Australian Government
Civil Aviation Safety Authority

POLICY PROPOSAL
PP 2207AS

Proposed amendments to regulations and standards for air traffic service providers

Date	June 2022
Project number	AS 14/23
File ref	D19/313358

Policy overview

In 2018, CASA commenced a post implementation review (PIR) of Part 172 (Air traffic service providers) of the Civil Aviation Safety Regulations 1998 (CASR) and the Part 172 Manual of Standards (MOS) (the Part 172 legislation).

As a result of the PIR, CASA is proposing changes to the Part 172 legislation intended to:

- Align insofar as possible Australian standards with the International Civil Aviation Organization (ICAO) standards and the recommended practices (SARPs) in Annex 11 (Air Traffic Services) to the Convention on International Civil Aviation (the Chicago Convention)
  - A specific action is to align Australian standards with the ICAO requirements for air traffic controller fatigue management.
- reduce as much as possible any replication of standards between the Part 172 MOS and the Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc. 4444) (ICAO Doc. 4444) published by the International Civil Aviation Organization (ICAO)
- incorporate the recommendations from the PIR
- amend elements of existing legislation where interpretation has caused difficulties, or which are difficult to implement or interpret.

The amended Part 172 legislation seeks to meet the overarching objectives of minimising the level of regulatory burden, reducing costs to industry and, at the same time, specifying relevant aviation safety standards.

Why are we consulting

CASA is working to improve Part 172 legislation with the aim of achieving a positive outcome for the aviation industry and for CASA.

We invite the aviation community to review the proposed policy changes in relation to their industry sector and to tell us about any concerns or challenges they have regarding these proposed amendments. We also invite industry to highlight any improvements that should be considered for this amendment or be considered for future development of Part 172 legislation.

This policy proposal summarises the proposed changes to both CASR and MOS—these proposals are mentioned in terms of broad policy or broad action rather than specific wording. The exact wording will be addressed during subsequent legislative drafting. An Exposure Draft of the amendment regulations will be made available later in 2022 prior to changes coming into effect.

Contents

1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this policy proposal are listed in the table below.

Acronym	Description
AA	Airservices Australia
AC	advisory circular
AMSL	above mean sea level
ATC	air traffic control
ATS	air traffic service
CA/GRS	Certified Air/Ground Radio Service
CAO	Civil Aviation Order
CAP	Civil Aviation Publication
CAR	Civil Aviation Regulations 1988
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations 1998
FAA	Federal Aviation Administration (of the United States of America)
FIR	flight information region
FRMS	fatigue risk management system
GNSS	Global Navigation Satellite System
IFR	instrument flight rules
IVA	independent visual approach
LAHSO	land and hold short operation
MOS	Manual of Standards
NDB	non-directional beacon
NM	nautical mile(s)
RNP	Required Navigation Performance
RVSM	reduced vertical separation minima
SARP	standards and recommended practices
SMS	safety management system
TWG	technical working group
UK	United Kingdom
VOR	very high frequency omni-range

1.2 Definitions

Terms that have specific meaning within this policy proposal are defined in the table below.

Term	Definition
Visual surveillance system	An electro-optical system providing an electronic visual presentation of traffic and any other information necessary to maintain situational awareness at an aerodrome and its vicinity.

1.3 References

Legislation and Orders

Legislation is available on the Federal Register of Legislation website https://www.legislation.gov.au/

Document	Title
CAO 48.1	Civil Aviation Order 48.1 Instrument 2019
Part 139 of CASR	Aerodromes
Part 172 of CASR	Part 172—Air Traffic Service Providers – of the Civil Aviation Safety Regulations 1998
Manual of Standards Part 172	Air Traffic Services
Part 175 of CASR	Aeronautical information management

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from http://store1.icao.int/

Document	Title
Annex 10 Vol II	Annex 10 (Aeronautical Telecommunications) to the Convention on International Civil Aviation, Volume II – Communication procedures including those with the status of Procedures for Air Navigation Services (PANS).
Annex 11	Annex 11 (Air Traffic Services) to the Convention on International Civil Aviation
Annex 19	Annex 19 (Safety Management) to the Convention on International Civil Aviation, 2nd Ed. July 2016
ICAO Doc. 4444	Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc. 4444-RAC/501)
ICAO Doc. 7030	ICAO Regional Supplementary Procedures

Advisory material

CASA's advisory circulars are available at http://www.casa.gov.au/AC

Document	Title
AC 172-1(0)	Guidelines for preparing a Safety Management System (SMS)
AC 172-2(0)	Guidelines for preparing safety cases covering CASR Part 172 services

Other technical references

Document	Title
FAA Order JO 7110.65Z	Air Traffic Control dated 17 June 2021
FAA Order JO 7110.118B	Land and Hold Short Operations (LAHSO) dated 15 November 2020
UK CAP 493	Manual of Air Traffic Services – Part 1

1.4 Annexes to this policy proposal

The following annexes are included with this policy proposal:

- Annex A: Concept for fatigue management standards for the Part 172 MOS
- Annex B: Extract - ICAO Annex 11 (15th Ed) - Fatigue management
- Annex C: Spreadsheet analysis of proposed changes to Part 172 Manual of Standards
- Annex D: Tabular comparison – Part 172 MOS Ch 1-9 – Current vs proposed
- Annex E: Tabular comparison – Part 172 MOS Ch 10-14 – Current vs proposed

2 Introduction

2.1 Background

Part 172 of CASR and the Part 172 MOS came into effect in 2003. They apply to a person that is, or wants to, become an air traffic service (ATS) provider and set out certain rules which apply to CASA in administering the ATS regulations.

Airservices Australia (AA) is the only entity authorised under Part 172 of CASR as an ATS provider.

While the Part has adequately served its purpose since its introduction, it has become apparent to CASA that the Australian ATS regulatory requirements and standards:

- do not completely address contemporary requirements for safe provision of air traffic services, particularly new international safety standards introduced since 2003
- sometimes replicate standards for ATS already specified in other documents
- do not align with contemporary conventions, practices and standards used in regulations introduced by CASA in the years since 2003.

To address these matters, CASA is using Part 172 technical project AS 14/23 for a comprehensive post implementation review (PIR). Since 2018, CASA, in conjunction with AA and Civil Air[1] has reviewed existing standards against the standards specified by the international civil aviation organization (ICAO) and other major overseas regulators. The activity has revealed that a relatively small number of changes are necessary to make Part 172 of CASR fit for purpose. However, more than half of the Part 172 MOS can be eliminated because existing equivalent ICAO standards can apply instead. Also, much of the remaining MOS requires editorial review to ensure it meets legislative drafting standards and to ensure the standards are unambiguous and clear.

2.2 Existing regulatory structure

2.2.1 Structure of the Part 172 legislation

Below is a summary of relevant legislation applicable to the regulation of ATS in Australia, including those ICAO documents directly referenced in legislation.

2.2.2 Section 98 of the Civil Aviation Act 1988

Section 98 of the *Civil Aviation Act 1988* (the Act) allows the Governor-General to make regulations for the purposes of the Act in relation to the safety of air navigation.

Paragraph 98(3) (e) of the Act allows regulations for, or in relation to, the planning, construction, establishment, maintenance, operation and use of air route and airway facilities.

[1] The air traffic controllers' professional association.

Section 3 of the Act defines 'air route and airway facilities' as facilities provided to permit safe navigation of aircraft within the airspace of air routes and airways, including air traffic control services and facilities, and flight service services and facilities.

