Explanatory Statement

Acts Interpretation Act 1901

Civil Aviation Safety Regulations 1998

Part 131 (Balloons and Hot Air Airships) Manual of Standards 2024

Purpose
The *Part 131 (Balloons and Hot Air Airships) Manual of Standards 2024* (the ***MOS***) sets out the standards for lighter-than-air aircraft that are intended for free flight under the control of a pilot.

The MOS is made under Part 131 of the *Civil Aviation Safety Regulations 1998* (***CASR***). The MOS consolidates the existing rules of the air and contains some new rules to enhance operational flexibility and improve aviation safety.

The MOS will commence on 12 November 2024, reflecting a 11-month transition period for the relevant ballooning industry.

Legislation
The *Civil Aviation Act 1988* (the ***Act***) establishes the regulatory framework for maintaining, enhancing and promoting the safety of civil aviation, with particular emphasis on preventing aviation accidents and incidents.

Subsection 98 (1) of the Act provides, in part, that the Governor-General may make regulations, not inconsistent with the Act, prescribing matters required or permitted by the Act to be prescribed, or necessary or convenient to be prescribed, for carrying out or giving effect to the Act. CASR is made under the Act.

Part 131 of CASR deals with balloons and hot air airships. It applies primarily 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 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.

Part 131 commenced on 2 December 2021. It established a regulatory model that, together with Part 91 of CASR, is designed to:

- consolidate existing requirements contained in the *Civil Aviation Regulations 1988* (***CAR***), including regulations 259 and 260, as well as a range of Civil Aviation Orders and instruments dealing with requirements or exemptions for piloted balloon operations
- provide more transparent and comprehensible aviation safety requirements by consolidating the general operational and flight rules
- modernise the regulatory framework by recognising developments in technology
- introduce the new concepts of "balloon transport operations" and "specialised balloon operations" that replace "charter operations" and "aerial work", respectively
- introduce the concept of a Part 131 recreational activity for private and sporting activities
- introduce certain new rules to enhance operational flexibility
- enhance aviation safety by providing a more active regulatory focus on managing the safety risks associated with passenger transport operations and achieve required safety outcomes in a manner that is best suited to the operator.

Under regulation 131.055 of CASR, the Civil Aviation Safety Authority (***CASA***) may issue a Manual of Standards for Part 131 that prescribes matters required or permitted by that Part to be

prescribed, or necessary or convenient to be prescribed, for carrying out or giving effect to Part 131 of CASR. This power is complemented by other provisions, throughout Part 131, which empower CASA to prescribe specific matters in the MOS. The MOS is issued to achieve the new regulatory model for the continued safe conduct of lighter-than-air aircraft that are intended for free flight under the control of a pilot.

For convenience in this Explanatory Statement, unless a contrary intention appears, mention of a provision with the prefix "131." is a reference to that provision in Part 131 of CASR.

The Part 131 MOS

The MOS sets out detailed requirements and safety standards for the conduct of free flight of lighter-than-air aircraft under the control of a pilot and are designed to mitigate the risks that might impact on the continued safe conduct of flight.

As far as possible in the context of the matters to be addressed, the MOS has been drafted in as plain a style of English presentation as the technical nature of the material will allow, to ensure that the document is, and is usable as, a practical manual. It contains numerous lists of various procedural and equipment requirements to be observed by a pilot in command to ensure safe flight.

This Explanatory Statement provides a Note on, or a reference to, every Chapter, Division and section of the MOS, to explain the purpose and operation of the instrument, as required by section 15J of the *Legislation Act 2003* (the ***LA***) but it is not a repeat of the highly technical content of the MOS, or in any sense a reader's substitute for the MOS. It provides a general explanation of the purpose and operation of the MOS as required by section 15J.

In support of the MOS, and before it commences on 12 November 2024, CASA will publish free and easily accessible guidance materials, including acceptable means of compliance documentation which can form the basis of exposition content for Part 131 operators. These will offer practical guidance on many discrete issues dealt with in the MOS, and further explain the technical requirements of the MOS to ensure operator compliance. This material will, therefore, complement the explanations of the purpose and operation of the MOS given in this Explanatory Statement.

As might be expected for a subject matter that encompasses all balloon and hot air airship operations in Australia for Australian and domestic foreign-registered civil aircraft, the MOS is highly detailed and prescribes safety standards for a very wide range of matters. However, the following provides a summary overview of the structure and content of the 29 Chapters of the MOS:

- Chapter 1 provides the name, commencement and authority of the MOS. It also provides definitions and abbreviations, and addresses how certain documents are referenced, applied, adopted or incorporated (***called up***)
- Chapter 2 makes prescriptions for certain specialised definitions in the CASR Dictionary
- Chapter 3 would make prescriptions for other definitions for Part 131 of CASR — however, no requirements are currently prescribed. Therefore, this section has been reserved to preserve the MOS structure for future provisions that would be appropriate following consultation
- Chapter 4 would prescribe the requirements for personnel fatigue management — *Civil Aviation Order 48.1 Instrument 2019* currently applies to the holder of a balloon transport Air Operator's Certificate (***AOC***) to prescribe fatigue risk management requirements. Chapter 4 is, therefore, reserved to provide for CASA to eventually move the requirements of the Civil Aviation Order into the MOS

- Chapter 5 prescribes the requirements for the keeping, carriage and updating of certain flight-related documents
- Chapter 6 prescribes the requirements for reporting and recording certain information relevant to a flight
- Chapter 7 prescribes the requirements for information about emergency and survival equipment
- Chapter 8 prescribes the requirements for flight of a Part 131 aircraft over a populous area or a public gathering
- Chapter 9 prescribes what may be lawfully and safely dropped from a Part 131 aircraft
- Chapter 10 prescribes the requirements for the use of supplemental oxygen equipment
- Chapter 11 would prescribe the additional requirements for specialised balloon operations. However, no requirements are currently prescribed. This Chapter has been reserved to preserve the MOS structure for any future provisions that would be appropriate following consultation
- Chapter 12 prescribes the flight preparation requirements
- Chapter 13 prescribes the flight notification requirements
- Chapter 14 prescribes the matters to be checked before take-off
- Chapter 15 prescribes the air traffic services requirements
- Chapter 16 prescribes the requirements for the use of radios to make broadcasts and reports
- Chapter 17 prescribes the requirements for operations at non-controlled aerodromes
- Chapter 18 prescribes the requirements for flights over water
- Chapter 19 prescribes the visual flight rules requirements
- Chapter 20 prescribes the requirements for the operation of tethered Part 131 aircraft other than tethered gas balloons
- Chapter 21 prescribes the fuel and ballast requirements
- Chapter 22 prescribes requirements for the carriage of persons requiring assistance
- Chapter 23 prescribes requirements for safety briefings and instructions to be given to passengers
- Chapter 24 prescribes the loading weights requirements
- Chapter 25 prescribes the requirements for the carriage of passengers
- Chapter 26 prescribes the requirements for equipment
- Chapter 27 prescribes the requirements for flight crew qualifications and training
- Chapter 28 prescribes the requirements for ground support personnel
- Chapter 29 prescribes the requirements for tethered gas balloons.

More details on the provisions of the MOS are set out in Appendix 2 of this Explanatory Statement.

Legislation Act 2003

Under subsection 8 (4) of the LA, an instrument is a legislative instrument if it is made under a power delegated by the Parliament, and any provision determines the law or alters the content of the law, and it has the direct or indirect effect of affecting a privilege or interest, imposing an obligation, creating a right, or varying or removing an obligation or right. The MOS satisfies these requirements.

Under paragraphs 98 (5A) (a) and (5AA) (a) of the Act, an instrument made under regulations is a legislative instrument if it is issued in relation to matters affecting the safe navigation and operation of aircraft and is expressed to apply to classes of persons.

Based on each of these criteria, the MOS is a legislative instrument subject to registration, and tabling and disallowance in the Parliament, under sections 15G, and 38 and 42, of the LA.

Sunsetting
Under paragraph 54(2)(b) of the LA, Part 4 of Chapter 3 of the LA (sunsetting of legislative provisions) does not apply in relation to a legislative instrument if the legislative instrument is prescribed by regulation for the purposes of the paragraph. The table in section 12 of the *Legislation (Exemptions and Other Matters) Regulation 2015* sets out particular legislative instruments that are not subject to sunsetting for paragraph 54(2)(b). As far as is relevant, item 15 of the table specifies that an instrument relating to aviation safety made under CASR is not subject to sunsetting. Accordingly, the MOS is not subject to sunsetting.

The MOS deals with aviation safety matters which require a risk response or treatment plan. Accordingly, the MOS is intended to have enduring operation, and it would not be appropriate for the MOS to be subject to sunsetting.

