeronautical Information Services (AIS) for publication.		
Further:		
<input type="checkbox"/> I understand and accept the requirements for DASA to proceed with this application and I have supplied all supporting documentation to DASA.		
Date	Name (Position)	Signature
7.3 Submission Checklist		
Please confirm that the following information is included as part of your application:		
<input type="checkbox"/> Compliance Checklist/Cross-Reference Matrix for the Certification Basis		
<input type="checkbox"/> Aerodrome Manual		
8. Aerodrome Operator Accountable Manager Declaration (to be completed by the identified Aerodrome Operator Accountable Manager or delegate)		
As the authorised representative of the Aerodrome Operator Organisation for the <Aerodrome Name (ICAO Identifier)> I confirm that we have been consulted about the <Certification / Major Change>, that the Aerodrome Operator Organisation has no objection to the <Certification / Major Change> and will carry out Aerodrome Operator responsibilities.		
Any additional comments the Aerodrome Operator wishes to make relating to the Aerodrome's Initial Certification / Major Change or their declaration should be included here:		
Date	Name (Position)	Signature
Page Break		



Application for Certification

Annex A. Aerodrome Conditions and Limitations

<List all the aerodrome's conditions and limitations that will be documented in the Aerodrome Certificate (page 2).>



Application for Certification

Annex B. Aeronautical Information

<Identify all the aerodrome aeronautical information that will be provided to RAAF AIS for publishing.>

Application for Certification

10. DASA USE ONLY		
10.1 Record Objective ID:	BPXXXXXXXX	
10.2 Documents Received and Reviewed	<input type="checkbox"/> Compliance Checklist and access to all compliance demonstration evidence. <input type="checkbox"/> Aerodrome Manual. <input type="checkbox"/> Aerodrome Maintenance Program.	
10.2 Certification Application Outcome:		
<input type="checkbox"/> Application Approved	<input type="checkbox"/> Application Requires Resubmit	<input type="checkbox"/> Application Not Approved
10.3 Output Documentation:	<input type="checkbox"/> Aerodrome Certificate: <Reference Id _____ > <input type="checkbox"/> DG DASA Minute: <Reference Id _____ > <input type="checkbox"/> Other _____	
10.4 Additional Comments:		
Date	Name / Position	Signature

Review of Application

- The Authority's non-exhaustive review will consider:
 - Appropriateness of the selected means of compliance.
 - Appropriateness of the type of evidence selected to demonstrate compliance.
 - Validity of the compliance outcome based on the content of evidence documents. A non-exhaustive review of the compliance demonstration evidence and supporting documents.
 - The impact of MACRIs on other aspects of the aerodrome's design and construction.
 - Whether DASA is assured that systems and processes are in place to maintain continued compliance with the CB.
 - Whether DASA is sufficiently assured that systems and processes are in place to manage design information so that the Aerodrome Operator can ensure safe flight operations.
 - Whether the form is complete and correctly filled out.

Q1. Who needs to demonstrate compliance?

- It is the Applicant's responsibility to demonstrate compliance. Where contractor support is used to generate compliance evidence, it is still the Applicant's responsibility to ensure that the evidence and assertion of compliance is accurate.

Q2. Will the Authority review all the evidence to assure compliance?

- While the Authority may choose to inspect the compliance demonstration evidence provided by the applicant, this may be on a non-exhaustive basis. It is the responsibility of the applicant to ensure all compliance evidence is available to the Authority.

Q3. Can partial compliance to certification basis requirements be provided?

- Partial compliance with a CB requirement is not permitted.

Q4. What if justification/ evidence to a design requirement cannot be provided?

- Where compliance evidence is not available, and new compliance evidence cannot be generated, the non-compliance is addressed through a MACRI.



Group Exercise 2: Compliance Demonstration

Assessment Description

- You will be provided with a provisional CB extract for an aerodrome:
- You will need to:
 - Review the means of compliance for each requirement.
 - Identify the type of evidence that would best demonstrate compliance.
- Based on the compliance evidence available, determine the compliance outcome ('compliant' or 'not compliant').
- Update the CCL.
- Determine when compliance declaration can be made.
- Complete an application.

Notes for Instructor

- Documents to provide participants:
 - Part of CBs for different types of aerodromes.
 - Compliance demonstration evidence (example engineering reports, test reports, drawings etc.) to align with CB requirements.
 - The compliance demonstration evidence must have shortfall that requires a MACRI.
 - CB / CCL worksheet for the participants to populate.
 - Application form.

Notes for Instructor

- Assessment Checklist:

- ☐ Participant is able to explain why compliance demonstration is required.
- ☐ Participant is able to explain what needs to be considered when planning compliance demonstration activities.
- ☐ Participant can describe the different types of means of compliance.
- ☐ Participant can identify the different types of compliance evidence.
- ☐ Participant can identify the different sources of compliance evidence.
- ☐ Participant is able to identify shortfalls in the compliance demonstration evidence.
- ☐ Participant has successfully populated the CB-CCL template.
- ☐ Participant correctly describes when compliance declaration can be made.
- ☐ Participant identifies who can make the declaration of compliance.
- ☐ Participant has successfully completed the application form.



Questions

DASR 139 Aerodrome Certification Practitioners Course – Module 4

Mr Daniel Grosse

Director of Initial Airworthiness

Directorate of Initial Airworthiness (DIA-DASA)



Defence Aviation Safety Authority



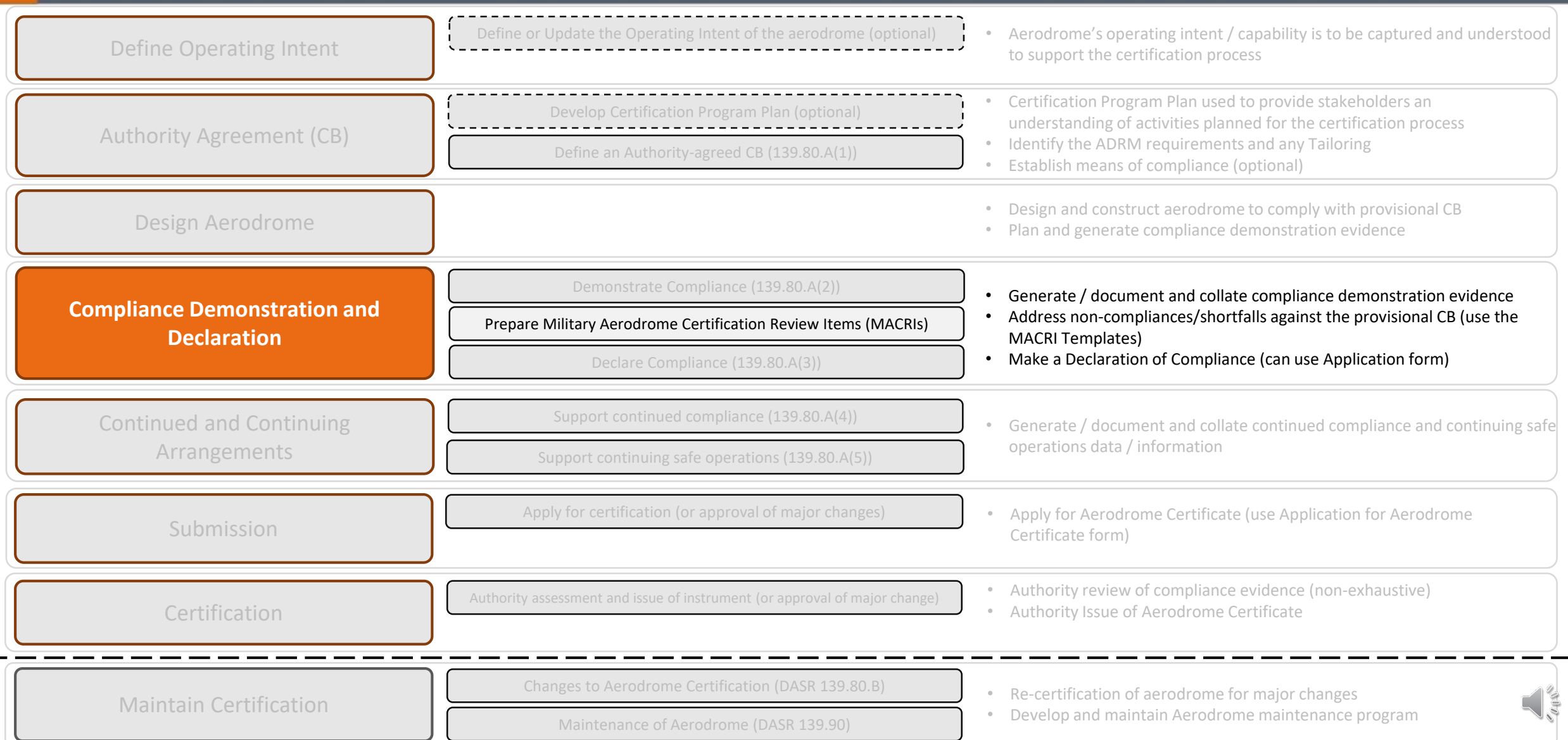
Module 4 (LO 4.0): Describe Compliance Shortfall Management Process

SLO 4.1 Describe how to identify non-compliances and how to address them using Military Aerodrome Certification Review Item (MACRI).

SLO 4.2 Define Equivalent Safety Finding (ESF) MACRI.

SLO 4.3 Define Exception MACRI.

