

Changes to publishing standards and calculation of visibility minima – CD 1904AS

Overview

Amendments to: *Part 173 Manual of Standards (MOS)*

Part 173 of the *Civil Aviation Safety Regulations 1998 (CASR)* sets the Australian standards for instrument flight procedure design. The regulation and its associated MOS was introduced in 2003.

CASA is proposing to amend the Part 173 Manual of Standards (MOS) to permanently set in place a longstanding temporary exemption arrangement relating to instrument flight procedure publishing standards, and to clarify the requirements for calculating visibility minima.

Publishing standards

The MOS includes the publishing standards for flight instrument procedures. The standards include the text format - for example the way latitude and longitude values are depicted on an instrument approach chart, and the pictorial layout for instrument flight procedure charts. The MOS also contains the procedures and formula for calculating the visibility minima that appear on all Australian instrument approach procedures.

The MOS reflects publishing standards that were in use at the time it was first issued. Since then, there have been changes to the regulatory arrangements for publication of aeronautical data such as instrument flight procedure charts. Most significantly, Part 175 (Aeronautical information management) came into effect in 2014. Part 175 introduced a scheme for aeronautical information management whereby information (including instrument flight procedure charts) must comply with a data product specification (DPS).

Until recently, it has not been possible to amend the MOS to reflect the changed situation. Instead, and for several years, CASA has granted exemptions from the publishing requirements in the MOS to the small class of Part 173 certified designers. The terms of these exemptions reflect the current and ongoing arrangements according to Part 175.

However, instruments of exemption are time-limited. This means CASA has had to renew the exemptions from time to time; processes that have a time and cost impact.

CASA proposes to change the MOS to reflect the terms of the latest exemption. In effect, CASA intends to replace the whole of Section 8.9 (including the sample charts and publishing standards) with a broad requirement for procedures to be prepared in accordance with a DPS given to the designer under regulation 175.160 of CASR.

Calculation of instrument approach visibility minima

There has been an ongoing issue with the Section 8.1 standards for determining visibility minima. Due to the formatting of the requirements, the standards have sometimes been interpreted as requiring designers to adjust vertical minima to account for the visibility minima available for a particular situation. However, the intended policy requirement is that the visibility minima must be adjusted taking into account the vertical minima, and not vice versa. Further, the calculation standards have been found restrictive compared to international standards, specifically in terms of allowing an operational benefit (reduced visibility minima) for runways equipped with approach lighting systems that are shorter than the standard 900 m length.

To address these issues, CASA proposes to consolidate paragraphs 8.1.6.1, 8.1.6.2 and subsection 9.1.1 into a single section. The new section will have standards to the effect that visibility minima calculations will be on the basis of runway alignment and length of approach lighting (if any) provided for the runway. The precise technical details can be found in the draft instrument for amending the MOS that is included on this webpage.

Consequential and editorial amendments

The proposed changes require some consequential amendments. CASA is also taking the opportunity to consolidate various definitions into a new definitions section and to make some minor editorial changes in the document.

Documents for review

A copy of the Summary of Proposed Change and the draft MOS amending instrument called 'Manual of Standards (MOS) Part 173 Amendment Instrument 2019 (No. 1)', are provided below in the 'Related' section.

Why we are consulting

This consultation is seeking feedback on the proposal to amend Part 173 MOS for the purpose of finally setting in place the temporary exemption arrangements pertaining to publishing standards and to consolidate and simplify the standards pertaining to visibility minima calculations.

General comments and file upload option

There is a general comments box at the end of the consultation. You can add your comments on matters related to the regulatory amendment, which have not already been addressed in the consultation. This page also contains a file upload for an additional document should you wish to provide one.

Comments on the proposal to amend Part 173 MOS should be submitted through the online response form.

What happens next

Once the consultation has closed, we will register and review each submission received through the online response form. We will make all submissions publicly available on the Consultation Hub, unless you request that your submission remain confidential. We will also publish a Summary of Consultation which summarises the feedback received.