2.2.3 Part 172 of CASR

Part 172 of CASR is made under paragraph 98 (3) of the Act, with the purpose of regulating and administering the provision of air traffic services including air traffic control (ATC) and flight service activities. The Part is structured chiefly as an enabler or head of power for subordinate documents and it contains little specific detail of regulatory requirements. For example, Part 172 of CASR requires an ATS provider to have a safety management system (SMS) but provides no details or standards for the SMS. Instead, the regulation states the SMS must be in accordance with standards set out in the Part 172 MOS.

Relevantly, Part 172 of CASR specifies that air traffic services must be provided in accordance with a hierarchy of standards, procedures and rules as set out in:

- the Part 172 MOS
- Annex 11 to the International Convention on Civil Aviation (the Chicago Convention)
- Volume II of Annex 10 to the Chicago Convention
- ICAO Doc. 4444[2]
- ICAO Doc. 7030 – Regional Supplementary Procedures.

This hierarchy means that a standard appearing in a document higher on the list has precedence or priority over a similar standard appearing on a document lower in the list. The function of each document is described in the sections 2.2.4 to 2.2.8 below.

2.2.4 Part 172 Manual of Standards

The Part 172 MOS is made under regulation 172.022 of CASR and contains standards that amplify specific requirements specified in Part 172.

Part 172 MOS currently includes most of the standard methods for providing air traffic control separation. Based on the hierarchy of standards set by Part 172 of CASR. Part 172 MOS currently overrides most of the separation standards specified in the equivalent ICAO documents.

In addition to the separation standards, the Part 172 MOS covers the following matters:

- the required content of an operations manual
- location of and equipment for control towers
- standards for training and checking
- standards for a provider's SMS including change management (preparation of safety cases
- details for contingency plans

[2] ICAO Doc. 4444 is issued by the International Civil Aviation Organization (ICAO). In 2001, Doc. 4444 was retitled *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM).

- details for a provider's security program
- standards for keeping and maintaining records and documents
- standards for information that must be provided to pilots, including take-off and landing information, traffic information and alerts
- standards for information transfer such as issuance of ATC clearances
- procedures during abnormal operations (such as weather deviation requirements, fuel dumping etc.)
- the requirements for aeronautical telecommunications, including ATC-ATC coordination.

2.2.5 ICAO Annex 11

Annex 11 to the Chicago Convention covers the internationally agreed high-level standards and recommended practices (SARPs) for the establishment of airspace and services for the safe, orderly and expeditious flow of air traffic. Its specific purpose is to ensure that flying on international air routes is carried out under uniform conditions designed to improve the safety and efficiency of air operation. Despite the emphasis on international operations, Annex 11 SARPs generally apply equally to domestic air traffic service operations.

Under the Chicago Convention, Contracting States (including Australia) are expected, where possible, to adopt ICAO SARPs. Deviations from a ICAO SARP should only occur if a Contracting State finds it impracticable to comply with all aspects of the SARP. In this situation, the Contracting State is expected to notify ICAO of the difference between State practice and the relevant ICAO SARP and to publish details of the difference in the State's aeronautical information publication (AIP).

Australian policy articulated in the Airspace Policy Statement 2018 is consistent with this and requires that any deviations from ICAO SARP are well justified, documented, and formally notified to ICAO as a difference.

2.2.6 Volume II of Annex 10

Annex 10 to the Chicago Convention covers SARPs pertaining to aeronautical telecommunications. Relevant to air traffic services, Volume II to Annex 10 sets the international standards for communication between ground stations (aeronautical fixed service) and ground and air stations (aeronautical mobile service, e.g., communication between ATC and aircraft), including voice and data link communications.

2.2.7 ICAO Doc. 4444 - Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM)

ICAO Doc. 4444 complements and expands on the SARP for Annex 11. It specifies in greater detail the procedures to be applied by ATS units.

Of specific relevance for many of the changes proposed in this document, ICAO Doc. 4444 contains chapters with detailed procedures on matters including:

- ATS system capacity and air traffic flow management
- general provisions for air traffic services
- separation minima and methods

- ATS surveillance services
- flight information and alerting service
- coordination and communication
- emergencies communication failure and contingency.

2.2.8 ICAO Doc. 7030 - ICAO Regional Supplementary Procedures

ICAO Doc. 7030 contains the procedures applicable to specific regions of the world. The regional supplementary procedures in ICAO Doc. 7030 are specified in terms of groups of flight information regions (FIRs). For example, the Melbourne and Brisbane FIRs are part of more than 100 FIRs that comprise the Middle East and Asia (MID/ASIA) Region.

Regional supplementary procedures must not conflict with the provisions contained in the Annexes or PANS. They specify detailed procedural regional options for those provisions or promulgate a regional procedure of justifiable operational significance, additional to existing provisions in Annexes or PANS.

3 Review and prior consultation activity

3.1 Previous consultations

For the PIR, CASA carried out the following activities:

a. Carried out a document review of Part 172 of CASR and the Part 172 MOS in comparison with relevant ICAO documents and the regulatory equivalents of several overseas countries
b. Established a technical working group (TWG) comprising specialists from CASA, AA and Civil Air.
c. Conducted 19 meetings of the TWG during 2020 and 2021 to dissect and review both Part 172 of CASR and the Part 172 MOS.

A separate working group meeting as well as email correspondence was held with a provider of certified air/ground radio service (CA/GRS) – on the concept of moving the CA/GRS standards from Part 139 of CASR to Part 172. In this regard, the conclusion was that there was no clear benefit in moving away from the existing arrangements.

3.2 Three consultation activities

Three separate consultation activities will be taking place as an outcome of the PIR:

a. A separate fast-tracked amendment to the Part 172 MOS to ensure the standards in this MOS do not inhibit the use of digital tower/remote tower services for the provision of aerodrome control services.
b. A separate consultation process to address matters concerning independent visual approach (IVA) to parallel runways.
c. The proposals in this policy proposal, which will deal with the remaining outcomes of the PIR, other than those covered in activities a. and b.

4 Regulatory issues

4.1 Part 172 of CASR

In general, the PIR found that Part 172 of CASR has the optimum level of regulatory action; specifically, setting broad requirements and then cross-referring other documents for details or specific standards.

However, the PIR found the following significant issues:

- There is no mechanism within the Part requiring ATS providers to have a system for managing fatigue or empowering CASA to set relevant requirements and standards:
  - With effect 5 November 2020, Annex 11 introduced requirements for managing fatigue.
  - However, the relevant Annex 11 provisions are not worded in a way that allows automatic application under provisions of Part 172 of CASR.
- The requirements covering organisational and operating changes are unsuitable in that the provider is only required to notify CASA after the event:
  - CASA policy reflected in newer CASR Parts distinguishes between changes that are ‘significant’ or ‘other/not significant’.
  - Significant changes require prior notification and approval from CASA.
  - Other or not significant changes can be notified to CASA after the change comes into effect.
- There are inadequate requirements for managerial accountability regards the safe provision of air traffic services:
  - CASA policy reflected in newer CASR Parts (e.g., Subpart 21.J (Approved design organisations, Parts 121 (Air transport operations - larger aircraft), and 175 (AIS providers))}) is for organisations to have nominated accountable managers with specified obligations.
- Part 172 of CASR is out of step with contemporary CASR Parts in that it requires ATS providers to have an ‘operations manual’ to detail the way the provider carries out its business:
  - Contemporary CASR Parts use an equivalent document structure called ‘exposition’.
- The requirements having agreements with third-party service providers do not cover the range of providers with which an ATS provider would require agreement.

The PIR also revealed a potential benefit in reordering the subparts of the Part to match the structure of other more recently issued Parts e.g., Part 175 of CASR (AIS Providers).

