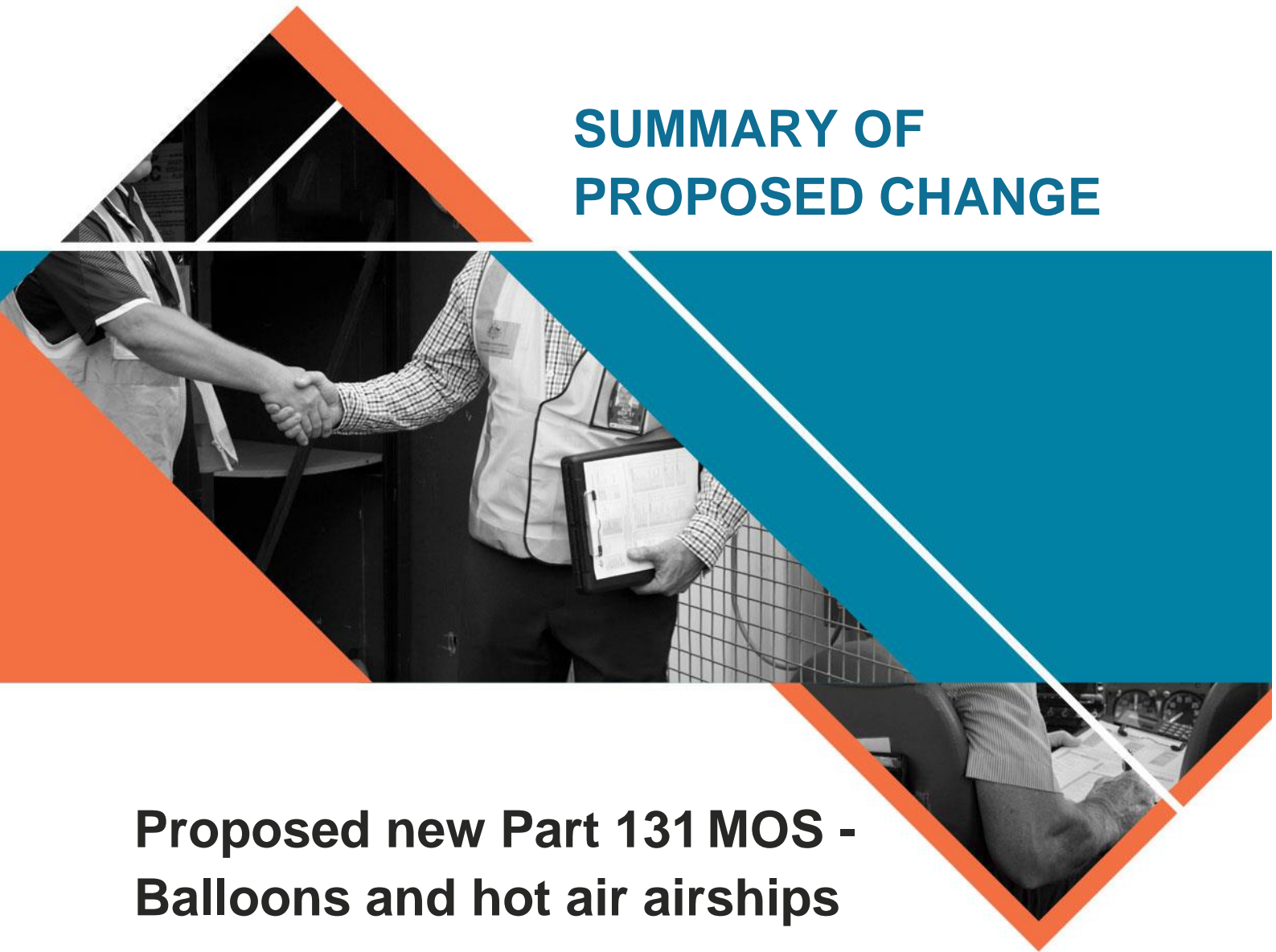




SUMMARY OF PROPOSED CHANGE



Proposed new Part 131 MOS - Balloons and hot air airships

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Introduction

Part 131 of the *Civil Aviation Safety Regulations 1998 (CASR)* primarily applies to lighter-than-air aircraft that are intended for free flight under the control of a pilot. The aircraft addressed are hot air balloons, hot air airships, gas balloons and mixed gas/hot air balloons (collectively *Part 131 aircraft*). Subpart 131.Z of the *Civil Aviation Safety Regulations 1998 (CASR)* contains a small number of rules that apply to permanently tethered gas balloons, controlled by trained operators, that are subject to specific standards of operation separate from the Part 131 aircraft rules.

The [Part 131 of CASR](#) regulations were made in December 2019 and commenced on 2 December 2021 coincident with the other new flight operations regulations (FOR) - Parts 91, 103, 105, 119, 121, 133, 135 and 138 of CASR). Like other CASR parts, Part 131 of CASR contains provisions for an accompanying Manual of Standards (MOS). MOSs contain technical and detailed requirements that support their parent regulations just as Civil Aviation Orders (CAO) supported the *Civil Aviation Regulations 1988 (CAR)*. However, on 2 December 2021, the Part 131 MOS was still under development.

Following the making of the regulations, a Part 131 MOS Technical Working Group (TWG) was established in 2020 to assist with the development of the standards, advisory materials, and transition strategies. The first exposure draft of the Part 131 MOS was publicly consulted between 16 August and 15 September 2021 and the Summary of Consultation was published in December 2021 [Summary of consultation on CD 2103OS - Proposed new Part 131 MOS - Balloons and hot air airships \(casa.gov.au\)](#). Subsequently, discussions between CASA, the Part 131 TWG and industry representatives have continued. As a result, several new policy amendments have now been incorporated into the MOS and some sections have been reworded for clarity. The amended draft Part 131 MOS is now presented for public consultation on its suitability as a manual of standards to support Part 131 of CASR.