Information about how we consult and how to make a confidential submission is available on the **CASA website** <<https://www.casa.gov.au/rules-and-regulations/landing-page/consultation-process>> .

To be notified of any future consultations, you can subscribe to our **consultation and rulemaking mailing list** <<https://mailinglist.casa.gov.au/?p=subscribe&id=3>>.

Page: About this consultation

This consultation asks for your feedback on CASA's proposal to amend the existing Part 173 MOS standards for publishing instrument flight procedure charts and for calculating visibility minima.

The proposed changes will involve replacing several subsections from the MOS and making some editorial amendments. The fact banks below will help you to understand the proposed changes.

General comments

The last page of this consultation is a *General comments* page, where you can make additional comments on the proposed changes.

File upload

Should you wish to support your comments with an additional document, we have provided a file upload facility within the general comments page for your convenience.

We will ask you for:

- **personal information**, such as your name, any organisation you represent, and your email address
- **your consent** to publish your submission
- **your responses** to the proposed changes in the regulations
- **any comments** you may want to provide
- **demographic information** to help us understand your interest in the regulations

Our **website**<<https://www.casa.gov.au/rules-and-regulations/landing-page/consultation-process>> contains more information on making a submission and what we do with your feedback.

Page 1: Personal information

First name

(Required)

Last name

(Required)

Email address

If you enter your email address, you will automatically receive an acknowledgement email when you submit your response.

Email

Do your views officially represent those of an organisation?

(Required)

Please select only one item

- ☐ Yes, I am authorised to submit feedback on behalf of an organisation
- ☐ No, these are my personal views

If yes, please specify the name of your organisation.

Demographic question where applicable

Which of the following best describes the group you represent?

Please select only one item

- ☐ CASR Part 173 Instrument flight procedure designers
- ☐ CASR Part 175 aeronautical information service providers
- ☐ Aerodrome operators
- ☐ Air operators
- ☐ Pilots
- ☐ Other

Please specify if you have selected "Other".

Page 2: Consent to publish submission

In order to promote debate and transparency, we intend to publish all responses to this consultation. This may include both detailed responses/submissions in full and aggregated data drawn from the responses received.

Where you consent to publication, we will include:

- **your last name**, if the submission is made by you as an individual
- **the name of the organisation** on whose behalf the submission has been made
- **your responses and comments**

We **will not** include any other personal or demographic information in a published response.

Information about how we consult and how to make a confidential submission is available on the **CASA website** <<https://www.casa.gov.au/rules-and-regulations/landing-page/consultation-process>> .

Do you give permission for your response to be published?

(Required)

Please select only one item

- ☐ Yes - I give permission for my response/submission to be published.
- ☐ No - I would like my response/submission to remain confidential but understand that de-identified aggregate data may be published.
- ☐ I am a CASA officer.

Page 3: Proposal no. 1 – Amend the publishing standards in Section 8.9**Proposal**

- Replace the entire section 8.9 (Publishing) of Part 173 MOS – a total of 11 pages – with new standards that require a designer to:
 - comply with format and drafting conventions specified in a data product specification (DPS) given to the designer under regulation 175.160 of CASR
 - ensure that its operations manual includes a description of the processes and documents used to present the standards, rules and procedures mentioned in the DPS.

Question: Do you agree with the proposed changes to section 8.9 of the MOS?

Note: For brevity, the fact banks below show only 3 samples of the section to be omitted. However, a total of 11 pages that constitute section 8.9 would be omitted. The final fact bank on this page shows the proposed new Section 8.9 in its entirety.

Fact Bank: Sample 1 of section 8.9 to be omitted

Manual of Standards Part 173—Standards
Applicable to Instrument Flight Procedure
Design

Chapter 8:
Design Standards

Section 8.9: Publishing**8.9.1 Electronic Format**

8.9.1.1 Procedures must be prepared in an electronic format acceptable to the publishing authority. The format must not permit alteration to the procedure by a person other than the designer.

