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Approved by:

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0.1 Record of Amendments

The table below describes the dates and reason for the different amendments of the current procedure. A vertical black line on the left-hand side of the page identify the changes with the previous version.

Issue No.	Revision No.	Date	Amended by	Reason
01	00	09.06.2025		Initial Issue

0.2 Revision table

Page #.	Issue No.	Revision No.	Date	Edited by

Safety Information Bulletin

Subject: Development and Usage of Procedures for Visual Maneuvering with Prescribed Tracks Relying on Required Navigation Performance

Ref. Publications:

- Commission Regulation (EU) No 965/2012 of 05 October 2012.
- Commission Implementing Regulation (EU) 2017/373 of 01 March 2017.
- ICAO Manual 'Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual' (Doc 9905), 3rd Edition dated 2021.
- ICAO Manual 'Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS), Volume II – Construction of Visual and Instrument Flight Procedures' (Doc 8168), 7th Edition dated 2020.
- ICAO Circular 'Development of Procedures for Visual Maneuvering with Prescribed Tracks using Required Navigation Performance' (Cir 359).

Applicability:

Aircraft operators, Air Navigation Service Providers (ANSP), aerodrome operators, flight procedure designers, Design Approval Holders (DAH), and National Competent Authorities (NCAs).

Description:

Traditional visual maneuvering procedures, particularly circling approaches, require pilots to rely heavily on visual cues. This can be challenging in adverse weather conditions, near complex terrain, or when the flight crew is not familiar with the aerodrome environment and noise-sensitive areas.

The visual segment of a Required Navigation Performance (RNP) Visual maneuver with Prescribed Track (VPT) is a visual procedure that allows for more structured and precise visual maneuvering, whereby the Flight Management System provides horizontal and vertical guidance to be followed during the approach. Thus, it reduces pilot workload and enhances safety and the predictability during visual maneuvering – provided it is properly designed and coded in the aircraft navigation database, and crews are trained appropriately. However, risks are also existing and need to be properly assessed and effectively mitigated.

A RNP (VPT) procedure may be published by the aerodrome (public approach procedure[1], e.g. in the Aeronautical Information Publication (AIP)) or developed by the aircraft operator as 'Operator Proprietary Procedure' (OPP)[2]. In both cases, an RNP (VPT) can be used to:

- Offer a Flight Management System (FMS) based guidance approach that substitutes a traditional visual approach to improve operational safety and possibly efficiency by providing Air Traffic Control (ATC) with a predictable path to assist with scheduling arrivals.
- Possibly reduce the environmental impact (e.g. it can be used to reduce noise impact to local residents).
- Enhance a visual manoeuvre with prescribed tracks (i.e. circling with prescribed track).
- Replace the whole circling manoeuvre (usually circling without prescribed track) with an RNP-based approach procedure with a 3D-guided final part flown in visual conditions.
- Allow a non-RNP Authorisation Required (RNP AR) approved operator to fly an overlay of an existing RNP AR approach when there is a corresponding RNP (VPT) published by the NCA (see Part I of the ICAO Cir 359).

[1] Term used in the EASA regulatory framework (i.e. SPA.PBN.100, point (c)).
[2] It is also called 'private approach procedure' in SPA.PBN.100, point (c).

This Safety Information Bulletin (SIB) is issued to inform stakeholders about best practices, recommendations and potential risks in relation to the development and use of Procedures for Visual Manoeuvring with Prescribed Tracks (VPT) using RNP.
Aircraft operators are encouraged to consider this SIB when introducing RNP (VPT) procedures into operational practices, particularly in environments with challenging terrain or complex airspace, while competent authorities should consider the SIB when assessing these procedures and overseeing operators.
EASA is monitoring the implementation of RNP (VPT) and may consider future rulemaking actions.

- At this time, the safety concern described in this SIB is not considered to be an unsafe condition that would warrant Safety Directive under Commission Regulation (EU) No 965/2012, Annex II, ARO.GEN.135.

Recommendation(s):

1. All – General

Area navigation (RNAV) visual and RNP visual procedures should be converted to RNP (VPT).

