Explanatory Statement

Civil Aviation Act 1988

Civil Aviation Safety Regulations 1998

Manual of Standards Parts 139, 171, 172 and 173 Amendment Instrument 2016 (No. 1)

Legislation
Section 98 (1) of the *Civil Aviation Act 1988* (the ***Act***) provides that the Governor-General may make regulations for the purposes of the Act and in the interests of the safety of air navigation.

Some of these regulations are contained in the *Civil Aviation Safety Regulations 1998* (***CASR 1998***). In particular, the following Parts of CASR 1998, among other things, deal with the supporting infrastructure and services for aircraft operations in poor weather conditions:

- Part 139 — Aerodromes
- Part 171 — Aeronautical telecommunication service and radionavigation service providers
- Part 172 — Air Traffic Service (***ATS***) Providers
- Part 173 — Instrument flight procedure design.

Under regulation 139.015 of CASR 1998, the standards for aerodromes are those set out in the Manual of Standards (***MOS***) – Part 139 Aerodromes, published by CASA. The MOS Part 139 contains mandatory standards for the facilities and equipment that aerodromes must have.

Under subregulation 171.030 (1) of CASR 1998, a telecommunication or radionavigation service must be provided in accordance with the service provider's approval and the service provider's operations manual. Paragraph 171.100 (1) (a) requires an operations manual to contain each standard that relates to the design, installation, testing, operation or maintenance of the service provider's services and facilities. Under subregulation 171.100 (2), the standard referred to in paragraph 171.100 (1) (a) include the standards in the MOS. Under subregulation 171.017 (1) of CASR 1998, CASA may issue a MOS for Part 171 setting out various standards for the provision of a radionavigation service or a telecommunication service. CASA has issued a MOS for Part 171.

Under subregulation 172.022 (1) of CASR 1998, CASA may issue a MOS for Part 172 setting out various standards for ATS. Under paragraph 172.065 (1) (a), an ATS provider must ensure that any ATS it provides is in accordance with the standards set out in the MOS. CASA has issued a MOS for Part 172.

Various provisions of Part 173 of CASR 1998 require compliance with applicable standards set out in the Manual of Standards, which is defined as the *Manual of Standards (MOS) Part 173 – Standards Applicable to the Provision of Instrument Flight Procedure Design*, published by CASA, as in force from time to time. Relevantly, regulation 173.085 of CASR 1998 requires a certified designer designing a terminal instrument flight procedure to ensure the procedure is designed in accordance with any applicable standards set out the MOS for Part 173. CASA has issued a MOS for Part 173.

In addition to the express powers to issue a MOS, under section 13 of the Act, CASA has power to do all things necessary or convenient to be done for, or in connection with, the performance of its functions and to do anything incidental to any of the powers conferred on it. Under paragraph 9 (1) (c) of the Act, CASA has the function of conducting the safety regulation of civil air operations in Australian territory by means that include developing and promulgating appropriate, clear and concise aviation safety standards.

Under subsection 33 (3) of the *Acts Interpretation Act 1901*, where an Act confers a power to make, grant or issue any instrument of a legislative or administrative character (including rules, regulations or by-laws), the power shall be construed as including a power exercisable in the like manner and subject to the like conditions (if any) to repeal, rescind, revoke, amend, or vary any such instrument.

Background

In October 2007, CASA commenced Project AS 07/13 – Regulation of Low Visibility Operations. The objective of the project has been to develop appropriate requirements and guidelines for the conduct of low visibility operations in Australia. A review team was tasked with reviewing local and international standards, consulting with industry and making recommendations for meeting the project's objectives.

CASA published Notice of Proposed Rule Making (NPRM) 0906AS in December 2009. Following consultation and review, CASA introduced a number of changes to aircraft operation, aerodrome, air traffic control (***ATC***), and instrument flight procedure design relating to low visibility operations.

One of the terms of reference for Project AS 07/13 was to consider standards which utilise advanced aircraft capabilities such as Head Up Display (***HUD***). However, at the time, CASA found that, while individual countries like the United States of America had country-specific standards, there was a lack of certainty or clear direction about future international standards for HUD operations. Accordingly, CASA elected not to propose or adopt any HUD-related standards for the initial change program.

