Australian Government
Civil Aviation Safety Authority

SUMMARY OF PROPOSED CHANGE

Proposed amendments to Part 139 MOS - Incorporate amendments to Annex 14 Volume 1 (Amendment 15)

Project number: AS 20/02 **File ref:** D25/121796

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Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

Artwork: James Baban.

Introduction

We are proposing an update to the Part 139 Manual of Standards (MOS) that primarily aims to align local standards with international standards introduced in 2020 by the International Civil Aviation Organization (ICAO).

From time to time, ICAO through a number of expert panels, working groups and task forces identifies important changes to the Standards and Recommended Practices (SARPs) that apply to the aerodromes environment globally.

ICAO issued State letter 2020/35 in mid-2020, which notified States about the adoption of Amendment 15 to Annex 14 (Aerodromes) Volume 1 (Aerodrome Design and Operations). This amendment covered a significant number of changes. Several of them, including the Global Reporting Format (GRF) and Pavement Classification Rating (PCR) have been separately assessed and implemented in Australia.

Amendment 15 also introduced changes to definitions, dimensions for protection surfaces and objects, and visual aids. This consultation deals with incorporating those changes into Australian rules.

We are also proposing to 'clean up' the MOS by omitting some obsolete transitional provisions and grandfathering clauses, and to address an issue where the MOS does not adequately provide for situations where new facilities are introduced at an aerodrome.

The proposed changes reflect consideration of economic and operational impacts on all stakeholders with a particular focus on ensuring safe operations during take-off and landing.

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Additionally, it is necessary to update the Part 139 MOS in relation to the following:

- transitional provisions
- application of Part 139 MOS to new aerodrome facilities
- grandfathering of new aerodrome facility developments
- precision approach runway, CAT III definition
- objects or structures on runway strips
- dimensions of clearways
- location of holding positions
- distance of holding positions to runway centreline
- distance of holding positions to runway centreline
- designation characters for taxi and apron markings
- naming of taxiway location signs
- sign size and location distances, including runway exit signs
- runway guard lights
- stop bars
- no entry bars
- siting requirements for CNS facilities.

Contents

Reference material

Acronyms

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

Table 1: Acronyms

Acronym	Description
AC	advisory circular
CAR	*Civil Aviation Regulations 1988*
CASA	Civil Aviation Safety Authority
CASR	*Civil Aviation Safety Regulations 1998*
CNS	communications navigation and surveillance
ICAO	International Civil Aviation Organisation
MOS	Manual of Standards
SARPs	Standards and Recommended Practices

References

Legislation

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

Table 2: Legislation references

Document	Title
Part 139 MOS	Part 139 Manual of Standards (Aerodromes)

International Civil Aviation Organization documents

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

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (https://elibrary.icao.int/home).

Table 3: ICAO references

Document	Title
Annex 14 Volume 1	Annex 14 to the Convention on International Civil Aviation (Aerodromes), Volume 1, Aerodrome Design and Operations

Purpose and scope of the proposed amendments

Amendment 15 to the International Standards and Recommended Practices, Aerodromes — Aerodrome Design and Operations (Annex 14, Volume I to the Convention on International Civil Aviation) was adopted by the Council at the fourth meeting of its 219th Session on 9 March 2020.

State letter 2020.35 was assessed to identify the requirements for Australia to:

a. notify any disapproval before 20 July 2020

b. notify any differences and compliance before 5 October 2020

CASA assessed the State letter SL 2020.35 and assessed the need to implement the changes into the Australian legislation by proposing amendments to the Part 139 MOS.

A number of the elements contained within the State letter were attended to and implemented separately i.e. Reporting of Pavement Strength (PCR).

Key change proposals

Transitional provisions - Chapter 1A - MOS Part 139

Key change 1

The transitional provisions in Chapter 1A were required when the MOS was rewritten in September 2019. Additional time was provided for certain aerodrome categories to meet some of the new regulatory requirements. The latest date of those transitional provisions was 13 November 2022 which has now lapsed.

