



**Australian Government**  
**Civil Aviation Safety Authority**

I, SHANE PATRICK CARMODY, Director of Aviation Safety, on behalf of CASA, make this instrument under Part 173 of the *Civil Aviation Safety Regulations 1998*.

**[DRAFT FOR CONSULTATION]**

Shane Carmody  
Director of Aviation Safety

May 2019

**Manual of Standards (MOS) Part 173 Amendment Instrument 2019 (No. 1)**

**1 Name of instrument**

This instrument is the *Manual of Standards (MOS) Part 173 Amendment 2019 (No. 1)*.

**2 Commencement**

This instrument commences on the day after it is registered.

**3 Repeal of instrument CASA EX134/17**

Instrument CASA EX134/17, *Exemptions and direction — publishing requirements for terminal instrument flight procedures*, is repealed.

**4 Schedules**

Schedule 1 amends the *Manual of Standards (MOS) Part 173 – Standards Applicable to the Provision of Instrument Flight Procedure Design*.

**Schedule 1 Amendments**

**[1] Before Chapter 2**

*Insert*

**1.1.6 Definitions**

1.1.6.1 In this Manual of Standards:

**ALS** means an approach lighting system for a runway.

**AMSL** means above mean sea level.

**BALS** or **basic ALS**, in relation to a runway, means an ALS that is at least 210 m and less than 420 m long.

**DH** means decision height.

**FALS** or **full ALS**, in relation to a runway, means an ALS with a Category I, or Category II and III, lighting system that is at least 720 m long.

**ft** means feet.

**GNSS** means Global Navigation Satellite System.

**IALS** or **intermediate ALS**, in relation to a runway, means an ALS that is at least 420 m and less than 720 m long.

**kt** means knots.

**MAPt** means missed approach point.

**MDA** means minimum descent altitude.

**MDA/H** means minimum descent altitude or height.

**MSA** means minimum sector altitude.

**NALS** or **no approach lighting system**, in relation to a runway, means the runway has no approach lighting system or has an ALS that is less than 210 m long.

**NM** means nautical miles.

**off-shore installation** has the meaning as defined in the CASR Dictionary.

**runway visual range** has the meaning as defined in the CASR Dictionary.

**RVR** means runway visual range.

**specialised helicopter operation** has the meaning as defined in the CASR Dictionary.

**terminal instrument flight procedure** has the meaning as defined in the CASR Dictionary.

**TIFP** means a terminal instrument flight procedure.

**visibility** means the distance along a runway over which a person can see and recognise a visibility marker or runway lights.

[2] **Paragraph 2.1.1.1 (oa)**

*Omit*

PINS

*Insert*

PinS

[3] **Paragraph 2.1.1.1 (r)**

*Substitute*

(r) a description of the procedures to be used to ensure that designs are prepared in accordance with the data product specification provided to the designer, for the design, under regulation 175.160 of CASR;

[4] **Paragraph 2.1.1.2**

*Omit (wherever occurring)*

PINS

*Insert*

PinS

[5] **Paragraph 6.1.2.3**

*Omit*

Chapter 9 of this Manual

*Substitute*

the data product specification provided to the certified designer by the AIS under regulation 175.160 of CASR

[6] **Paragraph 6.1.3.1 (b)**

*Substitute*

(b) a copy of the design in the format specified in the data product specification provided to the certified designer by the AIS under regulation 175.160 of CASR.

[7] **Paragraphs 8.1.6.1 and 8.1.6.2 (including Figure 8-2, Table 8-1 and the note after Table 8-1)**

*Substitute*

8.1.6.1 **Definitions.** In this section 8.1.6:

**APLL** means length of approach lighting system in metres or zero metres for a runway with NALS.

**straight-in approach procedure closely aligned with runway centreline** means a straight in approach procedure that:

- (a) utilises precision approach (ILS or GLS), ILS localiser, VOR or GNSS guidance for the final approach segment, and
- (b) has a final approach segment aligned with the runway or offset by no more than 10 degrees from the runway centreline.

**TCH** means threshold crossing height.

**VPA** means vertical path angle in degrees.

8.1.6.1A **Application of procedures for determining visibility for straight-in approaches (other than Category II, Category III and Special Authorisation Category approaches).** The procedures for determining visibility in paragraphs 8.1.6.1B and 8.1.6.1C apply to the following runway approach procedures when conducted as a straight-in approach:

- (a) precision approach procedures with a DH of not less than 200 ft;
- (b) approach procedures with vertical guidance;
- (c) non-precision approach procedures that meet the ICAO PANS-OPS Vol II and ICAO Doc 9905 requirements for a straight-in approach procedure.