Since the release of the initial low visibility standards, there has been continued interest from industry on the HUD issue. The International Civil Aviation Organization (***ICAO***) has since introduced changes to ICAO Annex 6 (Operation of Aircraft), Parts I, II and III, which allow States to approve the use of HUD. CASA also gained valuable information from the United States Federal Aviation Administration (***FAA***) about HUD and related aircraft operations which gave confidence for the matter to be progressed. As a result, CASA recommenced a program to introduce suitable standards.

The development program commenced with a further review of international standards. CASA found that the FAA had implemented, and the European Aviation Safety Agency (***EASA***) had standards for, 'special' instrument approach operations. These operations would allow aircraft systems such as HUD to substitute for the absence of certain components of ground infrastructure, such as approach lighting.

Under subregulation 257 (1) of the *Civil Aviation Regulations 1988*, CASA may determine the meteorological minima, that is, the visibility requirements for landing or take-off at an aerodrome. Under subregulations 257 (3) and (4), it is an offence for

an aircraft to take-off or land if an element of the meteorological minima for that operation is less than that determined for the aircraft at the aerodrome.
There are 2 relevant measurements of visibility — runway visual range (***RVR***) and runway visibility (***RV***). RVR is measured by instrument and reported by ATC. RV is assessed by an approved observer and reported by ATC. In some circumstances, the pilot of an aircraft may be the approved observer.

The determination of standard meteorological minima for take-off and landing was made in instrument CASA 270/14. If conditions are met, the minimum visibility for take-off is 550 m. If conditions are met, the minimum visibility for landing is 800 m, or 550 m RVR. CASA has granted exemptions to individual aircraft operators to allow them to conduct operations with lower minimum visibility, that is, low visibility operations.

The exemptions and the MOSs provide for different categories (***CAT***) of meteorological minima for landings. The relevant CAT depends on the facilities and equipment available to support the landing. Those categories are CAT I, CAT II and CAT III. CAT III is further divided into CAT IIIA, CAT IIIB and CAT IIIC. Higher categories of landing require higher standards of facilities and equipment, such as additional runway lighting, and can be conducted with lower meteorological minima, such as shorter visibility. For example, CAT II landings require higher standards of facilities and equipment, but shorter minimum visibility, than CAT I landings.

Instrument
CASA has considered the introduction of 2 new categories of low visibility landing operations, which may only be used by aircraft operated under a special authorisation (***SA***) granted by CASA. This instrument introduces standards, closely based on the EASA and FAA standards, for those new categories, being SA CAT I and SA CAT II operations.

The instrument amends the following MOSs:

- MOS Part 139 — Aerodromes
- MOS Part 171 — Aeronautical Telecommunication and Radio Navigation Services
- MOS Part 172 — Air traffic services
- MOS Part 173 — Standards applicable to Instrument Flight Procedure Design.

Further details of the instrument are set out in Attachment 1.

Legislative Instruments Act 2003 **(the *LIA*)**
The instrument is of a legislative character and is made in the exercise of a power delegated by the Parliament. In accordance with regulation 5 of the LIA, the instrument is, therefore, a legislative instrument, and is subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

Consultation
CASA published NPRM 1209AS on its website in November 2012. The NPRM included proposed standards for SA CAT I and SA CAT II instrument approach operations and proposed fine-tuning of existing standards covering low visibility operations. The consultation period ended on 4 January 2013.

CASA received 5 responses to the NPRM. The comments in the responses were generally supportive, and in several cases recommended specific changes. Given that

the proposals cover highly technical matters applicable to a small number of aircraft operators, CASA considered the response numbers as an acceptable industry response on the matter. CASA considered all of those responses received, and made some amendments to the proposal, which are reflected in the instrument.

CASA has also consulted Airservices Australia, the major service provider under Parts 172 and 173 of CASR 1998, on earlier drafts of the instrument.

Amendments made by the instrument are permissive in nature as they provide greater flexibility for authorised aircraft operating in low visibility conditions where specified safety conditions are met.