CASA will continue to work with the Part 131 TWG as we continue with progressing regulatory reform for balloons and hot air airships.

While many of the CAR and CAOs relating to flight operations have been repealed, the regulations in Part 4 and 5 of CAR containing the requirements for continuing airworthiness of manned free balloons, and commercial balloon licensing and training, respectively, remain in force. The migration of these requirements into the CASR is a future body of work that is scheduled to begin later in 2023. Existing CAO elements that apply to AOC holders conducting commercial balloon flying training are included in an amended CAO 82.7 [Civil Aviation Order 82.7 - Air operators' certificates authorising commercial balloon licence or rating training \(12/12/2004\) \(legislation.gov.au\)](#).

[Civil Aviation Order 40.7 - Aircraft endorsements \(balloons\) & flight instructor \(balloons\) ratings \(02/12/2004\) \(legislation.gov.au\)](#), [Civil Aviation Order 40.2.2 - Night V.F.R. rating & night V.F.R. agricultural ratings \(02/12/2004\) \(legislation.gov.au\)](#) and [Civil Aviation Order 48.1 Instrument 2019 \(legislation.gov.au\)](#) also remain in force for now.

Until the Part 131 MOS is in force, two CAOs currently provide operational rules for commercial and recreational balloon operators respectively: [Civil Aviation Order 95.53 \(Commercial Balloon Flying Training and Balloon Transport Operations\) https://www.legislation.gov.au/Series/F2021L01673](#) and [Civil Aviation Order 95.54 \(Part 131](#)

[Recreational Activity and Specialised Balloon Operations\) Instrument 2021
https://www.legislation.gov.au/Details/F2021L01674.](https://www.legislation.gov.au/Details/F2021L01674)

Compared to the CAR and CAOs, some key terminology was changed in Part 131 of CASR:

- *Balloon charter* is now a *balloon transport operation*.
- *Aerial work* other than balloon flying training is now a *specialised balloon operation*. (An important difference is that such operations may now be commercial or non-commercial and require an approval under regulation 131.035 of CASR rather than an AOC).
- *Private operations* are now known as *Part 131 recreational activities*.
- The *chief pilot* is now called the *head of flying operations* (HOFO).
- Ground crew are included in *ground support personnel* who may or may not be *operational safety-critical personnel* (this is a defined term) depending on their duties.
- References to a Part 131 ASAO mean an organisation that operates under Part 149 for the administration of Part 131 aircraft for recreational activities. Currently there is no Part 131 ASAO and recreational balloon activities are administered by the Australian Ballooning Federation (ABF) who are directed in CAO 95.54 to act as if they were a Part 131 ASAO.

ABF request to CASA to relinquish administration of recreational ballooning

The Part 131 regulations, and this proposed Part 131 MOS, contain references to a person being required to hold an authorisation from a Part 131 ASAO or be approved by a Part 131 ASAO to perform certain activities.

Although it was originally envisaged that the ABF would become a Part 131 ASAO, the ABF advised CASA in late 2022 that it does not intend to administer Part 131 recreational activities from 1 December 2023.

CASA is currently working with the ABF to transfer the administration and oversight of Part 131 recreational balloon activities to CASA, including the issue of private pilot authorisations, under an amended CAO 95.54.

Although a number of Part 91 (General operating and flight rules) apply to Part 131 aircraft most of the relevant MOS provisions are contained in the Part 131 MOS. The following list summarises the few Part 91 MOS elements that apply to Part 131 aircraft:

- The CASR dictionary states that *standard visual signals* (for example - the green and red lights used to signal aircraft from an air traffic control (ATC) tower during radio failure scenarios) are defined in the Part 91 MOS (see Division 2.3 of the [Part 91 MOS](#)).
- [Regulation 91.620](#) (carriage of animals) applies to Part 131 aircraft. The legal ability to contain additional rules in the Part 91 MOS is not proposed to be used at this time.
- [Regulation 91.695](#) (interception of aircraft) applies to Part 131 aircraft. Chapter 23 of the [Part 91 MOS](#) points to the procedures applicable to a pilot-in-command (PIC) of an intercepted aircraft that are set out in the International Civil Aviation Organization, Annex 2 Operation of Aircraft. Although unlikely to ever affect a Part 131 aircraft, the detailed procedures for aircraft interceptions are included in the AIP for easy pilot access.
- [Subpart 91.T of CASR](#) sets out the rules applicable to experimental and light sport aircraft and these apply to relevant Part 131 aircraft. Regulations 91.875 (*experimental*

aircraft operating requirements) and 91.900 (*light sport aircraft - pilots*) both state the Part 91 MOS will prescribe the requirements of a placard that must be displayed in the aircraft (Chapter 27 of the [Part 91 MOS](#)).

- [Regulation 91.930](#) (requirements for minimum equipment lists (MEL)) sets out requirements if an MEL is used (see also Chapter 28 of the [Part 91 MOS](#)). There are no current proposals to require the use of an MEL in a Part 131 aircraft.
- Division 26.15 of the [Part 91 MOS](#) Remote areas sets out the definition and meaning of remote area.

The main body of this Summary of Proposed Change (SPC) outlines the key policy aims contained in the proposed Part 131 MOS and we seek industry and public feedback on whether the drafted MOS provisions achieve the policy aims. Appendix A of this SPC contains an outline of each chapter of the proposed MOS.

A commencement date for the Part 131 MOS has not yet been decided because we wish to allow time for operators to familiarise themselves with the content and to update their manuals. To help this process CASA will provide a sample exposition and guide that AOC holders can use as a template and can customise with their own standard operating procedures. Alternatively, an operator may wish to amend their existing operations manual. CASA plans to conduct workshops and webinars to help operators transition once the MOS has been made (noting that the date of making is not the same as the date when the rules in the MOS commence).

