



**Notice of Proposed Rule Making
NPRM 16-21
1 December 2016**

**Part 95
Visual and Instrument Procedures for IFR
Flight**

**Docket CAR/16/95/01
2016-2017 Rules Review**

Background to the Civil Aviation Rules

The Civil Aviation Rules establish the minimum regulatory safety boundary for participants to gain entry into, operate within, and exit the Papua New Guinea civil aviation system. The Rules are structured in a manner similar to the Civil Aviation Rules of New Zealand and the Federal Aviation Regulations of the USA. Where practicable the Rules also align with the regulatory code of the Civil Aviation Safety Authority of Australia.

Rules are divided into Parts and each Part contains a series of individual rules which relate to a particular aviation activity. Advisory Circulars accompany many rule Parts and contain information about standards, practices and procedures that the Director has established to be an Acceptable Means of Compliance (AMC) with the associated rule. An Advisory Circular may also contain guidance material (GM) to facilitate compliance with the rule requirements.

The objective of the Civil Aviation Rules system is to strike a balance of responsibility between, on the one hand, the State and regulatory authority, the Civil Aviation Safety Authority of PNG (CASA PNG) and, on the other hand those who provide services and exercise privileges in the civil aviation system. This balance must enable the State and regulatory authority to set standards for, and monitor performance of aviation participants whilst providing the maximum flexibility for the participants to develop their own means of compliance within the safety boundary.

Section 45 of the Civil Aviation Act 2000 prescribes general requirements for participants in the civil aviation system and requires, amongst other things, participants to carry out their activities safely and in accordance with the relevant prescribed safety standards and practices.

Section 69 of the Act allows the Minister to make ordinary rules for any of the following purposes:

- The implementation of Papua New Guinea's obligations under the Convention
- To provide for safe, sustainable, effective and efficient aviation services
- To provision of aviation metrological services, search and rescue services and civil aviation security programs and services
- Assisting aviation safety and security, including but not limited to personal security
- Assisting economic development
- Ensuring environmental sustainability

1. Purpose of this NPRM

The purpose of this Notice of Proposed Rulemaking (NPRM) is to put forward for consideration the proposed amendments to Part 95 Civil Aviation Rules (CAR).

2. Background to the Proposal

Assessment of Part 95 identified that PNG has not included the new instrument approach classifications required by ICAO Annex 6, into its rules.

ICAO Annex 6 Part I paragraph 4.2.8.3 prescribes international requirements for the classification of instrument approach operations based on the designed lowest operating minima.

Amendments to definitions and rules to align required navigation performance (RNP) and area navigation (RNAV) terminology with the performance-based navigation (PBN) concept.

Amendment to the definition of “approach and landing operations using instrument approach procedures” to show a reduced RVR requirement for CAT II and CAT IIIA and B

Appendix A deleted.

3. Costs associated with this NPRM

There is no cost associated with this amendment.

4. Summary of changes

Amendment 1: Amendments to definitions to align with the performance-based navigation (PBN) concept.

New Subpart C -insertion of new instrument approach operations classification.

Appendix A deleted.

5. Legislative Analysis

The Minister may make ordinary rules under sections 69, 70, 71 and 72 of the Civil Aviation Act 2000, for various purposes including implementing Papua New Guinea’s obligations under the Convention on International Civil Aviation, assisting aviation safety and security, and any matter contemplated under the Act.

These proposed rules are made pursuant to:

- (a) Section 69(1)(a) which provides for the Minister to make rules for the implementation of Papua New Guinea’s obligations under the Convention;
- (b) Section 72(a) which provides for the Minister to make rule for the designation, classification and certification of-
 - (1) Air services:
 - (2) Aerodrome operators:
 - (3) Aviation security providers:

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6.5 Final date for submissions

Comments must be received before **4:00pm, Friday 31st of March 2017.**

6.6. Further information

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Subpart A— General

95.1 Purpose

This Part prescribes standards, procedures and authority to establish—

- (1) routes; and
- (2) altitudes; and
- (3) change over points; and
- (4) reporting points; and
- (5) instrument holding patterns; and
- (6) instrument arrival, approach and departure procedures; and
- (7) the meteorological minima that apply to the instrument approach and departure procedures—

for the operation of aircraft under IFR.

95.3 Definitions and Abbreviations

2D means a two-dimensional instrument approach operation, using lateral navigation guidance only, either by:

- (1) a ground-based radio navigation aid; or
- (2) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

3D means a three-dimensional instrument approach operation, using both lateral and vertical navigation guidance, either by:

- (1) a ground-based radio navigation aid; or
- (2) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

Aircraft category means—

- (1) in the case of a helicopter, category H; and
- (2) in the case of an aeroplane, a category based on the speed of the aeroplane, in knots, at the runway threshold based on V_s multiplied by 1.3 with V_s being in the landing configuration at maximum certificated landing weight (V_{at}) of the aeroplane being operated, in accordance with the following table—

Aeroplane V_{at} in knots	Aeroplane Category
less than 91	A
91 to 120	B
121 to 140	C
141 to 165	D
166 to 210	E

Annex 10 means Annex 10 to the Convention:

Area minimum altitude means a minimum altitude prescribed for a defined area that will provide a safe clearance above all obstacles for aircraft operating under IFR:

Circling approach means an extension of an instrument approach procedure that provides for visual circling of the aerodrome prior to landing:

Compulsory reporting point means a reporting point, that may be direction or route specific or subject to some other criteria, at which a report to the appropriate controlling authority is mandatory:

Final approach segment means the segment of an instrument approach procedure in which alignment and descent for landing is accomplished:

Fix means a position whose location is defined by two or more navigation aids:

GPS database means an electronic memory containing information on aerodromes, navigation aids, reporting points, instrument approach aids, departure procedures, special use airspace:

GPS sensor means a single GPS unit used for navigation within a Flight Management System:

Instrument approach operations means an approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations:

- (1) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and
- (2) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance.
- (3) Lateral and vertical navigation guidance refers to the guidance provided either by:
 - (a) a ground-based radio navigation aid; or
 - (b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

Initial approach segment means that segment of an instrument approach procedure between the initial approach fix and the intermediate approach fix or, where applicable, the final approach fix or point:

Instrument departure procedure means a prescribed IFR departure route linking the aerodrome, or a specified runway of the aerodrome, with a significant point, normally on a route prescribed under Part 95, at which the en-route phase of the flight commences:

Intermediate approach segment means the segment between—

- (1) the intermediate approach fix and the final approach fix or point; or
- (2) the end of a reversal, racetrack, or dead reckoning track procedure and the final approach fix or point:

Lowest safe altitude has the same meaning as the term “minimum en-route safety altitude”:

Minimum en-route safety altitude means the lowest altitude within the en-route procedural design area that will provide a minimum clearance of—

- (1) 2000 feet above the highest obstacle on an en-route segment over terrain with a height in excess of 10 000 feet; or
- (2) 1500 feet above the highest obstacle on an en-route segment over terrain with a height in excess of 5000 feet; or
- (3) 1000 feet above the highest obstacle on an en-route segment over terrain with a height of

5000 feet or less.

Minimum sector altitude means the lowest altitude within a defined sector that will provide a minimum clearance of—

- (1) 2000 feet above the highest obstacle in a sector over terrain with a height in excess of 10 000 feet; or
- (2) 1500 feet above the highest obstacle in a sector over terrain with a height in excess of 5000 feet; or
- (3) 1000 feet above the highest obstacle in a sector over terrain with a height of 5000 feet or less.

Missed approach means the procedure to be followed if the approach cannot be continued.

Non-compulsory reporting point means a reporting point, that may be direction or route specific, at which a report to the appropriate controlling authority is not mandatory:

Primary-means navigation system means a navigation system approved for a given operation or phase of flight that must meet accuracy and integrity requirements, but need not meet full availability and continuity of service requirements for a sole-means navigation system:

Radio navigation aid facility means the following types of radio navigation aids—

- (1) Instrument Landing System (ILS): Microwave Landing System (MLS):
- (2) VHF Omni-directional radio range (VOR): Distance Measuring Equipment (DME): Non-directional Radio Beacon (NDB):
- (3) Precision Approach Radar (PAR): Secondary Surveillance Radar (SSR) Primary Surveillance Radar (PSR):