In these circumstances, it is CASA's view that no further consultation in relation to this instrument is necessary or appropriate.

Regulation 11.280 of CASR 1998 requires CASA to publish a notice of its intention to issue a MOS, including an amendment to a MOS, on the Internet. The publication of the NPRM satisfies this requirement.

Statement of Compatibility with Human Rights
A Statement of Compatibility with Human Rights is at Attachment 2.

Office of Best Practice Regulation
The instrument provides a framework for aerodromes to support low visibility operations at a lower cost than is normally required to support such operations. This is achieved by removing the requirement for certain types of aerodrome lighting – runway centreline lighting, touchdown zone lighting and an appropriate type of approach lighting system – for particular types of low visibility approach operations. The system then relies on advanced flight control systems, carried by many Australian passenger carrying jet aircraft, to compensate for the absence of the lighting, thus maintaining appropriate safety levels. By enabling low visibility operations at a lower cost, this gives opportunity for significant saving to industry in terms of a reduced number of flight diversions, cancellations and airborne/ground holding at Australia's major airports during periods of low visibility. Initial estimates indicate the resulting industry savings to be at least $10 million per year.

The Office of Best Practice Regulation assessed that the proposed amendments do not mandate or attempt to directly influence certain behaviour by industry, apart from providing additional voluntary flexibility for operating in low visibility conditions. Therefore, a Regulation Impact Statement is not required (OBPR ID: 14182).

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

The instrument commences on 3 March 2016.

[Manual of Standards Parts 139, 171, 172 and 173 Amendment Instrument 2016 (No. 1)]

Attachment 1

Details of the *Manual of Standards Parts 139, 171, 172 and 173 Amendment Instrument 2016 (No. 1)*

Section 1
Section 1 provides that the title of the instrument is the *Manual of Standards Parts 139, 171, 172 and 173 Amendment Instrument 2016 (No. 1)*.

Section 2
Section 2 provides that the instrument commences on 3 March 2016.

Section 3
Section 3 provides that Schedule 1 amends the Manual of Standards (MOS) – Part 139 Aerodromes.

Section 4
Section 4 provides that Schedule 2 amends the Manual of Standards (MOS) – Part 171, which relates to aeronautical telecommunication and radio navigation services.

Section 5
Section 5 provides that Schedule 3 amends the Manual of Standards (MOS) – Part 172, which relates to air traffic services.

Section 6
Section 6 provides that Schedule 4 amends the *Manual of Standards (MOS) Part 173 – Standards Applicable to the Provision of Instrument Flight Procedure Design*.

Schedule 1
Schedule 1 contains amendments to the MOS Part 139.

Item 1 introduces new subsections 2.1.10 and 2.1.11, which contain standards for runways used for SA CAT I and SA CAT II instrument approach operations.

New subsection 2.1.10 details the requirements for a runway on which an SA CAT I operation may be conducted. The subsection aggregates specific *existing* MOS Part 139 standards and general operating requirements which are essential for SA CAT I operations.

- The runway must be located on a controlled aerodrome, that is, an aerodrome with a local ATC service (control tower).
- The runway must meet existing MOS Part 139 standards for a precision approach runway. These standards include certain protection surfaces, such as the runway strip, an obstacle free zone (***OFZ***) and an obstacle limitation surface, and visual aids such as runway lighting and runway markings. This requirement is subject to the exception in paragraph 2.1.10.11, relating to approach lighting systems (***ALS***).
- The runway must have electronic RVR equipment in the touchdown zone of the runway. The aerodrome operator must confirm with the ATS provider that the control tower has suitable RVR display equipment. The RVR equipment is a means by which the visibility along the runway can be continuously monitored by the ATS provider from the control tower.