In addition, we are drafting a balloon rule book that consolidates the relevant rules from Parts 91 and 131 into a single document. This guide is a dynamic document that can be regularly updated; it is intended to help operators to transition to the new rule set and to understand the regulatory framework. However, we need to settle the MOS first.

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Attachments:

**Consultation Draft - Part 131 (Balloons and Hot Air Airships) Manual of Standards
2023**

Reference material

Acronyms

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

Acronym	Description
AC	advisory circular
AGL	above ground level
AMC	acceptable means of compliance
AMSL	above mean sea level
AOC	air operator's certificate
ASAO	Approved self-administering aviation organisation
ATC	air traffic control
ATS	air traffic services
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
FAA	<i>Federal Aviation Administration</i>
FOR	Flight operations regulations
ICAO	International Civil Aviation Organization
MAAT	Manual Authoring and Assessment Tool
MEL	minimum equipment list
MOS	Manual of Standards
PIC	pilot in command
SARTIME	search and rescue time
TWG	Technical Working Group
VFR	visual flight rules
VMC	visual meteorological conditions

References

Legislation

Regulations and manuals of standards are available on the Federal Register of Legislation website

<https://www.legislation.gov.au/>

CASA's Civil Aviation Orders are available at <https://www.casa.gov.au/rules-and-regulations/current-rules>

Document	Title
Part 91 of CASR	General operating and flight rules
Part 91 MOS	Part 91 (General Operating and Flight Rules) Manual of Standards 2020
Part 131 of CASR	Balloons and hot air airships
CAR	<i>Civil Aviation Regulations 1988</i>
CAO 40.7	Aircraft endorsements (balloons) and flight instructor (balloons) ratings
CAO 48.1	Flight time limitations
CAO 82.7	Air operators' certificates authorising commercial balloon licence or rating training
CAO 95.53	Commercial Balloon Flying Training and Balloon Transport Operations Instrument 2021
CAO 95.54	Part 131 Recreational Activity and Specialised Balloon Operations Instrument 2021

International Civil Aviation Organization documents

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

Document	Title
Annex 2	Rules of the Air

Advisory material

CASA's advisory materials are available at <https://www.casa.gov.au/publications-and-resources/guidance-materials>

Document	Title
AC 131-01	Manned free balloons - Continuing airworthiness
AC 131-02	Manned free balloons - Operations
AC 131-03	Transitioning to Part 131 - A guide for commercial balloon operators
AC 131-04	Management of change for balloon transport AOC holders
AMC/GM Part 131	Acceptable means of compliance and guidance material Part 131

Purpose and scope of the proposed amendments

This section outlines the specific key change proposals in the proposed Part 131 MOS. Comments from the first public consultation that ended in September 2021 have been considered along with feedback from the Part 131 TWG and internal CASA review. Policies that have been amended since the first consultation are noted as new policy amendments.

Key change proposals

Flight related documents (MOS Chapter 5)

Key change 1

Flight related documents may be carried as electronic copies.

Note:

In accordance with regulation 131.265 of CASR, if a document is required to be carried by this Chapter, an electronic copy of the document is acceptable.

But whether carriage of required documents in electronic form is permitted for flights within foreign territory is a matter for the relevant foreign law.

Key change 2

The holder of a Part 131 ASAO pilot authorisation must carry the authorisation if conducting the flight under that authorisation. This aligns Part 131 of CASR authorisation holders with the regulation 139 of CAR requirement for Part 5 of CAR licence holders.

Key change 3

All pilots must carry some form of photo identification. This aligns pilots of Part 131 aircraft with existing requirements for Part 61 of CASR licence holders.

Key change 4

For recreational or specialised balloon operation flights into or out of Australian territory, or flights conducted entirely overseas, it is proposed that, in accordance with Article 34 of the ICAO Convention, the PIC keeps a journey log. This aligns the requirements of Part 131 of CASR with similar new requirements in other CASR Parts.

The proposed rule does not mandate that the journey log be a separate document. The journey log can consist of documents in which collectively the information logged satisfies the journey log requirements. For example, the required details may be able to be entered in the PIC's personal logbook and the aircraft technical log. (See MOS 5.03 Journey logs).

Emergency and survival equipment information (MOS Chapter 7)

Key change

It is proposed that balloon transport operators must have available, for immediate communication to a rescue coordination centre, information regarding the emergency and survival equipment carried by a Part 131 aircraft. The MOS provides a table of the relevant

emergency and survival equipment. The ready availability of this information is intended to maximise the probability of a successful search and rescue.

Dropping things from a Part 131 aircraft (MOS Chapter 9)

Key change 1

This chapter proposes that fine sand or water used for ballast, competition markers and wind indicators may be dropped from a Part 131 aircraft if there is no hazard to persons or property on the ground. It is proposed that parachute drops must be conducted in accordance with the requirements of regulation 105.155 of CASR [Part 105 Parachuting from aircraft](#).

Key change 2

The MOS proposes requirements that would apply to an operator who plans to drop any other substance or object from a Part 131 aircraft. Certain conditions concerning the carriage of the substance or object and its release would apply to ensure the safety of persons on the aircraft or on the ground, and the aircraft.

Use of supplemental oxygen equipment, etc. (MOS Chapter 10)

Key change

This is a policy amendment.

This chapter will detail the proposed supplemental oxygen availability for, and use by, flight crew members and passengers on flights above 10 000 ft above mean sea level (AMSL). Based on the FAA rules the requirements for Part 131 aircraft will align with the requirements for other small aircraft in Australia.

Flight preparation (weather assessments) requirements (MOS Chapter 12)

Key change

This is a new policy amendment.

