



Australian Government

Civil Aviation Safety Authority

I, SHANE PATRICK CARMODY, Director of Aviation Safety, on behalf of CASA, make this instrument under the definition of *Manual of Standards* in regulation 173.010 of the *Civil Aviation Safety Regulations 1998* and subsection 33 (3) of the *Acts Interpretation Act 1901*.

[Signed S. Carmody]

Shane Carmody
Director of Aviation Safety

27 August 2020

Manual of Standards Part 173 Amendment Instrument 2020 (No. 1)

1 Name

This instrument is the *Manual of Standards Part 173 Amendment Instrument 2020 (No. 1)*.

2 Commencement

This instrument commences on the day after it is registered.

3 Repeal of instrument number CASA EX134/17

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CASA EX134/17, *Exemptions and direction — publishing requirements for terminal instrument flight procedures*, is repealed.

4 Amendment of the Manual of Standards Part 173

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

Schedule 1 Amendments

[1] Chapter 1, after paragraph 1.1.5

insert

1.1.6 Definitions

1.1.6.1 In this Manual of Standards:

ALS, in relation to a runway, means an approach lighting system for the runway.

AMSL means above mean sea level.

BALS (short for basic ALS), in relation to a runway, means an ALS for the runway that is at least 210 m, and less than 420 m, long.

CASR 1998 means the *Civil Aviation Safety Regulations 1998*.

CAT I lighting system has the same meaning as in section 9.41 of the *Part 139 (Aerodromes) Manual of Standards 2019*.

CAT II and CAT III lighting system has the same meaning as in section 9.42 of the *Part 139 (Aerodromes) Manual of Standards 2019*.

DH means decision height.

FALS (short for full ALS), in relation to a runway, means an ALS for the runway, consisting of a CAT I lighting system, or CAT II and CAT III lighting system, which is at least 720 m long.

GNSS means Global Navigation Satellite System.

IALS (short for intermediate ALS), in relation to a runway, means an ALS for the runway 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 (short for no ALS), in relation to a runway, means:

- (a) no ALS in relation to the runway; or
- (b) an ALS, in relation to the runway, which is less than 210 m long.

NM means nautical miles.

RVR means runway visual range.

TIFP means terminal instrument flight procedure.

visibility means the ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night.

[2] Subparagraph 2.1.1.1 (oa) (i)

omit

PINS

insert

PinS

[3] Paragraph 2.1.1.1 (r)

substitute

- (r) a description of the standards, rules and procedures to be used to ensure a procedure is published in accordance with the format and drafting conventions specified in a data product specification given to the designer under regulation 175.160 of CASR 1998;

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|--|
| <p>Note: The term <i>data product specification</i> has the meaning given by the CASR Dictionary.</p> |
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[4] Paragraph 2.1.1.2

omit (wherever occurring)

PINS

insert

PinS

[5] Paragraph 6.1.2.3

omit

Chapter 9 of this Manual

insert

a data product specification given to the designer under regulation 175.160 of CASR 1998

[6] Paragraph 6.1.3.1 (b)

omit

Chapter 9 of this MOS

insert

a data product specification given to the certified designer under regulation 175.160 of CASR 1998

[7] Paragraphs 8.1.6.1 and 8.1.6.2

substitute

8.1.6.1 **Definitions.** In paragraphs 8.1.6.1A to 8.1.6.1D:

APLL, in relation to a runway, means:

- (a) the length of an ALS, for the runway, in metres; or
- (b) if there is NALS in relation to the runway — zero metres.

MDH means minimum descent height.

straight-in approach procedure aligned with runway centreline means a straight-in approach procedure, for a runway, which:

- (a) utilises precision approach (ILS or GLS), ILS localiser, GNSS, VOR, or NDB, guidance for the final approach segment, and
- (b) for which the final approach track is offset by:
 - (i) for a Cat A or B aeroplane — not more than 10 degrees from the runway centreline; or
 - (ii) for a Cat C or D aeroplane — not more than 5 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 minimum RVR, or visibility, for certain straight-in approach procedures.** The procedures for determining minimum RVR, or visibility, under paragraphs 8.1.6.1B and 8.1.6.1C apply to any of the following straight-in approach procedures:

- (a) a precision approach procedure with a DH of not less than 200 ft;
- (b) an approach procedure with vertical guidance;
- (c) a non-precision approach procedure;

which meets the PANS-OPS Vol II, or ICAO Doc 9905, requirements for a straight-in approach procedure.