Available RNP (VPT) should be published by NCAs in the AIP. Alternatively, aircraft operators may also develop an OPP. In this case, the aircraft operators may apply the following options:

- Establishing an RNP (VPT) overlaying[3] an existing approach procedure[44] where the visual fix[5] (VF) and existing approach minima are located in the same place (in accordance with PART II of the ICAO Cir 359). The operator may develop an RNP (VPT) as an OPP that overlays an existing approach procedure, typically for circling or circling with prescribed track, but it can also be used in non-directional beacon (NDB) or very high frequency omnidirectional range (VOR) approach, especially on non-straight-in approaches. The VF is located at the same place as the existing MDA/MDH/DA/DH. Since there is no difference in the flight path between the existing approach procedure and the RNP (VPT) OPP, it is not necessary to inform the aerodrome authority and the ANSP. However, the State of the Operator should be satisfied with the operator's process to develop such OPPs, which means the operator should demonstrate to its NCA that it has sufficient capacity to oversee the safe development and operation of these procedures[6].
- Establishing an RNP (VPT) based on an RNP AR (in accordance with PART I of the ICAO C.359). The aircraft operator is not required to have an RNP-AR approval to perform these procedures. The baseline for determining obstacle clearance should be the one for RNP AR APCH outlined in the ICAO Doc 9905, and an instrument flight procedure design provider[7] is required for the development of these RNP (VPT) procedures. The operator should request acceptance from its NCA, the local authority where the aerodrome is located, and the local ANSP before the procedure is used. The operator and the involved authorities should focus, amongst other things, on the definition of the Visual Fix/Point

[3] During the overlay approach, the underlying conventional navigation aid (e.g. VOR, or NDB) must remain active and be monitored. This is a key difference with the RNP substitution, where the navaid does not need to be active or monitored.
[4] It includes conventional and non-conventional approach procedures such as VOR, NDB, RNAV Baro VNAV, etc followed by a visual path.
[5] The fix, marked by a waypoint, on the RNP (VPT) procedure where the pilot must decide if the weather conditions are sufficient to continue along the RNP (VPT) path visually or follow the missed approach – ref. ICAO Cir 359 Glossary.
[6] ICAO Cir 359, part II, chapter 4, point 4.2.
[7] In accordance with ANNEX XI - PART-FPD (specific requirements for providers of flight procedure design services), Regulation (EU) 2017/373 or outside European Union, in accordance with ICAO Annex 11 – Air Traffic Services (see part I, chapter 2, point 2.2.4 of the ICAO Cir 359).

before which the procedure may be flown in Instrument Meteorological Conditions (IMC) and at which visual reference must be acquired. The NCA should approve the operator's process to develop such OPPs. The operator should demonstrate to its competent authority that it has sufficient capacity to oversee the safe development and operation of these procedures.

2. Aircraft operators should:

- Establish dedicated standard operating procedures (SOPs). Establish SOPs for RNP (VPT), as well as RNAV visual and RNP visual, when they are still in use. These SOPs should, amongst others:
  - Follow DAH/Aircraft Flight Manual[8] procedures;
  - Include limitations resulting from the risk assessment;
  - Define actions for contingencies; and
  - Define the level of automation to be used[9].
- Develop a risk assessment and the relevant mitigations, and, when necessary, contingency procedures for the use of these approach procedures. The risk assessment should at least address the following issues:
  - Errors in the coding of the waypoints.
  - Execution of the RNP(VPT) not in daylight conditions.
  - Human factors, among others in relation to visual illusions.
  - GNSS jamming/spoofing.
  - Pressure to continue the approach also when visual conditions are lost.
  - Overconfidence in the automation and navigation systems.
  - Mistakes in comparing waypoints between FMS and charts (in relation to fly-over/fly-by waypoints, coordinates, altitude, speeds).
  - Outdated terrain and obstacle database.
  - Risk that operators/crews might fly RNP-AR procedures even though not validated and tested.
  - Different conventions in naming RNP(VPT) procedures worldwide, which are causing confusion.
  - Lack of standardisation of approach charts (i.a.w. Cir 359 pt. 2.6.1).
  - Inadequate monitoring by the Pilot Monitoring.
  - Inadequate application of temperature correction.
  - Inadequate QNH setting.
  - Lack of adequate missed approach and go-around procedures.
  - Lack of vertical guidance system (e.g. precision approach path indicator (PAPI), etc).

- Additionally, a specific safety risk assessment for each approach procedure should be established. The operator should establish and implement a monitoring function of RNP (VPT) operations in accordance with ORO.GEN.200 (management system) to:
  - Monitor the implementation[10] of the procedure and address any emerging risks.

[8] The regulatory basis that may be used is CAT.OP.MPA.126.

[9] For example, for Airbus platforms, the operator should clarify whether the 500 feet limitation to disconnect autopilot in visual approach applies or it should be the final approach mode (FINAL APP) that usually allows 250 ft.

[10] For example, by requesting the Flight Data Monitoring programmes to monitor specifically these procedures, Line Operations Safety Assessment (LOSA), etc.