It is proposed that the PIC must study an authorised (Bureau of Meteorology) forecast in the two hours before a planned flight, however, any other reasonably available weather information that is relevant to the operation may also be accessed. This allows operators to access alternative sources of weather information on-line.

Air traffic services — Prescribed requirements (MOS Chapter 15)

Key change 1

For clarity, it is proposed to include the requirement that the PIC must select "code 7600" (loss of radio communication) on the aircraft transponder (if fitted or carried) if the radiocommunication system becomes inoperative during an operation in any Australian domestic airspace. This is consistent with the requirements for aircraft operating under Part 91 rules.

Key change 2

This is a new policy amendment.

Mandatory broadcast area requirements MOS 15.04 and Flights in a mandatory broadcast area - prescribed broadcasts and reports MOS 16.06

It is proposed to set out the MBA requirements to ensure comprehensive advice is provided in this MOS.

Operating within 3 NM of a non-controlled aerodrome (MOS Chapter 17)

Key change

This is a new policy amendment.

It is proposed to note that the give way rules under regulations 91.325, 91.330 and 91.340 of CASR apply to a Part 131 aircraft. A previously drafted restriction required a Part 131 aircraft taking off within 3 NM of an uncontrolled aerodrome to climb to, and maintain, a height of 1500 ft AGL. It is proposed to remove this restriction on a Part 131 aircraft because it does not apply to other aircraft and there is no safety reason to apply a restriction on Part 131 aircraft.

Flights over water (MOS Chapter 18)

Key change

This is a new policy amendment.

It is proposed that the PIC of any Part 131 aircraft, and the operator of a balloon transport operation, must take into account the risks of a flight over water and the chances of survival of persons on the aircraft in the event of a landing or ditching in the water. Water means the sea, a lake, bay or estuary.

No specific emergency equipment is required to be carried. Instead, the results of the risk assessment will inform the necessary mitigation measures. For example, for flight over a small lake determining how to contact the search and rescue facilities available may be sufficient. For an extended flight over a bay, risk mitigation may require emergency and survival equipment to be carried on board.

Risk considerations for the PIC to consider before a flight over water are listed and a reference to regulation 91.215 Authority and responsibilities of PIC are intended to aid the risk assessment and mitigation process.

A note advises balloon transport operators that every activity covered by an AOC should be done with a reasonable degree of care and diligence as per subsection 28BE(1) of the Act.

Balloon transport operators will be required to document their procedures for regularly conducted flights over water such as a lake, bay, sea or estuary, where in the event of an emergency a ditching or landing on water may be required. Once CASA has accepted the operator's procedures documented in their exposition CASA will not require amendments unless the circumstances or operations change.

VFR flight requirements (MOS Chapter 19)

Key change

Amendments to the visual flight rules (VFR) requirements for a flight at night are proposed to clarify that the restriction for a hot air balloon not to take off earlier than one hour before first light only applies to a balloon transport flight. The amended wording reflects the current rules for VFR flights at night.

Operation of a tethered Part 131 aircraft other than a subpart 131.Z tethered gas balloon (MOS Chapter 20)

Key change 1

This chapter of the MOS proposes that a person may not operate a Part 131 aircraft in tethered flight:

- on the movement area or on a runway of an aerodrome
or
- within 4 000 m of the aerodrome, or above 300 ft AGL, unless the person has an approval in writing from CASA or, for an active controlled aerodrome, ATC.

Key change 2

This is a policy amendment.

Further, it is proposed that a person must not operate a Part 131 aircraft in tethered flight in such a manner as to create an obstruction to an aircraft taking off from, or approaching for landing at, the following areas of an aerodrome:

- a marked rotorcraft landing area
- a rotorcraft landing area identified as such in the authorised aeronautical information
- a runway.

The provision reflects the current rules with the addition of ATC being able to provide permission for a tethered flight within 4000 m of an active controlled aerodrome.

Procedures if fuel reaches specified amounts (MOS Chapter 21)

Key change 1

Definitions of *trip fuel*, *final reserve fuel* and *night operations fuel* are proposed.

It is proposed that certain factors affecting fuel usage must be considered when planning the amount of fuel that must be carried for a flight.

Key change 2

These are new policy amendments.

All operators would be required to carry sufficient fuel for the planned trip. It is proposed that balloon transport operations must plan to land with a final reserve fuel of at least 20 mins of flight

time that is intended for emergency use only. All operators conducting night operations would be required to carry sufficient trip fuel to ensure a landing by day.

If during a flight the amount of usable fuel is, or is likely to be, less than the required minimum final reserve fuel for a landing at a planned landing site, then the PIC must endeavour to make a precautionary landing at another suitable landing area to preserve the minimum final reserve fuel. This provision will aid a PIC's decision making to preserve the minimum final reserve fuel where possible.

Carriage of persons requiring assistance (MOS Chapter 22)

Key change

This is a new policy amendment.

Requirements for the operation of balloon baskets equipped with a door are proposed. The PIC must ensure that the door that allows passenger ingress and egress must be closed before flight by a crew member and, except in an emergency, opened on the ground by a crew member. This is to ensure that in normal operations a qualified person latches and unlatches the door in accordance with the AFM. A crew member may be a flight crew or ground crew member.

Passengers — safety briefings and instructions (MOS Chapter 23)

Key change

It is proposed that the passenger safety briefings for balloon transport operations must include information about access to the launch area and any equipment in the area including inflation fans. Balloon transport operators have a duty of care for passengers on the ground as well as in the air.

It is proposed that another pilot who is designated by the PIC may give the safety briefing and related demonstration before take-off. This will allow a PIC under supervision or a student pilot under instruction to give the safety briefing and demonstration.

Loading weights (MOS Chapter 24)

Key change

It is proposed to include in the MOS the standard weights for passengers as currently published by CASA. They will be set out in a table for easy reference. This chapter of the MOS also allows an operator to use exposition derived weights that provides flexibility for operators who have developed their own loading system.