- The runway must have a declared landing distance available of at least 1 524 m. This minimum length is an identified safety control for an aircraft that lands beyond the normal touchdown point while conducting an SA CAT I operation.
- The runway must have, or be qualified for, a precision approach CAT I instrument landing system (***ILS***) procedure. This requirement guards against an SA CAT I procedure being developed at a location where the operating environment is so adverse as to preclude standard CAT I operations.
- An OFZ must be established for the runway. An OFZ is a set of surveyed surfaces on and around a runway that must not be penetrated by fixed obstacles that may cause a hazard to an aircraft.
- The relevant ILS equipment critical and sensitive areas must be determined, documented and associated protection requirements defined in the aerodrome's low visibility procedures (***LVP***). Critical and sensitive areas are defined surfaces on and around a runway intended to protect aircraft guidance signals from interference. The aerodrome operator must meet this requirement in consultation with the ATS provider and the relevant aeronautical telecommunications service and radio navigation service provider.
- The runway must have a suitable precision approach aid, which is an electronic facility that provides guidance to the aircraft during its final approach. The standards for a suitable precision approach aid are inserted into MOS Part 171 by item 6 of Schedule 2 of this instrument. The aerodrome operator must confirm with the relevant aeronautical telecommunications service and radio navigation service provider that there is a suitable precision approach aid.

Chapter 9 of the MOS Part 139 requires a precision approach CAT I runway to have an ALS that extends over 900 m from the runway threshold. Under new paragraph 2.1.10.11, despite the requirement in Chapter 9, a runway for SA CAT I instrument approach operations does not require an ALS extending over a distance of 900 m from the runway threshold. Notes relating to this standard recommend an ALS at least 720 m in length, and mention that a shorter ALS, or the absence of an ALS, will impact on the RVR minima at which aircraft may operate. Item 14 of Schedule 4 of this instrument inserts new standards in the MOS Part 173 on this topic.

New subsection 2.1.11 details the requirements for a runway on which an SA CAT II operation may be conducted. The subsection aggregates specific *existing* MOS Part 139 standards and general operating requirements which are essential for SA CAT II operations.

- The runway must be located on a controlled aerodrome, that is, an aerodrome with a local ATC service (control tower).
- The runway must meet existing MOS Part 139 standards for a precision approach runway CAT II. These standards include certain protection surfaces, such as runway strip, OFZ and obstacle limitation surfaces, and visual aids, such as runway lighting and runway markings. This requirement is subject to the exception in paragraph 2.1.11.9, relating to ALS.
- There must be electronic RVR equipment in the touchdown zone of the runway. There must also be RVR equipment in at least 1 other zone of the runway. The aerodrome operator must confirm with the ATS provider that the control tower has suitable RVR display equipment.

- The runway must have a declared landing distance available of at least 1 830 m. This minimum length is an identified safety control for an aircraft that lands beyond the normal touchdown point.
- The relevant ILS equipment critical and sensitive areas must be determined, documented and associated protection requirements defined in the aerodrome's LVP. The aerodrome operator must meet this requirement in consultation with the ATS provider and the relevant aeronautical telecommunications service and radio navigation service provider.
- The runway must have a suitable precision approach aid. The standards for a suitable precision approach aid are inserted into MOS Part 171 by item 6 of Schedule 2 of this instrument. The aerodrome operator must confirm with the relevant aeronautical telecommunications service and radio navigation service provider that there is a suitable precision approach aid.

Chapter 9 of the MOS Part 139 requires a precision approach CAT II and CAT III runway to have runway centreline lights and touchdown zone lights and an ALS that extends over 900 m from the runway threshold. Under new paragraph 2.1.11.9, despite the requirement in Chapter 9, a runway for SA CAT II instrument approach operations does not require runway centreline lights, touchdown zone lights, or an ALS extending over a distance of 900 m from the runway threshold. Notes relating to this standard recommend an ALS at least 720 m in length. The notes also mention that the lighting facilities available will impact on the RVR minima at which aircraft may operate. Absence of runway centreline lighting, touchdown zone lighting or an ALS will result in higher RVR minima. Also, a shorter ALS will result in higher RVR minima. Item 14 of Schedule 4 of this instrument inserts new standards in the MOS Part 173 on this topic.