- Encourage pilot's feedback, reporting and analysis of any occurrence or risk to continuously improve the procedures.

In addition:

3. Aircraft operators that have an RNP AR APCH approval should:

- Assess the RNP (VPT) procedure in accordance with their RNP AR assessment and operational assurance procedures (e.g. Flight Operational Safety Assessment (FOSA), etc.). Note that according to ICAO Cir 359, the RNP (VPT) flight procedure design should have been developed in accordance with PANS-OPS[11] or the ICAO Doc 9905 'RNP AR procedure design Manual', the latter is specially used when the RNP (VPT) is based on an RNP AR procedure.

4. Aircraft operators that do not have an RNP AR APCH approval should:

- Ensure that flight procedures are designed in a way that allows the aircraft to remain within the prescribed tracks[12], using the RNP capabilities (e.g., radius to fix (RF) capability), taking into account the aircraft manoeuvrability characteristics, performance and considering also the related contingency procedures.

- Allow RNP (VPT) only if the aircraft is adequately equipped to perform RNP approaches (this would typically be RNP APCH + RNP 1, or A-RNP with RF legs[13]). Appropriate entries for the equipment relevant to RNP operations should be included in the minimum equipment list (MEL). Note that usually, the Master Minimum Equipment List (MMEL) does not provide the necessary equipment for RNP (VPT); nonetheless, the operator should develop minimum equipment for such operation. For certain approaches or conditions, the operator may have to increase the MEL requirements to the minimum equipment required for RNP AR.

- Perform validation and testing prior to implementation. See RNP (VPT) evaluation checklist. In particular:

  - Validate and test the procedure in various operational environments and conditions to ensure its reliability and safety (wind, temperature, aircraft mass, etc.).
  - Validate the approach by means of flight simulations and, when necessary, flight demonstration to assess the safety and effectiveness of the RNP (VPT).

- Ensure that flight crews are adequately trained on the use of RNP (VPT) by:

  - Including RNP (VPT) into the pilot training programmes (equivalency of approaches in Evidence Based Training), which should address normal and contingency situations.

[11] Procedures for Air Navigation Services – Aircraft Operations (ICAO PANS-OPS, (Doc 8168), Volume II – Construction of Visual and Instrument Flight Procedures.

[12] There is a difference between the ICAO PANS-OPS (Doc 8168) standards and the FAA Terminal Instrument Procedures (TERPS) standards for approach design. TERPS provides a smaller circling radius than ICAO PANS-OPS primarily due to slower circling speeds. For example, A Cat C aircraft has a PANS-OPS max speed and bank of 180kts/20 degrees, which results in a circling area radius of 4.2 NM. That same aircraft under TERPS is restricted to 145kts/20degrees which results in a 2.68NM radius - nearly a 1.5 NM difference.

[13] In accordance with ICAO Cir 359 point 2.7.2 Performance-based navigation capabilities of the operator.

- Focusing on the unique aspects of these procedures compared to traditional visual manoeuvring (e.g. maintain the aircraft within a onetime RNPT value deviation, weather requirements, identification of the visual fix, difference between the missed approach (instrument segment) and go-around procedure for the visual phase of flight and the transition back to possible IMC, etc.).
- Emphasising the importance of maintaining visual contact with the terrain at or after passing the VF, keeping situational awareness and adhering to the prescribed tracks during visual manoeuvring;
- Emphasising the importance of maintaining visual contact and separation from other traffic; Ensuring that crews understand the limitations and capabilities of their aircraft's navigation systems (i.e., understand if the flight procedure requires RF vs. track to fix, what the aircraft's capability and its limitations are, etc).
- Emphasising the importance of being ready to take action in case of contingencies, especially if the aircraft or its automation does not perform as expected during the visual part of the approach;
- Addressing in theoretical training and/or simulator-based training[14] those items which need special emphasis following the flyability evaluation and the risks identified in the related safety risk assessments.

5. ANSP and aerodrome operators should:

- Have a plan to convert RNAV visual and RNP visual procedures to RNP(VPT), thus ensuring harmonisation as per the ICAO Cir 359.
- Ensure that a safety assessment[15] is performed where RNP (VPT) are newly introduced in coordination with the aircraft operators.

6. DAH should:

- Convert or extend their existing operational recommendation and recommended procedures for RNAV visual and RNP visual to RNP (VPT).

[14] The safety risk assessment may be a good tool to determine the training needs, either theoretical, simulator-based or both. This training may be generic for all RNP (VPT) approaches or may be specific to an approach.

[15] In accordance with ATS.OR.205 of Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight.