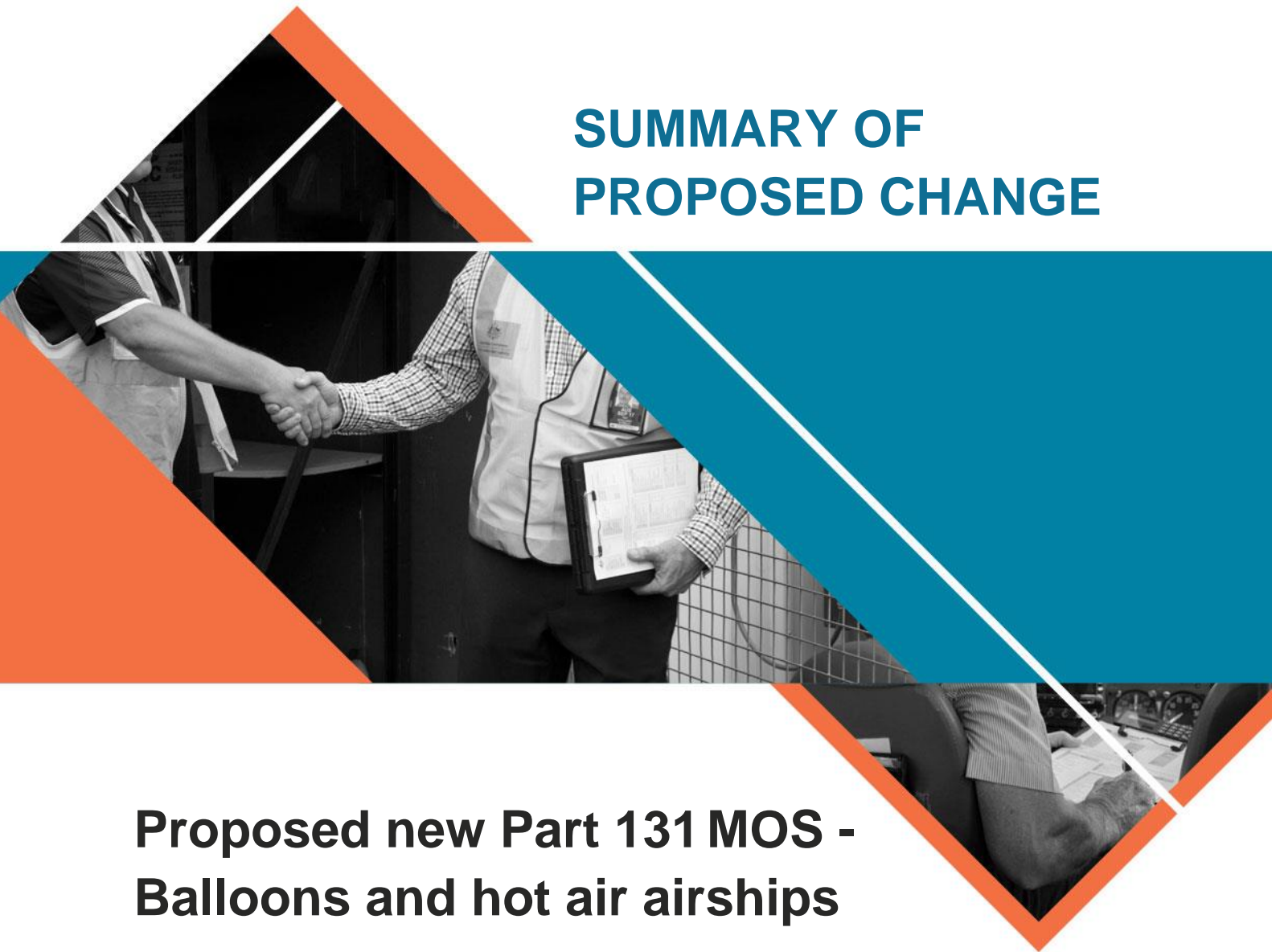




SUMMARY OF PROPOSED CHANGE



Proposed new Part 131 MOS - Balloons and hot air airships

Part 131 (Balloons and Hot Air Airships) Manual of Standards

Date	August 2021
Project number	OS 00/08
File ref	D20/361825

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. These aircraft are hot air balloons, hot air airships, gas balloons and mixed gas/hot air balloons (called *Part 131 aircraft* in the proposed rules). Subpart 131.Z contains a small number of rules that apply to permanently tethered gas balloons that are subject to specific standards of operation.