Items 2 and 3 amend subsection 6.2.21 – Runway Strip Longitudinal Slope Changes at Runway Ends (Radio Altimeter Operating Area). The subsection, for CAT II and CAT III runways, specifies a requirement to avoid slope changes within defined area before a runway threshold or limit the rate of change between consecutive slopes within the area. The amendment extends the applicability of the requirement to runways that support SA CAT I and SA CAT II operations. SA CAT I and SA CAT II operations require the use of radio altimeter information in the same manner required for CAT II and CAT III operations, and, therefore, require pre-threshold terrain surfaces similarly compatible for radio altimeter operations.

Paragraph 7.2.4.2 requires that a Precision Approach Terrain Charts – ICAO is made available for each precision approach runway CAT II and III, unless the same relevant information is provided in the Aerodrome Terrain and Obstacle Chart – ICAO (Electronic). Item 4 substitutes paragraph 7.2.4.2 so that the requirement in paragraph 7.2.4.2 also applies to runways that have, or are intended to have, SA CAT I or SA CAT II instrument flight procedures. This is necessary because SA CAT I and SA CAT II operations require the use of a radio altimeter decision height (***DH***) which can only be calculated if the flight crew or instrument flight procedure designer has access to an Aerodrome Terrain and Obstacle Chart – ICAO (Electronic) or a Precision Approach Terrain Chart – ICAO.

Subsection 10.17.2 relates to the development of LVP at an aerodrome. Subparagraph 10.17.2.1 (c) (i) requires LVP to address the specific circumstances in which LVP are to be implemented or terminated. Item 5 substitutes a new subparagraph 10.17.2.1 (c) (i) to clarify that LVP measures may be implemented in graduated steps, that is, initiated and then fully implemented, appropriate to the actual

or trending weather conditions. The change reduces the impact on aerodrome movement rates at the initial onset of inclement weather.

Item 6 corrects a punctuation error at subparagraph 10.17.2.1 (c) (vi).

Subsection 10.17.3 relates to implementation of LVP at an aerodrome. Item 7 substitutes paragraphs 10.17.3.1 and 10.17.3.2 (excluding Notes) to clarify that LVP may be implemented in graduated steps appropriate to the actual or trending weather conditions. The original wording of subsection 10.17.3 could be interpreted as requiring the full implementation of LVP at the initial triggering weather conditions, being the inability of ATC to see all traffic on the aerodrome, the cloud ceiling being less than 200 feet, or visibility being less than 800 m. The new standards clarify that full low visibility measures are only required by the time the weather conditions necessitate low visibility operations, that is, approach operations with minima less than CAT I or departure operations with a visibility less than 550 m. This change is consistent with ICAO recommended practice and international best practice.

Item 8 amends Note 3 under paragraph 10.17.3.2, which referred to precision approach CAT II or III operations in the context of protection of ILS critical and sensitive areas. SA CAT I and SA CAT II operations, as introduced by this instrument, require similar protection. The note has been amended to incorporate these new types of operation. Item 8 adopts the generic term ‘instrument approach operations with minima less than precision approach Category I’ because it avoids the need to repeatedly name all the relevant types of operation.

Item 9 adds another note after paragraph 10.17.3.2, with advice that ATC will normally inform the aerodrome operator when LVP measures must be implemented.

Item 10 inserts paragraph 10.17.3.3, which requires the aerodrome operator to advise ATC when all aerodrome operator preparations relevant to LVP are complete. This is not a new requirement. It was previously in subparagraph 10.17.3.2 (b) before it was substituted by item 7.

Schedule 2

Schedule 2 contains amendments to the MOS Part 171.

Section 1.1 of the MOS contains general information about the background and context of the standards in the MOS and administrative arrangements within CASA relating to publication and amendment of the MOS.

Item 1 substitutes paragraph 1.1.2.1 to more accurately show the hierarchy of legislation, standards and advisory documents that apply to aeronautical telecommunication and radio navigation service providers.

Item 2 inserts a paragraph that briefly describes how the Act establishes CASA with safety-related functions.

Item 3 substitutes a new paragraph 1.1.2.4 which reflects the current process for the making of a MOS, including that a MOS is a legislative instrument under the LIA that requires registration and tabling and is subject to scrutiny and disallowance by the Parliament.