DASR 139.80 - Aerodrome Certification Process





SLO 4.1 Describe how to identify non-compliances

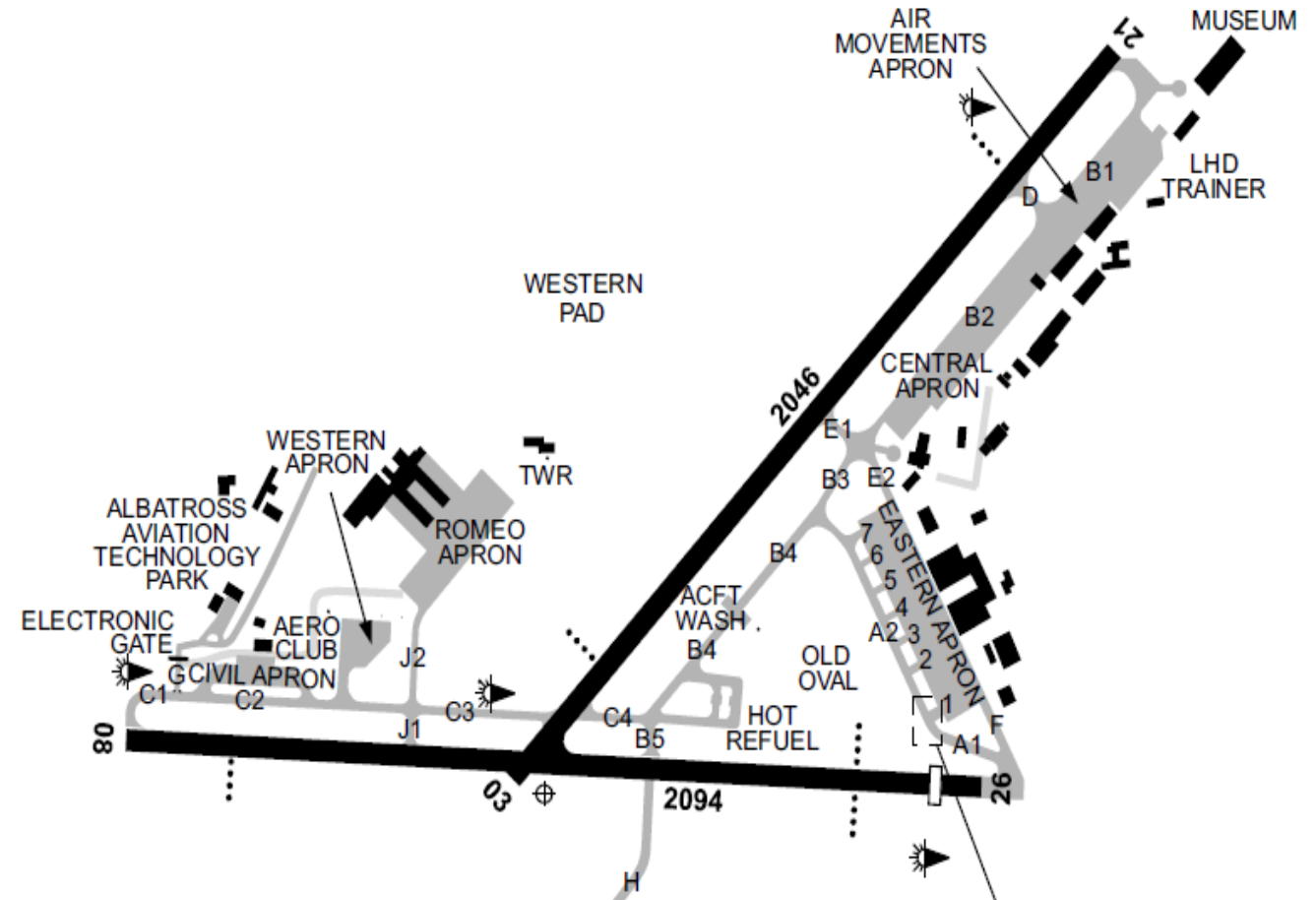
Identify Shortfalls

- Non-compliances/ shortfalls may be identified during all phases of the aerodrome's service life.
- Non-compliances may be identified during the compliance demonstration phase for initial certification, during design, construction, and testing phases for new aerodrome facilities, when completing re-certification for major changes, or during the service life of an aerodrome when new evidence identifies a non-compliance.
- For existing aerodromes, shortfalls against the provisional CB can be the result of several scenarios:
 - An aerodrome may have been built to an unknown standard and no compliance evidence is available to substantiate the design.
 - An aerodrome may have been built to an old or alternate standard and in some cases evidence demonstrating compliance to this old or alternate standard may be available, however the evidence may only partially substantiate or not substantiate the CB requirement.
 - An aerodrome may have been built to the requirements specified in the provisional CB, however compliance evidence may only be partially available or not at all available to substantiate the design.

Examples of Shortfalls

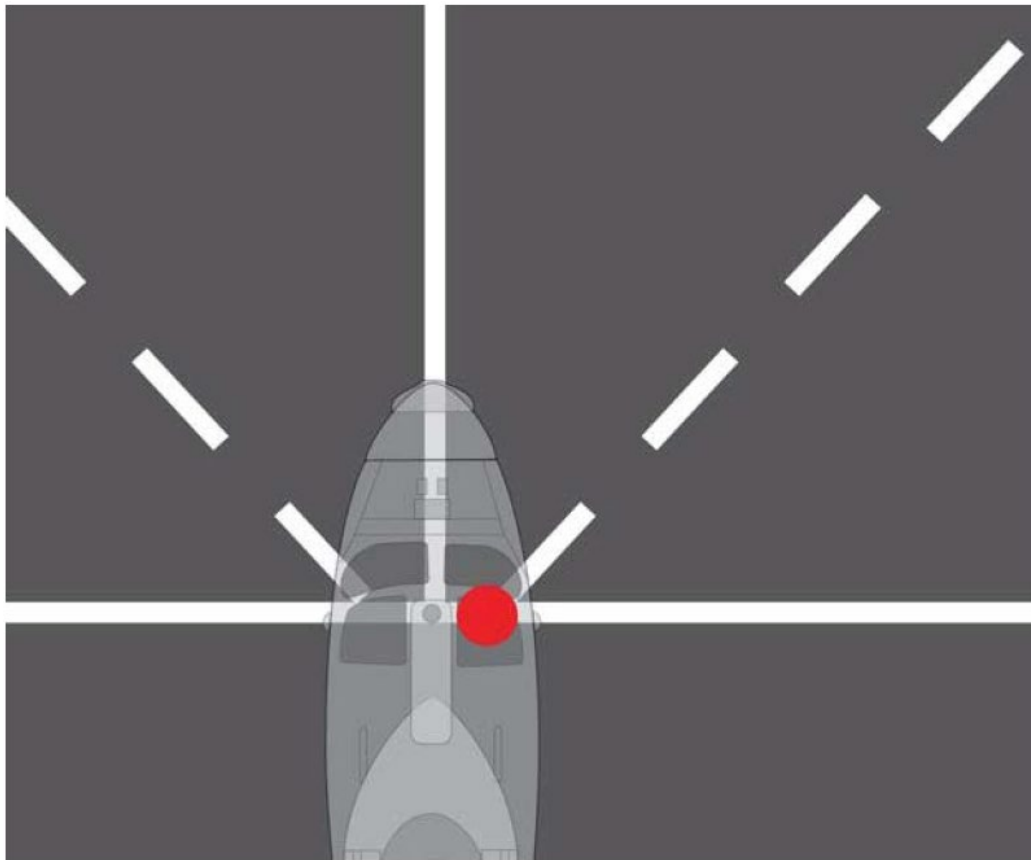
• Runway Clearance

- MOS requires a graded area of a runway strip consisting of 75mt from RWY C/L for a non-precision & precision approach (location of gable markers). It also requires a 65mt flyover area from the gable markers that is clear of obstacles.
- Northern edge of TWY Bravo is ~ 40mt from the Gable Markers.
- Wing tip clearance infringement for C130 on RWY03/21 and C130 on TWY B.



Examples of Shortfalls

- Shipborne Heliport Markings





MACRI Overview

MACRI Overview - General

- During compliance demonstration activities and over the life of the aerodrome, shortfalls/ non-compliances against the CB design requirements may be identified.
 - Non-compliances against the CB should be examined for impact to certification and safety of flight operations
- Where it is not reasonably practicable to eliminate the non-compliance through engineering/ design changes OR where evidence cannot be generated to demonstrate compliance, the shortfall is to be addressed using a Military Aerodrome Certification Review Item (MACRI).
- A MACRI is a document which captures an applicants proposal to modify an aerodromes provisional CB design requirement, and the Authorities approval of the change of the CB.

MACRI Overview - Types

- There are two different types of MACRIs that can be used to address shortfalls:

- **Equivalent Safety Finding (ESF) MACRI**

This involves eliminating the risk(s) arising from the non-compliance by demonstrating an equivalent level of safety is achieved through tailoring of the CB requirement. Limitations and controls provided in an ESF MACRI must be captured in an Authority approved document.

- **Exception MACRI**

This involves eliminating or otherwise minimising the risk(s) arising from the non-compliance by applying Defences 7-Step Safety Risk Management (SRM) process. Risks are not discussed in an Exception MACRI, risk management decisions are completed prior and referenced in an Exception MACRI.

- A MACRI allows compliance to be demonstrated for all requirements, and supports independent assurance from the Authority.

MACRI Overview - Process

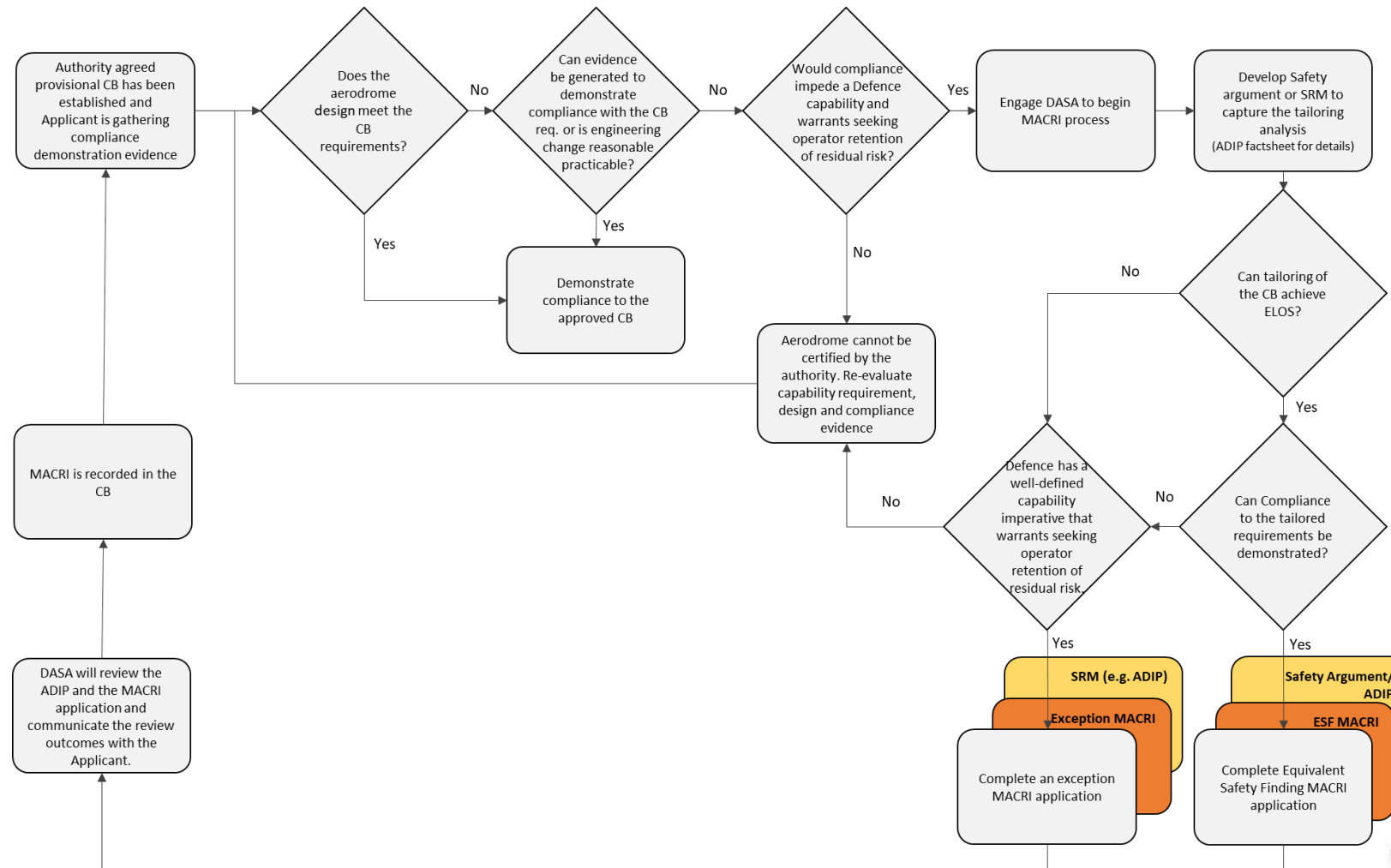
- Regardless of how non-compliances are identified, the Applicant must follow a logical sequence to address the non-compliance:
 1. In the first instance, confirm all reasonably practicable opportunities to generate evidence have been expended. Or if engineering changes to the aerodrome design may be reasonably practicable. At that point the Applicant should confirm there is a capability imperative that warrants the non-compliance.
 2. With the capability imperative documented, the Applicant should investigate if tailoring of the requirement through limitations can achieve an ELOS, documenting the safety argument including having operator (both Aerodrome Operators and Air Operators) agreement to the argument and limitations. If the limitations are contentious an ADIP may be used to capture the safety argument in a structured way. The Applicant should thus pursue an ESF MACRI.
 3. If an ELOS can not be established, and the risk is not able to be eliminated through limitations, the SRM is to be completed. Agreement should be established from the operators (both Aerodrome and Air Operators) that the SRM is completed, controls are implementable and the reduction in the level of safety is understood and accepted. While DASA has developed an ADIP template it is not mandatory for use, and equivalent risk communication document can be used by the applicant to capture the SRM. An Exception MACRI is required to document the outcomes of the application of the SRM.