Equipment (MOS Chapter 26)

Key change 1

It is proposed that the rules for the carriage of radio and surveillance equipment, including a transponder, will clearly state that such equipment may be installed or carried as portable equipment on Part 131 aircraft. Other portable equipment that may be carried will include lights

for VFR flight at night, fire extinguishers, supplemental oxygen equipment, first aid kits, and survival equipment for flights over water or remote areas.

Amendments are proposed to clarify the requirements for operative and inoperative equipment fitted to or carried on a Part 131 aircraft. (See MOS 26.04)

Key change 2

This is a policy amendment.

It is proposed that a balloon must carry equipment for measuring and displaying drift direction and this means a global positioning system (gps) device may be used instead of a direct reading magnetic compass. (See MOS 26.05).

Key change 3

This is a policy amendment.

For a balloon transport operation, it is proposed that the PIC, or the PIC under supervision operating the controls of a balloon basket where an approved pilot restraint harness has been fitted must wear the pilot restraint harness for flight below 500 ft AGL including for take-off and landing. A pilot restraint harness may significantly reduce the severity of injuries to the pilot and passengers in the event of an accident where the pilot may be ejected from the basket. (See MOS 26.11).

This proposal aligns with Kavanagh Balloons AFM Issue 1 Revision 6 *Section 4 - Normal Procedures Section 4.10 Launch*

1. If a pilot restraint is fitted, it should be worn by the pilot for take off and low level flight. It is advisable that it be worn for the duration of the flight.

Key change 4

Amendments are proposed which clarify the specific requirements for an anti-collision light rather than referring to an overseas standard. (See MOS 26.13 Lights for VFR flight at night).

Key change 5

This is a new policy amendment.

It is proposed that a supplemental oxygen delivery system must be compliant with the requirements of, or approved under, Part 21 of CASR. To avoid any misunderstanding of the standard, it is proposed to omit an old provision that an oxygen supply system can be approved by a Part 131 ASAO (See MOS 26.14).

Key change 6

This is a new policy amendment.

For a flight over water where the wearing of life jackets is required it is proposed to require the wearing of a life jacket only when the flight is at or below 1000 ft above water. At other times a life jacket must be stowed in a readily retrievable position. The descent rate of a balloon is relatively slow and a descent from 1000 ft above water would provide sufficient time for a passenger to retrieve and don a life jacket. (See MOS 26.18).

Flight crew — qualifications and training (MOS Chapter 27)

Key change 1

It is proposed to clarify that before commencing a flight that is a Part 131 recreational activity, the holder of a CP(B)L or CAR certificate of validation must meet any training and checking requirements of the Part 131 ASAO that are necessary to enable the holder to conduct the activity. (See MOS 27.02).

Key change 2

The requirements for a person to conduct a VFR flight at night as PIC in a Part 131 aircraft are proposed. The PIC of a balloon transport flight at night must also hold a balloon grade of night VFR rating. (See MOS 27.06).

Induction and ongoing competency of flight crew (Chapter 27 of the proposed MOS)

Key change

This is a policy amendment.

It is proposed that balloon transport operators must have procedures for induction training and on-going competency checks of emergency procedures for pilots at 24-month intervals. This is an increase in time for emergency procedures competency compared to 12 months under Civil Aviation Order (CAO) 20.11.

Induction and ongoing competency of ground support crew (Chapter 28 of the proposed MOS)

Key change

This is a policy amendment.

It is proposed that balloon transport operators must have procedures for induction training and on-going competency checks of emergency procedures for ground support crew at 24-month intervals. This is an increase in time for emergency procedures competency compared to 12 months under CAO 20.11.

Requirements for individuals conducting training and checking (MOS Chapter 27 and 28)

Key change

This is a new policy amendment.

It is proposed to simplify the previously proposed requirements for who may conduct training and checking of flight crew and ground support personnel. Currently, Part 131 operators are not required to have a training and checking system. (See MOS 27.12 and 28.03).

Tethered gas balloons (MOS Chapter 29)

Key change

Under the rules before Part 131 of CASR, the only rule designed for permanently tethered gas balloons was regulation 260 of CAR which specified a minimum distance from an aerodrome and a maximum height restriction.

Subpart 131.Z of CASR contains the regulations dealing with this kind of balloon. A person operating this type of balloon will not need to hold a pilot authorisation.

In Subpart 131.Z, there are regulations requiring a specific approval to be held to operate this kind of balloon (with operation therefore also subject to any conditions set out in the approval), that the balloon must be operated a certain minimum distance from a cloud ceiling, that a balloon operated at night must be lit if operated above a certain height, that the balloon must be fitted with a rapid deflation device, and that Air Traffic Services must be notified if the balloon escapes from its mooring. Additionally, regulation 131.690 allows for the Part 131 MOS to include additional requirements.

This chapter is proposed to require a tethered gas balloon to only be operated in accordance with the aircraft flight manual and operated by trained personnel.

Previous consultations

The initial draft of the Part 131 regulations (CD 1907OS) was published for consultation in September 2019. During meetings between CASA and the balloon industry, CASA agreed to:

- Develop a Part 131 Plain English Guide that would consolidate the operational rules from Parts 91 and 131 into a single document.
- Permit balloon air operator's certificate (AOC) holders to use annotations and addendums to their existing operations manual to form the exposition required by Part 131 of CASR.
- Produce a sample exposition that AOC holders can use as a template to produce an exposition that incorporates their own organisation's standard operating procedures.

The first draft of the Part 131 MOS was publicly consulted in August and September 2021 [Proposed new Part 131 Manual of Standards - Balloons and Hot Air Airships - \(CD 2103OS\) - Civil Aviation Safety Authority - Citizen Space \(casa.gov.au\)](#).