Item 4 substitutes paragraphs 1.1.5.1 and 1.1.5.2 and inserts a new paragraph 1.1.5.2A to update the information about parts of CASA responsible for the technical content, authorising amendments, and receiving suggestions for changes to the MOS.

Item 5 amends paragraph 3.2.1.4 by omitting the reference to repealed regulation 171.250 of CASR 1998, under which CASA could issue certificates of approval of service providers under Part 171 of CASR 1998, and instead referring to the current provision under which CASA may issue such certificates, being regulation 11.060 of CASR 1998.

Item 6 inserts a new Chapter 10 called 'Standards for facilities and equipment'. The new chapter includes section 10.1, which details the specific technical standards for landing system facilities on a runway that is suitable for SA CAT I and SA CAT II instrument approach operations. These landing system facilities provide precise three-dimensional guidance to an aircraft approaching a runway and the distance from touchdown. Traditionally, an ILS has been used to provide this three-dimensional guidance. The new standards include:

- the minimum classification for a suitable ILS, according to the classification system specified in Volume I of Annex 10 to the Convention on International Civil Aviation (the ***Chicago Convention***)
- performance characteristics for landing systems other than ILS, to cater for new or future types of landing system such as a Ground Based Augmentation System (GBAS) Landing System
- requirements for ensuring there is no signal interference that can affect the accuracy of the landing system
- requirements for suitable facilities for monitoring the performance of the landing system.

For SA CAT I facilities, a service provider must inform the designer of an instrument approach procedure about any operating limitation of the landing system facility, such that the facility is only suitable for HUD-equipped aircraft.

For SA CAT II ILS facilities, the ILS must have ILS frequency-paired distance measuring equipment (DME) to provide flight crews with precise information about distance to touchdown.

Schedule 3

Schedule 3 contains amendments to the MOS Part 172, which sets standards for air traffic service providers.

Section 10.3 of the MOS Part 172 relates to circuits and runways.

Item 1 substitutes subsection 10.3.1.1 with the purpose of correcting the grammar and punctuation. It does not change the cardinal wind speed and direction requirements for each particular situation.

Item 2 corrects an incorrect cross-reference in subsection 10.3.2.5.

Item 3 substitutes a new heading for subsection 10.3.3 – Procedures for Low Visibility Operations. The change more accurately reflects the philosophical change in standards for both MOS Part 139 and MOS Part 172 for a graduated initiation of low visibility measures and finally full implementation of LVP as weather conditions dictate.

Subsection 10.3.3 relates to the ATC requirements with respect to low visibility operations. Item 4 revises subsection 10.3.3 by replacing subsections 10.3.3.1 and 10.3.3.3 with new subsections 10.3.3.1, 10.3.3.2 and 10.3.3.3. The amendment, consistent with related changes in MOS Part 139, establishes a graduated process for implementing LVP. The provisions require full low visibility measures in place only at the time that the weather conditions necessitate low visibility operations, that is, approach operations with visibility or cloud ceiling less than the published CAT I minima or departure operations with a visibility less than 550 m. This change is consistent with ICAO recommended practice and international best practice.

Items 5 and 6 amend the abbreviation for nautical mile – from 'nm' to 'NM' – in subparagraph 10.3.4.3 (b) (ii) and paragraph 10.3.4.4 (b) respectively, for consistency throughout the MOS.

Item 7 substitutes subsection 10.3.4.6. This subsection relates to measures to minimise any interference with the flight guidance broadcast by an ILS. Previously, the requirements only applied to aerodromes supporting CAT II and CAT III instrument approach operations and only when certain weather conditions existed. The new subsection extends the applicability of the requirement to aerodromes supporting SA CAT I and SA CAT II operations. The weather conditions are now described by reference to the published CAT I minima for the runway to be used. The abbreviation for nautical mile has also been amended from 'nm' to 'NM' for consistency throughout the MOS.

Item 8 substitutes subsection 10.3.5.2. It has been revised to clarify the list of operations to which subsection 10.3.5.1 applies and for consistency of terminology. There is no change to the scope and intent of the subsection.