4.2 Part 172 MOS

The PIR found that the Part 172 MOS still has relevance for ATS standards that are not provided for within ICAO documents. Examples are the standards for Land and Hold Short Operations (LAHSO) and Independent Visual Approach (IVA), which are derived from standards specified by the Federal Aviation Administration (FAA). These two procedures are critical for maximising

take-off and landing operations to multiple runways and the Part 172 MOS is the ideal mechanism for specifying these standards.

However, it was clearly apparent that the Part 172 MOS replicates many existing ICAO standards, particularly separation minima and methods already specified in Annex 11 or ICAO Doc. 4444. In addition, the MOS sometimes restrictively adds to the ICAO requirements. For example, while ICAO Doc. 4444 allows the provision for aerodrome control services with the use of traditional control towers and/or digital or remote camera systems, the Part 172 MOS effectively allows only a control tower for the provision of aerodrome control services.

5 Proposed policy amendments

This section describes the policy items, proposed changes and the issues behind each of the proposed changes.

This policy proposal forms the basis for the drafting instructions to be provided to Commonwealth and CASA legislative drafters. The drafting instructions will provide further granularity about the specific details required in the draft regulations (i.e., operational requirements, restrictions and other safety considerations).

5.1 Fatigue management requirements for ATS providers

5.1.1 Reference(s):

- Subregulation 172.065 (1)
- Section 2.28 to Annex 11 – Fatigue Management
- Appendix 5 to Annex 11 – Prescriptive fatigue management regulations
- Appendix 6 to Annex 11 – Fatigue Risk Management System (FRMS) requirements

5.1.2 Background

Effective from 5 November 2020, ICAO amended Annex 11 to introduce standards for managing fatigue in the provision of air traffic control services.

The new standards require States to require ATS providers have one of the following:

- air traffic controller schedules commensurate with the service(s) provided and in compliance with the prescriptive limitation regulations established by the State

  or
- an FRMS, in compliance with regulations established by the State, for the provision of all air traffic control services

  or
- an FRMS for a defined part of its air traffic control services in conjunction with schedules in compliance with the prescriptive limitation regulations for the remainder of its air traffic control services.

5.1.3 Issue

The primary issue is Australia does not have regulations dealing with the management of human fatigue in the provision of air traffic control, nor does Part 172 of CASR empower CASA to make appropriate regulations. AA voluntarily uses an FRMS to manage fatigue among its air traffic control personnel. However, this voluntary arrangement is not sufficient to demonstrate that Australia has, in this regard, adequate regulation.

Fatigue management is a core CASA aviation safety requirement, and CASA believes it is important to address this matter.

How to implement Annex 11 fatigue management standards

Subparagraph 172.065 (1) (b) of CASR requires ATS providers to ensure air traffic services are provided in accordance with the standards in Annex 11. Ordinarily, this reference gives effect to all Annex 11 standards. For example, paragraph 2.26.1 of Annex 11 states:

> "Air traffic services units shall use Coordinated Universal Time (UTC) and shall express the time in hours and minutes and, when required, seconds of the 24-hour day beginning at midnight."

This paragraph has clear direction and logically has effect for ATS providers via subparagraph 172.065 (1) (b) of CASR.

However, the new SARPs in Annex 11 for fatigue management are worded differently to other SARPs. They specifically require States (not ATS providers) to establish fatigue management standards and direct States to require ATS providers to implement a suitable system. Annex 11 has no references to fatigue management that are directly referrable as obligations for ATS providers.

CASA has advice that this indirect method is not useable under the cross-reference arrangements in subparagraph 172.065 (1) (b) of CASR. Instead, specific Part 172 regulations are required to give effect to the Annex 11 fatigue management standards.

Options for fatigue management standards for Australia

Paragraph 2.28.1 of Annex 11 requires States to establish:

- prescriptive limits
- FRMS regulations.

Annex 11 does not specify any prescriptive limits. Instead, Appendix 5 to Annex 11 lists the items requiring maximum or minimum limits (e.g., maximum number of hours in any duty cycle) and subsequently the Annex requires States to determine and specify values for each limit.

This problematic as developing fatigue standards will take considerable time and effort. For example, the recently introduced fatigue standards for flight crew involved significant work spanning more than 10 years. CASA summarily assessed the prescriptive limits for several States and found nothing suitable for direct adoption by Australia.

A relevant factor is that AA (the only ATS provider that is regulated under Part 172) has used an FRMS since 2003 and has informed CASA that it wishes to continue using an FMRS into the future. According to the Annex 11 standards, schedules based on prescriptive limits or FRMS are separate and distinct ways of managing fatigue. In other words, one method is not cross-referenced or dependent on the other method. CASA found that the European Aviation Safety Agency (EASA) and Canada do not prescribe scheduling limits, but instead require ATS providers to either have an FRMS or manage fatigue as part of the provider's SMS.

Considering these matters and to enable Australia to expeditiously introduce fatigue management regulations and standards, CASA proposes to introduce the FRMS option as the initial and only standard for fatigue management for ATS personnel. The proposal is to structure the empowering regulations in a way that would enable prescriptive standards to be introduced if this is required in the future.

5.1.4 Key policy objectives for managing fatigue

According to the matters discussed above, CASA's key policy objectives for managing fatigue in the provision of air traffic services are as follows:

a. ATS providers would be required to have a system for managing fatigue, applicable to persons who provide ATS functions.

   Note: ATS functions are described in subregulations 65.075 (2) and 65.130 (2) of CASR — for example: functions carried out under an aerodrome control rating or a traffic information service rating.

b. CASA would be empowered to issue a MOS containing standards for the system for managing fatigue.
c. An ATS provider's system for managing fatigue would have to be:
   i. in accordance relevant standards specified with the Part 172 MOS
   ii. integrated with the provider's SMS.
d. ATS providers would be able to assign people to perform ATS functions only if the assignment is in accordance with the provider's system for managing fatigue.
e. An ATS provider would have to seek approval from CASA for the initial implementation of its fatigue management system then for any significant changes to the system.
f. An FRMS incorporating the matters described in Appendix 6 to Annex 11 would be the initial and only standard for an ATS provider's system for managing fatigue.
g. CASA's processes for approving and regulating an ATS provider's FRMS would be based procedures specified in Appendix 7 to Civil Aviation Order 48.1.
h. Prescriptive standards would be provided only if the FRMS-only policy is found insufficient for managing fatigue among ATS personnel.

5.1.5 FRMS consultation documents

Included with this policy proposal are:

- A document tabulating a lay draft of proposed FRMS standards cross-referenced with relevant ICAO and existing Civil Aviation Order (CAO) 48.1 FRMS standards (Annex A).
- Extracts of Section 2.28 (Fatigue Management) and Appendices 5 and 6 to ICAO Annex 11 (Annex B).

5.2 Accountable manager and key personnel

5.2.1 Reference(s):

- Regulation 172.105 – Organisation

5.2.2 Background

Regulation 172.105 of CASR requires ATS providers to "maintain an appropriate organisation with a sound and effective management structure". In early 2000 during the consultation for the (then) proposed Part, CASA received several responses indicating that this requirement was insufficiently prescriptive and in need of further definition. Part 172 of CASR was initially structured to accommodate both large and small ATS providers. CASA's rationale was that having more specific requirements would place an 'unduly onerous burden on providers who do

not have a large complex organisation' and that 'A provider could only be reasonably expected to maintain a proper organisation appropriate to the nature of its air traffic services.'

Despite later policy determinations making only AA (a large complex organisation) eligible for approval as an ATS provider, no changes were made to establish management structure requirements relevant for a complex aviation organisation.

5.2.3 Issue

Part 172 of CASR is inconsistent with the organisational requirements for all contemporary aviation service providers in that it does not provide for ATS providers having appointed personnel who are accountable for the activities of the ATS provider.

Air traffic services have a critical role in the aviation system in Australia. Accordingly, CASA believes that an ATS provider's organisational requirements should at least be consistent with the organisational requirements for other complex organisations in the aviation system.

5.2.4 Key policy objectives

To address the issue discussed above, CASA's key policy objectives are as follows:

a. An ATS provider would be required to appoint an 'accountable manager'.
b. An accountable manager would be responsible for:
    i. ensuring that the provider's air traffic services are provided in accordance with the provider's exposition and Part 172 of CASR
    ii. ensuring that the provider can finance, and has adequate personnel, facilities and resources to provide its air traffic service
    iii. the provider's safety management system and its implementation
    iv. having an organisational structure that ensures the safety management function is independent from other functions within the provider's organisation.
c. The accountable manager would be required to conduct an annual review of the provider against the requirements for the provider's exposition and Part 172 of CASR and report any deficiencies and corrective action to CASA.
d. An ATS provider would be required to appoint key personnel with responsibility for air traffic service operations, safety, training and checking:
    i. The policy objective is not to specify roles and responsibilities of these key personnel nor dictate who should be appointed.
    ii. Instead, ATS providers would determine these roles and responsibilities and include them as well as the names of the appointees in the provider's exposition.

5.3 Arrangements for making changes

5.3.1 Reference(s):

- Regulation 172.060 Operations Manual

5.3.2 Background

Subregulation 172.060 (3) of CASR requires an ATS provider to, whenever necessary, amend its operations manual to ensure it is up-to-date. Paragraph 172.060 (5) (b) of CASR requires the

ATS provider to give copies of the amendments to CASA. Regulation 172.300 and subregulation 172.060 (4) of CASR empower CASA to direct an ATS provider to amend its operations manual in a way specified in the direction.

5.3.3 Issue

CASA considers that the existing change management arrangements are unsuitable and inconsistent with contemporary CASR Parts. For example, it is curious that regulations only enable CASA to take action in relation to an unacceptable change *after* the change has been implemented.

For some changes, the arrangement has no adverse effect. However, for significant changes, such as changes to the operational services, this is not appropriate. Instead, CASA believes there should, consistent with other CASR Parts, have the ability for CASA to assess and if appropriate, approve certain critical changes before they are implemented.

5.3.4 Key policy objectives

To address the issue discussed above, CASA's key policy objectives are as follows:

a. Part 172 of CASR would have requirements relating to two levels of changes – significant changes and other changes.
b. Significant change would comprise:
    i. a change in relation to any matter included on the provider's certificate
    ii. a change to the provider's safety management system
    iii. a change that requires prior notification to CASA because of a requirement to do so in the provider's safety management system

    or

    iv. any other change that that CASA specifies as requiring prior approval.
        A. An example of this is a proposal requiring CASA approval for a significant change to an ATS provider's fatigue risk management system.
c. An ATS provider would need to apply to CASA in writing for approval of a significant change:
    i. If the ATS provider wishes to make a change that requires CASA approval, sufficient notice must be given to CASA to allow the assessment of the change.
    ii. For significant changes involving introduction of a new and novel service, CASA expects that the ATS provider will engage CASA in the concept stage of the change so that CASA may provide sufficient guidance in development of the key safety and other artefacts of the change throughout the lifecycle of the change
d. For changes other than significant changes, the ATS provider would need to update their exposition to reflect the change and give CASA written notice of the change and the relevant parts of the amended exposition.

5.4 'Operations Manual' becomes 'Exposition'

5.4.1 Reference(s):

- Regulation 172.010 – Definitions for this Part

- Regulation 172.060 – Operations manual
- Regulation 172.080 – Compliance with provider's operations manual
- Regulation 172.090 – Priority of inconsistent procedures
- Regulation 172.300 – CASA may direct amendments to provider's operations manual.

5.4.2 Background

The cited references cover requirements for an ATS provider having, maintaining or amending, or complying with its operations manual. The references also deal with CASA's powers to direct changes to a provider's operations manual.

5.4.3 Issue

The term *operations manual* has been replaced in most contemporary CASR Parts with the term *exposition*. For consistency, it is CASA's preference for Part 172 of CASR to use the term *exposition*.

5.4.4 Key policy objective

To address the issue discussed above, CASA's key policy objective is to replace the structure and references to '*operations manual'* with an equivalent structure called '*exposition'*.

Note: The policy proposal on page 28 covers proposed changes to the contents of an ATS provider's exposition

5.5 Hierarchy of standards for air traffic services

5.5.1 Reference(s):

- Regulation 172.065 – Standard for air traffic service
- Regulation 172.070 – Aeronautical telecommunications procedures
- Regulation 172.070 – ICAO Doc. 4444 and ICAO Doc. 7030
- Regulation 172.085 – Priority of standards
- Regulation 172.090 – Priority of inconsistent standards

5.5.2 Background

Section 2.2.3 of this policy proposal describes the hierarchy of standards, procedures and rules that an ATS provider is required to comply with in relation to the provider's air traffic services. The references mentioned above are the primary means by which CASA sets and regulates the technical standards (separation minima etc) that an ATS provider uses in the provision of its air traffic services.

5.5.3 Issue

The Part 172 MOS has been CASA's primary means to set standards that are different to or not dealt with by an ICAO SARP or provision. While regulation 172.065 of CASR establishes a clear hierarchy between the Part 172 MOS and Annex 11, there is no clear hierarchy between the Part 172 MOS and ICAO Doc. 4444. As a result, MOS standards intended to vary local practices

from an ICAO Doc. 4444 provision have required a complex explanation to show the hierarchical relationship between MOS and ICAO Doc. 4444.

Amending Part 172 of CASR to provide an explicit hierarchy between MOS and ICAO Doc. 4444 (and other ICAO references) would improve the management and use of the Part 172 MOS as a vehicle for specifying variations from provisions within ICAO Doc. 4444.

Another issue is that paragraph 172.090 (4) of CASR incorrectly sets the Aeronautical Information Publication (AIP) as having the highest priority for procedures to be used by ATS providers. However, this is not appropriate as the AIP's purpose is to provide information to pilots and is not intended to set the standards for provision of ATS.

5.5.4 Key policy objective

To address the issue discussed above, CASA's key policy objectives are as follows:

a. Establish a single consolidated list of applicable standards, procedures and rules for the provision of aircraft traffic services according to the following hierarchy (order of priority from top to bottom):
   i. The Part 172 MOS
   ii. Annex 11 to the Chicago Convention.
   iii. The procedures for aeronautical telecommunications set out in Volume II of Annex 10 to the Chicago Convention.
   iv. ICAO Doc. 4444.
   v. ICAO Doc. 7030.
b. Retain existing regulatory provisions making ICAO references subject to any notified or published Australian differences.
c. Retain the existing regulatory provisions allowing an ATS provider to deviate from standards if necessary for aviation safety.
d. Retain the existing regulatory provisions requiring an ATS provider to tell CASA about deviations.
e. Remove any reference to AIP as a standard for air traffic services.

5.6 Determining numbers of suitably trained and qualified personnel

5.6.1 Reference(s):

- Regulation 172.110 – Personnel

5.6.2 Background

The cited reference requires an 'ATS provider must have, at all times, **enough** suitably qualified and trained personnel to enable it to provide, in accordance with the standards set out in the Part 172 MOS and the standards set out or referred to in Annex 11, the air traffic services covered by its approval'. It is the primary regulation aimed at ensuring an ATS provider has enough personnel (ATS operational staff and supervisors) to ensure continuity of services taking account of training, leave, duty/off-duty times, absence and contingencies.

5.6.3 Issue

CASA has found the key word ‘enough’ in regulation 172.115 of CASR, while giving flexibility, lacks any measure of what constitutes enough personnel and the matters that must be accounted for when assessing whether there are or were enough controllers in a particular situation.

5.6.4 Key policy objective

To address the issue discussed above, CASA’s key policy objective is to empower CASA to specify in the Part 172 MOS the matters that an ATS provider must account for when determining that the requirements of subregulation 172.110 of CASR have been met.

Note: Subsection 5.9.4 c deals with the specific matters on personnel numbers that CASA proposes to include in the Part 172 MOS.

5.7 Part 172 Structural arrangements

5.7.1 Reference(s):

- Part 172 of CASR

5.7.2 Background

Part 172 of CASR has a structural layout that reflect its status as one of the first Parts issued under the new Civil Aviation Safety Regulations 1998. The structure has elements of the administrative process (eligibility etc) covered first, followed by service requirements followed by more administrative requirements (applications, approvals). Since that time, the structure of newer Parts has changed, with all administrative aspects (eligibility, applications, approval etc) covered first followed by the service requirements.

5.7.3 Issue

CASA considers Part 172 of CASR as somewhat disjointed in structure where administrative functions are spilt between the first and last thirds of the Part. CASA’s preference is that the Part is structured in a manner consistent with other more contemporary CASR Parts (e.g., Subpart 21.J, Part 121, Part 175 of CASR etc).

5.7.4 Key policy objective

CASA's policy objective is to revamp Part 172 of CASR with a structure and content addressing the six key areas as follows:

Table 1: Proposed layout for the future Part 172 of CASR

CASR Subpart	Short Title	Scope of Subpart
172.A	General	What Part 172 is about, Application, Definitions, Issue of MOS
172.B	Approval of ATS Providers	Definitions, requirement for certificate, who may apply, requirements for application, demonstration, issue of certificate, approval of exposition, conditions, cancellation
172.C	Changes	Definition of Significant Change, changes to services, other changes, CASA directions relating to exposition, notifying CASA of changes in circumstances
172.D	Requirements for provision of air traffic services	Services must comply with laws, compliance with exposition, compliance with standards.
172.E	Organisation requirements	Exposition, organisational structure, key personnel, safety management system, quality management system, security requirements, contingency plan, records management
172.F	Suspension and cancellation of approvals	Suspension of approval by show cause notice, grounds for cancellation, notice to show clause, cancellation of approval after show cause, cancellation if co-operation of arrangement ceases, CASA's power to direct variation of exposition

5.8 Miscellaneous changes for Part 172 of CASR

5.8.1 Reference(s):

- Subregulation 172.095 (4) – Facilities and equipment
- Regulation 172.125 – Agreements with service providers
- Regulation 172.130 – Agreements with aerodrome operators
- Regulation 172.150 – Contingency plan
- Regulation 172.155 – Security program
- Regulation 172.160 – Reference materials
- Regulation 172.170 – Safety management system
- Regulation 172.175 – Logbooks
- Regulation 172.190 – Discontinuing air traffic service

5.8.2 Background

The cited references cover requirements pertaining to:

- control tower buildings
- agreements with service providers such as aeronautical telecommunication providers
- details of the reference materials that a provider must maintain
- the standards for a provider's safety management system
- lead time or notice requirements for telling CASA about discontinuing an air traffic service.
- requirements for action to be taken in accordance with standards in the MOS.

5.8.3 Issue

Having undertaken a holistic review of the regulations within Part 172 of CASR, CASA has formed the view that the several regulations should be omitted or amended as described below:

a. Existing subregulation 172.095 (4) of CASR (which sets standards for a control tower building) is unnecessary because (1) already provides a head of power for standards for 'facilities', which arguably includes any facility (like a control tower) from which aerodrome control service is provided. CASA believes subregulation 172.095 (4) has restrictive implications against the possible use of remote or visual surveillance system technology for the provision of aerodrome air traffic services.
b. Division 172.C.5 of CASR covers agreements or arrangements an ATS provider must have with providers of telecommunications services and with aerodrome operators. This scope is insufficient because there are a number of other services for which an ATS provider would logically require agreements, including aeronautical information service (AIS) providers, rescue and firefighting services and meteorological service providers.
c. Regulation 172.130 of CASR (Agreements with aerodrome operators) is inadequate because it only covers arrangements for controlling aircraft, vehicles and people on the manoeuvring area of the aerodrome. It does not cover important matters like agreements with the aerodrome operator in relation to services and information (such as runway visual range information) provided by the aerodrome operator to the ATS provider.
d. Regulation 172.145 of CASR (Safety management system) utilises only the Part 172 MOS as the source for standards applicable to an SMS. This is insufficient for future developments where CASA intends to regulate SMS in Part 5 of CASR.
e. Regulation 172.160 of CASR (Reference materials) is inconsistent with other regulations in Part 172 of CASR in that it includes a level of detail that other regulations would expect to be covered in a MOS.
f. Regulation 172.190 of CASR requires an ATS provider to give CASA 7 days' notice of its intention to permanently discontinue an air traffic service. CASA assesses that 7 days' notice is insufficient for CASA to assess the safety impact of a permanent change and to take any necessary mitigating steps.
g. Regulations 172.125, 172.130, 172.150 and 172.155 of CASR respectively require agreements with service providers/aerodrome operations, a provider's contingency program and a provider's security program to done or to be in accordance with the Part

172 MOS. CASA has assessed that it is not always necessary to have specific standards in the MOS for each of those CASR requirements. For the cited regulations it is often simply necessary for the action to have taken place or be in effect rather than to have occur or be in effect *in accordance with a particular standard*.

h. Regulation 172.175 of CASR requires ATS provider to have a logbook in each control tower. This requirement reflects a traditional practice whereby each control tower had a hard cover logbook for recording notable events. Modern control tower facilities may not have such a document but record matters automatically or via digital means. Both CASA and the ATS provider agreed there is no safety matter that requires a logbook. Recording of significant matters is adequately addressed by subregulation 172.165 (1) of CASR, which requires an ATS provider to keep documents and records of the kinds specified in the Part 172 MOS.

5.8.4 Key policy objective

To address the issues discussed above, CASA's key policy objective are as follows:

a. Repeal subregulation 172.095 (4) of CASR and instead rely on subregulation 172.095 (1) of CASR for standards applicable to aerodrome control facilities.
b. In addition to the existing agreement requirements in Division 172.C.5 of CASR, ATS providers would be required to have agreements with providers of AIS, rescue and firefighting services, and meteorological services.
c. In addition to the existing agreement requirements in regulation 172.130 of CASR, ATS providers would be required to have agreements with aerodrome operators in relation to services and information provided by the aerodrome operator to the ATS provider.
d. Amend regulation 172.145 of CASR (SMS) to enable Part 5 of CASR (when it is made) as an alternative option (to any standards specified in the Part 172 MOS for the standards for an SMS.
e. Omit the specific details about required reference materials (such as particular named documents) from regulation 172.160 of CASR and instead empower CASA to specify these materials within the Part 172 MOS.
f. Amend regulation 172.190 of CASR to the effect that an ATS provider would have to give CASA 3 months' notice of its intention to permanently discontinue an air traffic service. CASA proposes to retain the provision for shorter notice in extenuating circumstances.
g. Amend regulations 172.125, 172.130, 172.150, and 172.155 of CASR to the effect CASA may specify relevant standards in the Part 172 MOS (rather than must specify a standard).
    i. An ATS provider would be required to comply with the regulation and any associated MOS standard (if a MOS standard is specified).
h. Repeal Regulation 172.175 – Logbooks.