Receiver autonomous integrity monitoring means a function whereby the airborne GPS receiver/processor detects a position error that exceeds the GPS position integrity performance requirements of the TSO for that phase of flight. It gives a visual and/or aural warning when appropriate:

RAIM not available message means RAIM warning:

RAIM warning means a warning that the integrity of the navigation position solution from GPS satellites may be unreliable:

Racetrack procedure means a procedure designed to enable the aircraft to reduce altitude during the initial approach segment and/or establish the aircraft inbound when the entry into a reversal procedure is not practical:

Reversal procedure means a procedure designed to enable aircraft to reverse direction, during the initial approach segment of an instrument approach procedure, that may include procedure turns, base turns or racetrack procedures:

Significant point means a specified geographical location used in defining an ATS route, or the flight path of an aircraft, and for other navigation and ATS purposes:

Sole-means navigation system means a navigation system approved for a given operation or phase of flight that shall allow the aircraft to meet, for that operation or phase of flight, all four navigation system performance requirements: accuracy, integrity, availability, and continuity of service:

Straight-in approach means a designated instrument approach procedure designed to enable the aircraft to land on a runway without having to conduct a circling approach for that runway:

Supplemental means navigation system means a navigation system that shall be used in conjunction with a

sole means navigation system:

Visual and instrument flight procedures are procedures that enable minimum flight altitudes to be complied with when operating under IFR and comprise—

- (1) IFR routes; and
- (2) IFR altitudes; and
- (3) change over points; and
- (4) reporting points; and
- (5) IFR holding patterns; and
- (6) instrument arrival, approach and departure procedures; and
- (7) the meteorological minima that apply to the instrument approach and departure procedures:

Visual manoeuvring (circling) area means a defined area within which obstacle clearance is provided during the visual phase of flight after completing an instrument approach, to bring the aircraft into position for landing on a runway:

Waypoint means a specified geographical location used to define a point on an area navigation route, or a position on the flight path of an aircraft using area navigation:

FAF means final approach fix:

FAP means final approach point:

FL means flight level:

GNSS means Global Navigation Satellite System:

GPS means Global Positioning System:

IAF means initial approach fix:

IAS means indicated airspeed:

IF means intermediate approach fix:

LSALT means lowest safe altitude:

MAPt means missed approach point:

MDH means minimum descent height:

MESA means minimum en route safety altitude:

MSA means minimum sector altitude:

RAIM means receiver autonomous integrity monitoring:

VMA means visual manoeuvring area:

Subpart B — Visual and Instrument Flight Procedures

95.51 Designing visual and instrument flight procedures

- (a) A person designing or amending a visual and instrument flight procedure shall—
- (1) construct the procedures in accordance with—
 - (i) the guidelines contained in ICAO Doc 8168, Volume II, construction of visual and instrument flight procedures; and
 - (ii) the guidelines contained in ICAO Doc 9365, Manual of All-Weather Operations; and
 - (iii) ICAO Annex 6, Operation of Aircraft; and
 - (iv) ICAO Annex 11, Air Traffic Services; and
 - (v) other guidelines and criteria acceptable to the Director; and
 - (2) flight test the procedures to ensure that the procedures—
 - (i) can be flown safely, keeping the aircraft within the safety boundaries of the procedure; and
 - (ii) can be flown safely when the navigation aid is operating on the boundaries of the Annex 10 prescribed limitations for the navigation aid or radar system; and
 - (iii) provide the applicable azimuth, distance and vertical guidance, within the construction tolerances of the procedures; and
 - (3) flight test the procedures to ensure that they can be flown within the performance category, or categories, of the aircraft for which the procedures are designed; and
 - (4) if any part of the procedures are within controlled airspace, consult with the appropriate ATC provider to ensure that the procedures are compatible with ATC requirements; and
 - (5) not inhibit the use of other procedures established in uncontrolled airspace; and
 - (6) taking into account—
 - (i) any noise abatement procedures prescribed under Part 93; and
 - (ii) aircraft noise emission effect of any flight path over congested areas of any city, town, or settlement; and
 - (iii) any relevant designated airspace and its associated restrictions and activities.
- (c) A person in designing or amending a visual and instrument flight procedure under paragraph (a) based on a radio navigation aid facility shall ensure that the facility is being provided by the holder of a telecommunication service certificate issued under Part 171.

95.53 Establishing visual and instrument flight procedures

- (a) Visual and instrument flight procedures for flight under IFR shall be established by the Director through entry into the Papua New Guinea Air Navigation Register.
- (b) Before the Director enters a visual and instrument flight procedure into the Papua New Guinea Air Navigation Register under paragraph (a), the Director shall be satisfied that the procedure has been certified by—
- (1) an appropriate senior person authorised by the holder of an air navigation certificate issued under Part

173 that authorises such a procedure design; or

- (2) the Director's own sources as complying with the applicable requirements of 95.51.
- (c) When the Director enters a visual and instrument flight procedure into the Papua New Guinea Air Navigation Register under paragraph (a), the Director shall specify the date on which the procedure comes into effect.
- (d) The date specified under paragraph (c) shall be—
 - (1) Notified to the relevant Part 173 air navigation certificate holder referred to in paragraph (b)(1); and
 - (2) Except for temporary procedures that are effective for not more than six months, notified in the Gazette; and
 - (3) Notified by AIP Supplement or NOTAM by the Part 173 air navigation certificate holder referred to in paragraph (1) or by the Director.

95.55 Maintenance of visual and instrument flight procedures

The Director shall ensure that, the ongoing integrity of a visual and instrument flight procedure established under 95.53, is maintained in accordance with the procedures contained in the applicable documents referred to in 95.51.

95.57 Cancellation or withdrawal of visual and instrument flight procedures

- (a) When a visual and instrument flight procedure for flight under IFR established by the Director under 95.53 is no longer required, or it cannot be maintained in accordance with 95.55, or a request for cancellation is received by the holder of a certificate issued under Part 173, the Director shall—
 - (1) make an entry in the Papua New Guinea Air Navigation Register to cancel that visual and instrument flight procedure; and
 - (2) notify the cancellation by way of notice—
 - (i) in the Gazette; and
 - (ii) in an AIP supplement or by NOTAM.
- (b) If the Director detects an error or is advised by a Part 173 certificate holder of an error in a visual and instrument flight procedure for flight under IFR established by the Director under 95.53, the Director shall—
 - (1) immediately withdraw the use of that procedure until that error is corrected; and
 - (2) if that error cannot be corrected, cancel the procedure in accordance with paragraph (a).

Subpart C – Instrument Approach Classification

95.101 Instrument flight procedures

(a) Instrument flight procedures for IFR operations must 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:

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

(2) Type B: a decision height below 75 m (250 ft). Type B instrument approach operations are categorized as:

(i) Category I (CAT I): a decision height not lower than 60 m (200 ft) and with either a visibility not less than 800m or a runway visual range not less than 550 m;

(ii) Category II (CAT II): a decision height lower than 60 m (200 ft) but not lower than 30 m (100 ft) and a runway visual range not less than 300 m;

(iii) Category IIIA (CAT IIIA): a decision height lower than 30 m (100 ft) or no decision height and a runway visual range not less than 175 m;

(iv) Category IIIB (CAT IIIB): a decision height lower than 15 m (50 ft) or no decision height and a runway visual range less than 175 m but not less than 50 m; and

(v) Category IIIC (CAT IIIC): no decision height and no runway visual range (RVR) limitations.

(3) Category II and Category III instrument approach operations shall not be authorized unless RVR information is provided.

(4) 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.

(5) The operating minima for 3D instrument approach operations using instrument approach procedures shall be determined by establishing a decision altitude (DA) or decision height (DH) and the minimum visibility or RVR.

Appendix A — Transitional Provisions

~~The following visual and instrument flight procedures for the operation of aircraft under IFR —~~

- ~~(1) routes; and~~
- ~~(2) altitudes; and~~
- ~~(3) change over points; and~~
- ~~(4) reporting points; and~~
- ~~(5) instrument holding patterns; and~~
- ~~(6) instrument arrival, approach and departure procedures; and~~
- ~~(7) the meteorological minima that apply to the instrument arrival, approach and departure procedures —~~

~~that are prescribed in the Papua New Guinea AIP under the authority of regulations 168 and 169 of Chapter No. 239, Civil Aviation Regulation, prior to this Part coming into effect, shall be deemed to be visual and instrument flight procedures established under, and in accordance with, this Part.~~