The exclusion from sunsetting affects parliamentary oversight by not requiring the MOS to be remade and tabled before the end of the sunsetting period stated in Part 4 of Chapter 3 and, thereby, avoiding exposure to disallowance in the Parliament. In any event, the MOS is subject to tabling and disallowance in the Parliament, as would be any later amendments to it.

Incorporations by reference
Under subsection 98 (5D) of the Act, the MOS may apply adopt or incorporate any matter contained in any instrument or other writing. A non-legislative instrument may be incorporated into a legislative instrument made under the Act, as that non-legislative instrument exists or is in force at a particular time or from time to time (including a non-legislative instrument that does not exist when the legislative instrument is made).

Under paragraph 15J (2) (c) of the LA, the Explanatory Statement must contain a description of the incorporated documents and indicate how they may be obtained.

The MOS is empowered by Part 131 of CASR and provisions in the MOS make reference to provisions in other parts of the same legislative framework, for example, the following Parts of CASR, in force from time to time, and freely available on the Federal Register of Legislation:

- Part 21, which sets out the certification and airworthiness requirements for aircraft and aircraft equipment
- Part 31, which sets out the airworthiness standards for manned free balloons
- Part 91, which sets out certain standards, including rules of the air, that are applicable to all operations (unless an alternative rule is stated to apply)
- Part 105, which sets out the standards for parachuting operations
- Part 149, which sets out the standards for approved self-administering aviation organisations.

Incorporation by reference — further information
The following documents are copyright — commercial products for which there is a cost to obtain a copy:

- Annex 10 to the Convention on International Civil Aviation (the ***Chicago Convention***)

- Radio Technical Commission for Aeronautics (RTCA) DO – 229D, DO-260 and DO-260B.

These costs are not considered to be unreasonably onerous for operators to whom they are most relevant, but do involve a modest impost for some others, although academic and other researchers may obtain free access through university library subscriptions.

CASA has no effective control over these costs and it is considered extremely unlikely that the relevant owner of the intellectual property in the documents would sell CASA the copyright at a price that would be an effective and efficient use of CASA's appropriated funds, or would otherwise permit CASA to make the document freely available.

CASA has incorporated the documents in the instrument because, under the Chicago Convention, they are appropriate and necessary to modernise the safety regulatory scheme in the MOS, and because no other similar documents that serve the same aviation safety purpose are freely available.

CASA has noted the views of the then Senate Standing Committee on Regulations and Ordinances (in its report *Parliamentary scrutiny of delegated legislation*, tabled out of session on 3 June 2019) that:

> The incorporation of material by reference (particularly where that material is not publicly available) has been a longstanding concern for the committee. [para 3.65]

and:

> The committee appreciates that it may in some cases be costly to provide free, public access to all incorporated Australian and international standards. Nevertheless, the committee reiterates that one of its core functions is to ensure that all persons subject to or interested in the law may readily and freely access its terms. It intends to continue to monitor this issue. Any justification for a failure to provide for public access to incorporated documents, and any action the committee takes in relation to this matter, will be determined on a case-by-case basis. [para 3.75]

CASA appreciates the concerns of the Senate Standing Committee for the Scrutiny of Delegated Legislation and to mitigate the situation as far as currently practicable, where an incorporated document is copyright and not otherwise freely available to the general public, but is available to CASA as a licenced subscriber, CASA will, if permitted by the licence, and by prior arrangement, make CASA's copy available, for in-situ viewing, free of charge, at any office of CASA.

The Table set out in Appendix 3 identifies the international and domestic instruments and documents that have been called up in the MOS. The Table also identifies how the document may be obtained.

Consultation

CASA has developed the Part 131 MOS over a lengthy period of time through extensive consultation with the Aviation Safety Advisory Panel (***ASAP***), its Part 131 Technical Working Group (***TWG***) and the wider aviation community.

In March 2021, the Part 131 TWG first convened to evaluate the new CASR Part 131 and the MOS prior to public consultation. Between 4 August to 4 September 2023, CASA engaged in

public consultation on the proposals through the release of a Summary of Proposed Changes outlining the proposed MOS standards and including drafts of the proposed rules. The consultation received 21 responses which CASA reviewed with a view to considering changes to the draft MOS.

In November 2023, the TWG reconvened to review and discuss CASA's response to the feedback received during public consultation and provided their final recommendations to the ASAP. Based on these recommendations the ASAP endorsed making of the Part 131 MOS.

Impact analysis

An Impact Analysis was prepared by CASA for the new Part 131 of CASR (in the form of the then utilised Regulatory Impact Statement or RIS). This RIS also covered the MOS which the regulations empower. The RIS was assessed by the Office of Best Practice Regulation (***OBPR***, now the Office of Impact Analysis) as compliant with the Best Practice Regulation requirements and contained a level of analysis commensurate with the likely impacts (OBPR ID: 25640). A copy of the RIS was included in the Explanatory Statement for the new Part 131 regulations: Civil Aviation Safety Amendment (Part 131) Regulations 2019 (legislation.gov.au) https://www.legislation.gov.au/Details/F2019L01621/Explanatory%20Statement/Text.

Sector risk, economic and cost impact

Subsection 9A(1) of the Act states that, in exercising its powers and performing its functions, CASA must regard the safety of air navigation as the most important consideration.
Subsection 9A(3) of the Act states that, subject to subsection (1), in developing and promulgating aviation safety standards under paragraph 9(1)(c) of the Act, CASA must:

(a) consider the economic and cost impact on individuals, businesses and the community of the standards; and
(b) take into account the differing risks associated with different industry sectors.

The cost impact of a standard refers to the direct cost (in the sense of price or expense) which a standard would cause individuals, businesses and the community to incur. The economic impact of a standard refers to the impact a standard would have on the production, distribution and use of wealth across the economy, at the level of the individual, relevant businesses in the aviation sector, and the community more broadly. The economic impact of a standard could also include the general financial impact of that standard on different industry sectors.

The requirements in the MOS will have a cost impact on commercial Part 131 aircraft operators, essentially in the form of the administrative and personnel costs involved in developing new, or amending existing, expositions in order to comply with the requirements of the MOS. It is considered that this cost will be a relatively small, one-off, impost for the commercial passenger-carrying operations.

Sector risk

The MOS relates primarily 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*) engaged in balloon transport operations and specialised balloon operations that replace the former descriptors of "charter operations" and "aerial work", respectively. Subpart 131.Z of 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 MOS is devised exclusively for the safety of the ballooning sector.

Whilst the instrument will apply to individuals or businesses located in regional or rural areas, the impact on these individuals or businesses is relatively small as mentioned above. In addition, there should be no disproportionate impact on businesses that operate in regional or rural areas.

Statement of Compatibility with Human Rights

A Statement of Compatibility with Human Rights is at Appendix 1. This concludes that the MOS is compatible with human rights and, to the extent that it may also limit human rights in some particular respects, those limitations are reasonable, necessary and proportionate to ensure the safety of aviation operations and to promote the integrity of the aviation safety system.

Commencement and making

The MOS commences on 12 November 2024. The intention is to give the relevant ballooning industry about 11 months to make the safe transition to the requirements of the MOS.

The MOS has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 73 (2) of the Act.

Appendix 1

Details of the Part 131 (Balloons and Hot Air Airships) Manual of Standards 2024

CHAPTER 1 PRELIMINARY AND DEFINITIONS

Section 1.01 provides for the naming of the *Part 131 (Balloons and Hot Air Airships) Manual of Standards 2024* (the ***MOS***).

Section 1.02 provides that the commencement of the MOS is 12 November 2024.

Section 1.03 provides that the table of contents for the MOS is for guidance only and may be modified or edited in any published version of the MOS.

Section 1.04 provides that unless a contrary intention appears, a reference in a provision of the MOS to any instrument, document or legislative instrument is to be taken to be applied, adopted or incorporated, as in force or existing from time to time. A Note provides that an Aircraft Flight Manual (AFM) is considered a document. A second Note clarifies that a reference to an instrument or other document, which only occurs in a Note to a provision of the MOS, is not taken to be applied, adopted or incorporated for the MOS unless a contrary intention appears. Such references in Notes are to documents which may be used as guidance or background information. However, for completeness, such documents are also included in the Table under the heading List of Incorporated Documents.

Subsection 1.05 (1) provides that unless a contrary intention appears, a reference to a particular TSO is a reference to that TSO or a later version of that TSO.

Subsection 1.05 (2) provides that unless a contrary intention appears, a reference to a particular ETSO is a reference to that ETSO or a later version of that ETSO.

Subsection 1.05 (3) provides that unless a contrary intention appears, a reference to a particular (E)TSO is a reference to the relevant ETSO or TSO, or a later version of the relevant ETSO or TSO. Notes further explain the citation of these documents.

Section 1.06 provides definitions of large number key words, phrases and abbreviations used in the MOS.

CHAPTER 2 PRESCRIPTIONS FOR CERTAIN DEFINITIONS IN THE CASR DICTIONARY

Section 2.01 prescribes additional criteria for the definition of ***special VFR*** in the CASR Dictionary.