The [Part 131 of CASR regulations](#) are scheduled to begin 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 is proposed to have an accompanying Manual of Standards (MOS). MOSs contain technical requirements and support their parent regulations in a similar manner to the Civil Aviation Orders (CAO) that support the *Civil Aviation Regulations 1988 (CAR)*.

Whilst most of the CAR and CAO relating to flight operations will be repealed when Part 131 begins, the regulations in Parts 4 and 5 of CAR containing the requirements for continuing airworthiness of manned free balloons and commercial balloon licensing and training, will remain in force after the introduction of Part 131. The migration of these requirements into the CASR is a future body of work that will begin in late 2021 or early 2022. Existing CAO elements that apply to AOC holders conducting balloon flying training is proposed to be included in a single new CAO that replaces CAO 82.7.

Compared to the CAR and CAO, 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 can be commercial or non-commercial).
- *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 can currently be taken to be a reference to the Australian Ballooning Federation Inc (ABF).

The Part 91 regulations and MOS contain rules and definitions that in some cases apply to Part 131 aircraft. The following list summarises the 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 to the Chicago Convention.

- [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 (see Chapter 27 of the [Part 91 MOS](#)).
- [Regulation 91.930](#) (requirements for minimum equipment lists (MEL)) sets out requirements for if an MEL is used (see also Chapter 28 of the [Part 91 MOS](#)). There are no 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 document outlines the key changes contained in the proposed Part 131 MOS. Appendix A of this document contains an outline of each chapter of the proposed MOS.

CASA seeks industry and public comment on the attached consultation draft of the Part 131 MOS. It is proposed that the MOS will begin on 2 December 2021 in line with the rest of the flight operations regulations.

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Reference material

Acronyms

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

Acronym	Description
ABF	Australian Ballooning Federation Inc
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>
ETA	estimated time of arrival
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

Regulations

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
Civil Aviation Legislation Amendment Regulations 2020	Flight operations - Miscellaneous Amendments
Civil Aviation Legislation Amendment Regulation 2021	Flight Operations - Consequential Amendments and Transitional Provisions
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 95.53	Exemptions from provisions of the CAR 1988 - manned balloons and hot air airships - aerial work and charter operations
CAO 95.54	Manned balloons and hot air airships - private operations

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 circulars are available at <http://www.casa.gov.au/AC>

CASA's Civil Aviation Advisory Publications are available at <http://www.casa.gov.au/CAAP>

Document	Title
AC 131-01	Manned free balloons - Continuing airworthiness
AC 131-02	Manned free balloons - Operations

Key change proposals

This section outlines the specific key change proposals in the proposed Part 131 MOS. While there might be additional isolated changes of a minor nature for some operators, the changes listed here are those that are most likely to affect a significant majority of existing operators and would therefore trigger a necessity to modify existing operations manuals.

Flight related documents (Chapter 5 of the proposed MOS)

Key change 1

Flight related documents may be carried as electronic copies.

Note:

In accordance with regulation 131.265, 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 existing (see 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 pilot-in-command (PIC) keeps a journey log. This aligns the requirements of Part 131 of CASR with the other new requirements in the CASR.

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. An example is the PIC's personal logbook and the aircraft technical log.

Emergency and survival equipment information (Chapter 7 of the proposed MOS)

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

Minimum height over populous areas and public gatherings (Chapter 8 of the proposed MOS)

Key change

It is proposed that the minimum height for flight over a populous area or public gathering is 1000 ft above the highest feature or obstacle within a horizontal radius of 100 m (currently 300 m) except when the aircraft is engaged in the following activities:

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

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

Key change 1

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 of [Part 105 Parachuting from aircraft](#) and the Part 105 MOS (note that the Part 105 MOS will be the subject of a forthcoming separate public consultation) which will contain a section for balloon operators.

Key change 2

The MOS also 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.

Flight preparation (Chapter 12 of the proposed MOS)

Key change 1

The terms authorised weather forecasts and authorised weather reports are new terms and are defined in the CASR Dictionary.

