



IFR NON PRECISION APPROACH AND MINIMA

1. Introduction

A non-precision approach (NPA) procedure is an instrument approach procedure designed for 2D instrument approach operations Type A.

The operating minima for 2D instrument approach operations using instrument approach procedures shall be determined by establishing a minimum descent altitude (MDA) or minimum descent height (MDH), minimum visibility and, if necessary, cloud conditions.

Non-precision approaches are often conducted with less use of automated systems than precision approaches. However, on many modern aircraft, automatic systems may be left engaged until reaching the MDA/H.

2. Definition

Aerodrome operating minima mark the limits of usability of an aerodrome for:

- take-off, expressed in terms of runway visual range and/or visibility and, if necessary, cloud conditions
- landing in 2D instrument approach operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions
- landing in 3D instrument approach operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the type and/or category of the operation.

DA = A specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

MDA = A specified altitude or height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference.

There are two methods for executing instrument approach operations:

- a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only;
- a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance.

IFR non precision approach and minima	Version 2.1	28 May 2017	Page 1
© IVAO HQ training department	Training Documentation Manager Erwan L'hotellier		

Instrument approach operations shall be classified based on the designed lowest operating minima below which an approach operation shall only be continued with the required visual reference as follows:

- Type A: a minimum descent height or decision height at or above 75 m (250 ft); and
- Type B: a decision height below 75 m (250 ft).

Lateral and vertical navigation guidance refers to the guidance provided either by:

- a ground-based radio navigation aid (NDB, LLZ, VOR, ILS)
- a computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

Other instrument approaches which utilise lateral and vertical guidance but do not meet the requirements established for precision approach and landing operations are also classified as non-precision approaches like Surveillance Radar Approach (SRA) or a VDF approach.

Types of non-precision approach which are commonly used in flight simulation:

- Localizer only or Localizer/DME
- VOR or VOR/DME
- NDB or NDB/DME
- RNAV without vertical guidance or with vertical guidance with precision below the requirements established for precision approach.

3. Decision making to continue

The pilot may commence an instrument approach regardless of the reported RVR/Visibility but the approach shall not be continued beyond the outer marker, or equivalent position, if the reported RVR/visibility is less than the applicable minima.

If, after passing the outer marker or equivalent position in accordance with the sentence above, the reported RVR/visibility falls below the applicable minimum, the approach may be continued to DA/H or MDA/H.

IFR non precision approach and minima	Version 2.1	28 May 2017	Page 2
© IVAO HQ training department	Training Documentation Manager Erwan L'hotellier		

4. Minimum decision height and Decision altitude

Instrument approach operations include an instrument phase and a visual phase:

- The instrument phase ends at the published MDA/H or DA/H unless a missed approach is initiated.
- The continued approach to landing from MDA/H or DA/H will be conducted using visual references

The minimum descent altitude (MDA) or minimum descent height (MDH) is a specified altitude or height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference.

MDA is referenced to mean sea level and MDH is referenced to the aerodrome elevation or to the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation.

A MDH for a circling approach is referenced to the aerodrome elevation.

The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach the required visual reference is the runway environment.

A MDA/H differs from a DA/H in that the aircraft must be flown in such a way that it does not descend below the MDA/H unless the required visual reference has been established. Typically, an aircraft will continue at the MDA/H until a pre-calculated missed approach point is reached; if the required visual reference is not established by that point a Missed Approach will be flown.

IFR non precision approach and minima	Version 2.1	28 May 2017	Page 3
© IVAO HQ training department	Training Documentation Manager Erwan L'hotellier		

5. System minima

The MDA/H may not be lower than the system minimum for the type of approach

Facility	Lowest MDH
Localizer	250ft
VOR/DME	250ft
VOR	300ft
NDB	300ft

The operator must specify an addition to the MDA/H, which depends on the performance of the aircraft, to ensure that if a missed approach is commenced at this altitude the aircraft will not descend below the MDA/H.