Section 2.02 prescribes additional criteria for the definition of ***VMC criteria*** in the CASR Dictionary.

CHAPTER 3 OTHER PRESCRIPTIONS FOR DEFINITIONS FOR PART 131 OF CASR

Section 3.01 is reserved for future use to preserve the MOS structure for any future provisions about ***specialised balloon operations*** that would be appropriate following consultation.

Section 3.02 is reserved for future use to preserve the MOS structure for any future provisions about ***Part 131 recreational activity*** that would be appropriate following consultation.

CHAPTER 4 PERSONNEL FATIGUE MANAGEMENT

Section 4.01 provides that the purpose of this Chapter is to prescribe the requirements for a balloon transport operator's system for managing flight crew fatigue.

Section 4.02 is reserved for future use. A Note mentions that *Civil Aviation Order 48.1 Instrument 2019* applies to the holder of a balloon transport AOC. This section is reserved to provide for CASA to eventually move the requirements of the Civil Aviation Order into the MOS.

CHAPTER 5 FLIGHT RELATED DOCUMENTS

Section 5.01 prescribes the documents that must be carried on a balloon or hot air airship for all flights, whether or not the flight begins or ends inside or outside Australian territory.

Section 5.02 prescribes the documents that must be carried on a balloon or hot air airship for flights that begin or end, or are conducted entirely, outside Australian territory.

Section 5.03 prescribes the information that must be recorded in the journey log before a flight begins.

Section 5.04 provides that a balloon transport operator's exposition must include procedures for keeping a passenger list that complies with the requirements of section 6.02 of the MOS, accessible to a person on the ground for the duration of the flight.

CHAPTER 6 REPORTING AND RECORDING INFORMATION

Section 6.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.285 (1) the requirements relating to recording, retaining, and reporting information for a Part 131 aircraft flight.

Section 6.02 prescribes that if the flight is a balloon transport or specialised balloon operation, or a training activity under paragraph 206 (a) of CAR, a passenger list must be prepared that records nominated information, unless such information is recorded in another document or is readily available from another source. The passenger list must include the aircraft's registration and flight number (if any), name of each passenger, date of the flight, location and estimated time of departure and be kept by the operator for at least 3 months after the flight.

Section 6.04 prescribes the other information that must be recorded as soon as practicable after each flight of a Part 131 aircraft, including:

- the flight time of the pilot in command (paragraph 6.04 (1) (a))
- the flight time of any other pilot permitted to operate the aircraft (paragraph 6.04 (1) (b))
- details of any incident relating to the flight that endangered or could have endangered the safe operation of the aircraft (paragraph 6.04 (1) (c))
- details of any flight training (paragraph 6.04 (1) (d))
- details of any defect that occurs during the operation of the aircraft for the flight (paragraph 6.04 (3) (a))
- any instance of an operating limit specified in the aircraft's flight manual being exceeded during the flight (paragraph 6.04 (3) (b)).

The information mentioned in subsection 6.04 (1) must be kept by the operator for at least 3 months for flights that are not Part 131 recreational activities, and in accordance with pilot logbook or Part 131 ASAO requirements for flights that are Part 131 recreational activities.

CHAPTER 7 EMERGENCY AND SURVIVAL EQUIPMENT INFORMATION

Section 7.01 prescribes information for emergency and survival equipment that must, when the flight begins, be available for immediate communication to a rescue coordination centre.

CHAPTER 8 FLIGHTS OVER POPULOUS AREAS, PUBLIC GATHERINGS AND OTHER AREAS

Section 8.01 provides that the purpose of this Chapter is to prescribe for paragraph 131.305 (1) (b) the requirements relating to flights of a Part 131 aircraft flight over a populous area or a public gathering. A Note provides that regulation 91.055 (aircraft not to be operated in manner that creates a hazard) applies at all times to a Part 131 aircraft.

Section 8.02 provides the minimum height rules for a Part 131 aircraft over a populous area or a public gathering and the instances in which such minimum height rules do not apply.

CHAPTER 9 DROPPING THINGS FROM AIRCRAFT

Section 9.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.310 (2) the kinds of things that may be dropped from a Part 131 aircraft. A Note provides that regulation 91.055 (aircraft not to be operated in a manner that creates a hazard) applies to a Part 131 aircraft.

Section 9.02 prescribes the substances or objects that may be dropped from a Part 131 aircraft and prescribes how the substance or object must be carried and dropped.

CHAPTER 10 USE OF SUPPLEMENTAL OXYGEN EQUIPMENT, ETC.

Section 10.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.320 (3) requirements about the use, by persons on board a Part 131 aircraft for a flight, of equipment to supply supplemental oxygen during the flight.

Section 10.02 sets out detailed requirements for the oxygen equipment and oxygen supplies required to be fitted or carried on Part 131 aircraft in a flight that is flown above 10 000 ft AMSL. Table 10.02 sets out the specific requirements for when supplemental oxygen must be available or used for various altitudes.

CHAPTER 11 ADDITIONAL REQUIREMENTS FOR SPECIALISED BALLOON OPERATIONS

Section 11.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.330 (1) additional requirements about the use of equipment carried or installed on a Part 131 aircraft conducting a specialised balloon operation.

Section 11.02 is reserved for future use to preserve the MOS structure for any future provisions that would be appropriate following consultation.

CHAPTER 12 FLIGHT PREPARATION

Section 12.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.340 (1) the requirements relating to flight preparation and weather assessments for a Part 131 aircraft.

Section 12.02 sets out the requirements for such flight preparation and weather assessments, including the forecasts, reports and information the pilot in command must study.

CHAPTER 13 FLIGHT NOTIFICATION REQUIREMENTS

Section 13.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.345 (1) the requirements relating to balloon flight notifications for flights of a Part 131 aircraft.

Section 13.02 sets out the circumstances in which a flight plan must be submitted and SARTIME (the contingency time nominated by a pilot for when a search and rescue operation should be commenced) nominated, and a flight note left with a responsible person.

Section 13.03 sets out the circumstances in which ATS must be notified of any changes to the submitted flight plan or to a nominated SARTIME.

Section 13.04 provides for when SARTIME must be cancelled.

Section 13.05 prescribes the requirements to be a responsible person for the purposes of receiving a flight note.

CHAPTER 14 MATTERS TO BE CHECKED BEFORE TAKE-OFF

Section 14.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.350(1) the checks to be carried out before take-off.

Section 14.02 prescribes the required pre-flight checks.

Section 14.03 provides the requirements for checking aircraft pressure altitude systems prior to take-off. For visual flight rules (***VFR***) flights a pressure altitude system is only operative with an accurate QNH (mean sea-level pressure) and the system reads site elevation to the prescribed limits.

Section 14.04 requires QNH and site elevation to only be considered accurate if provided by nominated sources. The QNH contained in an authorised weather forecast must not be used for checking the accuracy of a pressure altitude system.

CHAPTER 15 AIR TRAFFIC SERVICES — PRESCRIBED REQUIREMENTS

Division 15.1 Use of a class of airspace

Section 15.01 provides that the purpose of this Division is to prescribe for subregulation 131.353 (1) requirements in relation to the use of a class of airspace or a portion of a class of airspace by a Part 131 aircraft.

Section 15.02 prescribes requirements relating to transition altitude, transition layer and transitional level for the operation of a flight in any class of airspace, whether controlled or uncontrolled, that is within an Australian FIR.

Section 15.03 sets out requirements that the pilot in command must meet if the radiocommunication system becomes inoperative during an operation in any Australian domestic airspace.

Section 15.04 sets out the requirements that the pilot in command of a flight within a mandatory broadcast area, including one with a Surveillance Flight Information Service (***SFIS***) active must meet. Table 15.04 (3) prescribes the requirements for specific mandatory broadcast areas.

Division 15.2 Control zones, control areas, controlled aerodromes and classes of airspace

Section 15.05 provides that the purpose of this Division is to prescribe for subregulation 131.353 (1) the requirements in relation to the use of a control zone, a control area, a controlled aerodrome or a class of airspace by a Part 131 aircraft.

Section 15.06 sets out requirements for the operation of a Part 131 flight at a controlled aerodrome, including when a pilot in command must obtain ATC clearance.

Section 15.07 sets out that a pilot in command of a Part 131 flight must not enter a control zone or a control area that is Class A, B, C, D or E airspace without ATC clearance except when an ATC is not in operation for a control zone or control area, or where the flight is a VFR flight entering Class E airspace.

Section 15.08 sets out requirements for the operation of a Part 131 flight within a control zone or a control area.

Section 15.09 sets out the requirements for what the pilot in command of a flight must ensure is read back to an air traffic controller after receiving any ATC clearance or instruction to the use of a control zone, a control area, or a controlled aerodrome.