MACRI Overview - Process

- The Applicant should prepare the Safety Argument, ADIP or SRM documentation and gain approval prior to completing and submitting a MACRI. These can occur at the same time, however the safety argument or SRM is usually complex and may be varied during the approval process, where a MACRI should be more administrative in nature.
- DASA will review the ADIP and the MACRI application and communicate the review outcomes with the Applicant.
- Note – When submitting a MACRI, the Applicant is to submit (draft versions may be submitted) an update to the Aerodrome CB (if required), update to the Aerodrome Manual (including any operational limitations/conditions) and an update to the aerodrome certificate (if required).
- By Approving an ADIP, DASA is providing assurance that the risk management is following the 7-Step SRM process and is defensible.
- By approving a MACRI DASA approves the tailoring of the CB.
- Approved MACRIs are included in the CB for the aerodrome which underpins the certification. The MACRI is to be recorded against the relevant CB requirement(s). Any ensuing limitations and conditions are recorded both on the Aerodrome Certificate and also in the Aerodrome Manual. Certification documents such as the Aerodrome Manual and provisional CB are to be finalised accordingly. The operating intent may also need to be updated.

MACRI Overview - Process

- The figure below depicts the high level decision flow for managing shortfalls against the provisional CB.





Aerodrome Issue Paper (ADIP) Overview

ADIP Overview – Safety Argument and SRM

- A MACRI only captures the authority approved tailoring of the certification requirement and not the associated risk decisions. Therefore, a MACRI must be supported by an appropriate document which captures any safety arguments for an equivalent level of safety or safety risk management.
- An Aerodrome Issue Paper (ADIP) is available to document the completion of the Defence 7 Step Safety Risk Management (SRM) process to make risk decisions. An Exception MACRI will always be underpinned by documented Safety Risk Management – nominally in an ADIP*. For an ESF MACRI, an ADIP may be provided as formal demonstration of operator agreement to the discussed controls – particularly if they are contentious.
- DASA reviews and approves all ADIPs and MACRIs, providing independent assurance of a credible and defensible application of the SRM and to provide agreement to the change in the CB requirement.
- The Risk Management Authority (RMA) (Aerodrome Operators, Military Air Operator (MAO) and Civilian Air Operators) must agree to the risk treatment decisions including retention of any residual risk arising from non-compliances against the CB.

* While DASA has developed an ADIP template it is not mandatory for use and equivalent risk communication document can be used by the applicant.

ADIP Overview – When to use an ADIP and MACRI

- An ADIP is employed to support Commanders and Managers in assessing risks to safe flight operations at an aerodrome, arising from non-compliances or shortfalls against the provisional CB. An ADIP also provides a consistent mechanism for independent assurance from the Authority.
- The MACRI records any associated Authority approved tailoring to the aerodrome's CB.

ADIP Overview – Process

Establish Impact to Capability Imperative.

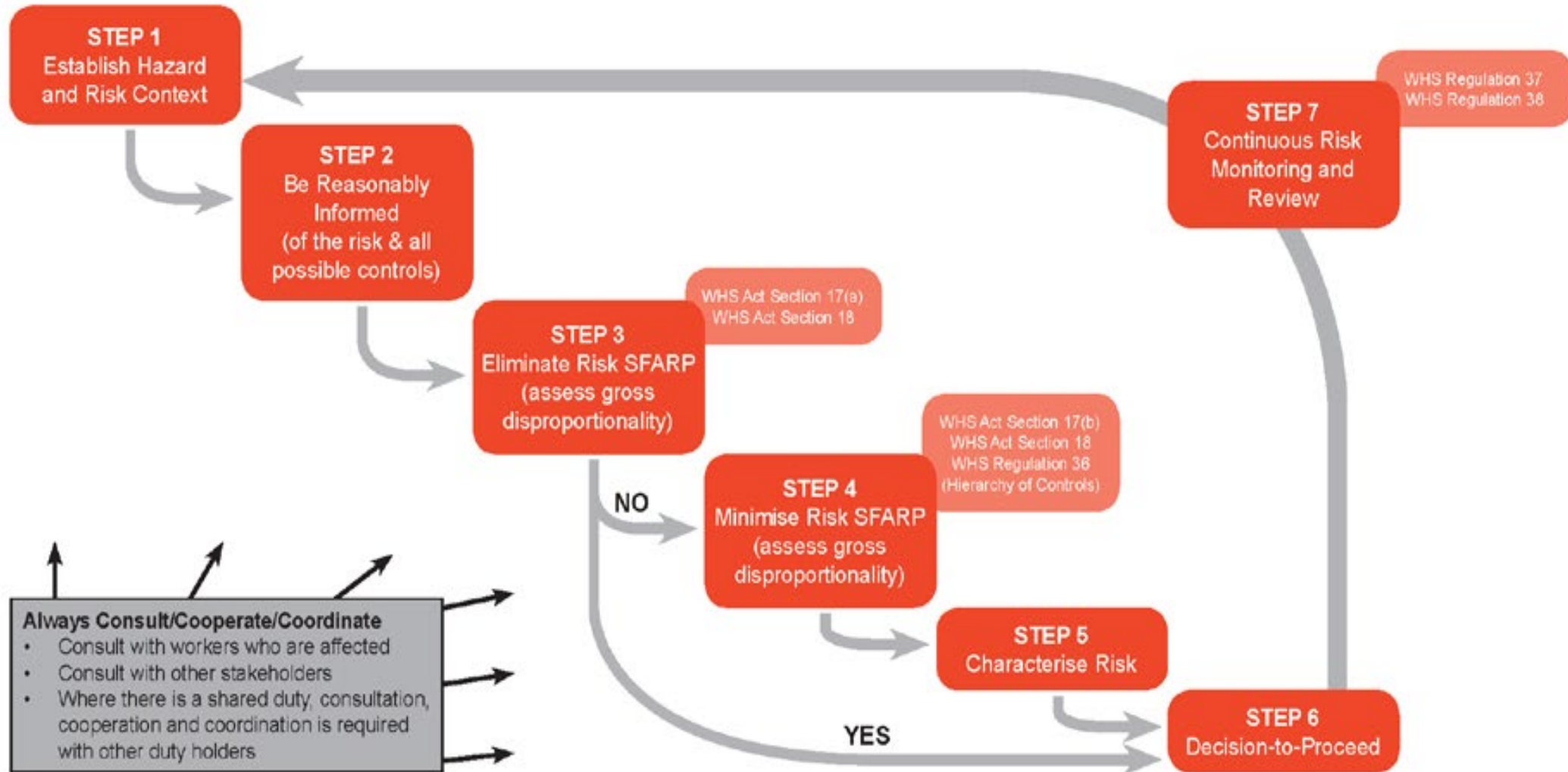
- A Defence capability imperative that justifies the non-compliance to the design requirements and warrants seeking Operator retention of residual risk must be confirmed and documented.
- If no Defence capability imperative exists for the non-compliance, and the options of compliance to the CB requirement and tailoring of the CB have been exhausted, then the Authority will not be able to certify the aerodrome. The Applicant must re-evaluate the capability requirement, the Aerodrome design and the compliance evidence.
- The Applicant should consult with the Authority at this point to identify a path forward.

ADIP Overview – Process

Demonstrate Risks have been Eliminated or Otherwise Minimised SFARP.

- Only when it has been established a Defence capability imperative exists to continue pursuing risk management, the Applicant is to employ Defence's 7 step SRM process as described in the ADIP Template.
- The SRM process is used to identify the risks to safe flight operations resulting from enduring design deficiencies (i.e. non-compliances) and attempts to eliminate those risks SFARP, and if they cannot be eliminated, then the risks are to be minimised SFARP utilising the hierarchy of controls.
- The SRM process forms the basis of the ADIP Template, however an equivalent format that suitably documents the SRM process may be used in support of the MACRI.
- See GM SMS.A.25(b)(2)(2.2) – Safety risk management and mitigation (AUS)
- [See AC 003/2018 – Risk Management in the Defence Aviation Safety Program.](#)

7 Step SRM Process



ADIP Overview – Process

Seek Aerodrome Operator and affected MAO(s) Advice.

- The SRM process requires a comprehensive and cohesive technical and operational position has been reached, and confirmation that appropriate consultation, cooperation and coordination has been conducted between RMAs and all persons with a shared duty to ensure health and safety for aerodrome users.
- The Applicant is to seek advice from the Aerodrome Operator and affected MAOs regarding the acceptability of the risk controls and characterisation of the risk. Advice should also be sought from civilian operators of the Defence aerodrome, engineering and maintenance support organisations, and so on.
- The Applicant must provide evidence of consultation with the Aerodrome Operator and Air Operators when submitting the ADIP.

Each of the previous activities align with the requirements of the first five steps of the SRM process. Prior to requesting Aerodrome Operator signature, the Applicant should consult with DASA to provide assurance that the 7-step SRM process has been robustly applied.

ADIP Overview – Process

Aerodrome Operator Approval.