5.9 Part 172 MOS – General changes

5.9.1 Reference(s):

- Regulation 172.022 Issue of Manual of Standards

- Regulation 172.060 Operations manual
- Regulation 172.065 Standards for air traffic service
- Regulation 172.085 Priority of standards
- Regulation 172.095 Facilities and equipment
- Regulation 172.105 Organisation
- Regulation 172.110 Personnel
- Regulation 172.125 Agreements with service providers
- Regulation 172.130 Agreements with aerodrome operators
- Regulation 172.140 Training and checking program
- Regulation 172.145 Safety management system
- Regulation 172.150 Contingency plan
- Regulation 172.155 Security program
- Regulation 172.165 Documents and records
- Regulation 172.175 Logbooks

5.9.2 Background

This part of the policy proposal deals with the proposed changes aimed at improving the regulatory standards for the provision of air traffic services.

The Part 172 MOS is the primary means by which CASA sets the standards for ATS providers. The list of references shows that the MOS influences many aspects in the regulation of air traffic services. Of particular relevance is sub-regulation 172.065 (1) of CASR, which is the empowering mechanism for CASA to set standards for the provision of air traffic services that override or add to the standards, recommended practices and provisions specified in ICAO documents.

5.9.3 Issue

In reviewing the Part 172 MOS, the TWG found many instances where the MOS replicates existing standards and provisions from relevant ICAO documents. In places a unique Australian wording for a particular standard effectively inhibits ATS providers from providing services that are consistent with international practice or services that are optimised for the situation.

5.9.4 Key policy objectives

CASA's policy objective is to completely reform the Part 172 MOS to ensure it is fit for purpose.

The following subsections summarise the significant (but not all) changes that are proposed. More information about the proposed changes can be found in the included spreadsheet (Annex C) and supplementary documents Annexes D and E). Industry comment is welcomed for all changes.

Project AS 14/23 has not yet been allocated legal drafting resources, and therefore it is not possible to provide formally drafted proposals for the revised MOS. While a lay draft is not CASA's preferred way to present regulatory standards, the method is a reasonable alternative for the situation. This is because the contents have been discussed at length within the TWG and directly affected reviewers already have an insight on the proposed intent.

It is important to note that the lay drafts within the Annexes may not reflect the final form and content of the new MOS. CASA intends to provide a formal draft for industry consultation before making final changes.

Approval mechanism for non-application of standards

Background

Air traffic services, including the provision of air traffic control separation services, are strictly governed by standards specified in the Part 172 MOS or ICAO SARPs and Provisions.

Issue

While the range of standards covers most situations, there are occasions where they are not sufficient. Under the current arrangements in Part 172 of CASR, insufficiencies are overcome by CASA either introducing the necessary standards into regulations or granting an exemption from the standards. The first option is appropriate, but generally not expeditious. The second method is used from time to time. However, exemption is not CASA's preferred method for enabling a variation from existing standards

Policy objective

CASA's policy objective is to introduce an arrangement allowing CASA to approve variations from MOS or ICAO standards without the use of exemptions. To this end, CASA proposes a mechanism similar to the existing mechanism in Section 2.06 of the *Part 139 (Aerodromes) Manual of Standards 2019*.

Specifically, CASA would be able to approve that an ATS provider is not required to meet a standard specified in the Part 172 MOS. An approval could be time-limited or open-ended and may be subject to conditions.

Consistent with Part 139 of CASR arrangements, the ATS provider would be required to apply in writing and provide a safety assessment that satisfies CASA that the approval will not have any adverse effect on aviation safety.

Omit replicated standards from the Part 172 MOS

Background

The TWG reviewed the entire Part 172 MOS to identify:

- MOS provisions that replicate an existing ICAO standard, recommended practice or PANS provision.
- MOS provisions that are a technique for applying a standard rather than are than a specific operational standard.

Paragraph 10.6.7.9 is an example of a MOS provision that is arguably technique:

> "When the ATS surveillance system derived distance between the aircraft is less than the sum of the distance required by the procedural separation minimum and the applicable ATS surveillance system separation minimum, a distance check must be made before the first aircraft leaves ATS surveillance system coverage."

This is a technique for the controller to confirm that a relevant procedure separation standard will exist once surveillance identification is lost. However, it is only valid in certain circumstances. The performance measure is that separation exists rather than how or when the separation is measured.

In this regard, the TWG was generally of the view that if a suitable ICAO standard or provision exists, then the equivalent provision within the Part 172 MOS should be omitted.

Issue

The TWG found that over half the Part 172 MOS had either standards that replicated an ICAO equivalent or were arguably technique rather than standard.

Policy objective

CASA's policy objective is to omit all standards that:

- replicate standards already mentioned in ICAO documents referenced in Part 172 of CASR

  or
- are obsolete (no longer relevant)

  or
- are arguably a technique, that is a way to apply a standard but not an actual standard.

The spreadsheet analysis of the Part 172 MOS (Annex C) included with this policy proposal allows readers to review the full range of proposed omissions.

Contents of exposition

References

- Chapter 2 of the Part 172 MOS

Background

As discussed in Section 5.4, CASA's policy objective is to replace references and requirements for 'operations manuals' with references and requirements for 'exposition'. Associated with this change, CASA has reviewed the existing Part 172 MOS standards for the contents of an operations manual/exposition.

Issue

The following issues are relevant to the contents of an Operations Manual or Exposition as a product of the PIR:

- The existing operations manual/exposition content requirements need to accommodate the proposed organisational changes relating to accountable management and key personnel.
- Associated with the proposed change at subsection 5.6 (Determining numbers of suitably trained and qualified personnel), CASA considers that the exposition should, for each location or operating position, include details about the numbers of staff needed

and any unique recent experience requirements, endorsements, qualifications and currency requirements for the location position.

- Logically, if CASA proposes that ATS providers must have a fatigue management system, details of this system would have to be included in the provider's exposition.
- Consistent with practice for other regulated parts of the aviation system, an ATS provider's exposition would include the procedures that ensure that all equipment, including software, is operated in accordance with the manufacturer's operating instructions and manuals.

Policy objective

CASA's policy objective is that a provider's exposition would include:

a. the contents currently specified for an Operations Manual in Chapter 2 of the Part 172 MOS
b. details about the accountable manager, key personnel and their assigned functions and responsibilities
c. for each location or operating position:
    i. the staff numbers necessary to provide the air traffic services for that location or operating position
    ii. any unique recent experience requirements for the position (beyond the basic requirements for Part 65)
    iii. the endorsements and qualifications required for the position (if any)
    iv. any unique currency requirements (beyond the basic requirements for Part 65).
d. a copy of the provider's system for managing fatigue
e. a description of the procedures that ensure that all equipment, including software, is operated in accordance with the manufacturer's operating instructions and manuals.

ATS facilities and equipment

References

- Chapter 3 of the Part 172 MOS

Background

Chapter 3 of the Part 172 MOS sets the standards for air traffic service facilities including control towers. The standards include sighting requirements intended to ensure that ATC as an adequate view of the aerodrome manoeuvring area.

Issue

The relevance of traditional bricks-and-mortar control towers was discussed at length by the TWG. The TWG formed a conclusion that references to 'control tower' tend to reinforce the notion that a traditional control tower building is needed to meet MOS technical standards. It was recommended that a more generic term be used instead of 'control tower'.