Division 15.3 Prohibited, restricted and danger areas

Section 15.10 provides that the purpose of this Division is to prescribe for paragraphs 131.353 (1) (a), (b) and (c) the requirements relating to the use of a prohibited area, a restricted area or a danger area by a Part 131 aircraft.

Section 15.11 includes a Note to refer to CASA's OAR 6-monthly *Declarations and Directions in relation to Prohibited, Restricted and Danger Areas, Etc – Permanent Instrument*, and the relevant Designated Airspace Handbooks.

Section 15.12 includes a Note to refer to CASA's OAR 6-monthly *Declarations and Directions in relation to Prohibited, Restricted and Danger Areas, Etc – Permanent Instrument*, and the relevant Designated Airspace Handbooks.

Section 15.13 sets out the requirements of when the pilot in command of a flight may fly within or across a danger area.

CHAPTER 16 USE OF RADIO — BROADCASTS AND REPORTS

Section 16.01 provides that the purpose of this Chapter is to prescribe for paragraph 131.354 (1) (b) the broadcasts and reports that the pilot in command must make during the flight of a Part 131 aircraft.

Section 16.02 provides that the prescribed broadcast and reports must be made on the relevant published radio frequency unless ATC agrees to the use of a different frequency for special flight circumstances. A Note describes examples of special flight circumstances.

Section 16.03 sets out the requirements for when a pilot in command of a Part 131 aircraft must ensure that broadcasts are made on CTAF for a non-controlled aerodrome.

Section 16.04 sets out the requirements for when a pilot in command of a Part 131 aircraft must ensure reports are made to ATC when on the ground at a controlled aerodrome or flying in controlled airspace. Table 16.04 (1) sets out certain circumstances in which reports must be made.

Section 16.05 sets out the requirements for when a pilot in command of a Part 131 aircraft must ensure reports are made to ATC when flying in Class E or Class G airspace. Table 16.05 (1) sets out certain circumstances in which reports must be made.

Section 16.06 sets out the requirements for when a pilot in command of a Part 131 aircraft must ensure broadcasts and reports are made when flying in a mandatory broadcast area with or without an active SFIS. Table 16.06 (1) sets out certain circumstances in which broadcasts must be made.

CHAPTER 17 OPERATIONS AT NON-CONTROLLED AERODROMES

Section 17.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.360 (1) the requirements for the operation of a Part 131 aircraft at, or in the vicinity of, a non-controlled aerodrome.

Section 17.02 prescribes requirements for Part 131 aircraft operating within 3 NM of a non-controlled aerodrome.

CHAPTER 18 FLIGHTS OVER WATER

Section 18.01 provides that the purpose of this Chapter is to prescribe for subregulations 131.365 (1) and (2) the requirements for the flight of a Part 131 aircraft over water.

Section 18.02 provides the definition for ***risk considerations***.

Section 18.03 sets out the requirements for flights that are planning to or may unintentionally fly over water where, in the event of an emergency, a landing or ditching in the water may occur. In these circumstances the pilot in command must:

- identify, consider and plan to take into account the risks of the operation, having regard to the risk considerations (subsection 18.03 (2))
- based on the identified risks, decide what emergency equipment to carry (subsection 18.03 (3)).

The obligations imposed on the pilot in command are equally applicable to the relevant balloon transport operator, including assuming responsibility for the lives of those on board the aircraft (subsections 18.03 (4) and (5)).

CHAPTER 19 VISUAL FLIGHT RULES

Section 19.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.367 (1) the requirements for the operation of a Part 131 aircraft for a VFR flight.

Section 19.02 prescribes requirements for the operation of a Part 131 aircraft for a VFR flight. The pilot in command must:

- ensure the aircraft is flown in accordance with the VMC criteria for the relevant airspace or the special VFR if authorised by ATC (subsection 19.02 (1))
- positively fix the aircraft's position by visual reference to features marked on topographical maps or at intervals not more than 30 minutes (subsections 19.02 (2) and (3))
- if the flight is at night under the VFR, not take off more than 1 hour before first light and ensure the aircraft does not land at night unless it is an emergency (subsection 19.02 (4)).

CHAPTER 20 OPERATION OF TETHERED PART 131 AIRCRAFT OTHER THAN A SUBPART 131.Z TETHERED GAS BALLOON

Section 20.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.375 (1) requirements for a flight of a Part 131 aircraft that is tethered to the ground for the flight, except for a flight of a Subpart 131.Z tethered gas balloon or Part 131 aircraft that is restrained prior to launch.

Section 20.02 sets out the requirements for the operation of Part 131 aircraft in tethered flight. A person must not operate a Part 131 aircraft in tethered flight:

- on the movement area, on a runway, or in a control zone of a controlled aerodrome unless the person has the approval of ATC (subsections 20.02 (1) and (2))
- on the movement area, or the runway, or within 2 NM of a non-controlled aerodrome listed in the AIP-ERSA unless the operator holds a CASA approval or the written permission of the operator of the relevant aerodrome
- if it will create an obstruction to an aircraft taking off from, or approaching for landing at, prescribed areas of an aerodrome (subsection 20.02 (5))

CHAPTER 21 FUEL AND BALLAST REQUIREMENTS

Section 21.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.385 (1) the requirements relating to fuel and ballast for a Part 131 aircraft, whether or not it is conducting a balloon transport operation.

Section 21.02 provides for the definitions for this Chapter.

Section 21.03 provides the general requirements for fuel and ballast, and the calculation of such matters, for the following:

- gas balloons (subsection 21.03 (1))
- mixed balloons (subsection 21.03 (2))
- fuel consumption data (subsection 21.03 (3))
- operation requirements (subsection 21.03 (4)).

Section 21.04 prescribes the amount of fuel that must be carried on board an aircraft for a flight and the requirements that the pilot in command must meet regarding the amount of usable fuel to be carried on board.

Section 21.05 requires the pilot in command to ensure that the amount of usable fuel is determined before the flight commences and that the amount of fuel is checked at regular intervals throughout the flight.

Section 21.06 sets out what the pilot in command of a flight must do if at any time during a flight the remaining usable fuel will be, or is likely to be, less than the fuel required under subsection 20.04 (3).

Section 21.07 provides that a balloon transport operator may use an operational variation relating to the calculation of trip fuel or night operations fuel, so long as the operational variation is specified in the operator's exposition and the operator submits nominated documents and evidence to CASA.

22 CARRIAGE OF PERSONS REQUIRING ASSISTANCE

Section 22.01 provides that the purpose of this Chapter is to prescribe for paragraph 131.405 (1) (b) the requirements for the carriage of a passenger on a flight of a Part 131 aircraft who is likely to require assistance.

Section 22.02 prescribes the requirements for when and how a passenger can be carried on a flight in a Part 131 aircraft if the passenger is ill, injured or has a disability.

Section 22.03 sets out the procedures relating to the carriage of persons requiring assistance that a balloon transport operator's exposition must contain.

CHAPTER 23 PASSENGERS — SAFETY BRIEFINGS AND INSTRUCTIONS

Section 23.01 provides that the purpose of this Chapter is to prescribe for regulation 131.410 the requirements for safety briefings and instructions, including information that must be included, for a passenger before and during a flight of a Part 131 aircraft.

Section 23.02 prescribes, for paragraph 131.410 (2) (a), the detailed safety briefing or instruction that must be given by the pilot in command or a designated person to a passenger before the Part 131 aircraft takes off for a flight. The information may be given verbally and through a related demonstration and must be able to be easily retained and applied, considering passengers who may not speak English.

Section 23.03 prescribes, for paragraph 131.410 (2) (a), the circumstances for when the pilot in command must give a safety briefing that reminds the passengers of the landing position and baggage stowage.

Section 23.04 provides that a balloon transport operator's exposition must contain the procedures and requirements for passenger safety briefings and instructions, details of when safety briefings and instructions must be given, and a description of the role and qualifications the persons, other than the pilot in command, who may give safety briefings and instructions.

CHAPTER 24 LOADING WEIGHTS

Division 24.1 Maximum loading weights

Section 24.01 provides that the purpose of this Division is to prescribe for subregulation 131.445 (2) the circumstances and the method for calculating the maximum weight of a Part 131 aircraft for a flight.

Section 24.02 sets out the detailed method used to calculate the maximum weight of the Part 131 aircraft for the flight, before the aircraft takes off for the flight.

Section 24.03 prescribes standard weights for passengers and crew.

Division 24.2 Minimum loading weights

Section 24.04 provides that the purpose of this Division is to prescribe for subregulation 131.445 (4) the circumstances and the method for calculating the minimum loading weight of a Part 131 aircraft for a flight.

Section 24.05 sets out the detailed method used to calculate the minimum loading weight of the Part 131 aircraft for a flight, before the aircraft takes off for the flight.

CHAPTER 25 CARRIAGE OF PASSENGERS

Section 25.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.455 (1) the requirements for the carriage of passengers on a Part 131 aircraft, including the maximum number of passengers allowed on the flight and their location on the aircraft.