- The Aerodrome Operator approves the ADIP or equivalent risk communication, confirming that:
 - Defence has a well-defined capability imperative that justifies the non-compliance and warrants retention of residual risk;
 - the risks arising from the non-compliance have been eliminated or otherwise minimised SFARP and residual risks have been appropriately retained;
 - shared duty holders have approved the controls and characterisation; and
 - that the resulting hazards and controls are identified and will be managed in the aerodromes hazard management system and reviewed throughout the service life of the aerodrome. .
- This activity and the MAOs approval sought at the previous activity aligns with the requirements of step six of the SRM process - 'Decision to Proceed'.

ADIP Overview – Process

Submit ADIP to DASA.

- The ADIP is to be submitted to DASA. While this can be submitted in conjunction with the MACRI, the SRM is usually complex and may be varied during the approval process. Thus gaining Authority approval prior to completing the MACRI template, will avoid unnecessary rework of the MACRI application.

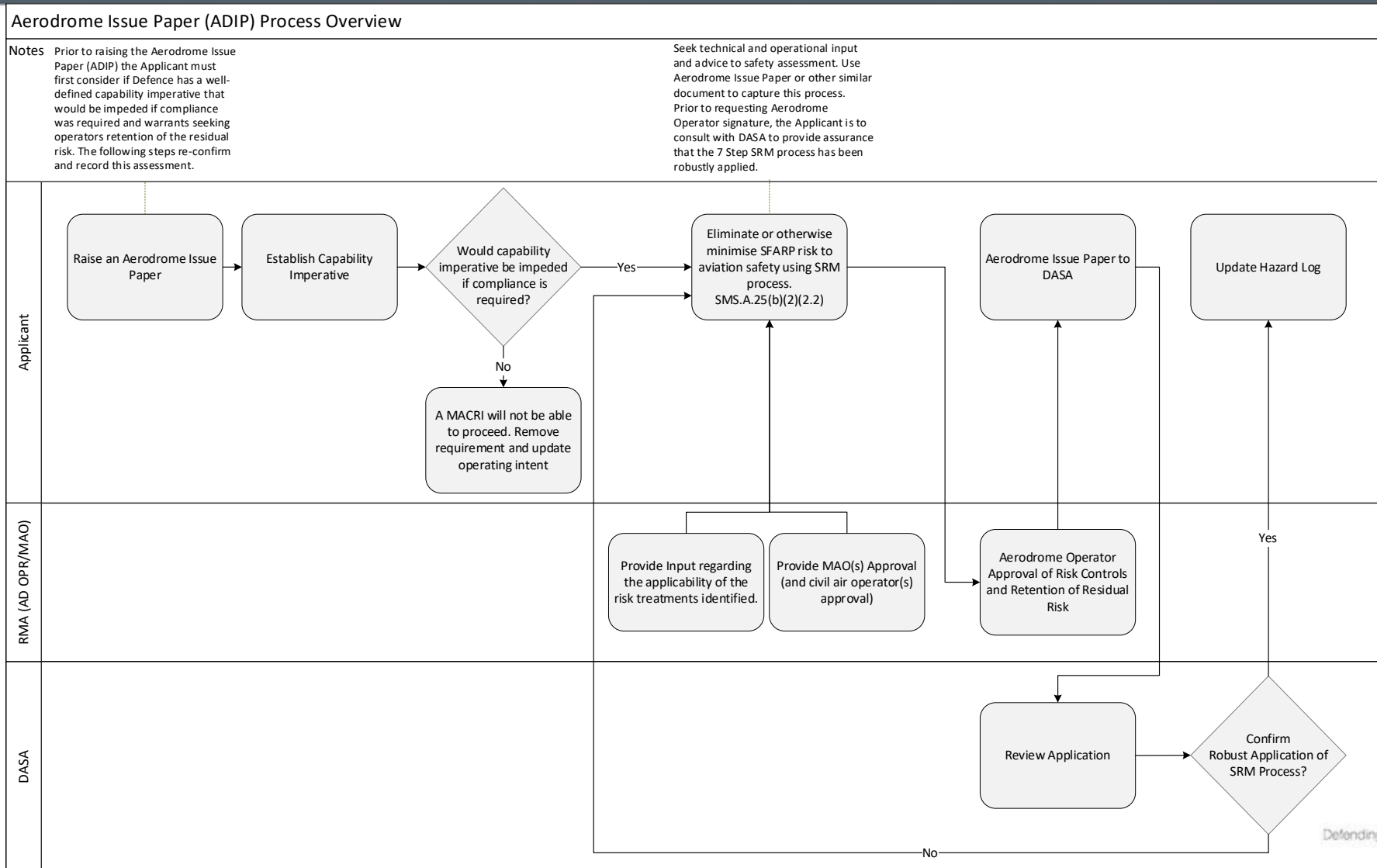
Authority Review and Approval.

- Upon receipt of the ADIP, DASA will review the application and communicate the review outcomes with the Applicant. DASA's review focuses on the 7 step SRM process being robustly applied and Commands risk decisions are defensible.

Update Hazard Log.

- On Authority approval of the ADIP, the Applicant is responsible for updating the aerodrome hazard management system (the hazard management system is expected to comply with the SMS regulation applied to the Aerodrome Operator) with the risks and risk treatments identified.

ADIP Overview – Process



ADIP Overview – Process

Review of Risks and Treatments

- Step seven of the SRM process, is for risk treatments to be reviewed regularly. Risks and treatments documented in the hazard log (which resulted from the ADIP) are to be reviewed based on triggers identified by the RMA to confirm that the non-compliance and treatments remain valid.
- All formal RM outcomes must be reviewed according to the nature of the risk. For noteworthy risks, the review periods should not exceed 12 months and for other risks, the period should not exceed 24 months. (AC 03/2018 Risk Management in the Defence Aviation Safety Program)
- Other triggers such as change in context, including change in aircraft or aerodrome facilities which impact the non-compliance, and changes to operating intent, would also drive review.
- Updates to either standards or technologies may create a pathway for compliance in the future, removing the need for the MACRI and supporting ADIP.



SLO 4.2 Equivalent Safety Finding (ESF) MACRI

Equivalent Safety Finding MACRI

- An Equivalent Safety Finding (ESF) MACRI is used when it is not reasonably practicable to change the design of the aerodrome and it is not possible to demonstrate compliance to the approved provisional CB, however, the Applicant is able to tailor the design requirement and demonstrate full compliance to the tailored requirement.
- The Applicant must demonstrate that an aerodrome designed IAW the tailored requirement achieves an ELOS to an aerodrome that has been designed IAW the original CB requirement. The tailoring and full compliance to the tailored requirement means that there are no enduring risks that need to be managed over the service life of the aerodrome.

Example ESF MACRI Walk Through

- Flight Deck Strength – example only - not exact details
 - Compliance to Lloyds Naval Rules
 - Sea State 6
 - 30 Year Wear margin
 -
 - Required 9mm plate for 60R
 - Built to DDS-130
 - Sea State 5
 - No wear margin
 -
 - Required 8mm plate
 - ELOS based on DDS 130, SS5 Operating Limitation, Inservice inspection program

Example ESF MACRI Walk Through



Australian Government
Department of Defence

DEFENCE AVIATION SAFETY AUTHORITY

MILITARY AERODROME CERTIFICATION REVIEW ITEM

Aerodrome Details:	<Aerodrome Name> <ICAO Identifier>		
MACRI No:	<Application Identifier> <001>		
Issue No / Date:	<001> / <DD Month YYYY>	Doc ID:	<Insert the document identification number e.g. Objective ID>
Title / Subject:	<MACRI title or subject>		
Status:	<Not Approved / Authority Approved>		
Category:	<Choose applicable category: Equivalent Safety Finding, Exception>		
Relevant CB Requirement:	<Identify the CB design requirement(s) applicable to this MACRI. Where the CB requirement is short, provide the full requirement in this section. However, if the CB requirement is long (e.g. few paragraphs or longer), provide a reference to the requirement here and provide detail in the discussion section below>		
Tailored Requirement(s)	<Document the tailoring of the provisional CB that has been proposed through this MACRI, including specifying if the requirement is not met> <If the requirement is met through conditions and limitations – specify “requirement met with conditions/limitations” and specify these below>		
Conditions and Limitations:			
Air Operator / Pilot		Aerodrome Operator	
<List the conditions and/or limitations that are related to the air operator/pilot>		<List the conditions and/or limitations that are related to the Aerodrome Operator>	
Aerodrome Operator Agreement (If applicable):	<If applicable, provide reference to the Aerodrome Operator agreement to the proposed tailoring of the standard and any related conditions and limitations (e.g. Decision brief, ADIP) – required for Exception MACRI>		
Air Operator(s) Agreement (If applicable):	<If applicable, provide reference to the Air Operator agreement to the proposed tailoring of the standard and any related conditions and limitations (e.g. Decision brief, ADP) – required for Exceptions>		

<Delete the ‘<’ ‘>’ symbols and the italic guidance throughout as information is provided or the guidance is followed.>

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0721120004
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Example ESF MACRI Walk Through

DEFENCE AVIATION SAFETY AUTHORITY

Military Aerodrome Certification Review Item

STATEMENT OF ISSUE

<A broad description of the issue should be provided. Background information can be provided to assist with understanding; however, unless it adds to resolution of the issue, background should be kept to a minimum>

<For Information: Military Aerodrome Certification Review Items (MACRIs) are employed to record the changes made to the aerodrome Certification Basis>

<All MACRIs require agreement from the Authority>

<An Equivalent Safety Finding (ESF) MACRI is used when it is not possible to demonstrate compliance to the CB and it is determined that it is not reasonably practicable to change the design of the aerodrome to become compliant to the CB, however, the Applicant is able to demonstrate compliance with a tailored design requirement and demonstrate that an Equivalent Level of Safety (ELOS) has been achieved>

<An Exception MACRI is used to detail tailoring to a CB design requirement or design standard when there will be an enduring retention of risk above that presented by a compliant design. If Defence has a well-defined capability imperative that would be impeded if compliance was required and warrants seeking operator retention of residual risk, the Applicant must use Defence's 7-Step Safety Risk Management (SRM) process to demonstrate that risks arising from the non-compliance have been eliminated or otherwise minimised So Far As is Reasonably Practicable (SFARP)>

<MACRIs may contain 'grouped' certification elements only if they share a topic that may be summarised succinctly and meaningfully. MACRIs cannot have multiple categories (e.g. ESF and Exception argument in the same MACRI) and instead must be split by type of tailoring, including splitting a single requirement or element across an ESF and Exception MACRI if so required>

DISCUSSION

<Record the discussion explaining and justifying the proposed CB tailoring. This must include the basis of the applicant recommending that CB tailoring is reasonable and include the Capability imperative that will be impeded if compliance was required and warrants seeking operator retention of residual risk. The Applicant should, in the first instance, confirm that options to generate further evidence to demonstrate compliance have been exhausted, or otherwise that it is not reasonably practicable to change the design>

<The MACRI should clearly outline how the design does not meet the requirement – the non-compliance, what (if any) standard or requirement the design does meet instead, and any relevant controls that have been agreed to enable the tailoring>