The Part 172 MOS has requirements for new aerodrome control facilities to have adequate visibility of the runway and manoeuvring area and to be designed to give ATS the ability to detect that an aircraft has commenced its take off run within 4-5 seconds. There was concern

within the TWG that these standards do not apply for controlled aerodromes with existing aerodrome control facilities where runways are newly constructed or significantly modified (for example: lengthened). The TWG was in agreement that the requirements should apply equally.

ATS facility and equipment matters to be addressed in a separate consultation activity

To address time-critical issues pertaining to control tower sightlines, CASA is fast-tracking a separate consultation activity to deal with the issues in Chapter 3 of the Part 172 MOS.

Numbers of personnel

As discussed in Section 5.6, CASA's policy objective is to empower CASA to set standards in the Part 172 MOS covering the matters to be accounted for when determining that there are sufficient staff numbers.

CASA's policy objective for the Part 172 MOS is that in determining that there are enough qualified and trained operational personnel (including supervisors) an ATS provider would have to account for the following matters:

- leave
- breaks
- requirements for training and assessment
- workload complexity
- a description of additional administration or ancillary duties where the relevant personnel are required to perform such activities
- reasonable allowance for assurance of service provision.

Standards for an FRMS

Background

Section 5.1 of this policy proposal details CASA's policy objectives relating to the regulation of fatigue management for ATS personnel.

Policy objective

CASA's policy objective is to detail the specific standards for fatigue management within the Part 172 MOS.

As discussed in Section 5.1, CASA proposes that the Part 172 MOS would include standards for a Fatigue Risk Management System (FRMS) incorporating the matters described in Annex 11 Section 2.28 and Appendix 6 as the initial and only method for an ATS provider's system for managing fatigue. Further, CASA proposes that the standards for administering an ATS provider's FRMS would be based on the administrative standards in CAO 48.1.

Included with this policy proposal are:

- Extracts of Section 2.28 (Fatigue Management) and Appendices 5 and 6 to ICAO Annex 11
- A document tabulating a lay draft of proposed FRMS standards in comparison with relevant ICAO and existing CAO 48.1 FRMS standards, together with explanation.

Tolerances for lateral separation under visual navigation

References

- Section 10.8.3 of the Part 172 MOS

Background

The standard method for establishing lateral separation between two aircraft is to ensure there is at least 1 nautical mile (NM) lateral spacing between the closest edges of the navigation tolerances applicable to the form of navigation utilised by each aircraft. For example, for two aircraft - both navigating with the use of Global Navigation Satellite System (GNSS) – Required Navigation Performance (RNP) 2, a tolerance value of a circle with a radius of 7 NM applies to each aircraft. Hence lateral separation exists if the aircraft are laterally displaced by 7 + 7 + 1 = 15 NM. The Part 172 MOS lists the tolerance values for many situations including when an aircraft tracking visually

A tolerance requirement logically applies for navigation by a navigation aid or when navigating visually in a particular direction but not in relation to a geographical or line feature. However, the same does not necessarily apply if the pilot of an aircraft is navigating with visual reference to the ground and is positively established on a particular side of a geographic feature (e.g., for example a range of hills or a highway). In this case, there is no logical reason to add a tolerance to the position of the aircraft. The technical working group noted that ICAO Doc. 4444 says lateral separation exists if two aircraft are positively established over different geographic locations (see 5.4.1.2.1.1). Accordingly, it was agreed that a lateral separation tolerance value is not required, but only if the aircraft is operating at or below Flight Level (FL) 145. A review of earlier Australian lateral separation standards using geographical features showed that Flight Level (FL) 145 would be a relevant vertical limit.

Changing the standard would be beneficial for reducing operating restrictions for relevant aircraft (e.g., no need to extra buffers on the track), and simplifying the ATC procedures for applying lateral separation.

Policy objective

CASA's policy objective is that the standards for lateral separation would apply for aircraft tracking visually:

a. For an aircraft tracking visually
   i. flying to one side of a defined line feature or a prominent topographical feature
   ii. operating at or below FL145

   the navigation tolerance for applying lateral separation would be the line feature or prominent topographical feature itself.
b. For subparagraph a., no extra tolerance value would need to be applied to the aircraft's track.
c. There would no change to the cardinal lateral separation requirement for at least 1 NM separation between the line feature/prominent topographical feature and the closest edge of the navigation tolerance of another aircraft.

Lateral separation based on a combination of navigation aids

References

- Section 10.8 of the Part 172 MOS (Separation Standards - Lateral)

Background

Since 2014, CASA has authorised AA to use lateral separation minima for separation between aircraft navigating with reference to GNSS, non-directional beacons (NDB) and very high frequency omni-range equipment (VOR) (or any combination thereof). The design methodology for the minima was originally developed by ICAO with the direct involvement of Australian experts. The procedure is detailed in ICAO guidance material[3]. However, at this time, the minima have only been partially implemented as formal international standards. ICAO has not yet implemented aspects of the minima highly beneficial for countries like Australia where GNSS, VOR and NDB navigation aids are concurrently used for aircraft navigation.

AA originally presented a comprehensive safety case to CASA demonstrating that the procedure has adequate safeguards. CASA accepted the proposal and authorised AA to use the minima for operational services.

Issue

The procedure is authorised under an exemption from the Part 172 MOS standard. ICAO has not given an indication about formally implementing the missing elements of the minima and this has necessitated the instrument enabling exemption being renewed several times. The process has time and cost impacts for all parties. With the passage of time and with experience, CASA assesses that the minima are suitable for enduring use and adoption as an enduring MOS standard.

Policy objective

CASA's policy objective is to adopt the separation procedure as an enduring standard within the Part 172 MOS. Details of the procedure are provided in the supplementary information included with the policy proposal.

Pilot-applied visual separation for certain helicopter operations

References

- Section 10.10 of the Part 172 MOS

Background

In 2013, CASA, AA and a State government established a procedure whereby a suitably equipped law enforcement helicopter can operate within a control zone at low altitudes and at night. The pilot would maintain own separation with other aircraft operating within the control zone without ATC providing traffic information as is normally required under standards for visual

[3] ICAO Circular 322. *Guidelines for the Implementation of GNSS Lateral Separation Minima based on VOR Separation Minima*

separation. After a year of operation, the procedure was reviewed and found to be satisfactory and did not require any safety changes.

Issue

The procedure is carried out under an exemption from the Part 172 MOS standards for visual separation. The instrument allowing the exemption has been renewed several times. The process has time and cost impacts for all parties. With the passage of time and with experience, CASA believes the procedure is suitable for enduring use and is suitable for adoption as a MOS standard.

Policy objective

CASA's policy objective is to adopt the procedure described in the background above as an enduring standard within the Part 172 MOS.

Operations by Unmanned Free Balloons

References

- Section 10.7.2 of the Part 172 MOS
- Section 10.11.3 of the Part 172 MOS

Background

The Part 172 MOS details separation standards for application between unmanned free balloons and other aircraft.

Issue

The existing MOS requires ATC to apply a 15 NM tolerance on the position of a balloon and only allows the application of vertical separation when a balloon has passed FL 600 or has been sighted by the pilot of another aircraft. Considering the ADS-B surveillance coverage within Australia and the ability of balloons to be so detected, these tolerance values are excessively large and thus restrictive on other airspace users.

Policy objective

CASA's policy objective is to adopt the FAA standard for unmanned free balloons, thus effectively enabling ATC to use:

a. any horizontal separation minimum if satisfied that the position information[4] from the balloon is sufficiently reliable to provide the service
b. vertical separation if it is known that the balloon provides altitude information of equivalent accuracy as a transponder equipped aircraft.