Section 25.02 provides that this Chapter applies to the carriage of passengers on Part 131 aircraft engaged in a ***passenger operation***.

Section 25.03 prescribes the maximum number of passengers that may be carried for various passenger operations.

Section 25.04 provides that if the Part 131 aircraft has more than 2 passenger compartments, the pilot in command must be able to communicate with all passenger compartments from the control position for the aircraft.

Section 25.05 prescribes requirements relating to the location of passengers for the flight of a Part 131 aircraft.

Section 25.06 provides that a child must be accompanied by an adult. A Note provides the definition of ***child*** for the purposes of a Part 131 flight.

Section 25.07 prescribes the on-board equipment that must be available for passengers for a Part 131 flight.

Section 25.08 prescribes the procedures that a balloon transport operator's exposition must include to ensure that the requirements of this Chapter are complied with.

CHAPTER 26 EQUIPMENT

Division 26.1 General

Section 26.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.460 (1) the requirements for fitment, non-fitment and the carrying of equipment on a Part 131 aircraft.

Division 26.2 Approvals and visibility

Section 26.02 provides the circumstances in which equipment must meet the requirements of, or be approved under, Part 21 or Part 31 of CASR or other national aviation authority before a Part 131 flight. Items excluded from this requirement are also listed.

Section 26.03 sets out the requirements for visibility and accessibility of pilot-operated equipment or emergency equipment required to be carried on an aircraft for a flight.

Section 26.04 provides the requirements for the serviceability of equipment that must be fitted to, or carried on, an aircraft for a Part 131 flight.

Division 26.3 Flight instruments

Section 26.05 prescribes the equipment that must be fitted to, or carried on, an aircraft for a VFR flight by day, and sets out the requirements such equipment must meet. Aircraft excluded from this requirement are also identified.

Section 26.06 provides the additional requirements for equipment to be fitted to, or carried on, an aircraft that is a hot air airship for a VFR flight by day.

Division 26.4 Operational equipment

Section 26.07 provides the requirements for the fitment or the carriage of radiocommunication systems on an aircraft for a Part 131 flight.

Section 26.08 sets out the circumstances in which a Part 131 aircraft may begin a flight in controlled airspace with an inoperative radiocommunication system. This section applies only to a flight of a Part 131 aircraft that is not a balloon transport operation.

Section 26.09 prescribes the fuel and burner equipment that must be fitted to, or carried on, an aircraft except for gas balloons.

Section 26.10 prescribes the drop or handling line that must be fitted to, or carried on, a Part 131 aircraft, except for free gas balloons which must carry a natural fibre, or electrostatic conductive, trail rope.

Section 26.11 requires a Part 131 aircraft engaged in a balloon transport operations flight to be equipped with a specified pilot restraint harness, and specifies the times in which the pilot must wear the restraint harness.

Section 26.12 provides that survival equipment must be carried if the flight of a Part 131 aircraft will be conducted in or through a remote area.

Division 26.5 Lighting systems

Section 26.13 provides the requirements for specified lighting systems, including anti-collision lights, to be fitted to, or carried on, a Part 131 aircraft for a VFR flight at night.

Division 26.6 Oxygen equipment and oxygen supplies

Section 26.14 requires sufficient supplemental oxygen to be carried and made available to any person on board the Part 131 aircraft during flight. These requirements include how the oxygen must be stored and supplied.

Division 26.7 Emergency locator transmitters

Section 26.15 provides the requirements an emergency locator transmitter must comply with if fitted to, or carried on, a Part 131 aircraft.

Division 26.8 Portable emergency equipment

Section 26.16 requires a Part 131 aircraft to carry at least one portable fire extinguisher that is readily accessible to the pilot in command and compliant with a nominated standard.

Section 26.17 requires a Part 131 aircraft to be equipped with a first-aid kit, and sets out where the first-aid kit must be located, and the suitability of the contents based on the operation and number of passengers.

Division 26.9 Equipment for flights over water

Section 26.18 provides the requirements that life jackets or flotation devices fitted to, or carried on, a Part 131 aircraft must meet.

Division 26.10 Surveillance equipment

Section 26.19 sets out circumstances in which a requirement under this Division that an item of equipment that is to be fitted to, or carried on, an aircraft, must be authorised in accordance with prescribed standards, does not apply. The equipment must provide the same capability and the pilot in command or the operator must have a statement of conformance from the equipment manufacturer.

Section 26.20 provides the definitions for this Division.

Section 26.21 sets out the circumstances in which a Part 131 aircraft must be fitted with, or carry, surveillance equipment and the requirements such equipment must meet.

Section 26.22 sets out the circumstances in which additional surveillance equipment may be fitted to, or carried on, an aircraft and sets out the requirements such equipment must meet.

Section 26.23 provides the general requirements for the operation of all surveillance equipment fitted to, or carried on, an aircraft.

Section 26.24 sets out specific requirements for how approved Mode S transponders, ADS-B OUT and electronic conspicuity equipment fitted to, or carried on, a Part 131 aircraft must be operated and includes technical requirements for such equipment.

Section 26.25 sets out the requirements, for certain Part 131 aircraft, for what would constitute an alternate GNSS position source in place of ADS-B OUT, including certification and specification requirements.

Section 26.26 provides the requirements for an alternate ADS-B OUT equipment configuration, including certification and specification requirements.

Section 26.27 provides the requirements for an approved Mode S transponder with Class B TABS configuration, including what values the transponder must transmit, how the geographical position transmitted is determined and when an aircraft fitted with, or carrying, a Mode S transponder with Class B TABS must not enter controlled airspace.

Section 26.28 provides the circumstances in which an integrated TABS device may be operated and includes the technical specifications that must be met.

Section 26.29 provides the circumstances in which an EC device may be operated and includes the technical standards and specifications that must be met.

Section 26.30 provides the circumstances in which a Part 131 aircraft may begin a flight with surveillance equipment that is inoperative.

CHAPTER 27 FLIGHT CREW — QUALIFICATIONS AND TRAINING

Division 27.1 Training and checking

Section 27.01 provides that the purpose of this Division is to prescribe for paragraph 131.565 (2) (b) the training and checking requirements for the pilot in command of a Part 131 aircraft in flight.

Section 27.02 provides the flight review and training and checking requirements that must be met by a commercial balloon pilot before commencing a flight for hire or reward or a flight that is a Part 131 recreational activity.

Section 27.03 provides the training and checking requirements that must be met by a Part 131 authorised pilot before commencing a flight that is a Part 131 recreational activity.

Division 27.2 Other qualifications or experience — general

Section 27.04 provides that the purpose of this Division is to prescribe for paragraph 131.565 (2) (c) the other qualifications and experience requirements for the pilot in command of a Part 131 aircraft in flight.

Section 27.05 requires a relevant pilot to also hold the balloon class endorsement for the class of balloon, in accordance with Table 5.01 in regulation 5.01 of CAR and Civil Aviation Order 40.7 before commencing a flight as pilot in command of a manned free balloon.

Section 27.06 provides that the pilot in command must meet certain requirements before commencing a Part 131 flight under the VFR by night, for example, recent experience, a check of sufficient knowledge and a check flight.

Division 27.3 Other qualifications or experience — balloon transport operations

Section 27.07 provides that the purpose of this Division is to prescribe for paragraph 131.56 (2) (c) the other qualification and experience requirements for the pilot in command of a Part 131 aircraft involved in a balloon transport operation.

Section 27.08 provides the requirements for the pilot in command of a balloon transport operation to satisfactorily complete induction and area familiarisation as stated in the operator's exposition. If the pilot in command is to conduct a flight in an area that they are not familiar with, their experience and competence must be assessed and further developed through any additional induction training in accordance with the operator's exposition.

Section 27.09 provides the requirements for general emergency training and competency checks that must be met before a person first acts as a pilot for a balloon transport operation.

Section 27.10 provides the requirements for transition training before a person can act as a pilot in a balloon transport operation without supervision, including successfully completing an operator proficiency check.

Section 27.11 provides the requirements for a pilot to complete recurrent training and checking for general emergency matters. This recurrent training must occur not more than 24 months after the previous general emergency competency check.

Section 27.12 provides the requirements for nominated individuals to conduct training and checking for an operator.

Section 27.13 is Reserved to preserve the structure of the instrument.

Section 27.14 provides that a balloon transport operator's exposition must contain the procedures to be followed to ensure that the requirements of this Chapter are complied with, and the training required to ensure that each pilot is trained to be competent to discharge his or her duties and responsibilities under the civil aviation legislation.

CHAPTER 28 GROUND SUPPORT PERSONNEL

Division 28.1 Training and checking for ground support personnel of balloon transport operators

Section 28.01 provides that the purpose of this Division is to prescribe for regulation 131.055 and subregulation 131.570 (2) the training and checking requirements for each member of an operator's ground support personnel who is operational safety-critical personnel.