Flights over water (Chapter 18 of the proposed MOS)

Key change

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.

No specific emergency equipment is required to be carried. Instead, the results of the risk assessment will inform the necessary mitigation measures such as determining the search and rescue facilities available and the emergency and survival equipment that it may be necessary to carry on board.

Operation of tethered Part 131 aircraft other than a Subpart 131.Z of CASR tethered gas balloon (Chapter 20 of the proposed MOS)

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 300ft AGL, unless the person has an approval in writing from CASA or, for an active controlled aerodrome, ATC.

Key change 2

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.

Fuel and ballast requirements (Chapter 21 of the proposed MOS)

Key change 1

Definitions of *final reserve fuel*, *trip 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 planned flight.

Key change 2

It is proposed that balloon transport operations must plan to land with a final reserve fuel of 20 mins of flight time that is intended for emergency use only. Hot air balloons and hot air airships conducting night operations would be required to carry sufficient fuel to ensure a landing by day. All operators would be required to carry sufficient fuel for the planned trip.

Passenger safety briefings (Chapter 23 of the proposed MOS)

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.

Carriage of children (Chapter 25 of the proposed MOS)

Key change

It is proposed that children under the age of 13 yrs must be accompanied by an adult on a balloon transport operation. An adult is defined in the CASR dictionary as a person over the age of 13 yrs.

Equipment (Chapter 26 of the proposed MOS)

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

Key change 2

It is proposed that the PIC, or the PIC under supervision operating the controls, of a balloon transport operation must wear a pilot restraint harness at least 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. An exception is provided for balloons with a basket where the design of the basket is such that the harness cannot be safely fitted.

Key change 3

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.

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

Key change

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 (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

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 (increase in time for emergency procedures competency compared to 12 months under CAO 20.11).

Chapter 29 - Tethered gas balloons

Key change

No regulations in Australia are currently designed for tethered gas balloons besides regulation 260 of CAR which only specifies a minimum distance from an aerodrome and maximum height restriction. Part 131 of CASR includes a subsection 131.Z that deals with rules for this kind of balloon. This chapter will prescribe that a tethered gas balloon may only be flown in accordance with the aircraft flight manual and operated by trained personnel. A person operating this type of balloon will not need to hold a pilot authorisation.

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

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 consolidated 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 until the balloon licensing and maintenance rules were integrated in the CASR.

Following the making of the regulations, a Part 131 of CASR Technical Working Group (TWG) was established, and the first meeting was held on 6 February 2020 where a detailed outline of the MOS topics and proposed content was discussed. Additionally, a sample of the draft PEG was reviewed.

Additional TWG meetings were held on 30 March and 20 April 2021 that reviewed in detail the legal draft of the proposed MOS. Several changes were made as a result of these discussions.

Impact on industry

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

However, in appropriate circumstances, the proposed requirements are intended to be more Part 131 aircraft specific and more outcome-based, thereby allowing greater flexibility to operators. The current CAO 95 series of exemptions from operational rules originally designed to apply to aeroplanes and helicopters should no longer be required, thus simplifying, to a limited extent, the rules as a whole for Part 131 aircraft.

Prior to the commencement of the new Part 131 rules CASA will develop and publish a Plain English Guide that combines the relevant Part 91 and Part 131 rules together in a single document. Where feedback from consultation identifies further guidance materials as necessary, CASA will endeavour to develop these materials in order of priority.

For existing AOC holders, CASA has provided [initial statements of transitional policies](#) on its website. Key elements of the transitional policy designed to minimise the transitional requirements for existing AOC holders are:

- Existing AOC authorisations will be deemed to be the relevant new authorisation. For example, an AOC that authorises charter operations in balloons will be deemed to be an AOC that authorises balloon transport operations and an AOC that authorises aerial work operations in a balloon will be deemed to be an approval for the same specialised balloon operation under regulation 131.035 of CASR.
- Existing operations manuals will be deemed to be the operator's exposition.
- By the commencement date, the operator needs to have provided CASA with a copy of their 'new' exposition—noting that this can be a series of documents or a single document at the discretion of the operator. In their 'new' exposition:
 - Part 131 balloon transport operators can use a translation matrix for the old regulatory references as an attachment. A mapping document will be published as guidance material.
 - Operators must include a change management process. CASA will be developing and publishing a sample change management process for balloon transport operators.