<For ESF MACRI provide reference to the safety assessment that demonstrates that an equivalent level of safety has been achieved i.e. the risk(s) to safe flight operations inherent in an aerodrome designed IAW the tailored requirement is not greater than the risk(s) to safe flight operations inherent in an aerodrome designed IAW the original provisional CB requirement. If the argument is straight forward and succinct it can be included in the MACRI itself. If tailoring involves limitations

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07/2013/0004

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DEFENCE AVIATION SAFETY AUTHORITY

Military Aerodrome Certification Review Item

which may be contentious, an Aerodrome Issue Paper (ADIP) may be used to capture the safety argument in a structured way and provide evidence that the safety assessment, CB tailoring and any controls required to demonstrate an ELOS includes both Technical and Operational input. Any limitations and controls provided in an ESF MACRI must be captured in an Authority approved document>

<For exception MACRI, discussion of the risk should not be included in the MACRI, but the MACRI should confirm that the Aerodrome Operator and the Air Operator (where applicable) is aware of, and have agreed to, the change to the level of safety as a result of the tailoring. Any risk discussion should be contained in an Aerodrome Issue Paper (ADIP) or equivalent document containing the full 7-Step safety risk management process. The MACRI is to reference the ADIP or other risk management document as demonstration that the risks to safe flight operations have been eliminated or otherwise minimised SFARP>

APPLICANT POSITION

<This section communicates the applicant's position, from the basis of the above 'Discussion'. This should summarise what tailoring is proposed and the basis of that recommendation>

DASA POSITION

<This section details the Authority's position>

CONCLUSION

<Conclusion is provided by the Authority>

<Summarise the agreed MACRI outcomes. The conclusion should be sufficient in detail to allow a reader of the MACRI to understand exactly how the MACRI has tailored the CB through this section alone>

APPLICANT DECLARATION		
I declare that the information presented in this MACRI:		
<ul style="list-style-type: none">is true and correct, andis supported by the combined Technical and Operational evaluation of the tailoring to the provisional CB, and		
I also confirm that relevant updates to the Aerodrome Manual have been made.		
Date	Name / Position	Signature
<Any additional comments related to the declaration should be included here (optional)>		

DASA MACRI TEMPLATE V1.0
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Example ESF MACRI Walk Through

DEFENCE AVIATION SAFETY AUTHORITY

Military Aerodrome Certification Review Item

AUTHORITY ATTESTATION

For and on behalf of the Defence Aviation Safety Authority,

I am assured that:

- the discussion and assessment presented in this MACRI provides reasonable justification for the change to the CB, and
- the evaluation in this MACRI includes both Technical and Operational input for the proposed changes to the CB, and
- The AD OPR and relevant MAOs and CAOs have approved any operational conditions and limitations required.

I approve the following changes to the Authority-agreed CB.

- <summarise the changes to the Authority-agreed CB>

Date	Name / Position	Signature
<Any additional comments related to the declaration should be included here (optional)>		



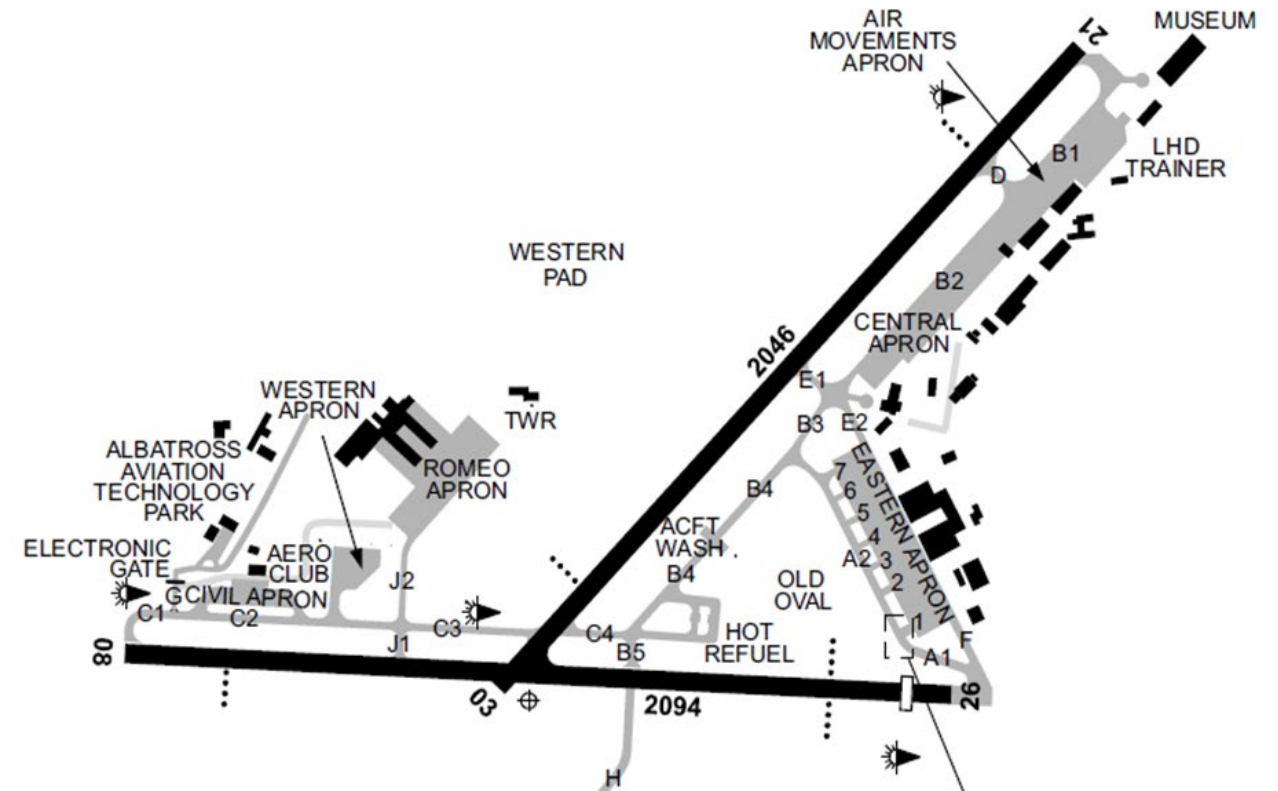
SLO 4.3 Exception MACRI

Exception MACRI

- An Exception MACRI is used where it is not possible to demonstrate compliance against the approved provisional CB and tailoring of the CB requirement will not achieve an ELOS, and it is not reasonably practicable to change the design of the aerodrome resulting in an enduring retention of risk above that represented by a compliant design.
- The Applicant must establish that a Defence Capability imperative exists for the non-compliances that warrants seeking retention of risk.
- In such circumstances the applicant must use the Safety Risk Management (SRM) process to demonstrate that risks arising from the non-compliance have been eliminated or otherwise minimised SFARP and the Aerodrome Operator and major aerodrome users (i.e. MAOs and civilian users) agree with the treatments (including the retention of risk), which can be achieved using an Exception MACRI. Risks are not discussed in an Exception MACRI, risk management decisions are completed prior and referenced in an Exception MACRI.
- An Exception MACRI will always be underpinned by documented Safety Risk Management – nominally in an ADIP.

Example Exception MACRI and ADIP Walk Through

- Example
 - Runway Clearance
 - MOS requires a runway shoulder consisting of 75mt from RWY C/L for a non-precision & precision approach (location of gable markers). It also requires a 65mt flyover area from the gable markers that is clear of obstacles.
 - Northern edge of TWY Bravo is ~ 40mt from the Gable Markers.
 - Wing tip clearance infringement for C130 on RWY03/21 and C130 on TWY B.



Example Exception MACRI and ADIP Walk Through

DEFENCE AVIATION SAFETY AUTHORITY

AERODROME ISSUE PAPER

Aerodrome Details:	<Aerodrome Name> <ICAO Identifier>		
Title / Subject:	<ADIP title or subject>		
ADIP Number	<Application Identifier> <00#>		
Status	Open / Closed		
ADIP Version No / Date:	<001> / <DD Month YYYY>	Doc ID:	<Insert the document identification number e.g. Objective ID>

<Delete the '<' '>' symbols and the italic guidance throughout the document as information is provided or the guidance is followed.>

<For Information: The Aerodrome Issue Paper (ADIP) is the DASA-developed template for Defence's 7 step Safety Risk Management (SRM) process. Defence's 7-Step Safety Risk Management (SRM) process must be used to demonstrate that risks arising from the non-compliance to the aerodrome provisional CB have been eliminated or otherwise minimised SFARP.>

<The ADIP is intended to support the development of a Military Aerodrome Certification Review Item (MACRI). MACRIs are employed to record the changes made to the aerodrome Certification Basis. The ADIP may be used to document the evaluation completed and agreement of the reduced level of safety supporting an exception MACRI, or may be used to capture evaluation completed and agreement of limitations supporting an Equivalent Safety Finding (ESF) MACRI.>

<The use of this ADIP template is not mandatory. The applicant can use another approach as needed, as long as it covers each of the steps of the 7-Step SRM process.>

Aerodrome Issue Paper

SECTION 1 – NON-COMPLIANCE EVALUATION

The following employs Defence's 7-Step Safety Risk Management (SRM) process' to evaluate the risks arising from identified non-compliances against the provisional Certification Basis (CB), and establish whether the risks have been eliminated SFARP or, where this is not reasonably practicable, has been minimised SFARP. This evaluation will also establish whether requiring CB compliance would adversely affect ADF capability.

<The non-compliance evaluation to support an Exception MACRI must follow the steps within Defence's approach to safety risk management and must represent a unified technical and operational assessment. Consequently, this ADIP template is structured to support documenting the completion of all seven steps. Confirmation that consultation, cooperation and coordination between all stakeholders (both technical and operational) has occurred during development of this ADIP is required within the declaration at the end of Section 1.>

STEP 1 - ESTABLISH HAZARD AND RISK CONTEXT

1.1 Background

Description of Issue / Non-compliance. <Provide a description of the issue / non-compliance, and establish the hazard and risk context.>

MAOs	<Identify all MAOs and Civilian AOs potentially affected by the risks>
------	--

1.2 Impact to Achieving Defence Capability Imperative?

Does Defence have a well-defined capability imperative that would be impeded if full compliance was required and thus warrants seeking Operator retention of residual risk?	<Yes/No>
---	----------

<Establish Defence has a well-defined capability that would be impeded if full compliance was required and thus warrants seeking Operator retention of residual risk.>

<If a Defence capability imperative is not established, the Authority cannot approve an Exception MACRI. Re-evaluate the aerodrome design, capability requirement and/or compliance evidence.>

1.3 Hazard identification.

<List and describe the hazard(s) posed by the non-compliance to the provisional CB requirement.>

Hazard 1.

Hazard 2.

...

STEP 2 - BE REASONABLY INFORMED (OF THE RISK AND ALL POSSIBLE CONTROLS)

<For the hazards identified above, describe the risk(s) by defining the likelihood of the hazard occurring and degree of harm that could result, and identify all possible risk controls, following the hierarchy of controls.>

Likelihood of hazard occurring.