Section 28.02 provides the training and checking requirements that must be met before a person can carry out ground support for a balloon without supervision, including the period in which a check is valid.

Section 28.03 provides the requirements for nominated individuals to conduct training and checking for an operator.

Section 28.04 is Reserved to preserve the structure of the instrument.

Section 28.05 provides that a balloon transport operator's exposition must contain the procedures to be followed to ensure that the requirements of this Chapter are complied with, and the training required to ensure that each pilot is trained to be competent to discharge his or her duties and responsibilities under the civil aviation legislation.

Division 28.2 Numbers of ground support personnel of balloon transport operators

Section 28.06 provides that the purpose of this Division is to prescribe for subregulation 131.570 (3) the minimum number of ground support personnel required for a balloon transport operation.

Section 28.07 provides the requirements for the number of ground support personnel, who hold a current certificate of proficiency, that must be available to load and unload passengers safely. These requirements include where ground personnel must be positioned.

CHAPTER 29 TETHERED GAS BALLOONS

Section 29.01 provides that the purpose of this Chapter is to prescribe for subregulation 131.690 (1) the requirements for a person to operate a tethered gas balloon.

Section 29.02 provides the requirements that must be met for the operation of a tethered gas balloon.

Appendix 2

Statement of Compatibility with Human Rights

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

Part 131 (Balloons and Hot Air Airships) Manual of Standards 2024

This legislative instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the legislative instrument

The *Part 131 (Balloons and Hot Air Airships) Manual of Standards 2024* (the ***MOS***) sets out the standards for lighter-than-air aircraft that are intended for free flight under the control of a pilot.

The MOS is made under Part 131 of the *Civil Aviation Safety Regulations 1998*. The MOS consolidates the existing rules of the air and contains some new rules to enhance operational flexibility and improve aviation safety.

The MOS sets out detailed requirements and safety standards for the conduct of free flight of lighter-than-air aircraft under the control of a pilot and are designed to mitigate the risks that might impact on the continued safe conduct of flight.

As far as possible in the context of the matters to be addressed, the MOS has been drafted in as plain a style of English presentation as the technical nature of the material will allow, to ensure that the document is, and is usable as, a practical manual. It contains numerous lists of various procedural and equipment requirements to be observed by a pilot in command to ensure safe flight.

This Explanatory Statement provides a Note on, or a reference to, every Chapter, Division and section of the MOS, to explain the purpose and operation of the instrument, as required by section 15J of the *Legislation Act 2003* but it is not a repeat of the highly technical content of the MOS, or in any sense a reader's substitute for the MOS. It provides a general explanation of the purpose and operation of the MOS as required by section 15J.

In support of the MOS, and before it commences on 12 November 2024, CASA will publish free and easily accessible guidance materials, including acceptable means of compliance documentation which can form the basis of exposition content for Part 131 operators. These will offer practical guidance on many discrete issues dealt with in the MOS, and further explain the technical requirements of the MOS to ensure operator compliance. This material will, therefore, complement the explanations of the purpose and operation of the MOS given in this Explanatory Statement.

As might be expected for a subject matter that encompasses all balloon and hot air airship operations in Australia for Australian and domestic foreign-registered civil aircraft, the MOS is highly detailed and prescribes safety standards for a very wide range of matters. However, the

following provides a summary overview of the structure and content of the 29 Chapters of the MOS:

- Chapter 1 provides the name, commencement and authority of the MOS. It also provides definitions and abbreviations, and addresses how certain documents are referenced, applied, adopted or incorporated (***called up***)
- Chapter 2 makes prescriptions for certain specialised definitions in the CASR Dictionary
- Chapter 3 would make prescriptions for other definitions for Part 131 of CASR — however, no requirements are currently prescribed. Therefore, this section has been reserved to preserve the MOS structure for future provisions that would be appropriate following consultation
- Chapter 4 would prescribe the requirements for personnel fatigue management — *Civil Aviation Order 48.1 Instrument 2019* currently applies to the holder of a balloon transport Air Operator's Certificate to prescribe fatigue risk management requirements. Chapter 4 is, therefore, reserved to provide for CASA to eventually move the requirements of the Civil Aviation Order into the MOS
- Chapter 5 prescribes the requirements for the keeping, carriage and updating of certain flight related documents
- Chapter 6 prescribes the requirements for reporting and recording certain information relevant to a flight
- Chapter 7 prescribes the requirements for information about emergency and survival equipment
- Chapter 8 prescribes the requirements for flight of a Part 131 aircraft over a populous area or a public gathering
- Chapter 9 prescribes what may be lawfully and safely dropped from a Part 131 aircraft
- Chapter 10 prescribes the requirements for the use of supplemental oxygen equipment
- Chapter 11 would prescribe the additional requirements for specialised balloon operations. However, no requirements are currently prescribed. This Chapter has been reserved to preserve the MOS structure for any future provisions that would be appropriate following consultation
- Chapter 12 prescribes the flight preparation requirements
- Chapter 13 prescribes the flight notification requirements
- Chapter 14 prescribes the matters to be checked before take-off
- Chapter 15 prescribes the air traffic services requirements
- Chapter 16 prescribes the requirements for the use of radios to make broadcasts and reports
- Chapter 17 prescribes the requirements for operations at non-controlled aerodromes
- Chapter 18 prescribes the requirements for flights over water
- Chapter 19 prescribes the visual flight rules requirements
- Chapter 20 prescribes the requirements for the operation of tethered Part 131 aircraft other than tethered gas balloons
- Chapter 21 prescribes the fuel and ballast requirements
- Chapter 22 prescribes requirements for the carriage of persons requiring assistance
- Chapter 23 prescribes requirements for safety briefings and instructions to be given to passengers
- Chapter 24 prescribes the loading weights requirements
- Chapter 25 prescribes the requirements for the carriage of passengers
- Chapter 26 prescribes the requirements for equipment

- Chapter 27 prescribes the requirements for flight crew qualifications and training
- Chapter 28 prescribes the requirements for ground support personnel
- Chapter 29 prescribes the requirements for tethered gas balloons.

Human rights implications
The MOS may engage the following human rights:

- the right to life under Article 6, and the right to privacy and reputation under Article 17, of the International Covenant on Civil and Political Rights (the ***ICCPR***)
- the right to work under Article 6 (1), and the right to safe and healthy working conditions under Article 7, of the International Covenant on Economic, Social and Cultural Rights (the ***ICESCR***).

Right to life under the ICCPR
Right to safe and healthy working conditions under the ICESCR
The MOS may engage these rights. This engagement is in the context of CASA's statutory purpose. The aim of CASA and its regulatory framework, including Part 131 of CASR and its related MOS, is to uphold aviation safety by prescribing the conduct of individuals and organisations involved in balloon and hot air aircraft air transport operations. It is, therefore, a threshold requirement for all CASA legislative instruments that they preserve, promote and enhance aviation safety. Insofar as the MOS is drafted and intended, as far as practicable, to promote and enhance aviation safety standards for flight operations, it promotes the right to life under Article 6 of the ICCPR by legislating for safer conditions that will minimise the risk of accidents and prevent accidental death. Thus, for Article 7 of the ICESCR, the MOS also promotes the right to safe and healthy working conditions for all pilots and crew of balloon and hot air aircraft.

Right to privacy and reputation
The MOS may engage these rights. Article 17 of the ICCPR provides that no-one shall be subjected to arbitrary or unlawful interference with their privacy, family, home or correspondence, or to unlawful attacks on their honour and reputation. It further provides that everyone has the right to the protection of the law against such interference or attack.

Chapter 5 of the MOS prescribes requirements in relation to the keeping and maintaining of a journey log that must include the aircraft registration and flight number (if any), date of the flight, names, place of departure and place of arrival. The information is required so that the crew members can be identified to CASA for safety regulatory purposes, for example, in the course of safety surveillance, inspections and audits or emergencies. In addition, if the flight is a passenger transport operation, a passenger list for the flight must be compiled and preserved for 3 months, for investigative purposes associated with the possibility of accident or incident involving the Part 131 aircraft.

Chapter 27 and 28 of the MOS prescribes requirements in relation to the keeping and maintaining of records of training and checking of flight crew and ground support personnel. The information is required so that the aforementioned personnel can be identified to CASA for safety regulatory purposes, for example, during safety surveillance, inspections and audits.

The requirements in the provisions mentioned above involve activities of one or more of: collecting, recording and storing personal information. For the reasons stated above, the requirements are reasonable, necessary and proportionate to achieve the fulfilment of specific aviation safety objectives, including the protection of the safety of individuals and the protection of the integrity of the aviation safety regulatory scheme by ensuring that information is available

about who is performing activities affecting safety and demonstrating, where relevant, that they are appropriately authorised.