Recreational and sporting balloon activities will continue to be administered by the Australian Balloon Federation (ABF) as they intend to transition to become a Part 131 ASAO under Part 149 by July 2021 or earlier.

Safety risk analysis

In relation to the key changes, CASA has evaluated the potential safety risks associated with the changes, and evaluated the risks associated with current operations.

Emergency and survival equipment information

A requirement that balloon transport operators must have available, for immediate communication to a rescue coordination centre, information regarding the emergency and

survival equipment carried will facilitate search and rescue operations. This provision will be recommended for all Part 131 of CASR aircraft operations.

Minimum height over populous areas and public gatherings

Part 131 of CASR aircraft travel at slow horizontal speeds, generally less than 10 knots, but are capable of rapid rates of climb (up to 1000 fpm). Collision with obstacles while in flight over a populous area is therefore unlikely. It is proposed that for flight over a populous area or a public gathering, a Part 131 aircraft must be flown at a minimum height of at least 1 000 ft above the highest feature or obstacle within a horizontal radius of 100 m of the point on the ground or water immediately below the aircraft. The existing requirement for the horizontal radius is 300 m. A distance of 100 m is practical for balloons and will not affect air safety.

Dropping things from a Part 131 aircraft

It is proposed that dropping parachutists from a Part 131 aircraft must be conducted in accordance with the requirements specified in Part 131 and the procedures in Part 105 of CASR Parachuting from aircraft. This will ensure that these operations are conducted as safely as possible for the parachutists, the PIC, and any other persons on board the aircraft.

Flights over water

Devolving more responsibility to the PIC and balloon transport operators related to flights over water does result in the potential for decreased safety. However, noting the unique physical constraints of Part 131 aircraft and the variability of their operations, it is impractical to mandate which kinds of equipment must be carried for specific circumstances. Pilots and operators, in line with their responsibilities for the safety of persons on board the aircraft, must conduct risk assessments based on the knowledge, both present and historical, that is available to them to determine appropriate emergency and survival equipment. Balloon transport operators will be required to have on hand information related to emergency and survival equipment for immediate transmission to relevant bodies coordinating search and rescue.

Operation of tethered Part 131 aircraft other than a subpart 131.Z tethered gas balloon

Tethering a hot air balloon is a low-risk activity conducted with safety measures that will prevent any possibility of the balloon breaking free. Regulation 260 of CAR that prescribes the distance from an aerodrome states that a fixed balloon or kite may be operated and was intended to apply to fixed balloons and kites that might be a hazard to air navigation. The existing restriction that the maximum height of the crown of a tethered balloon not rising above 300 ft AGL will remain, as will the minimum distance of 4000 m from an aerodrome without written approval. CASA may grant approval or in the case of an active controlled aerodrome ATC may grant written approval. It is proposed that a person must not operate a tethered Part 131 aircraft in such a manner as to cause a hazard to other aircraft taking off or landing at a runway or a rotorcraft landing area.

Fuel and ballast requirements

Operators of Part 131 aircraft will be required to consider the quantities of fuel or ballast that must be carried before a planned flight. Trip fuel taking into account load, weather, planned

duration, other and unforeseen factors must be considered in the planning stage. A final reserve fuel sufficient for 20 mins of flight to be remaining on final landing will be defined for balloon transport operators. These measures will ensure operators also consider terrain and location (metropolitan or rural) before flying, and plan to take-off with sufficient fuel or ballast to ensure a safe landing. Balloon transport operators will be required to document their fuel calculation and fuel usage monitoring procedures in their expositions.

Passenger safety briefings

It is proposed that the safety briefing provided to passengers intending to take a balloon transport flight must include a briefing on the hazards that exist on the launch field and include a full briefing before take-off and a pre-landing briefing. Clearly setting out the requirements in the MOS will ensure that passengers are made fully aware of hazards and procedures both on the ground and in the air.

Carriage of children

Children under the age of 13 yrs planning to take a balloon transport flight who are unaccompanied by an adult may fail to understand a safety briefing, may fail to observe safety procedures, or may become anxious or scared. Most balloon transport operators already require that children under 13 yrs are accompanied by an adult. The proposed requirement would ensure children taking a balloon transport flight would be supervised and kept safe.