<Identify the likelihood of the hazard (identified in Step 1) occurring.>

Degree of harm.

<Identify the degree of harm that could result from the hazard (identified in Step 1) occurring.>

Possible Risk Controls.

<Identify all available risk controls irrespective of whether they are elimination or minimisation controls. Identify the controls as per the hierarchy of controls in the headings listed below.>

- Controls that Eliminate Risk:
- Controls that Minimise Risk:
 - Substitution, Isolation and Engineering Controls

Example Exception MACRI and ADIP Walk Through

DEFENCE AVIATION SAFETY AUTHORITY
Aerodrome Issue Paper

- Administrative Controls
- PPE

STEP 3 - ELIMINATE RISK SFARP

<Assess whether the risk can be eliminated SFARP. If the risk can be eliminated, an Equivalent Level of Safety (ELOS) is established. This can be used to support an ESF MACRI. An ESF MACRI based on implementation of risk controls can only be agreed if those controls are implemented in an Authority approved document. Consultation with the Authority should occur to discuss applicable MACRI type. >

STEP 4 - MINIMISE RISK SFARP

<If the risk(s) cannot be eliminated, assess how risk can be minimised SFARP using the hierarchy of controls. Each identified control must be assessed regarding whether it is reasonably practicable to implement in the specified context. Document the assessments of all the controls from step 2, aligned using the hierarchy of controls headings below. >

- Substitution, Isolation and Engineering Controls:
- Administrative Controls:
- PPE:

STEP 5 - CHARACTERISE RISK

<Characterise risk remaining after all reasonably practicable control measures have been applied. Characterisation is to be conducted in accordance with approved Safety Management System (SMS) risk matrix – this matrix is to be included as an Annex to the ADIP. The post treatment risk characterisation should demonstrate that the risk arising from the related non-compliance against the provisional CB has been minimised SFARP using appropriate risk treatments and controls and to clearly state the remaining risk to be retained. >

EVIDENCE OF CONSULTATION

<Provide evidence of consultation / coordination with the following stakeholders: >

- Designers/ engineering organisation provided technical input for Steps 1 to 5:-
- Military Air Operators (MAOs) and where applicable Civil Air Operators / CASA (advice, acceptance and approval):-
- Aerodrome Operator (advice):-

<These stakeholders should have reviewed and provided input and advice on the risk management and controls employed and the residual risk that is to be retained. >

STEP 6 - DECISION-TO-PROCEED CONSIDERATIONS

<Whilst the SRM Step 6 – Decision to Proceed step is fulfilled in Section 2 of this ADIP template, the Applicant is to provide a summary and discussion of those aspects of the evaluation that support the Risk Management Authority's (RMA) decision to proceed, following elimination of risk, or otherwise retain the risk remaining after minimisation. Include an attestation that risk has been eliminated or otherwise minimised SFARP, and describe the risk characterisation for risk remaining after minimisation. >

<Summarise hazards, controls and residual risk in the following table for RMA review and approval. >

Hazard(s) Arising from CB Requirement Non-Compliance:	<Summarise the hazards arising from the non-compliance against the provisional CB>
---	--

DEFENCE AVIATION SAFETY AUTHORITY
Aerodrome Issue Paper

Risk Controls:	
Air Operator/ Pilot	Aerodrome Operator
<List the risk controls that are related to the air operator/pilot>	<List the risk controls that are related to the Aerodrome Operator>
Risks Retained:	<Summarise the residual risks that are retained. > <Provide the trigger(s) for conducting review of the risks and controls>

STEP 7 - CONTINUOUS RISK MONITORING AND REVIEW

<Step 7 of the SRM process is the ongoing monitoring and review of the risk(s) and controls. To support Step 7, the Applicant is to describe the actions and systems that will be used to ensure that hazards, risks and risk controls are continuously monitored. >

<Confirm that hazard management system has been updated>

<Confirm that the triggers for risk and control review have been set and documented in the hazard management system. >

<Note: prior to submitting this ADIP to the Aerodrome Operator for approval, the Applicant is recommended to provide a mature copy to DASA for early review. The Authority will review the document focusing on the robust application of the 7-Step SRM process. >

APPLICANT RECOMMENDATION

It is recommended that the risk and related controls outlined within this ADIP be approved by the RMAs on the basis that:

- <summarise the findings and conclusions associated with evaluation of the non-compliances, risk characterisation, and any required monitoring/review requirements>.
- <etc>.

Consequently, it is recommended that the RMAs agree that the risk(s) has been eliminated or otherwise minimised SFARP, that a capability imperative exists to operate <aerodrome> with the identified non-compliances, and that the risk remaining after minimisation is retained.

APPLICANT DECLARATION

I declare that the information presented in Section 1 of this ADIP :

- is true and correct, and
- represents the combined technical and operational evaluation of the shortfalls, associated risks and controls, and
- has been developed with appropriate consultation, cooperation and coordination with shared duty holders/stakeholders, and
- has been agreed with the Aerodrome Operator Risk Management Authority, and
- has been agreed with the relevant Military Air Operators (MAO) and Civilian Air Operators where required, and

I confirm that relevant updates to the Aerodrome Manual have been made.

I also declare that the technical and operational evaluation has identified those controls that could be implemented to eliminate or otherwise minimise the risk SFARP.



Example Exception MACRI and ADIP Walk Through

DEFENCE AVIATION SAFETY AUTHORITY		
Aerodrome Issue Paper		
Date	Name / Position	Signature
<Any additional comments related to the declaration should be included here (optional)>		

DEFENCE AVIATION SAFETY AUTHORITY		
Aerodrome Issue Paper		
SECTION 2 – AERODROME OPERATOR POSITION		
COMMENTS		
<Summarise comments that reflect the Aerodrome Operators position and any reservations that do not amount to require rework to Section 1 but must be documented (optional)>		
<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">+</div> <div>AD OPR DECLARATION</div> </div> <p>I declare that based on information presented in Section 1 of this ADIP, I:</p> <ul style="list-style-type: none"> confirm that a capability imperative exists to operate with the risks presented within this ADIP, and confirm that the risk associated with the identified non-compliances has been eliminated or otherwise minimised SFARP, and understand and retain the risk remaining after minimisation, and confirm the affected MAOs (and civilians where applicable) have approved that the risks have been eliminated or otherwise minimised SFARP and retain the risk remaining after minimisation, and confirm the hazards and controls are identified in the aerodrome's Hazard Management System, and confirm that the relevant updates have been made to the Aerodrome Manual, and provide the decision-to-proceed. </div>		
Date	Name / Position	Signature
<Any additional comments related to the declaration should be included here (optional)>		

Example Exception MACRI and ADIP Walk Through

DEFENCE AVIATION SAFETY AUTHORITY Aerodrome Issue Paper		
SECTION 3 – AUTHORITY POSITION		
COMMENTS <Summarise the review and any reservations that do not amount to require rework to Section 1 but must be documented (optional).>		
DISPOSITION <ADIP to remain OPEN / ADIP is considered CLOSED>		
REQUIREMENTS FOR CLOSURE <Summarise the requirements for ADIP closure (if applicable).>		
<div> <div>+</div> <div> AUTHORITY ATTESTATION For and on behalf of the Defence Aviation Safety Authority, I am assured that: <ul style="list-style-type: none"> the evaluation in Section 1 of this ADIP provides reasonable justification that risk(s) arising from non-compliances against the provisional CB has been eliminated or otherwise minimised SFARP, and future actions for risk management appear appropriate, and the Command position in Section 2 of this ADIP is congruent with the non-compliance evaluation in Section 1 of this ADIP. </div> </div>		
Date	Name / Position	Signature
<Any additional comments related to the declaration should be included here (optional).>		

Example Exception MACRI and ADIP Walk Through



Australian Government
Department of Defence

DEFENCE AVIATION SAFETY AUTHORITY

MILITARY AERODROME CERTIFICATION REVIEW ITEM

Aerodrome Details:	<Aerodrome Name> <ICAO Identifier>		
MACRI No:	<Application Identifier>.<001>		
Issue No / Date:	<001> / <DD Month YYYY>	Doc ID:	<Insert the document identification number e.g. Objective ID>
Title / Subject:	<MACRI title or subject>		
Status:	<Not Approved / Authority Approved>		
Category:	<Choose applicable category: Equivalent Safety Finding, Exception>		
Relevant CB Requirement:	<Identify the CB design requirement(s) applicable to this MACRI. Where the CB requirement is short, provide the full requirement in this section. However, if the CB requirement is long (e.g. few paragraphs or longer), provide a reference to the requirement here and provide detail in the discussion section below>		
Tailored Requirement(s)	<Document the tailoring of the provisional CB that has been proposed through this MACRI, including specifying if the requirement is not met> <If the requirement is met through conditions and limitations – specify “requirement met with conditions/limitations” and specify these below>		
Conditions and Limitations:			
Air Operator / Pilot		Aerodrome Operator	
<List the conditions and/or limitations that are related to the air operator/pilot>		<List the conditions and/or limitations that are related to the Aerodrome Operator>	
Aerodrome Operator Agreement (If applicable):	<If applicable, provide reference to the Aerodrome Operator agreement to the proposed tailoring of the standard and any related conditions and limitations (e.g. Decision brief, ADIP) – required for Exception MACRI>		
Air Operator(s) Agreement (If applicable):	<If applicable, provide reference to the Air Operator agreement to the proposed tailoring of the standard and any related conditions and limitations (e.g. Decision brief, ADP) – required for Exceptions>		

<Delete the '<' '>' symbols and the italic guidance throughout as information is provided or the guidance is followed.>

DASA MACRI TEMPLATE V1.0
8P2111001
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Example Exception MACRI and ADIP Walk Through

DEFENCE AVIATION SAFETY AUTHORITY

Military Aerodrome Certification Review Item

STATEMENT OF ISSUE

<A broad description of the issue should be provided. Background information can be provided to assist with understanding; however, unless it adds to resolution of the issue, background should be kept to a minimum>

<For Information: Military Aerodrome Certification Review Items (MACRIs) are employed to record the changes made to the aerodrome Certification Basis>

<All MACRIs require agreement from the Authority>

<An Equivalent Safety Finding (ESF) MACRI is used when it is not possible to demonstrate compliance to the CB and it is determined that it is not reasonably practicable to change the design of the aerodrome to become compliant to the CB, however, the Applicant is able to demonstrate compliance with a tailored design requirement and demonstrate that an Equivalent Level of Safety (ELOS) has been achieved>

<An Exception MACRI is used to detail tailoring to a CB design requirement or design standard when there will be an enduring retention of risk above that presented by a compliant design. If Defence has a well-defined capability imperative that would be impeded if compliance was required and warrants seeking operator retention of residual risk, the Applicant must use Defence's 7-Step Safety Risk Management (SRM) process to demonstrate that risks arising from the non-compliance have been eliminated or otherwise minimised So Far As Is Reasonably Practicable (SFARP)>

