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WORKING PAPER

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**Tenth North American, Central American and Caribbean Working Group Meeting (NACC/WG/10)**

Tulum, Mexico, from 8 to 12 September 2025

**Agenda Item 5: NACC/WG/10 Discussion Session**

**Optimization and Development Pilot Project  
RNP Flight Procedures in Central America**

(Presented by COCESNA)

**EXECUTIVE SUMMARY**

This working paper presents the pilot project for the Optimization and Development of Instrument Flight Procedures in Central America as a collaborative regional initiative with the purpose of making Performance-Based Navigation (PBN) procedures available to operators, including the RNP (RNP APCH), RNP with Required Authorization (RNP-AR) specifications and RNAV Visual (VPT) procedures.

<b>Action:</b>	Actions suggested in item 7 of this working paper.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Safety</li><li>• Air Navigation Capacity and Efficiency</li><li>• Economic Development of Air Transport</li><li>• Environmental Protection</li></ul>
<i>References:</i>	<ul style="list-style-type: none"><li>• Doc-9613 – PBN Manual</li><li>• Doc- 9905 – RNP-AR Manual</li><li>• ICAO Circular 359</li></ul>

**1. Introduction**

1.1 The International Civil Aviation Organization (ICAO) developed harmonized navigation specifications for all existing areas and phases of operations and published them in the Performance-Based Navigation (PBN) Manual (Doc. 9613);

1.2 The implementation of Performance-Based Navigation (PBN) remains a high priority for ICAO due to its benefits in Safety, Capacity and Efficiency, access to airspace and environmental protection. PBN is an important element in ICAO's Aviation System Block Improvements (ASBU) to take advantage of the operational benefits envisaged in the Global Air Navigation Plan (GANP).

1.3 The RNP APCH navigation specification is intended to satisfy the general RNP operational requirements and to allow the participation of aircraft with a basic level of RNP capability without an operational clearance requirement. The other navigation specification, RNP AR APCH, allows for a higher level of navigation performance to have a greater ability to respond to airport access issues, such as environments with many obstacles, and facilitate advances in air traffic management (ATM), requires the operator to meet additional aircraft and crew requirements, and that obtains an operating authorization.

1.4 ICAO issued Circular 359 whose purpose is to guide States and operators in the development of IFR procedures, including an RNP instrumental path followed by a visual path defined by reference points to promote a stabilized approach and prescribed visual maneuvers towards a designated runway.

1.5 The replacement of a visual approach with an RNP (VPT), complemented by the aircraft's area navigation capabilities, is often used to improve the safety of the operation, providing track guidance and vertical trajectory, which facilitates the safe completion of the approach.

1.6 Recently, COCESNA has trained the first Central American specialists in the design of procedures with RNP-AR and RNAV Visual (VPT) specifications. This training has expanded the service offer of the Procedure Design Unit that is part of COCESNA's Operations Center - AIM, strengthening its capacity as a service provider in the region.

## **2. Current Situation**

2.1 The Central American region faces multiple challenges that hinder the establishment of an adequate and sustainable capacity for the design of instrument-based procedures (IFPs) and, therefore, the implementation of Performance-Based Navigation (PBN) by States. These challenges include: limited resources, shortage of trained and competent personnel at the national and regional levels, imbalance between demand and IFP design capacity, as well as the high cost of process design services contracted to third parties, among others.

## **3. Pilot project**

3.1 COCESNA has currently signed letters of agreement as a service provider with three Member States: Belize, El Salvador and Honduras. Through its Procedure Design Unit, integrated into the Operations Center - AIM, COCESNA offers instrument-based procedure design services and technical assistance. This unit is solidly established, has highly trained, qualified and experienced personnel, and has specialized automation solutions, as well as quality assurance (QA) processes that guarantee high-quality designs, in compliance with international regulations and adapted to the requirements and needs of states.

3.2 In this context, COCESNA has launched a pilot project to implement RNP procedures in national aerodromes of operational relevance to local economies, which currently depend exclusively on visual approaches. This approach seeks to overcome safety constraints arising from factors such as terrain, obstacles and weather conditions, which affect the regularity and safety of operations.

3.3 The project also includes the design of RNP-AR procedures for international airports with security limitations, mainly due to their topography, which in some cases prevents the implementation of conventional procedures or RNP APCH.

#### **4. Implementation Strategy**

4.1 In the first phase of the project, which began in 2024 in Honduras, RNP procedures were designed for category A and B aircraft at the national aerodromes with the highest volume of operations. The five airports selected were: Puerto Lempira (MHPL), Guanaja (MHNJ), Tela (MHTE), Utila (MHUT) and Choluteca (MHNC).

4.2 In addition, RNP-AR procedures were designed for both runways at Palmerola International Airport and two RNP-AR procedures for runway 04 at La Mesa International Airport. It should be noted that the latter runway did not previously have published procedures due to the restrictions imposed by the surrounding terrain.

4.3 This first phase comprises 13 new procedures that are currently awaiting in-flight validation for approval and publication.

4.4 Visual RNAV (VPT) procedures are also in the process of being finalized for La Mesa and Palmerola airports using RNP-AR procedures as a basis. This development seeks to improve safety for those operators that do not meet the requirements of the RNP APCH and RNP-AR flight specifications.

4.5 As a second phase of the project, discussions have begun with the authorities of the Republic of Guatemala to replicate the process followed in Honduras.

#### **5. Expected Results**

5.1 It is expected to continue with this project with the rest of the Central American countries, developing new phases annually and achieving the following objectives:

- a. Increase the number of Instrument Flight Procedures (RNPs) in the region;
- b. Improve the approval rate of PBN operations;
- c. Significantly improve the use of airspace;
- d. Increase in the number of local operators approved for PBN operations;
- e. Demonstrate evidence of improved safety and efficiency of IFR flight operations;
- f. The regional implementation of performance-based navigation (PBN);
- g. To make progress in meeting the objectives of the Global Air Navigation Plan (GANP).

## **6. Conclusions**

6.1 COCESNA, as the organization responsible for the provision of aeronautical services in the region, is committed to the development of aviation. Its objective is to ensure the continuous improvement of air navigation services, optimizing operational efficiency and the use of resources. Through this project, the widespread implementation of RNP approach procedures is promoted, which generates multiple benefits, among which the following stand out:

1. Increased safety;
2. Access to complex aerodromes;
3. Operational efficiency;
4. Greater regularity of operations;
5. Support for local economies and promotion of development;
6. Flexibility for operators..

## **7. Suggested actions**

7.1 The meeting is invited to:

- Take note of the information submitted;
- Support the initiative in order to improve operational safety in the region.