A new draft of the Part 131 MOS is now presented after considering the feedback from the public consultation, ongoing TWG discussions and continuing internal CASA review.

Impact on industry

The technical requirements of the Part 131 MOS have been designed to maintain or increase the current level of safety.

However, where appropriate, the proposed requirements are intended to be Part 131 aircraft specific and more outcome-based, thereby allowing operators greater flexibility. Once the Part 131 MOS is made and comes into force the current CAO 95 series of exemptions from operational rules will no longer be required thus simplifying the rules for Part 131 aircraft.

CASA is developing a Balloon Rule Book that combines the relevant Part 91 and Part 131 operational rules together in a single document. CASA has published an Acceptable Means of Compliance/ Guidance Material document for Part 131 and documents mapping the relevant CARs and CAOs to CASR Parts 91 and 131 | [Civil Aviation Safety Authority \(casa.gov.au\)](http://casa.gov.au).

Where feedback from consultation identifies further guidance materials is necessary, CASA will develop these materials as required.

Safety risk analysis

In relation to the key changes, CASA has evaluated the potential safety risks associated with the changes and has evaluated the risks associated with current operations. Where the new Part 131 MOS rules provide for more flexibility CASA believes that the overall safety risks have not increased when compared to the existing rules. Operators will have more opportunities to design procedures that are specifically suited to their operation.

Closing date for comment

CASA will consider all comments received as part of this consultation process and incorporate changes as appropriate. Comments on the draft amendment to the Part 131 MOS should be submitted through the online response form by close of business 4 September 2023.

Appendix A

Part 131 MOS - Chapter by chapter outline of content

A.1 Purpose and scope of the proposed MOS

The proposed Part 131 MOS is intended to provide the detailed requirements for the day-to-day operation of a Part 131 aircraft in any of the activities authorised by Part 131 of CASR.

A.2 Key proposals in the Part 131 MOS

A.2.1 Chapter 1 - Definitions

The definitions for terms and acronyms used in the MOS are set out in chapter 1 of the MOS. Definitions common to all aviation will be included in the CASR compilation dictionary. The meaning of any terms specific to Part 131 aircraft such as *ballast* will be noted in the MOS.

In this draft some definitions have been redrafted with amended wording for clarity or to correct an error.

Those affected are:

- any reference to a *balloon* being tethered means being tethered in accordance with the AFM
- *cost-sharing* - clarifies that a cost sharing flight must not carry more than 6 persons (including the pilot) and is consistent with the CASR dictionary
- the definition of *in-company* in relation to two or more Part 131 aircraft.

A.2.2 Chapter 2 - VMC and VFR

The regulations in Part 131 have been amended to clarify the distinction between visual meteorological conditions (VMC) and VFR. The MOS includes a table of the VMC criteria for Part 131 aircraft and sets out the requirements for VFR and Special VFR. No change in the current VMC or VFR requirements is proposed.

A.2.3 Chapter 3 - Other prescriptions for definitions for Part 131 of CASR

This chapter is reserved for future use in case it is necessary to define an activity as a specialised balloon operation, or that an activity **is not** a recreational activity.

A.2.4 Chapter 4 - Flight crew fatigue management

This chapter is only applicable to balloon transport operators and is reserved for future use. Currently operators must comply with CAO 48.1 Instrument 2019, or any legislative instrument that replaces it, unless they use an alternative approved fatigue management system. Appendix 4A of the CAO 48.1 is designed specifically for balloon transport operators. Guidance material and an operations manual template for operators is already published on the CASA website.

A.2.5 Chapter 5 - Flight related documents

This chapter sets out in one place the documents that must be carried on a flight in a Part 131 aircraft. For flights in balloons within Australian territory there is no change in the documents that must be carried except that:

- the holder of a Part 131 ASAO pilot authorisation must carry the authorisation if conducting the flight under that authorisation.
- all pilots must carry some form of photo identification.

The MOS proposes that a balloon transport operator must ensure for the duration of the flight that a flight note and the passenger list are left with a person on the ground. Regulation 131.280 of CASR requires operators to include procedures for this activity in their exposition.

For any flights within Australian territory electronic copies of required documents are acceptable.

For recreational or specialised balloon operation flights into or out of Australian territory, or flights conducted entirely overseas, it is proposed that, in accordance with ICAO rules, the PIC keeps a journey log. This requirement may be satisfied by pilot and aircraft logbook entries and, providing the required information is recorded, a separate document may not be required.

A.2.6 Chapter 6 - Reporting and recording information

This chapter proposes that after each flight in a Part 131 aircraft certain information must be recorded and certain defects and incidents (if any) must be reported.

It is proposed to clarify the requirement that for a Part 131 recreational activity information that must be recorded or retained must be in accordance with pilot and aircraft logbook regulations and/or Part 131 ASAO or CAO 95.54 requirements as applicable.

A.2.7 Chapter 7 - Information about emergency and survival equipment

It is proposed that a new requirement is included in this chapter that will apply to a balloon transport operator that is carrying any emergency or survival equipment for a flight, such as an extended flight over water. It will require that in the event of an emergency information about this equipment be available for immediate communication to a rescue coordination centre.

A.2.8 Chapter 8 - Flights over populous areas, public gatherings and other areas

This chapter proposes requirements for flight over a populous area, a public gathering or other area. Some changes are proposed that are intended to make compliance easier for all operators.

The minimum height for flight over a populous area or public gathering is proposed to be 1000 ft above the highest feature or obstacle within a horizontal radius of 100 m unless the aircraft is:

- taking off or conducting manoeuvres necessary to achieve a safe landing
- engaged in a missed approach
- conducting an air display
- engaged in a procedure to determine the suitability of a landing area for a landing.