8.1.6.1B Subject to paragraph 8.1.6.2, for a straight-in approach procedure closely aligned with runway centreline, the minimum RVR, or visibility, for the procedure is the larger of the following:

(a) 
$$RVR \text{ or visibility } (m) = 160m + \frac{(\{MDH \text{ or } DH\} - TCH) \times 0.3048}{\tan(VPA)} -$$

*APLL*;

- (b) the value, as an RVR or visibility, in the table relevant to the type of ALS installed for the runway:

Type of ALS	FALS (Column 1)		IALS (Column2)	BALS (Column 3)		NALS (Column 4)
	RVR	Visibility	RVR or visibility	RVR	visibility	RVR or visibility
Distance (m)	550	800	800	1 000	1 200	1 500

8.1.6.1C **Method for determining minimum visibility — other straight-in procedures.** Subject to paragraph 8.1.6.2, for a straight-in approach procedure mentioned in paragraph 8.1.6.1A that is not a straight-in approach procedure closely aligned with runway centreline, the minimum RVR, or visibility, for the procedure is the larger of the following:

$$(a) \quad RVR \text{ or visibility (m)} = 160m + \frac{((MDH \text{ or } DH) - TCH) \times 0.3048}{\tan(VPA)};$$

(b) 1,500m.

8.1.6.2 For paragraphs 8.1.6.1B and 8.1.6.1C, an RVR minimum may be used only for a procedure to approach a runway equipped with electronic RVR measuring equipment.

**[8] Paragraph 8.1.6.2A**

*Omit*

visibility

*substitute*

RVR

**[9] Paragraph 8.1.6.2A, Table 8-1A (first row)**

Repeat the row, substitute:

Approach type (Column 1)	Minimum RVR (metres) (Column 2)	Runway capability (Column 3)
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**[10] Paragraph 8.1.6.2A, Table 8-1A (first cell in column headed "Runway capability")**

*Omit*

Runway Visual Range (RVR)

*insert*

RVR

**[11] Paragraph 8.1.6.2A, after Table 8-1A**

*Insert*

**Note:** Visibility values for Special Authorisation Category I and Special Authorisation Category II procedures can be found in paragraphs 8.1.14 and 8.1.15.

**[12] Paragraph 8.1.6.3**

*Omit*

(The basis upon which the values for circling visibility have been determined are contained in Section 9.1.)

**[13] Paragraph 8.1.6.3, after the Table**

*Insert*

**Note:** The values in Table 8-2 have been determined allowing for an omni-directional wind of 25 knots, an achieved bank angle of 25°, an OAT of ISA + 15, an altitude of aerodrome elevation plus 1 000 ft and the average visual manoeuvring speed for the aircraft category. Subject to an absolute minimum value of 2 km, the values were derived using the following formula:

$$V = 0.9D$$

Where V = circling visibility

D = diameter of turn at the average manoeuvring speed for category

0.9 = minimum downwind spacing, in nautical miles, to achieve alignment on final approach.

The circling visibility recognises that the pilot must be able to see the runway from the downwind position.

**[14] Paragraph 8.1.7.1**

After “rounded” (wherever occurring), insert “up”.

**[15] Paragraph 8.1.7.1**

*Omit*

Exception. For runway approaches it must not be less than the minimum values permitted at paragraphs 8.1.6.2, 8.1.6.2A, 8.1.14 and 8.1.15.

**[16] Paragraph 8.1.7.1 (the Note)**

*Omit*

**[17] Paragraph 8.1.14.8**

*Omit*

approach lighting system (ALS)

*insert*

ALS

**[18] Paragraph 8.1.14.8 (after Table 8-4)**

Omit the text after the table.

**[19] Paragraph 8.1.15.7 (after Table 8-5)**

Omit the text after the table.

**[20] Section 8.6.1 (definition of AMSL)**

*Omit*

**[21] Section 8.6.1 (definition of ATP, the note)**

*Omit*

**[22] Section 8.6.1**

*Omit the following definitions*

CAR 1988

CASR 1998

GNSS

PANS OPS

kt

MAPt

MDA

MDH

MDA/H

MSA

NM

TIFP

**[23] Section 8.6.1 (the note after the definition of VF)**

*Omit*

**[24] Section 8.9 (excluding the heading)**

*Substitute*

**8.9.1 Procedures to be prepared in accordance with data product specifications**

8.9.1.1 A certified designer must comply with format and drafting conventions specified in a data product specification given to the certified designer under regulation 175.160 of CASR.

Note **Data product specification** has the meaning as defined in the CASR Dictionary.

8.9.1.2 A certified designer must ensure that its operations manual includes a description of the processes and documents used to present the standards, rules and procedures mentioned in the data product specification.

**[25] Chapter 9**

*Repeal*

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