The protections afforded by the *Privacy Act 1988* and Part IIIB of the *Civil Aviation Act 1988* (the ***Act***) continue to apply to the information. These 2 Acts embody the protections that the Australian Parliament currently regards as suitable for the protection of the relevant personal information.

To the extent that the MOS may limit the privacy-related rights in Article 17 of the ICCPR, those limitations are, therefore, reasonable, necessary and proportionate to ensure the safety of air navigation, consistent with the objects of the Act, CASR and, in particular, Part 131 of CASR in relation to safe operation in flight.

Right to work

The MOS may engage the right to work that is protected under Article 6 (1) of the ICESCR. This right includes the right of everyone to the opportunity to gain their living by work which they freely choose or accept.

The MOS does not directly address the right to work. However, its numerous provisions may have an impact on the way that the work involved in safely operating an aircraft is carried out. Many obligations of care, skill, technique and procedure are imposed on pilots to this end. Failure to follow the relevant requirements of the MOS when flying an aircraft could result in the loss of a licence or the loss of continued employment. However, in the interests of aviation safety, it is necessary that pilots follow the flying rules.

Therefore, in the circumstances, the obligations arising under the MOS are reasonable, necessary and proportionate requirements under aviation safety law to ensure aviation safety.

Accordingly, any potential limitation on the right to work is itself necessary, reasonable and proportionate in achieving the aim of protecting and improving aviation safety consistent with the objects of the Act and the regulations.

Conclusion

The MOS is a legislative instrument that is compatible with human rights and, to the extent that it may also limit human rights, those limitations are reasonable, necessary and proportionate to ensure the safety and of the integrity of the aviation safety system which all aviation operations rely.

Civil Aviation Safety Authority

Appendix 3

List of Incorporated Documents

This is a list of the incorporated documents.

Document	Description	Manner of incorporation	Source
CASR Dictionary	The CASR Dictionary provides definitions and interpretations of a general nature that are applicable across the whole regulatory structure. Various provisions of the MOS call up the CASR Dictionary.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 4B of CAR	Part 4B sets out the requirements for reporting major defects in aircraft to CASA. This document is called up in section 6.04 of the MOS.	As in force immediately before the commencement of the MOS.	This document is available for free on the Federal Register of Legislation.
Part 5 of CAR	Part 5 sets out the requirements for flight crew licensing for ballooning. Various provisions of the MOS call up Part 5 requirements.	As in force immediately before the commencement of the MOS.	This document is available for free on the Federal Register of Legislation.
Part 11 of CASR	Part 11 sets out administrative provisions for the regulation of civil aviation, including approvals. Various provisions of the MOS call up Part 11 of CASR.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.

Document	Description	Manner of incorporation	Source
Part 21 of CASR	Part 21 sets out the certification and airworthiness requirements for aircraft and aircraft equipment. Various provisions of the MOS call up the Part 21 requirements.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 31 of CASR	Part 31 sets out the airworthiness requirements for manned free balloons. This document is called up in section 26.02 of the MOS.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 91 of CASR	Part 91 sets out the standards for the rules of the air for pilots who are not operating under an Air Operator's Certificate (AOC) or another certificate. Various provisions of the MOS call up the Part 91 requirements.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 91 Manual of Standards	Part 91 prescribes matters relating to general operating and flight rules permitted under Part 91 to be prescribed in the MOS. Various provisions of the MOS call up the Part 91 Manual of Standards.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 105 of CASR	Part 105 sets out the requirements for parachuting from an aircraft. This document is called up in section 9.02 of the MOS.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 149 of CASR	Part 149 sets out the requirements for approved	As in force or existing from time to time.	This document is available for free on

Document	Description	Manner of incorporation	Source
	self-administering organisations. Various provisions of the MOS call up Part 149 of CASR.		the Federal Register of Legislation.
Part 149 Manual of Standards	Part 149 prescribes matters in relation to approved self-administering aviation organisations (ASAOs). Various provisions of the MOS call up the Part 149 Manual of Standards.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 4B of CAR	Part 4B sets out the requirements for defect reporting.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Part 5 of CAR	Part 5 sets out the requirements for pilot licencing for balloons and hot air aircraft. Various provisions of the MOS call up Part 5 of CAR.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Regulation 51 of CAR	Regulation 51 sets out the requirements for defect reporting. This document is called up in section 6.03 of the MOS.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Civil Aviation Order 20.18	Civil Aviation Order (***CAO***) 20.18 sets out the basic operational requirements for aircraft equipment. This document is called up in section 26.29 of the MOS.	As in force immediately before the commencement of the MOS.	This document is available for free on the Federal Register of Legislation.

Document	Description	Manner of incorporation	Source
Civil Aviation Order 40.7	CAO 40.7 sets out the requirements for aircraft endorsements and flight instructor ratings for balloon operations. This document is called up in section 27.05 of the MOS.	As in force immediately before the commencement of the MOS.	This document is available for free on the Federal Register of Legislation.
Civil Aviation Order 48.1 Instrument 2019	CAO 48.1 sets out the requirements for the management of fatigue for balloon transport operations. This document is called up in section 4.02 of the MOS.	As in force immediately before the commencement of the MOS.	This document is available for free on the Federal Register of Legislation.
Civil Aviation Order 100.96	CAO 100.96 sets out the requirements for the periodic weighing of balloons and the weighing procedures for balloons. This document is called up in sections 24.02 and 24.04 of the MOS.	As in force immediately before the commencement of the MOS.	This document is available for free on the Federal Register of Legislation.
Multi-Part Advisory Circular AC 121-05, AC 133-04 and AC 135-08	Multi-Part Advisory Circular AC 121-05, AC 133-04 and AC 135-08 sets out the requirements for weight limits for passengers, crew and baggage. Various provisions of the MOS call up this AC.	As in force or existing from time to time.	This document is available for free on CASA's website.
Civil Aviation Authority of the United Kingdom document number *CAP 1391: Electronic conspicuity devices*	This document specifies electronic conspicuity devices that can signal their presence to other airspace users, thereby, turning the "see-and-avoid" concept into "see-BE SEEN-and-avoid". It also provides the technical	As in force or existing from time to time.	This document is available for free on the UK CAA Website.

Document	Description	Manner of incorporation	Source
	specification for their production. This document is called up in section 26.20 of MOS.		
Annex 10 to the Chicago Convention	Annex 10 sets out the aeronautical communications, navigation and surveillance requirements for international civil aviation. Section 26.24 of the MOS calls up Annex 10 requirements.	As in force or existing from time to time.	This document is publicly available but subject to copyright that belongs to ICAO. It is made available by ICAO for a fee — see below for further information.
Determination of Airspace and Controlled Aerodromes, Etc. (Designated Airspace Handbook) Instrument	This instrument determines relevant volumes of airspace as flight information regions and areas, as classifications of airspace, and as control zones, and determines relevant controlled aerodromes. This instrument is called up in section 1.04 of the MOS.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Declarations and Directions in relation to Prohibited, Restricted and Danger Areas, Etc – Permanent Instrument	This instrument prescribes prohibited, restricted and danger areas regarding airspace. Various provisions of the MOS call up the instrument.	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation.
Aeronautical Information Publication (AIP)	The AIP is published by Airservices Australia to disseminate information relevant to aviation participants on matters essential to safe air navigation.	As in force or existing from time to time.	The AIP is available for free on the Airservices Australia Website.

Document	Description	Manner of incorporation	Source
	Various provisions of the MOS call up this document.		
Aircraft flight manual (AFM)	An AFM contains information required to safely operate the specific aircraft. Various provisions of the MOS call up AFM requirements.	As in force or existing from time to time.	These documents are publicly available but not for free. The AFM for an aircraft is the proprietary property of the owner of the aircraft design (usually the manufacturer). The incorporated requirements of the AFM are at the aircraft-specific level, and instruc-tions are required to be provided to owners or registered operators of aircraft. Where available, and by prior arrangement, CASA will make an AFM available for inspection at a CASA office.
14 CFR 91.225	Part 91 of the FAR sets out the FAA general operating and flight rules. 14 CFR 91.225 sets out, within FAR 91, the FAA requirements for Automatic Dependent Surveillance-Broadcast ADS-B Out equipment and use. This document is called up in various provisions of the MOS.	As in force or existing from time to time.	This document is available for free on the Code of Federal Regulations.
ATSO-1C74c — Airborne ATC transponder equipment	This document prescribes the requirements that a manufacturer of airborne air traffic control (ATC)	As in force or existing from time to time.	This document is available for free on the Federal Register of Legislation, contained within the *Part 21 Manual of*