A suitable landing area for a Part 131 aircraft is proposed to mean a place where, in the reasonable opinion of the PIC and given the prevailing conditions, the aircraft can be safely landed without causing a hazard to persons or property on the ground or in/on the aircraft.

The existing CAAPs 92-3 and 157-1 have been withdrawn and any new recommendations may be included in updates to AC 131-02 or other guidance material.

Following input from the Part 131 MOS TWG CASA has commenced a review of the provisions of this chapter. In addition to this public consultation CASA will be engaging directly with industry participants to seek further feedback.

A.2.9 Chapter 9 - Dropping things from a Part 131 aircraft

This chapter proposes that fine sand or water used for ballast, competition markers and wind indicators may be dropped from a balloon if there is no hazard to persons or property on the ground. It is proposed that parachute drops must be conducted in accordance with the requirements in the Part 105 MOS that will contain a section for balloon operators.

The MOS also proposes that if an operator plans to drop any other substance or object certain conditions concerning the carriage of the substance or object and its release will apply.

A.2.10 Chapter 10 - Use of supplemental oxygen equipment

This chapter will detail the proposed supplemental oxygen availability for, and use by, flight crew members and passengers on flights above 10 000 ft AMSL. Based on the FAA rules the requirements for Part 131 aircraft will align with the requirements for other small aircraft in Australia.

A.2.11 Chapter 11 - Additional requirements for specialised balloon operations

CASA has no current intent to utilise the legal ability under regulation 131.330 of CASR. This chapter is reserved to preserve the structure of the MOS in case any additional requirements for specialised balloon operations need to be created in the future. Any proposal to place requirements in this chapter would be subject to the MOS consultation requirements of Subpart 11.J of CASR.

A.2.12 Chapter 12 - Flight preparation

This chapter proposes requirements for the PIC of a Part 131 aircraft to make a considered weather assessment in the 2 hours before take-off. Operators must access at least one authorised forecast from the Bureau of Meteorology but may also access other relevant weather resources. Further guidance material may be included in an updated version of AC131-02 [AC 131-02 v2.0 - Manned free balloons - Operations \(casa.gov.au\)](#) or other guidance material.

A.2.13 Chapter 13 - Flight notification requirements

This chapter will set out the circumstances when the PIC of a Part 131 aircraft will be required to submit a flight plan, nominate a SARTIME for arrival, or leave a flight note with a responsible person. No changes to existing requirements are proposed.

The requirements for who is a responsible person and what communication devices they must have access to will be detailed.

A.2.14 Chapter 14 - Matters to be checked before take-off

This chapter does not propose to introduce new requirements but will set out in one place the matters that the PIC of a Part 131 aircraft must check before take-off. The PIC of a balloon transport operation will need to ensure that the requirements of the MOS, the AFM and the operator's documented procedures are complied with.

A.2.15 Chapter 15 - Air traffic services

No new requirements in relation to the use by a Part 131 aircraft of a class of airspace or a portion of a class of airspace are proposed in this chapter.

This chapter will set out the requirements for Part 131 aircraft operations in control zones, control areas, controlled aerodromes and classes of airspace.

A.2.16 Chapter 16 - Use of radio - broadcasts and reports

This chapter will prescribe the broadcasts and reports the PIC must make during a flight. No changes to the existing requirements are proposed but the detailed procedures will be consolidated in this chapter.

A.2.17 Chapter 17 - Operations at non-controlled aerodromes

This chapter does not propose to introduce any new rules but will set out in one place the requirements and precautions that must be observed when a Part 131 aircraft is operating at, or in the vicinity of, a non-controlled aerodrome. These include procedures for collision avoidance with other aircraft and height requirements for overflying the aerodrome that will depend on the pilot authorisation the PIC holds.

A.2.18 Chapter 18 -Flights over water

This chapter proposes some new requirements for Part 131 aircraft conducting a flight over a body of water such as the sea, a lake, a bay or an estuary.

This chapter will describe the requirements for the PIC of a Part 131 aircraft that is planning to fly, or may reasonably be expected to unintentionally fly, over a body of water where in the event of an emergency the pilot may need to land or ditch on the water. It is proposed that the PIC of a Part 131 aircraft, and the operator of a balloon transport operation, must take into account the risks of a flight over water and the chances of survival of persons on the aircraft in the event of a landing or ditching in the water. The results of this assessment will inform the necessary mitigation measures such as determining the search and rescue facilities available and the emergency and survival equipment that may be necessary to carry on board for extended flight over water.

A.2.19 Chapter 19 - Visual flight rules

This chapter sets out the requirements for a Part 131 aircraft operating VFR by day or night. No new requirements are proposed.

A.2.20 Chapter 20 - Operation of a tethered Part 131 aircraft other than a subpart 131.Z of CASR tethered gas balloon

Requirements for tethering a balloon are currently set out in regulation 260 of CAR. This chapter proposes that a person may not operate a Part 131 aircraft in tethered flight:

- on the movement area or on a runway of an aerodrome
or
- within 4 000m of the aerodrome
or
- above 300 ft AGL

unless the person has an approval from CASA under regulation 131.035 of CASR, or ATC if operating at or within 4000 m of a controlled aerodrome and the control zone is active.

It is proposed that a person must not operate a Part 131 aircraft in tethered flight in such a manner as to create an obstruction to an aircraft taking off from, or approaching for landing at, the following areas of an aerodrome:

- a marked rotorcraft landing area
- a rotorcraft landing area identified as such in the authorised aeronautical information
- a runway.

Further guidance material may be included in an updated version of AC131-02 or other guidance material.

A.2.21 Chapter 21 - Fuel and ballast requirements

This chapter will set out in one place the proposed requirements relating to usable fuel and ballast for the flight of a Part 131 aircraft. The minimum trip fuel or ballast that may be carried on a Part 131 aircraft will be that sufficient for 30 mins of flight except for hot air balloons with a single fuel tank in which case the minimum will be 15 mins of flight time.