Consistent with the FAA policy if the position information is not suitable for separation, ATC would instead be required to provide traffic information to affected aircraft about the unmanned free balloon.

[4] ADS-B transmitting equipment is an example of suitable equipment for this purpose.

Land and Hold Short Operations

References

- Section 10.13.5 of the Part 172 MOS

Background

Australia has standards for Land and Hold Short Operations (LAHSO) - an operation on two intersecting runways whereby aircraft land and depart on one runway while aircraft landing on the other runway holds short of the intersection. LAHSO is adapted from FAA standards and is used at Melbourne and Darwin aerodromes.

Issue

After an incident in 2015 during LAHSO operations, the Australian Transport Safety Bureau (ATSB) found that there was no safe option available for air traffic controllers to establish a separation standard and to ensure a mid-air collision did not occur when aircraft were below minimum vector altitude. The ATS provider addressed this issue in response to the incident.

The issue is that the Part 172 MOS has not been updated to set relevant standards that cover the matters revealed in the ATSB investigation. The Australian standards are also different to current FAA standards[5] in that the FAA has detailed requirements for the introduction of LAHSO at an aerodrome. In the USA, a LAHSO program requires extensive involvement by all parties including airports users (airlines). Australia does not have similar requirements.

Policy objective

To address the issues, CASA's policy objectives are as follows:

a. Establish a requirement of application of LAHSO that ATS providers must have measures to resolve aircraft-aircraft conflicts in the event of go around or rejected landing.
b. Where there is a proposal to implement LAHSO at an aerodrome for the first time, introduce a requirement that LAHSO only be introduced at an aerodrome if LAHSO is demonstrably essential for the safety and efficiency of operations at that aerodrome.

The proposed change would not affect aerodromes at which LAHSO is already occurring.

Terrain clearance or minimum assignable altitudes

References

- Section 10.2.9 of the Part 172 MOS
- Section 12.1.4 of the Part 172 MOS
- Section 12.2.4 of the Part 172 MOS

[5] FAA Order JO 7110.118B - Land and Hold Short Operations (LAHSO) – dated November 15, 2020.

Background

ATC must normally issue clearances to IFR aircraft such that the prescribed obstacle clearance will exist at all times until the aircraft reaches the point where the pilot resumes own navigation.

When providing surveillance control services, ATC has two methods for determining that prescribed obstacle clearance exists:

- ATC assigns levels not lower than a minimum vectoring altitude calculated and published in accordance with the Volume II of the ICAO Procedures for Air Navigation Services – Operations (PANS-OPS)

  or
- In accordance with the standards specified in the Part 172 MOS, ATC ensures any assigned altitude provides at least 1,000 ft of vertical clearance above any obstacle within 3 NM of the aircraft.

Issue

The Part 172 MOS standard of 1,000 ft of obstacle clearance is not consistent with the obstacle clearance requirement specified in PANS-OPS (984 ft). While relatively small, the difference in obstacle clearance values has resulted in excessive restriction on maximum building height limits in the vicinity of aerodromes.

A separate issue is that the requirement for ATC to assign levels providing sufficient terrain clearance is unnecessarily restrictive of aircraft, usually helicopters, able to safely operate below normal minimum IFR levels at night with the use of night vision imaging systems or other electronic means.

Policy objective

To address the issues, CASA's policy objectives are as follows:

a. Align the Part 172 MOS standard for minimum obstacle clearance while vectoring with the standard specified in PANS-OPS; that is change the minimum from 1,000 ft to 984 ft.
b. Amend the Part 172 MOS requirements pertaining to level assignments for IFR aircraft to the effect they do not apply if the aircraft is, at pilot request, operating below normal minimum IFR levels at night with the use of night vision imaging systems or other electronic means.

Vertical separation

References

- Section 10.7.11 of the Part 172 MOS

Background

The Part 172 MOS sets the requirements for vertical separation, including 500 ft minima, 1,000 ft minima, 2,000 ft minima and the requirement to use 3,000 ft vertical separation whenever one or more of the aircraft involved is operating at supersonic speeds.

Issue

The existing standards do not permit the application of reduced vertical separation minima (RVSM) for military formation flights whether or not all aircraft within the formation have RVSM approval. This is more restrictive than the equivalent standard in the USA which allows the use of RVSM if all aircraft in the formation are RVSM approved.

Further, a review of global practice for the application of vertical separation for supersonic aircraft revealed that the existing 3,000 ft minimum is more restrictive than standards in the United Kingdom (UK) and the USA.

Consultation with the Australian Defence Force led to a proposal to implement the UK standards for vertical separation for supersonic flights and for RVSM be made useable between aircraft in a formation and other aircraft if all aircraft involved are RVSM approved.

Policy objective

To address the issues, CASA's policy objectives are as follows:

a. Amend the standards for vertical separation to allow 1,000 ft RVSM between a formation of aircraft and another aircraft if all aircraft (including all aircraft within the formation) are RVSM approved.
b. Amend the existing 3,000 ft vertical separation minimum for supersonic aircraft to conform with the standards in UK CAP 493 (Manual of Air Traffic Services – Part 1), which would have the effect of:
    i. At or below FL 410, the vertical separation minimum is 2,000 ft.
    ii. Above FL 410, the vertical separation minimum is 4,000 ft.

5.10 Part 172 advisory circulars

5.10.1 Reference(s):

- AC 172-1(0) Guidelines for preparing a Safety Management System (SMS)
- AC 172-2(0) Guidelines for preparing safety cases covering CASR Part 172 services

5.10.2 Background

The Part 172 advisory circulars (ACs) – as their names imply – contain guidelines for preparing an SMS and safety cases. These ACs reflect the procedures in use at AA in 2003 at the time Part 172 of CASR came into effect.

5.10.3 Issue

The information within the AC's is no longer relevant or contemporary, particularly as one of the proposals is to adopt SMS standards consistent with ICAO Annex 19. Further, both CASA and ICAO have comprehensive resources that would adequately substitute for the information within the ACs.

5.10.4 Key policy objective

CASA's policy objective is to withdraw both ACs.

6 Impacts on industry

6.1 ATS providers

The most significant impact on ATS provider's will be the administrative effort necessary to update its document suite and operating procedures. Accordingly, CASA proposes a 1-year transitional program to enable orderly transition to any new process.

Removing an existing MOS standard in favour of an existing ICAO standard should not require any change to ATS provider operational practices. The new requirements for fatigue management also should not have a significant impact because the ATS provider already has an FRMS.

A positive impact of the proposed changes in the Part 172 of CASR is the proposed adoption as a MOS standard of the low-level State government helicopter operating procedure that currently requires an exemption from MOS standards. The exemption is time limited and must be renewed at regular intervals. The renewal involves direct cost and administrative effort. By incorporating the arrangement into the, this cost and effort is avoided.

6.2 Community

The aviation community should experience little or no impact as a result of the changes proposed in this policy proposal. Any community effects as a result of changes to IVA procedures would be dealt with in the consultation activity relating to that matter.

7 Implementation and transition

7.1 Implementation considerations

CASA is working towards a commencement date of H2 2022. This date range is dependent on when CASA gains the necessary drafting resources and the time required to draft and consult on the final changes.

7.2 Transitional considerations

CASA proposes a 1-year transitional program to enable the ATS provider to updates its documents and procedures.

7.3 Closing date for comment

CASA will consider all comments received as part of this consultation process and will incorporate changes to the regulation as appropriate. Comments on the draft new policy should be submitted through the online response form by close of business 8 July 2022.