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	transponder equipment must meet in order for the equipment to be identified with the applicable ATSO marking and for the equipment to be an approved article. This document is called up in the definition of ***approved Mode A/C transponder*** in the MOS.		*Standards Instrument 2016.*
ETSO-C74d *Airborne ATC Transponder Equipment*	This document provides the EASA standards for airborne ATC transponder equipment. This document is called up in the definition of ***approved Mode A/C transponder*** in the MOS.	As in force or existing from time to time.	This document is available for free on the EASA Website.
TSO-C74c *Airborne ATC Transponder Equipment*	This document provides the FAA standards for airborne ATC transponder equipment. This document is called up in the definition of ***approved Mode A/C transponder*** in the MOS.	As in force or existing from time to time.	This document is available for free on the FAA Website.
ETSO-C88a *Automatic Pressure Altitude Reporting Code Generating Equipment*	This document provides the EASA requirements which automatic pressure altitude reporting code generating equipment must meet in order to be identified with the applicable ETSO marking. Section 26.23 of the MOS calls up this document.	As in force or existing from time to time.	This document is available for free on the EASA Website

Document	Description	Manner of incorporation	Source
ETSO-2C112a *Air Traffic Control Radar Beacon System/Mode Select (ATCRBS/Mode S) Airborne Equipment*	This document provides the EASA requirements which a secondary surveillance radar mode S transponder must meet in order to be identified with the applicable ETSO marking. This document is incorporated in the definition of ***approved Mode S transponder*** in the MOS.	As in force or existing from time to time.	This document is available for free on the EASA Website
TSO-C112 *Air Traffic Control Radar Beacon System/Mode Select (ATCRBS/Mode S) Airborne Equipment*	This document provides the FAA requirements which ATCRBS/Mode S airborne equipment must meet for identification with the applicable TSO marking. This document is incorporated in the definition of ***approved Mode S transponder*** in the MOS.	As in force or existing from time to time.	This document is available for free on the FAA Website.
ETSO-C145 *Airborne Navigation Sensors Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)*	This document provides the EASA requirements for airborne navigation sensors using the GPS augmented by WAAS to be identified with the applicable ETSO marking. This document is called up in the definition of ***approved GNSS position source*** in the MOS.	As in force or existing from time to time.	Various versions of this document are available for free on the EASA Website.
TSO-C145a *Airborne Navigation Sensors Using the Global Positioning System (GPS) Augmented by the*	This document provides the FAA requirements for airborne navigation sensors using the GPS augmented by WAAS	As in force or existing from time to time.	Various versions of this document are available for free on the FAA Website.

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Wide Area Augmentation System (WAAS)	to be identified with the applicable TSO marking. This document is called up in the definition of ***approved GNSS position source*** in the MOS.		
ETSO-C146a *Stand-Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)*	This document provides the EASA requirements for stand-alone airborne navigation equipment using the GPS augmented by the satellite-based augmentation System to be identified with the applicable ETSO marking. This document is called up in the definition of ***approved GNSS position source*** in the MOS.	As in force or existing from time to time.	Various versions of this document are available for free on the EASA Website.
TSO-C146a *Stand-Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Wide Area Augmentation System (WAAS)*	This document provides the FAA requirements for stand-alone airborne navigation equipment using the GPS augmented by the satellite-based augmentation System to be identified with the applicable TSO marking. This document is called up in the definition of ***approved GNSS position source*** in the MOS.	As in force or existing from time to time.	Various versions of this document are available for free on the FAA Website.

Document	Description	Manner of incorporation	Source
ETSO-C166a *Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Services (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)*	This document provides the requirements which Extended Squitter Automatic Dependent Surveillance-Broadcast (***ADS-B***) and Traffic Information Services-Broadcast (***TIS-B***) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz) must meet in order to be identified with the applicable ETSO marking. This document is called up in the definition of ***approved Mode S transponder with ADS-B capability*** in the MOS.	As in force or existing from time to time.	This document is available for free on the EASAWebsite.
TSO-C166 *Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Service – Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)*	This document provides the requirements which Extended Squitter Automatic Dependent Surveillance-Broadcast (ADS-B) and Traffic Information Services-Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz) must meet in order to be identified with the applicable ETSO marking. This document is effectively called up in the definition of ***approved Mode S transponder with ADS-B capability*** in the MOS.	As in force or existing from time to time.	This document is available for free on the FAA Website.

Document	Description	Manner of incorporation	Source
ETSO-C166b *Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Services (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)*	This document provides the requirements which Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Services – Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz) that are manufactured on or after the date of this ETSO must meet in order to be identified with the applicable ETSO marking. This document is called up in section 26.27 in the MOS.	As in force or existing from time to time.	This document is available for free on the EASA Website.
TSO-C166b *Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Service – Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz)* *Note* References in the MOS to "(E)TSO" call up both the relevant ETSO (European) and the TSO (USA).	This document provides the requirements for manufacturers applying for a TSO authorisation or letter of design approval. In it, the Federal Aviation Administration or FAA state what minimum performance standards (***MPS***) the 1090 MHz ADS-B and TIS-B equipment must first meet for approval and identification with the applicable TSO marking. This document is called up in section 26.27 in the MOS.	As in force or existing from time to time.	This document is available for free on the FAA Website.

Document	Description	Manner of incorporation	Source
ETSO-C196a *Airborne Supplemental Navigation Sensors for Global Positioning System Equipment Using Aircraft-Based Augmentation*	This document provides the EASA requirements which airborne supplemental navigation sensors for GPS equipment using aircraft-based augmentation must meet in order to be identified with the applicable ETSO marking. This document is called up in the definition of ***approved GNSS position source*** in the MOS.	As in force or existing from time to time.	This document is available for free on the EASA Website.
TSO-C196a *Airborne Supplemental Navigation Sensors for Global Positioning System Equipment using Aircraft-Based Augmentation*	This document provides the FAA requirements which airborne supplemental navigation sensors for GPS equipment using aircraft-based augmentation must meet in order to be identified with the applicable TSO marking. This document is called up in the definition of ***approved GNSS position source*** in the MOS.	As in force or existing from time to time.	This document is available for free on the FAA Website.
ETSO-C199 Traffic Awareness Beacon System (TABS)	This document provides the EASA requirements for the applicable equipment class defined by this ETSO which traffic awareness beacon systems (TABSs) that are designed and manufactured on or after the date of this ETSO must meet for approval and identification with the	As in force or existing from time to time.	Various versions of this document are available for free on the EASA Website.

Document	Description	Manner of incorporation	Source
	applicable ETSO marking. This document is called up in various provisions of the MOS.		
TSO-C199 Traffic Awareness Beacon System (TABS)	This document provides the FAA requirements for the Minimum Performance Standards (MPS) Traffic Awareness Beacon System (TABS) first meet for approval and identification with the applicable TSO marking. This document is called up in various provisions of the MOS.	As in force or existing from time to time.	This document is available for free on the FAA Website.
EASA AMC 20-24 *Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter*	This document sets out acceptable means of compliance for the certification considerations for the enhanced ATS in non-radar areas using ADS-B Surveillance (ADS-B-NRA) application via 1090 MHZ extended squitter. This document is called up in section 26.26 of the MOS.	As in force or existing from time to time.	This document is available for free at the EASA Website.

Document	Description	Manner of incorporation	Source
RTCA/DO-229D *Minimum Operational Performance Standards for Global Positioning System/Wide Area Augmentation System Airborne Equipment*	RTCA/DO-229D sets out the minimum operational performance standards for global positioning system/wide area augmentation system airborne equipment. This document is called up in section 26.25 of the MOS.	As in force immediately before the commencement of this instrument.	This document is publicly available but subject to copyright protection. The document may be purchased from RTCA - Safer Skies Through Collaboration. Alternatively, CASA will, by prior arrangement, make CASA's copy available, for in-situ viewing, free of charge, at any office of CASA.
RTCA/DO-260 *Minimum Operational Performance Standards for 1090 MHz Automatic Dependent Surveillance – Broadcast (ADS-B)*	RTCA/DO-260 sets out the minimum operational performance standards for 1090 MHz ADS-B. This document is called up in the definition of ***NUCp*** in the MOS.	As dated 13 September 2000.	This document is publicly available but subject to copyright protection. The document may be purchased from RTCA | Safer Skies Through Collaboration Alternatively, CASA will, by prior arrangement, make CASA's copy available, for in-situ viewing, free of charge, at any office of CASA.

Document	Description	Manner of incorporation	Source
RTCA/DO-260B *Minimum Operational Performance Standards for 1090 MHz Extended Squitter Automatic Dependent Surveillance – Broadcast (ADS-B) and Traffic Information Services – Broadcast (TIS-B)*	RTCA/DO-260B sets out the minimum operational performance standards for airborne equipment for ADS-B and TIS-B utilizing 1090 MHz Mode S Extended Squitter. This document is called up in the definitions of ***NACp***, ***NIC***, ***SDA*** and ***SIL*** in the MOS.	As dated 2 December 2009.	This document is publicly available but subject to copyright protection. The document may be purchased from RTCA - Safer Skies Through Collaboration. Alternatively, CASA will, by prior arrangement, make CASA's copy available, for in-situ viewing, free of charge, at any office of CASA.