Balloon transport operators will be required to plan to carry sufficient trip fuel for the planned operation and to consider extra fuel for flights where landing opportunities may be limited such as over metropolitan areas. In any event it is proposed that balloon transport operators must plan to land with a final reserve fuel of 20 mins of flight time which is intended only for emergency use.

The PIC will be required to have procedures for determining the quantity of fuel that must be carried, for monitoring fuel usage in flight and procedures to be followed if a precautionary landing is required.

A.2.22 Chapter 22 - Carriage of persons requiring assistance

No new requirements are proposed regarding the carriage of persons requiring assistance due to sickness, injury or disability. This chapter will set out in one place the conditions and procedures that apply to both any Part 131 aircraft and a balloon transport operator.

It is proposed that the PIC must be satisfied that a person requiring assistance can be carried safely and that the safety of the flight and other passengers will not be affected. The exposition of a balloon transport operator must contain the procedures for the hazard assessment and management of the carriage of a person requiring assistance.

A.2.23 Chapter 23 - Passengers - safety briefings and instructions

This chapter will set out in one place when a passenger on a Part 131 aircraft must receive a safety briefing, what should be included in the briefing, how a briefing may be delivered and who may give a briefing.

It is proposed that the briefings given to passengers on a balloon transport flight must include information about access to the launch area and any equipment in the area including inflation fans. All information and procedures used by a balloon transport operator must be included in the operator's exposition. Further guidance is provided in AC 131-02.

A.2.24 Chapter 24 - Loading weights

As with any aircraft it is important that a Part 131 aircraft is loaded correctly, and the maximum loading weight is not exceeded. For some large hot air balloons, a minimum loaded weight is

also specified by the manufacturer. This chapter will set out the proposed matters that must be considered by the PIC when calculating the total weight of the aircraft including the fuel and weight of all persons on board.

It is proposed that balloon transport operators will be permitted to use an exposition-derived weight for passengers which will be the passenger weight calculated using procedures described in the operator's exposition. Actual and standard CASA weights will also be available as methods of calculating the total passenger weight. Guidance material on exposition derived weight is published in [MULTI-PART AC Multi-part AC 121-05, AC 133-04 and AC 135-08 - Version 1.1 - Weight and balance \(casa.gov.au\)](#).

A.2.25 Chapter 25 - Carriage of passengers

This chapter will set out in one place the number of passengers that may be carried on a Part 131 aircraft depending on the activity or operation being conducted.

No change is proposed in the requirements for the number of trained ground crew persons to assist the PIC of a balloon transport operation.

It is proposed that children under the age of 13 yrs must be accompanied by an adult on a balloon transport operation.

Balloon transport operators will be required to detail in their exposition their operating procedures and training for pilots and ground crew in relation to passenger management.

A.2.26 Chapter 26 - Equipment

This chapter will set out in one place the requirements for equipment that may be installed or carried on a Part 131 aircraft. Equipment includes instruments, indicators, radios, surveillance equipment, first aid kits, fire extinguishers, oxygen equipment, survival equipment, night-flight lighting, and pilot restraint harnesses. It is not proposed to introduce any changes to most of these requirements.

A new requirement is proposed for pilot restraint harnesses. It is proposed that the PIC, or the PIC under supervision if operating the controls of a balloon transport operation, must wear a pilot restraint harness at least for take-off and landing and when operating below 500 ft AGL. A pilot restraint harness may significantly reduce the severity of injuries to the pilot and passengers in the event of an accident where the pilot may be ejected from the basket. An exemption is provided for balloons with a basket where the design of the basket is such that the harness cannot be safely fitted.

The general requirements for the operation of surveillance equipment including a transponder and when the transponder is to be carried will be clearly set out. The operator of a Part 131 aircraft without engine driven electrical power generation operating in Class C airspace below FL 290 may use an approved ADS-B out configuration, or an approved mode S transponder with Class B TABS position source device configuration, or an approved transponder. The optional surveillance equipment requirements will also be detailed.

A.2.27 Chapter 27 - Flight crew - qualifications and training for pilots

Licensing of pilots for Part 131 aircraft will be the subject of ongoing regulation reform. In the meantime, Part 5 of CAR and CAO 40.7 will remain in force.

This chapter will prescribe that the holder of a pilot authorisation or licence must, before flight, meet any current training or checking requirements including the balloon flight review requirements.

It is proposed that balloon transport operators will be required to have procedures for induction training and on-going competency checks of emergency procedures for pilots at 24-month intervals. The persons who may conduct an emergency procedures competency check and rules around the timing and recording of the check results will be detailed in this chapter.

A.2.28 Chapter 28 - Operating safety-critical personnel other than flight crew

This chapter will set out the proposed training and checking requirements for the ground support personnel engaged on a balloon transport operation.

Balloon transport operators will be required to have procedures for induction training and on-going competency checks of emergency procedures for ground support crew at 24-month intervals. The persons who may conduct an emergency procedures competency check and rules around the timing and recording of the check results will be detailed in this chapter.

A.2.29 Chapter 29 - Tethered gas balloons

Under the rules before Part 131 of CASR, the only rule designed for permanently tethered gas balloons was regulation 260 of CAR which specified a minimum distance from an aerodrome and a maximum height restriction.

Subpart 131.Z of CASR contains the regulations dealing with this kind of balloon. A person operating this type of balloon will not need to hold a pilot authorisation.

In Subpart 131.Z, there are regulations requiring a specific approval to be held to operate this kind of balloon (with operation therefore also subject to any conditions set out in the approval). This chapter will prescribe that a tethered gas balloon may only be operated in accordance with the aircraft flight manual and operated by trained personnel.

Operation of a tethered gas balloon will be subject to the conditions set out in the required regulation 131.035 approval.