Schedule 4

Schedule 4 contains amendments to the MOS Part 173, which contains standards for design of instrument flight procedures.

Item 1 amends paragraph 8.1.4.1 to clarify that the abbreviation 'OCH' means obstacle clearance height.

Items 2 and 3 amend paragraphs 8.1.6.1 and 8.1.6.2 to the effect that, in addition to CAT II and CAT III instrument approach procedures, the paragraphs do not apply to SA CAT I and SA CAT II instrument approach procedures. Consistent with similar provisions inserted by this instrument, the term 'instrument approach operations with minima less than precision approach Category I' is used to avoid the need to repeatedly name all the relevant types of procedure.

Item 4 inserts a note before paragraph 8.1.6.2A informing that visibility values for SA CAT I and SA CAT II procedures can be found in the subsections 8.1.14 and 8.1.15, which are inserted by item 14 of this Schedule.

Item 5 substitutes paragraph 8.1.6.2A, including Table 8-1A, which relate to minimum visibility values for precision approach CAT II and CAT III procedures.

References to 'aerodrome capability' have been replaced with 'runway capability'. The purpose of the change is to break any link between the operating limits of an aerodrome facility not associated with a runway and the minima that can be calculated for an instrument flight procedure for a runway. Consistent with global practice, the minima on an instrument flight procedure should only be limited by the capability of the runway itself. MOS Part 139 retains the technical standards for non-runway facilities intended for operations in particular visibility conditions. However, the standards are performance objectives that are not intended to limit aircraft operations.

The cell in Table 8-1A relating to runway capability for a precision approach CAT II with minimum RVR of 350 m has been amended by omitting the words 'Airport meets Manual of Standards (MOS) Part 139 requirements for surface movement with an RVR ≥ 350 m'. The purpose of the change is to avoid any possible confusion that would erroneously lead to an aerodrome facility not associated with the runway being the benchmark for the operating limits of a runway.

The cell in Table 8-1A relating to runway capability for a precision approach CAT II with minimum RVR of 300 m has been amended. The amendment simplifies the description of essential runway infrastructure by replacing the exhaustive list of requirements with a list of requirements additional to the requirements for a basic CAT II runway, which is a runway that supports operations with a minimum RVR of 350 m. These additional requirements include runway centreline lighting with longitudinal spacing that applies to a runway intended for use in RVR conditions less than 350 m. The standards for spacing of runway centreline lighting are currently set out in subsection 9.10.24 of the MOS Part 139. In addition, the runway must have an ILS classified at least II/D/2, according to the classification system specified in Volume I of Annex 10 to the Chicago Convention, or a precision approach facility that has equivalent or better performance characteristics.

The cell in Table 8-1A relating to runway capability for precision approach CAT IIIA and IIIB operations has been amended by omitting the words 'Airport equipped for surface movement in RVR < 350 m'. The purpose of the change is to avoid any possible confusion that would erroneously lead to an aerodrome facility not associated with the runway being the benchmark for the operating limits of a runway.

Paragraph 8.1.7.1 (a) provided that State RVR minima values up to 800 m must be rounded to the nearest multiple of 50 m. Item 6 substitutes paragraph 8.1.7.1 (a) with new paragraphs 8.1.7.1 (a) and 8.1.7.1 (aa) to the effect that the RVR minima specified on an instrument flight procedure is rounded to the nearest multiple of 25 m for RVR values up to 400 m, and rounded to the nearest multiple of 50 m for RVR values greater than 400 m and up to 800 m. This change aligns with the international convention for the reporting of RVR mentioned in Annex 3 to the Chicago Convention.

Item 7 updates the list of provisions referenced in paragraph 8.1.7.1 that specify the minimum values for State visibility minima for runway approaches. The list now includes paragraph 8.1.6.2A and the new paragraphs on SA CAT I and SA CAT II procedures, being paragraphs 8.1.14 and 8.1.15 respectively.

Paragraph 8.1.7.2 relates to the minimum descent altitude (***MDA***) and decision altitude (***DA***). Item 8 substitutes paragraph 8.1.7.2 with new paragraphs 8.1.7.2 and 8.1.7.3 and a note.

Paragraph 8.1.7.2 now includes MDA/DA values for SA CAT I (threshold elevation plus 150 feet) and SA CAT II (threshold elevation plus 100 feet) procedures.

Paragraph 8.1.7.3 introduces a requirement for a radio altimeter (RA) height to be determined and published for each SA CAT I, SA CAT II and CAT II instrument flight procedure. This is complementary to a requirement for aircraft operators to use radio altimeter minima when conducting these approaches. The note informs that a CAT III procedure does not require an RA height despite the procedure sometimes requiring a DH value.

Items 9 and 10 replace the references to 'Category 1' with 'Category I' in paragraph 8.1.11.2. The Roman numeral is the correct convention in the context.

Items 11 and 12 replace the phrase 'the CASA' with the grammatically correct 'CASA' in Notes 2.a and 2.b under paragraph 8.1.11.5.

Item 13 replaces the phrase 'of his pre-flight' with 'of the pre-flight' in Note 4 under paragraph 8.1.11.5 to remove unnecessarily gender-specific language.

Item 14 introduces new paragraphs 8.1.14 and 8.1.15, which detail the instrument flight procedure design and publication standards for SA CAT I and SA CAT II procedures respectively. The standards for these new procedures relate to ATC, runway eligibility, precision approach facilities, design of the procedure and the content of the instrument approach chart.

Paragraph 8.1.14.8 requires the SA CAT I RVR minima to be derived from a table, with the RVR value dependent on the DH and the type and length of the ALS for the runway. For example, where the DH is 180 feet and the runway has a CAT I lighting system that is 480 m long, the RVR minima is 600 m.

Similarly, paragraph 8.1.15.7 requires the SA CAT II RVR minima to be derived from a table, with the RVR value dependent on the DH, the type and length of the ALS for the runway. In addition, where the ALS is a full CAT I, or CAT II and III, ALS that is at least 720 m long, the RVR value will depend on the aircraft category, with larger aircraft requiring a higher RVR minima. Under subparagraphs 8.1.15.7 (a) and (b), higher RVR minima may be required when the runway has no runway centreline lights.

Attachment 2

Statement of Compatibility with Human Rights

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

Manual of Standards Parts 139, 171, 172 and 173 Amendment Instrument 2016 (No. 1)

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

This legislative instrument amends 4 Manuals of Standards, made under the following Parts of the *Civil Aviation Safety Regulations 1998*:

- Part 139 — Aerodromes
- Part 171 — Aeronautical Telecommunication and Radio Navigation Services
- Part 172 — Air traffic services
- Part 173 — Standards applicable to Instrument Flight Procedure Design

The amendments to the Manuals of Standards establish the instrument flight procedure design standards, and the standards for ground support and supporting infrastructure, to enable 2 new types of approach operation called special authorisation category (***SA CAT***) I and SA CAT II instrument approach operations. These operations utilise special systems installed on some aircraft, such as head up displays, to substitute for the absence of certain components of ground infrastructure normally required for operations in poor weather conditions. Thus, the new procedures enable continued arrivals at aerodromes in weather conditions and at places where operations otherwise would not normally be possible. Where particular supporting infrastructure is required, the standards are an aggregation of existing standards and general operating procedures.

The introduction of SA CAT I and SA CAT II procedures at a particular location is at the sole discretion of the aerodrome operator and air traffic control service provider. CASA will not mandate or compel an operator or provider to implement such operations. However, if a decision is made to implement a procedure, CASA would exercise its regulatory functions as necessary to ensure the approach facilities and procedures are in place. Further, aircraft operators would have sole discretion about implementing SA CAT I and SA CAT II operations. CASA's role would be to conduct appropriate regulatory activities and, if appropriate, grant the necessary approvals for the operations to be implemented.

This legislative instrument also makes administrative and typographical corrections, including updating references to regulations and positions within CASA.

Human rights implications

This legislative instrument does not engage any of the applicable rights or freedoms.

Conclusion
This legislative instrument is compatible with human rights as it does not raise any human rights issues.

Civil Aviation Safety Authority