Equipment

Most large hot air balloon baskets used for balloon transport are required to be fitted with a pilot restraint harness for type certification. There is currently no legislative requirement for the PIC to wear a fitted pilot restraint harness. The proposed provision to require the PIC of a balloon transport flight to wear a fitted pilot restraint harness for take-off and landing will prevent the pilot from being ejected from the basket in the event of an unexpected hard landing. It will be recommended that the pilot restraint harness be worn throughout the flight.

Induction and ongoing competency of flight crew and ground support crew

It is proposed that all safety-sensitive employees of a balloon transport operator will be required to undertake thorough induction training and be assessed as competent before beginning duty. Balloon transport operators are small organisations, and all employees work closely together to ensure operations are conducted as safely as possible. Extending the re-checking of emergency procedures period from 12 months to 24 months is not intended, or expected, to reduce aviation safety but will ease the administrative burden on operators. It is proposed to make it easier for operators to appoint an appropriate person to conduct the required competency checks.

Tethered gas balloons

Tethered gas balloons are not equipped for free flight and are controlled by a trained operator rather than a pilot. There are currently no legislative requirements other than a maximum height AGL for operation and a minimum distance from an aerodrome. The proposed section of the MOS will ensure there are clear rules for the operation of tethered gas balloons.

Regulation impact statement

In line with normal practice, CASA will submit a regulation impact statement (RIS) to the Office of Best Practice Regulation (OBPR) for their assessment once the feedback from this consultation has been assessed and any necessary policy changes have been determined.

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 Part 131 MOS should be submitted through the online response form by close of business 13 September 2021.

Appendix A

Part 131 MOS - Proposed 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.1.1 Key proposals in the Part 131 MOS

Chapter 1 - Definitions

The definitions for terms and acronyms used in the MOS are set out in chapter 1 of the MOS. Once finalised 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.

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 also sets out the requirements for VFR and Special VFR. No change in the current VMC or VFR requirements is proposed.

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.

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 have an alternative approved fatigue management system. Appendix 4A of the order is designed specifically for balloon transport operators - guidance material and an operations manual template for operators is already published on the CASA website.

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 that a flight note, and passenger list, are left with a person on the ground for the duration of the flight. Regulation 131.280 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 pilot-

in-command (PIC) keeps a journey log. This requirement may be satisfied by pilot and aircraft logbook entries and a separate document may not be required.

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. The overall outcome is intended to be very similar to the existing requirements.

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, for example for 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.

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

This chapter proposes the 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 given the prevailing conditions, the aircraft can be safely landed without causing a hazard to persons or property on the ground or on the aircraft.

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

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 of [Part 105 Parachuting from aircraft](#) 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.

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.

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.

Chapter 12 - Flight preparation

This chapter proposes requirements for the PIC of a Part 131 aircraft to make a considered weather assessment. Further guidance material will be included in an updated version of AC131-02 or other guidance material.

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 from existing requirements are proposed.

The requirements for who is a responsible person will be detailed.

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 operation will need to ensure that the requirements of the MOS, the AFM and the operator's documented procedures are complied with.

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.

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.

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.

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, bay or 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 it may be necessary to carry on board.

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.

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 the 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 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.

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 consider extra fuel for flights where landing opportunities may be limited such as 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 that is intended for emergency use only.

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.

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.

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.

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 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 this topic will be published in a multi-part AC.

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. An adult is defined in the CASR dictionary as a person over the age of 13 yrs.

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.

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. 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 a 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.

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. CAO 95.54 will also remain in force until July 2022 unless the Australian Balloon Federation transitions to become a Part 149 organisation operating in accordance with Part 131 before 2 December 2021.

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 (BFR) requirements. Part 5 of CAR and CAO 40.7 are empowered.

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.

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.

Chapter 29 - Tethered gas balloons

No regulations in Australia are currently designed for tethered gas balloons besides regulation 260 of CAR. Part 131 includes a subsection 131.Z that deals with rules for this kind of balloon. This chapter will prescribe that a tethered gas balloon may only be flown in accordance with the aircraft flight manual and operated by trained personnel. A person operating this type of balloon will not need to hold a pilot authorisation.

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