8.9.2 Text Format

8.9.2.1 The following text formats must be used:

Notes:

Text in [] is optional and should be inserted only where the likelihood of confusion exists.

Text in {} should be inserted where required.

Text in () should be inserted as shown eg. in brackets.

'ddd' = degrees in three digit format.

'n' = number. (The number of 'n' indicates the minimum digits required.)
DME distances must be in whole or half miles with half miles normally shown as a fraction.
GPS distances are normally shown as a whole number or to one decimal place.

'XXX' = Navigation aid ident.

'YYYYY' = GPS waypoint.

(a) General**(i) Bearings**

Plan & Profile	Bearings to an NDB:	{L}B-ddd° [XXX],
	Radials from an VOR:	{L}R-ddd° [XXX]
Text	Bearings to an NDB:	B-ddd° to XXX,
	Radials from a VOR:	XXX R-ddd

(ii) Distance (DME)

Plan	nn{n} XXX
Profile	nn{n} XXX
Text	nn{n} DME [XXX]

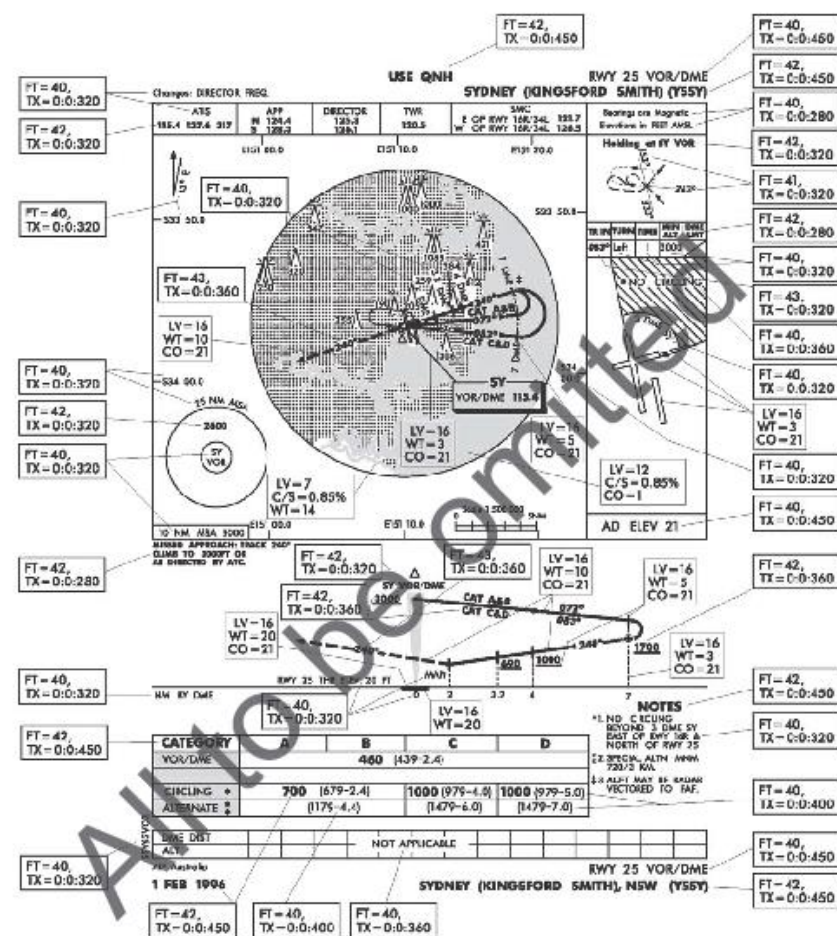
Fact Bank: Sample 2 of section 8.9 to be omitted