Application of Part 139 MOS to new aerodrome facilities

Key change 2

Under section 2.02, the Part 139 MOS applies to new aerodromes and section 2.04 applies to existing aerodromes and facilities. Section 2.02 only refers to ‘new aerodromes’ and not to ‘new facilities’, therefore we need to confirm the Part 139 MOS provisions are applicable to new facilities.

Grandfathering of new aerodrome facility developments

Key change 3

The transitional provisions in section 2.04A were required when the MOS was rewritten in September 2019. Additional time was provided for certain aerodrome facility developments underway to meet the previous regulatory requirements. The latest date of those transitional provisions was 13 November 2022 which has now lapsed.

Precision approach runway, CAT III definition

Key change 4

The current definition is broken into 3 subcategories based on decision height and RVR. The new ICAO definition does not have subcategories.

Objects or structures on runway strips

Key change 5

The current requirement for a precision approach runway strip to be kept clear of fixed objects is broken up into 3 subcategories, based on aerodrome reference code i.e. Code 1, 2, or Code 3, 4, or Code 4F. There are corresponding distances to be kept clear from the runway centreline.

The new ICAO requirement does not refer to lateral distances but refers to the lower edge of the inner transitional surfaces.

Dimensions of clearways

Key change 6

Annex 14, Vol. I currently specifies the width of a clearway regardless of the type and code number of the associated runway. Due to terrain or other restrictions, it may not always be possible to provide the full recommended 75 m half-width of a clearway on non-instrument runways where the code number is 1 or 2. For these types of runways, the existing recommended width of the clearway will therefore greatly exceed that of the associated runway strip (30 m and 40 m half-width, respectively) and provide a disproportionate lateral protection compared to the width of the associated runway strip as well as to the length of the inner edge of the obstacle limitation surface (OLS).

Location of holding positions

Key change 7

In Annex 14, Volume I, Chapter 4, the existing Note to inner transition surface states:

> " It is intended that the inner transitional surface be the controlling obstacle limitation surface for navigation aids, aircraft and other vehicles that must be near the runway, and which is not to be penetrated except for frangible objects….".

The present wording in paragraph 3.12.6 does not state this clearly.

Distance of holding positions to runway centreline

Key change 8

Annex 14, Volume I, Chapter 3 Table 3-2 (Table 6.56 (1) in the Part 139 MOS) has not been modified following the adoption in Amendment 14 of the reduction of the Code F Obstacle Free Zone width from 155 m to 140 m. Also, the present wording does not take into account the fact that for Code letter F aeroplanes equipped with digital avionics that provide steering commands to maintain an established track during the go-around manoeuvre, an OFZ width of 120 m is sufficient when operating on a 45 m wide runway.

Distance of holding positions to runway centreline

Key change 9

Subparagraph 6.56(3) is now a duplicate of superscript 'a' of Table 6.56(1), therefore, it can be deleted. However, there is a provision in Annex 14 Vol I whereby, for a precision approach code 4 runway, at a greater elevation compared to the runway threshold, the distance needs to be increased by 5 m for every metre of elevation above the threshold.

Designation characters for taxi and apron markings

Key change 10

Existing requirements for taxiway and apron stand designators makes no reference to duplication of designators. Due to the potential confusion to pilots, taxiway and apron stand designators should be different letters and numbers, and markings.

Naming of taxiway location signs

Key change 11

Existing requirements for taxiway designators makes no reference to duplication of designators. Due to the potential confusion to pilots, taxiway designators should not be duplicated.

Sign size and location distances, including runway exit signs

Key change 12

Current provisions in the MOS are consistent with Annex 14, Volume I, stipulating a minimum face height on movement area guidance signs (MAGS) of twice the legend height (H). The proposed changes to Table 8.82(1) reduce the minimum face height to 1.5 times the legend height (H), instead of the current requirement for double the size. All other characteristics, such as legend height, colour, sign width, spacing between characters, maximum installation height etc. remain unaffected by this proposal.

Signs with a reduced face height serve the same purpose of informing and instructing pilots while manoeuvring on the aerodrome. An ICAO safety study indicates that the smaller signs provide for an equivalent level of safety compared to current requirements.