<MACRIs may contain 'grouped' certification elements only if they share a topic that may be summarised succinctly and meaningfully. MACRIs cannot have multiple categories (e.g. ESF and Exception argument in the same MACRI) and instead must be split by type of tailoring, including splitting a single requirement or element across an ESF and Exception MACRI if so required>

DISCUSSION

<Record the discussion explaining and justifying the proposed CB tailoring. This must include the basis of the applicant recommending that CB tailoring is reasonable and include the Capability imperative that will be impeded if compliance was required and warrants seeking operator retention of residual risk. The Applicant should, in the first instance, confirm that options to generate further evidence to demonstrate compliance have been exhausted, or otherwise that it is not reasonably practicable to change the design>

<The MACRI should clearly outline how the design does not meet the requirement – the non-compliance, what (if any) standard or requirement the design does meet instead, and any relevant controls that have been agreed to enable the tailoring>

<For ESF MACRI provide reference to the safety assessment that demonstrates that an equivalent level of safety has been achieved i.e. the risk(s) to safe flight operations inherent in an aerodrome designed IAW the tailored requirement is not greater than the risk(s) to safe flight operations inherent in an aerodrome designed IAW the original provisional CB requirement. If the argument is straight forward and succinct it can be included in the MACRI itself. If tailoring involves limitations

DEFENCE AVIATION SAFETY AUTHORITY

Military Aerodrome Certification Review Item

which may be contentious, an Aerodrome Issue Paper (ADIP) may be used to capture the safety argument in a structured way and provide evidence that the safety assessment, CB tailoring and any controls required to demonstrate an ELOS includes both Technical and Operational input. Any limitations and controls provided in an ESF MACRI must be captured in an Authority approved document>

<For exception MACRI, discussion of the risk should not be included in the MACRI, but the MACRI should confirm that the Aerodrome Operator and the Air Operator (where applicable) is aware of, and have agreed to, the change to the level of safety as a result of the tailoring. Any risk discussion should be contained in an Aerodrome Issue Paper (ADIP) or equivalent document containing the full 7-Step safety risk management process. The MACRI is to reference the ADIP or other risk management document as demonstration that the risks to safe flight operations have been eliminated or otherwise minimised SFARP>

APPLICANT POSITION

<This section communicates the applicant's position, from the basis of the above 'Discussion'. This should summarise what tailoring is proposed and the basis of that recommendation>

DASA POSITION

<This section details the Authority's position>

CONCLUSION

<Conclusion is provided by the Authority>

<Summarise the agreed MACRI outcomes. The conclusion should be sufficient in detail to allow a reader of the MACRI to understand exactly how the MACRI has tailored the CB through this section alone>

APPLICANT DECLARATION

I declare that the information presented in this MACRI:

- is true and correct, and
- is supported by the combined Technical and Operational evaluation of the tailoring to the provisional CB, and

I also confirm that relevant updates to the Aerodrome Manual have been made.

Date	Name / Position	Signature
<Any additional comments related to the declaration should be included here (optional)>		

DEFENCE AVIATION SAFETY AUTHORITY

Military Aerodrome Certification Review Item

AUTHORITY ATTESTATION

For and on behalf of the Defence Aviation Safety Authority,

I am assured that:

- the discussion and assessment presented in this MACRI provides reasonable justification for the change to the CB, and
- the evaluation in this MACRI includes both Technical and Operational input for the proposed changes to the CB, and
- The AD OPR and relevant MAOs and CAOs have approved any operational conditions and limitations required.

I approve the following changes to the Authority-agreed CB.

- <summarise the changes to the Authority-agreed CB>

Date	Name / Position	Signature
<Any additional comments related to the declaration should be included here (optional)>		

Q1. Why the SRM Process

- Commanders are accountable for ensuring that aviation safety hazards/risks are eliminated or otherwise minimised So Far As is Reasonably Practicable (SFARP) – the SRM process must be implemented by organisations to ensure compliance with the Work Health and Safety Act 2011 (WHS Act). It is not intended to replicate the full detail contained in the Act.



Group Exercise 3: MACRI

Assessment Description

- For the given provisional CB and compliance demonstration evidence, you will need to:
 - Identify where a CB-requirement has not been met.
 - Identify the most appropriate MACRI to address the short fall for each non-compliance.
 - Demonstrate an equivalent level of safety where required.
 - Complete a 7-step SRM process where required to demonstrate risk has been eliminated or minimised SFARP.
 - Identify those involved in the SRM process for the Exception MACRI.

Notes for Instructor

- Documents to provide participants:
 - Provisional CB requirements.
 - Compliance demonstration evidence (example engineering reports, test reports, drawings etc.) that results in a shortfall against the provisional CB.
 - ESF and Exception MACRI Template.

Notes for Instructor

- Assessment Checklist:

- ☐ Participant is able to explain how shortfalls against the CB are identified.
- ☐ Participant correctly identifies when an Equivalent Safety Finding (ESF) MACRI is required and when an Exception MACRI is required.
- ☐ Participant correctly describes how to tailor a provisional CB.
- ☐ Participant demonstrates equivalent level of safety.
- ☐ Participant correctly completes the 7 step SRM process that underpins an Exception MACRI.
- ☐ Participant has successfully completed the MACRI Template for ESF and Exception.
- ☐ Participant demonstrates identification of a capability imperative.
- ☐ Participant has correctly identified who is involved in the MACRI.



Questions

DASR 139 Aerodrome Certification

Practitioners Course – Module 5

Mr Daniel Grosse

Director of Initial Airworthiness

Directorate of Initial Airworthiness (DIA-DASA)



Module 5 (LO 5.): Define Maintaining the Aerodrome Certification

SLO 3.4 Describe arrangements for continued compliance with Authority-agreed CB

SLO 3.5 Describe design information to support continuing safe operations

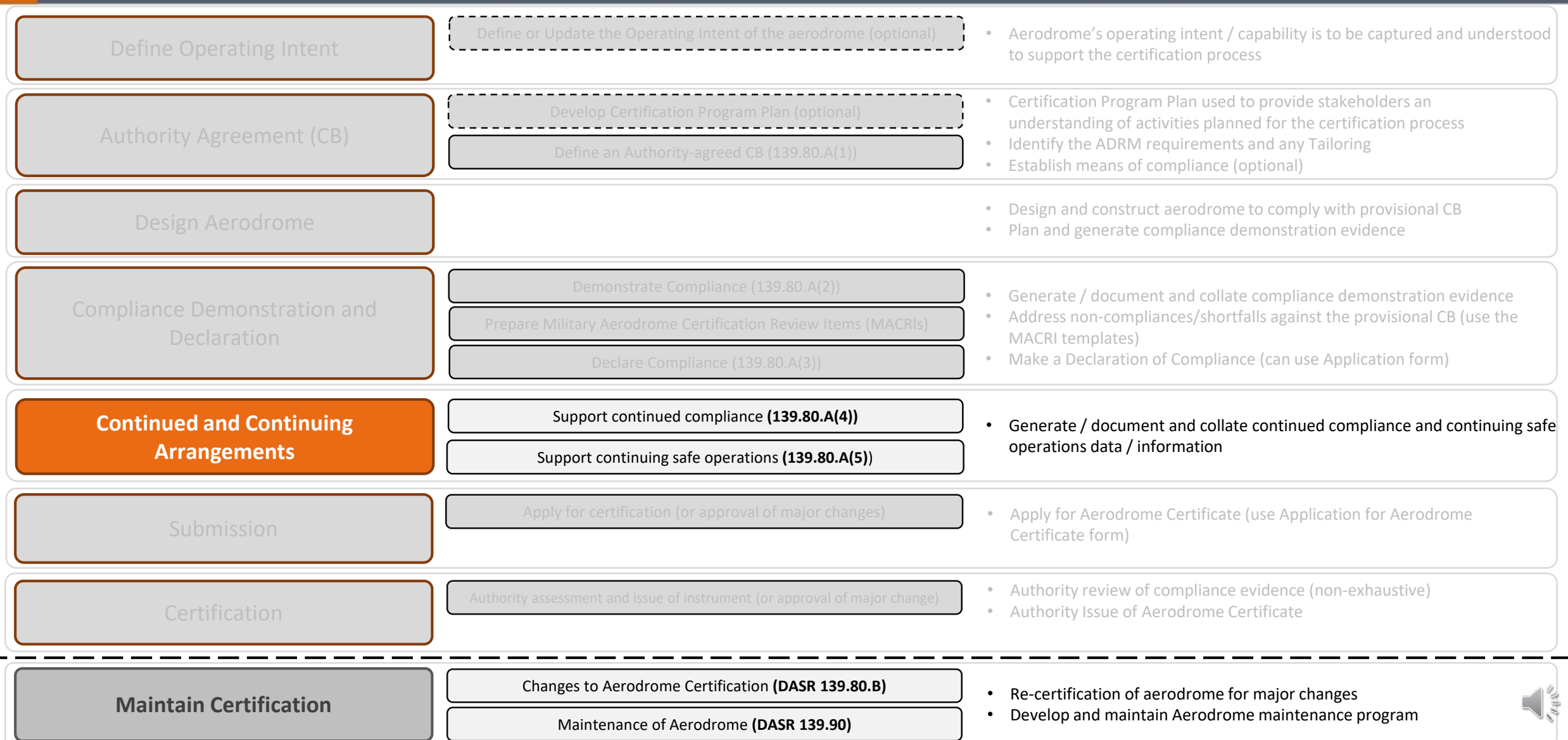
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SLO 5.1 Describe management of changes to Aerodrome design and construction.

SLO 5.2 Define Aerodrome Maintenance Program.

SLO 5.3 Identify Aerodrome Support Personnel and their competency requirements.

DASR 139.80 - Aerodrome Certification Process



In Addition to Compliance Evidence

- In addition to submitting the Declaration of Compliance and reference to compliance demonstration evidence, the Authority requires the following information to support the decision to award an Aerodrome Certificate:
 - Evidence of arrangements to support continued compliance with the Authority-agreed CB (**DASR 139.80.A(4)**).
 - Evidence of arrangements to manage design information to support continuing safe flight operations (**DASR 139.80.A(5)**).

SLO 3.4 Describe arrangements for continued compliance with Authority-agreed CB

Continued Compliance with CB

- DASR 139.80.A(4) requires the Applicant to implement arrangements to support continued aerodrome compliance with the CB.
 - Arrangements includes '**systems**' and '**processes**'.
- Over the long service life of the aerodrome, changes are often made:
 - To **repair** latent defects in the aerodrome design and construction.
 - To **upgrade/ modify** the aerodrome design and construction.
 - To the types of **operations** supported by the aerodrome.
- The Authority needs to be assured that safe design of the aerodrome will be retained throughout the service life of the aerodrome.

Arrangements for Continued Compliance with CB

- Arrangements (systems and procedures) should be implemented to:

Retain all relevant design information, drawings and test reports; including inspection records for the aerodrome in order to provide the information necessary to **ensure** the continued compliance to the aerodrome certification basis, and conditions for safe operation of the aerodrome.

Manage the configuration of the aerodrome design.

Collect, investigate and analyse reports of and information related to failures, malfunctions, defects or other occurrences which might adversely affect safe operation of the aerodrome, to implement corrective action if warranted.

- For initial certification:
 - Applicant is to establish and provide evidence of these systems and procedures.
- For maintenance of Aerodrome Certificate
 - Aerodrome Operator is responsible for continued implementation and monitoring of these systems and procedures.

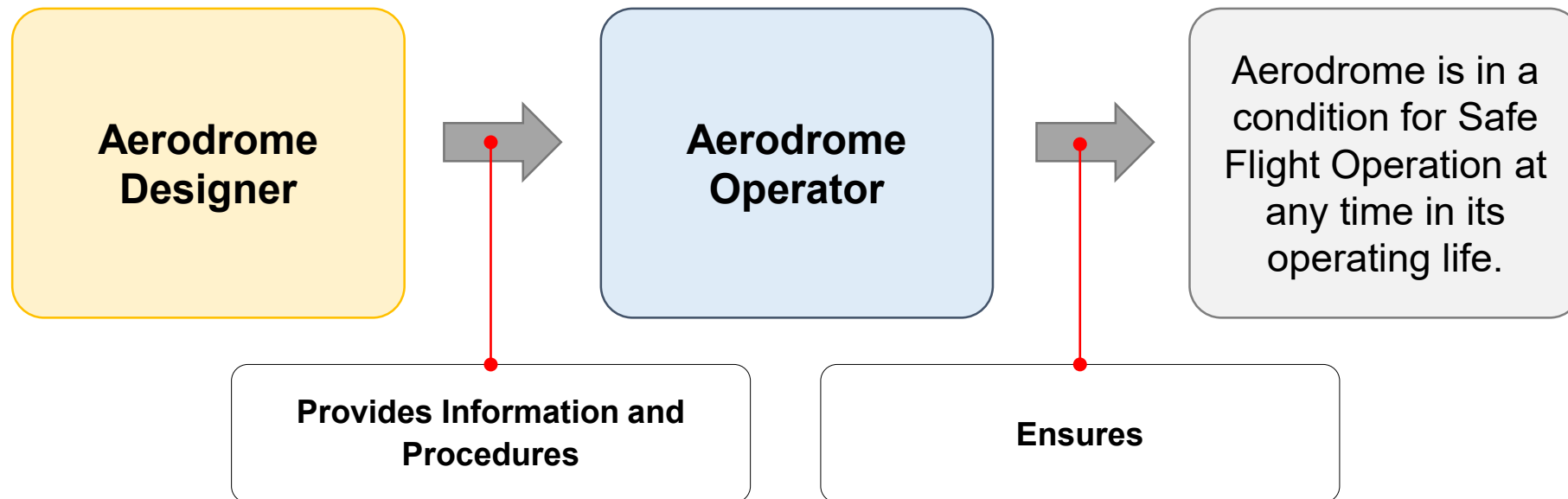
SLO 3.5 Describe design information to support continuing safe operations at aerodrome

Continuing Safe Operation of the Aerodrome

- DASR 139.80.A(5) requires the Applicant to provide design information to support continuing safe operation of the aerodrome.
- The purpose of this regulation is to require an Applicant to produce key information and procedures, related to the design and/or construction of the aerodrome that will enable the Aerodrome Operator to ensure that the aerodrome is kept in a condition for safe flight operation.

Continuing Safe Operation of the Aerodrome

- The Aerodrome Operator is responsible for ensuring that the aerodrome, at any time in its operating life, is in a condition for safe flight operation. However, for the Aerodrome Operator to execute this responsibility, it should be reliant upon information and procedures that are the domain of the aerodrome designer.



Information to Support Continuing Safe Operation of the Aerodrome

- Information that supports continuing safe operation of the aerodrome includes:
 - Documents that describe specific scheduled maintenance task and their frequency of completion
 - Descriptive data and accomplishment instructions that enable inspections, processes and procedures necessary to keep the aerodrome in a condition for safe flight operation.

Examples of Information to Support Continuing Safe Operation of the Aerodrome

- Friction Test Procedures
- Lighting illumination tests
- Glideslope testing

SLO 5.1 Describe management of changes to Aerodrome design and construction.

Major Changes to Aerodrome Design and Construction

- Any change to the design, construction or operations of an aerodrome, that has appreciable effect on the safety of flight operations or changes the aerodrome configuration so that it deviates from the Authority-agreed Certification Basis (CB), invalidates the aerodrome certification and therefore, must be presented to the Authority for re-certification.
- The purpose of the re-certification process is to assure that that aerodrome continues to be subject to engineering rigour and that the aerodrome remains in a condition that supports safe-flight operations over the service life.

Major Changes to Aerodrome Design and Construction

- It is noted that the Authority does not expect Aerodrome Operators (AD OPRs) to re-certify aerodromes whenever minor design and constructions changes are incorporated. Minor changes are classified as changes that do not have an appreciable effect on safety of flight operations and does not result in the aerodrome design deviating from the Authority-agreed CB.
- It is expected that the Aerodrome Operators will use professional judgement in determining whether a change has an 'appreciable' effect on the safety of flight operations.
 - The Authority may be consulted if there is any doubt regarding whether a change requires re-certification.
 - Minor change determinations must be available and may be subject to Authority review during oversight activities

Examples of Changes to be Submitted for Recertification

- Types of changes that will have appreciable effect on safe flight operations:
 - No CB change, new Compliance Demo and Declaration - Resurfacing of the runway with a new method – friction requirements
 - CB Change - Larger aircraft (higher code) to be operated from the aerodrome

Re-Certification Process

- The process for gaining Authority approval of a change to the aerodrome's design, construction and operations is the same process that is used during initial aerodrome certification, however applied to the scope of the change only.

Re-Certification Process

Operating Intent
(optional)

Develop
Certification
Program Plan
(optional)

Define and
Authority-agreed
CB
(139.80.A(1))

Demonstrate
Compliance
(139.80.A(2))

- Does the operating intent documentation change?
- Depending on the size of the change to the aerodrome, the Applicant may choose to develop a CPP.
- Identify any changes to the aerodrome CB.
- Check whether the change impacts any existing design.
- Develop new compliance evidence.
 - Complete MACRIs if identified Non-compliances.

Re-Certification Process

Declare
Compliance
(139.80.A(3))

- On completion of all compliance demonstration and MACRIs, make declaration.

Support
continued
compliance
(139.80.A(4))

- Update configuration of the aerodrome design and any systems that collect, investigate and analyse reports of failures, malfunctions and defects.

Support
continuing safe
operations
(139.80.A(5))

- Update aerodrome maintenance program as required to adequately address the changes to the aerodrome.

Apply for
Certification



SLO 5.2 Define Aerodrome Maintenance Program

Aerodrome Maintenance Program

- DASR 139.90 requires the Aerodrome Operator to develop, document and undertake an aerodrome maintenance program to ensure that the aerodrome remains in a condition to support safe flight operations.
- The Aerodrome Maintenance Program should include:
 - Maintenance schedules and routines to ensure the aerodrome continues to meet the design requirements.
 - Technical inspections that confirm facilities that are fit for their intended purpose and acceptable for use.
 - The engagement of suitably qualified personnel to conduct maintenance.

Aerodrome Maintenance Program

- Failure to follow the Maintenance Program may:
 - Cause finding on the Aerodrome Operator approval.
 - May impact certification.
- Would be significant issues which adversely affects safe flight operations at the aerodrome.
 - Expect to be resolved with Safe Work plans

Example Aerodrome Maintenance Program Plan

- Example of arrangements (systems and procedures) that are used to enact the MPP.
 - Repainting of markings – periodic repaint.
 - Electrical system works – continuity testing.
 - Periodic friction testing.

SLO 5.3 Identify Aerodrome Support Personnel and their competency requirements.

Personnel Competency

- DASR 139.100 requires the Aerodrome Operator to ensure that personnel responsible for the conduct of activities in support of individual aerodromes are **competent**, **qualified** and **authorised** to undertake their duties.
- Personnel competencies are applicable to the certification process for the following areas:
 - Engineering – Making a declaration.
 - Maintenance – Suitable qualified personnel to conduct maintenance.
- During Aerodrome Operator approval process – personnel competencies will be checked for a range of roles.

Personnel Competency

- There are many different types and levels of competency required amongst support personnel depending on what aspects are applicable to the overall safety and support service of the aerodrome.
- The Aerodrome Operator, by the nature of the varied equipment and systems in use; has the responsibility to select, monitor or reject those level of competencies considered appropriate or inappropriate to carry out support arrangements.
- The Aerodrome Operator is to ensure:
 - Personnel are adequately trained and authorised
 - Competencies remain current for the duration of the task

Personnel Competency

- The Aerodrome Operator should:
 - Ensure aviation safety support activities are undertaken by suitably competent and authorised personnel, including when engaging contractors.
 - Maintain adequate numbers of personnel to provide the service consistent with the defined and reasonable level of overall demand.
 - Maintain training competency assessments and regular evaluation of these programs for participating personnel where applicable.
- The Authority does not prescribe any single competency/licensing framework for these competency requirements

Example for Personnel Competency

- Examples of different types of competencies that may be required to safely operate an aerodrome:
 - Works Safety Officer
 - Licensed electrician



Group Exercise 4: Maintenance of Aerodrome Certificate

Assessment Description

- This group exercise contains three parts.
 - You will be given a series of examples of systems and procedures used at an aerodrome. Identify which arrangements are used to ensure continued compliance with the Authority-agreed CB or continuing safe operation of the aerodrome.
 - You will be given examples of changes to the aerodrome design and construction. Identify which changes have appreciable effect on the safety of flight operations and hence require re-certification. You are to explain the re-certification process.
 - Provide examples of aspects within an aerodrome maintenance program.
 - Identify the different types of support personnel involved in aerodrome operations and sustainment. Identify the competencies that they are likely to need and maintain.

Notes for Instructor

- Documents to provide participants:
 - Examples of arrangements (systems and procedures) that either support continued compliance with the Authority-agreed CB or continuing safety operations.
 - Examples of changes to the aerodrome design and constructions.
 - Worksheet to include space for participants to identify the contents of the aerodrome Maintenance Program Plan.
 - Worksheet that allows participants to identify types of support personnel and their competencies.

Notes for Instructor

- Assessment Checklist:

- ☐ Participant correctly identifies examples of arrangements (systems and processes) that are used to ensure continued compliance to the Authority-agreed CB.
- ☐ Participant correctly describes the design information that is required to ensure safe flight operations.
- ☐ Participant correctly identifies changes to the aerodrome design and construction that have appreciable effect on safe flight operations.
- ☐ Participant is able to identify the processes for re-certification.
- ☐ Participant is able to describe the purpose and contents of a Maintenance Program Plan.
- ☐ Participant identifies the types of roles involved in the support of aerodromes and the competencies relevant to each of the roles.



Questions