- (iii) **Distance (GPS)**
- | | | |
|---------|-----------------------|----------------------------|
| Plan | nn{n} YYYYY | From a designated waypoint |
| | nn{n}NM | From a Step down fix |
| Profile | nn{n} YYYYY | From a designated waypoint |
| | nn{n}NM | From a step down fix |
| Text | nn{n}NM YYYYY | From a designated waypoint |
| | nn{n} NM BEFORE YYYYY | From a step down fix |
- (iv) **Distance (NM)**
- | | |
|---------|-----------------------|
| Plan | nn{n} NM |
| Profile | nn{n} NM |
| Text | nn{n} NM FROM XXX ARP |
- (v) **Time**
- Time is expressed in whole or half minutes, followed by MIN eg. 3½ MIN
- (b) **Aerodrome Charts**
- (i) **Coordinates**
- | | |
|------|--|
| Grid | Degrees and minutes to one decimal place. Prefix with S or E, as appropriate (eg. S38 21.5) |
| ARP | Latitude and Longitude in degrees and minutes to one decimal place. Prefix with S or E, as appropriate (eg. S38 06.9 E147 09.9)
<i>Derived or declared positions are suffixed with an asterisk.</i> |
- (ii) **Elevations**
- | | |
|----------------------|---------|
| Threshold | ELEV nn |
| All other elevations | Nn |
- (c) **Instrument Approach Charts**
- (i) **Plan**
- | | |
|------|---|
| Grid | Degrees and minutes to one decimal place. Prefix with S or E, as appropriate (eg. S38 20.0) |
|------|---|
- (ii) **Holding Pattern**
- | | |
|------------|---|
| NAVAID | Holding at {appropriate aid type} (eg. NDB) |
| Brg & Dist | Holding at XXX R-ddd/nn |

Fact Bank: Sample 3 of section 8.9 to be omitted

Manual of Standards Part 173—Standards
Applicable to Instrument Flight Procedure
Design

Chapter 8:
Design Standards



Version 1.6: March 2017

8-88

Authorised Version F2017C00201 registered 15/03/2017

Fact Bank: Proposed new Section 8.9

Note: The entire new section fits on one page.

Section 8.9: Publishing

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.

Radio buttons

- ☐ Agree
- ☐ Agree with changes (please specify suggested changes below)
- ☐ Disagree (please set out your reasoning and alternative suggestions below)
- ☐ Undecided / Not my area of expertise

Comment

Page 4: Proposal no. 2 - Amend the standards in subsection 8.1.6 for calculating visibility minima, and omit Chapter 9

Proposal

- Replace Paragraphs 8.1.6.1 and 8.1.6.2 (including Figure 8-2, Table 8-1 and the note after Table 8-1) with new standards that consolidate and update the requirements in the original text as well as the relevant requirements of Chapter 9
- Omit Chapter 9 in its entirety.
 - In the process, revise the formulae in subsection 9.1.1 and amalgamate into paragraphs 8.1.6.1B, 8.1.6.1C and 8.1.6.3.

Question: Do you agree with the proposed changes to Section 8.1.6 and the proposed omission of Chapter 9?

Fact Bank: MOS paragraphs 8.1.6.1 & 8.1.6.2 – current standards and proposed changes

8.1.6 Visibility

8.1.6.1 Runway Approaches. The basic value for runway approach procedures, other than instrument approach procedures with minima less than precision approach Category I, must be determined using the method described in Section 9.1. Computations using this method are represented in Figure 8-2.

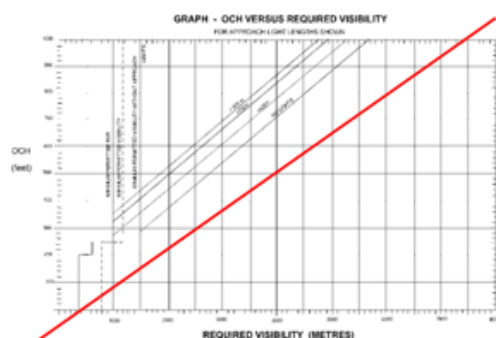


Figure 8-2: OCH versus required visibility

8.1.6.2 Minimum Values. The following are the minimum visibility values approved for straight-in procedures, other than instrument approach procedures with minima less than precision approach Category I.

Table 8-1: Minimum visibility

Lighting and Marking	Category I		
	DH (ft)	RVR (m)	VIS (m)
High-intensity approach lighting (HIAL) (900-m length), high-intensity runway lighting (HIRL), and runway markings, as specified in Manual of Standards (MOS) Part 139 for a precision approach runway category I	200-250	550	800
	>250	1,000	1,200
Short HIAL or approved approach lighting system, HIRL, and runway marking as above	HIAL < 900 m and > 740 m		
	200-250	800	800
	For other HIAL length or other approved approach lighting systems		
Approved lighting and marking not mentioned above	>250	1,000	1,200
	>250	1,500	1,500

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.

8.1.6 Visibility

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:

- utilises precision approach (ILS or GLS), ILS localiser, VOR or GNSS guidance for the final approach segment, and
- 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:

- precision approach procedures with a DH of not less than 200 ft;
- approach procedures with vertical guidance;
- 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:

- $RVR \text{ or visibility (m)} = 160m + \frac{[(MDH \text{ or } DH) - TCH] \times 0.3048}{\tan(VPA)} - APLL$
- 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 (Column 2)	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:

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

Fact Bank: Proposed deletion of section 9.1.1, and relocation of amended formulae to 8.1.6.1B and 8.1.6.1C

Note: This fact bank shows the wording in subsection 9.1.1 to be omitted and a graphical description of changes to the formulae.

9.1.1 Runway Approaches

- 9.1.1.1 The visibility for non-precision runway aligned approaches has been calculated to permit 160m of runway to be seen from an aircraft on a 3° approach gradient at the MDA.
- 9.1.1.2 In the case of precision approaches allowance is made for runway approach lighting to reduce the required visibility, and the design requirement is that 160 m of approach lighting can be seen at a point on glideslope at the DH.
- 9.1.1.3 At the MDA on a non-precision approach an aircraft may not be accurately aligned with the runway, (as can be expected in the case of a precision approach) and manoeuvring may be required to align the aircraft with the extended runway centreline. Therefore it is considered that where runway approach lighting is available, the required visibility should not be reduced.
- 9.1.1.4 Visibility can be calculated in accordance with the following formulae:

For precision approaches:

$$V \text{ (metres)} = 160m + \frac{(DH - TCH)m}{\tan 3^\circ} - APLL$$

Where APLL = Approach Lighting Length in metres

For non-precision approaches:

$$V \text{ (metres)} = 160m + \frac{(OCH - TCH)m}{\tan 3^\circ}$$

Fixed value of $\tan 3^\circ$ becomes
Tan(vertical path angle)



Proposed formula for a straight-in approach procedure closely aligned with runway centreline:

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

Top line has conversion factor from DH (ft) to equivalent in metres

Formula for other straight-in procedures:

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

Vertical path angle, not fixed angle

Fact Bank: Proposed amendment to paragraph 8.1.6.3 (Derivation of circling area visibility minima).

Note: This shows – with tracked changes – the proposal to move the chapter 9 information about circling area minima to paragraph 8.1.6.3.

9.1.2 – Circling Visibility

9.1.2.1 The basic circling visibility recognises that the pilot must be able to see the runway from the downwind position. The value shall allow 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 1000 ft and the average visual manoeuvring speed for category. Values must be determined using the following formula, however, an absolute minimum value of 2 km must be used.

$$V = 0.9D$$

Where V = circling visibility

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

0.9 = minimum downwind spacing to achieve alignment on final approach.

CIRCLING VISIBILITY				
Category	A	B	C	D
IAS (kt)	90.00	125.00	170.00	195.00
TAS (1000ft, 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
Min. Circling Visibility	2.00	2.40	4.00	5.00



8.1.6.3 **Circling.** Circling visibility must be determined from the following table. ~~(The basis upon which the values for circling visibility have been determined are contained in Section 9.1.)~~

Table 8-2: Circling visibility

Aircraft Category	A	B	C	D	E
Circling Visibility (km)	2.0	2.4	4.00	5.00	7.00

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.

Radio buttons

- ☐ Agree
- ☐ Agree with changes (please specify suggested changes below)
- ☐ Disagree (please set out your reasoning and alternative suggestions below)
- ☐ Undecided / Not my area of expertise

Comment

Page 5: Proposal no. 3 – Dictionary, consequential and editorial amendments

Proposal

- Consolidate common definitions and abbreviations into a specific definitions section at the end of Chapter 1
 - *Note: Definitions unique to a particular part of the MOS will not be moved.*
- Make the series of consequential amendments to paragraphs 2.1.1.1 (r), 6.1.2.3 and 6.1.3.1 (b) as a result of changes to Section 8.9, subsection 8.1.6 and omitting Chapter 9.
- Make a number of editorial amendments to standardise terms such as 'PinS' and to ensure consistent use of abbreviations and terms.

Question: Do you agree with the proposed Dictionary, consequential and editorial amendments?

Fact Bank: Proposed dictionary

- (c) ICAO Template Manual for Holding, Reversal and Racetrack Procedures, Doc 9371-AN/912/2; and
- (d) ICAO Required Navigation Performance Authorization Required Procedure Design Manual, Doc 9905-AN/471.

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.



Fact Bank: Consequential amendments to paragraphs 2.1.1.1 (r), 6.1.2.3 and 6.1.3.1 (b)

...

2.1.1 Standards

- 2.1.1.1 A certified designer must prepare an Operations Manual which includes the following:

...

- (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; ~~a description of the procedures to be used to ensure that designs are completed in accordance with the drafting conventions contained in this MOS; ¶~~

...

6.1.2 Validation

- 6.1.2.1 All designs, other than a design mentioned in paragraph 6.1.1.1 (g), must be validated in accordance with the Standards mentioned in Chapter 7.

- 6.1.2.2 On completion of a design, a certified designer must apply to CASA for flight validation.

Note The address for applications is anaa.corro@casa.gov.au or Air Navigation, Airspace and Aerodromes Manager, Civil Aviation Safety Authority, GPO Box 2005, Canberra, ACT 2601.

- 6.1.2.3 The application is to include a completed draft copy of the design procedure prepared for publication in accordance with the data product specification provided to the certified designer by the AIS under regulation 175.160 of CASR ~~Chapter 9 of this Manual.~~

- 6.1.2.4 CASA shall arrange for a CASA officer who is a qualified validation pilot to conduct the flight validation.

...

6.1.3 Publication

- 6.1.3.1 **Public Procedures.** For a procedure which is to be published in the AIP, the certified designer shall forward to the AIS:

- (a) A Certificate of Design signed by the Chief Designer stating that the design has been completed in accordance with CASR Part 173, and,
- (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 ~~A copy of the design in the format specified in Chapter 9 of this MOS.~~

Fact Bank: Editorial amendments to Part 173 MOS

Note: The fact bank is an extract from the proposed MOS amending instrument.

Part 173 MOS proposed editorial amendments

[2] Paragraph 2.1.1.1 (oa)

Omit

PINS

Insert

PinS

[4] Paragraph 2.1.1.2

Omit (wherever occurring)

PINS

Insert

PinS

[8] Paragraph 8.1.6.2A

Omit

visibility

substitute

RVR

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

Repeal 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

[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

Radio buttons

- ☐ Agree
- ☐ Agree with changes (please specify suggested changes below)
- ☐ Disagree (please set out your reasoning and alternative suggestions below)
- ☐ Undecided / Not my area of expertise

Comment

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Page 6: General comments

Do you have any additional comments about the proposed changes?

(Please note, this should not include points you have already raised)

Comments

File upload option

You may wish to upload a file as part of your submission. Select 'Browse' below and navigate to the file you would like to include. Please note pdf is preferred.