Runway guard lights

Key change 13

The existing requirements in the Part 139 MOS for provision of runway guard lights refers to ‘visibility’ of 550 m. This reference should be to runway visual range (RVR).

Key change 14

There is an ongoing issue of runway incursions being caused by having runway guard lights illuminated beyond the operational holding position, where there is more than one runway holding position, and this is also not consistent with similar provisions for stop bars.

If a runway/taxiway intersection has more than one runway holding position, then only the runway holding position being used operationally can be illuminated.

Key change 15

There is a need to standardise the location of runway guard lights by associating them with the operational runway-holding positions.

It is intended to require the location of runway guard lights to be allocated to the operational runway-holding positions.

Stop bars

Key change 16

Annex 14, Volume I initially only required stop bars for RVR conditions less than 350 m. There was a recommendation to have stop bars for RVR conditions between 350 m and 550 m. This recommendation became a standard in January 2001 with the result that provisions 5.3.20.1 and 5.3.20.2 were effectively the same resulting in a requirement for stop bars in RVR conditions of less than 550 m. These provisions were replicated, meaning duplicated, in the Part 139 MOS under the PIR conducted and published in 2019.

Another result under the PIR of Part 139 was one of the mitigators against the requirement for stop bars, i.e. appropriate aids and procedures are available to assist in preventing inadvertent incursions of traffic onto the runway, was omitted from the Part 139 MOS where previously it was included.

No entry bars

Key change 16

A no entry bar should be used, where necessary, to enhance the conspicuity of no-entry marking or signs. Additionally, as no entry bars are used on exit only taxiways, there is no reason to have centreline lights nor stop bars beyond the no-entry bar. Therefore, looking in the direction of the runway, the taxiway centreline should be invisible.

Siting requirements for CNS facilities

Key change 17

Equipment or an installation, required for air navigation or aircraft safety, which is located on or near a strip of a precision approach runway nominated as CAT I, II or III must be frangible and mounted as low as possible. There is a need to remove an inconsistency by removing the figures associated with the extended runway centreline for Code number 4 and Code letter F runways.

PAPI Installation

Key change 18

Amend the detail within MOS Part 139, Subsection 9.50 (10), which defines PAPI height, to reflect the detail in ICAO Doc 9157, Part 4, Aerodrome Design Visual Aids. This element will alter the maximum height of the PAPI to be not above 1.2m at the top of the PAPI unit (total height of the PAPI unit) unless approval is sought from CASA.

Aerodrome Personnel

Key change 19

Subsection 13.02(1). The accountable manager must ensure that each member of the aerodrome operator's aerodrome personnel demonstrates, in an appropriate manner, the necessary experience and competence to operate and maintain the aerodrome properly in accordance with the requirements of this MOS.

Previous consultations

There have been no previous consultations on these matters.

Impact on industry

CASA considers that these amendments will have a positive effect on industry by providing improvements to defined requirements and definitions. The changes will also further reduce limitations on installations whilst not impacting defined and required safety outcomes.

Safety risk analysis

The items contained within the amendments are contained within the ICAO suite of SARPs and Guidance material and therefore identified as low risk.

Transitional arrangements

CASA has considered the need for transition and, no elements within this series of amendments were considered as requiring transitional arrangements.

Consequential impacts

A number of the elements in these amendments may have consequential impacts associated with aerodrome markings, procedures and manuals.

Aerodromes will need to assess the impact of the proposed changes against their current infrastructure, operating systems and documentation.

Impact analysis

An Impact Analysis (IA) is not required because the instrument is covered by a standing agreement between CASA and OIA under which an IA is not required for amendments to MOSs (OIA id: 14507).

Submitting your view and what next

We would like to hear your views on the amendments we have presented. Please review the proposal and provide your feedback and any additional concerns not covered in this SPC.

Your feedback will make a valuable contribution to CASA's policy decision-making process and help to fully inform CASA of the perceived impacts (positive and negative) on the aviation community regarding the proposal.

CASA will consider all comments received as part of this consultation process and incorporate changes as appropriate. Comments on this consultation should be submitted through the online response (CASA Consultation Hub) form by close of business 14 August 2025.