8.1.6.1B **Method for determining minimum RVR or visibility — straight-in approach procedure aligned with runway centreline.** Subject to paragraph 8.1.6.1D, for a straight-in approach procedure mentioned in paragraph 8.1.6.1A, which is a straight-in approach procedure aligned with runway centreline, the minimum RVR, or visibility, for the procedure is the greater of the following:

- (a) $RVR \text{ or visibility (metres)} = 160 \text{ m} + \frac{(\{MDH \text{ or } DH\} - TCH) \times 0.3048}{\tan(VPA)}$ —
APLL;
- (b) the value, as an RVR or visibility, stated in column 1, 2, 3 or 4 of Table 8.1, relevant to the type of ALS in relation to a runway stated in the first row of the table.

Table 8-1: Minimum RVR or visibility

| Type of ALS | FALS (Column 1) | | IALS (Column 2) | BALS (Column 3) | | NALS (Column 4) |
|-------------------|--------------------|------------|--------------------|--------------------|------------|--------------------|
| | RVR | Visibility | RVR or Visibility | RVR | Visibility | RVR or Visibility |
| Distance (metres) | 550 | 800 | 800 | 1,000 | 1,200 | 1,500 |

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

- (a) $RVR \text{ or visibility (metres)} = 160 \text{ m} + \frac{(\{MDH \text{ or } DH\} - TCH) \times 0.3048}{\tan(VPA)}$;
- (b) 1 500 m.

8.1.6.1D **Use of RVR minimum.** 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.

8.1.6.2 **Maximum RVR or visibility.** For a straight-in approach procedure, the maximum RVR, or visibility, for the procedure is 5 km.

[8] Paragraph 8.1.6.2A

omit

visibility

insert

RVR

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

substitute

| Approach type (Column 1) | Minimum RVR (metres) (Column 2) | Runway capability (Column 3) |
|-----------------------------|------------------------------------|---------------------------------|
|-----------------------------|------------------------------------|---------------------------------|

[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

| |
|--|
| <p>Note: Visibility values for Special Authorisation Category I procedures and Special Authorisation Category II procedures are stated at paragraphs 8.1.14 and 8.1.15.</p> |
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[12] Paragraph 8.1.6.3

omit

the following table

insert

Table 8-2

[13] Paragraph 8.1.6.3

omit

Section 9.1

insert

Table 8-2A

[14] Paragraph 8.1.6.3, after Table 8-2

insert

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|--|
| <p>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:</p> $V = 0.9D$ <p>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.</p> <p>The circling visibility recognises that the pilot of the aircraft must be able to see the runway from the downwind position.</p> |
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Table 8-2A: Circling visibility values

| Category | A | B | C | D |
|--|-------------|-------------|-------------|-------------|
| IAS (kt) | 90.00 | 125.00 | 170.00 | 195.00 |
| TAS (1 000 ft, ISA + 15) | 93.70 | 130.14 | 176.99 | 203.01 |
| r (km) | 0.51 | 0.98 | 1.81 | 2.38 |
| E (km) | 0.21 | 0.29 | 0.39 | 0.45 |
| D=2r +2E | 1.43 | 2.54 | 4.41 | 5.67 |
| 0.9D | 1.29 | 2.29 | 3.97 | 5.11 |
| Minimum Circling Visibility | 2.00 | 2.40 | 4.00 | 5.00 |

[15] Paragraph 8.1.7.1

omit (wherever occurring)

rounded

insert

rounded-up

[16] Paragraph 8.1.7.1, Exception

omit

8.1.6.2

insert

8.1.6.1B, 8.1.6.1C

[17] Paragraph 8.1.14.8

omit

approach lighting system (ALS)

insert

ALS

[18] Paragraph 8.1.14.8, the text after Table 8-4

omit

[19] Paragraph 8.1.15.7, the text after Table 8-5

omit

[20] Paragraph 8.6.1, the Note after the definition of ATP

omit

[21] Paragraph 8.6.1, Definitions and abbreviations of AMSL, CASR 1998, GNSS, PANS-OPS, kt, MAPt, MDA, MDH, MDA/H, MSA, NM and TIFP

omit

[22] Paragraph 8.6.1, the Note after the definition of VF

omit

[23] Section 8.9

substitute

Section 8.9: Publishing

8.9.1 Procedure to be published in accordance with data product specification

- 8.9.1.1 A certified designer must comply with the format and drafting conventions specified in a data product specification, given to the designer under regulation 175.160 of CASR 1998, for the publication of a procedure.

[24] Chapter 9

omit