



International Civil Aviation Organization

CAR/SAM Regional Planning and Implementation Group (GREPECAS)

**Seventeenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/17)**

(Cochabamba, Bolivia (Plurinational State of), 21 to 25 July 2014)

GREPECAS/17 - WP/29

19/06/14

**Agenda Item 3: Air navigation activities at global, intra-regional, and inter-regional level**

**3.2 Intra-regional air navigation activities**

**Air Navigation Plan for Colombia – PNA COL**

(Presented by Colombia)

**SUMMARY**

The Air Navigation Plan of Colombia - PNA COL – is a living strategic document that addresses short-, medium-, and long-term requirements to allow the air transport sector to continue growing within an integrated, safe, efficient, and environmentally sustainable air navigation system.

The periodic updating of the PNA COL is a long-term commitment to the provision of timely, responsible, and seamless services.

Colombia invites the Meeting to consider its experience in the drafting and updating of the PNA COL as demonstration of its commitment to sustainable growth of the global civil aviation system.

The PNA COL is available for consultation at:  
<http://www.aerocivil.gov.co/Aerocivil/PlanGestControl/PolíticasPlanesProy/Paginas/PINaAeronaveg.aspx>

**1. Introduction**

**1.1 Air navigation planning**

1.2 The civil aviation authority of Colombia published the first version of the Air Navigation Plan for Colombia– PNA COL in late 2008. This strategic document is reviewed at least once a year to respond to new operational and/or technological conditions.

1.3 For the updating of the PNA COL, which started in 2012, several inputs have been taken into account, namely, the draft version of the fourth edition of the Global Air Navigation Plan (GANP), which included the Aviation System Block Upgrade (ASBU) approach, the new proposed version of the SAM Performance-based Air Navigation Implementation Plan, and the operational requirements of air navigation services.

1.4 The PNA COL justifies the allocation of resources from a technical and operational point of view, following the planning principle in support of a cost effective, efficient, timely and impartial national public function. It is synonymous with transparency, where each stakeholder can know the route

selected by the aeronautical authority of Colombia, the priorities established for the goals, the projects that address the needs, and the investment required. The PNA COL is the common agenda for the aeronautical community in Colombia.

1.5 The fourth edition of the GANP, including the ASBU approach, has been a fundamental supplement to the new version of the PNA COL, on the one hand reaffirming the long-term vision and, on the other, applying the ASBU systemic approach to consolidate short-term operational objectives. Continuous progress towards the achievement of Block 0 objectives pave the way to the subsequent stages in support of air transport growth in Colombia aligned with the region.

1.6 The PNA COL is designed in three volumes: Volume I, Operational requirements; Volume II, Facilities; and Volume III, Regulations, and is posted at:  
<http://www.aerocivil.gov.co/Aerocivil/PlanGestControl/PolíticasPlanesProy/Paginas/PlNaAeronaveg.aspx>.

1.7 Volume I, Operational requirements, sets forth the requirements for the airspace under the responsibility of Colombia, with a view to developing an inter-functional air traffic management system for all users during all flight phases that meets safety levels, supports optimum operations, is environmentally sustainable, and provides seamless transition between adjacent areas. This volume presents air traffic forecasts to the year 2025 and defines the operational requirements for air navigation services: air traffic management (ATM), aeronautical meteorology (MET), aeronautical information management (AIM), and search and rescue (SAR) for the short, medium and long term.

1.8 This volume was recently updated to Version 07 and posted in draft version on the website of the civil aviation authority on 13 May 2014 for consultation by the aeronautical community and with a view to getting feedback and/or suggestions for improvement. It is available for consultation at [PNA-COL VOL I](#).

1.9 Volume II, Facilities sets forth the technological strategies that support the operational requirements contained in Volume I, presenting projects concerning infrastructure, communication, navigation, surveillance, aeronautical meteorology, and automation services, and the required investment. It also presents airport development strategies, referred to as operational aerodrome planning (AOP), including visual aids, fire-fighting services, environmental management, AVSEC, facilitation, and airport sanitation.

1.20 This Volume II of the PNA COL lists the projects programmed for resolving air navigation deficiencies (*inter alia*, those identified in the GREPECAS air navigation deficiencies database, GANDD) and USAP (Universal Safety Oversight Audit Programme) and USOAP (Universal Security Audit Programme) audit findings.

1.21 This volume is currently being reviewed by the civil aviation authority in order to make the necessary adjustments based on version 07 of Volume I, the current situation, infrastructure maintainability, airport master plans, amongst others.

1.22 Volume III, Regulations, presents the strategy for adapting national regulations to Volume I and II, in order to guide the gradual migration of Colombian airspace users towards integrated air traffic management. It is the mechanism used for providing early information on air navigation adjustments foreseen in national regulations so that the operators may be prepared for such announced changes. Thus, a complete regulatory framework is available for appropriate operational surveillance.

1.23 The civil aviation authority of Colombia is in the process of reviewing the first version of PNA COL Volume III.

1.24 The ICAO ASBU approach<sup>1</sup> supplements national planning and enables the required harmonisation of each selected operational objective with the elements defined by ICAO (in terms of regulation, infrastructure, competencies, target dates and indicators). Accordingly, Colombia has published the following 13 modules of Block 0: B0-30 DATM, B0-102 SNET, B0-25 FICE, B0-105 AMET, B0-35 NOPS, B0-80 ACDM, B0-75 SURF, B0-10 FRTO, B0-65 APTA, B0-15 RSEQ, B0-05 CDO, B0-20 CCO, B0-101 ACAS. Modules B0-84 ASUR and B0-40 TBO are being reviewed.

## **2. Discussion**

2.1 Understanding that planning is indispensable for the implementation of strategies to address operational deficiencies and requirements, the PNA COL responds to these expectations in the short, medium and long term. Except for search and rescue services, air navigation services (AIM, AIM and MET) are aligned with ASBU blocks as follows: with Block 0 for the short term, with Block 1 for the medium term, and with Blocks 2 and 3 for the long term.

2.2 From the point of view of a system of systems as complex as the aviation system is, surveillance must also be comprehensive to provide for the fundamental interconnection between air navigation efficiency and safety (efficiency and safety improvements are pursued based on the air navigation system, without affecting the established levels of safety).

2.3 In the process of addressing deficiencies<sup>2</sup>, the new operational requirements, and the maintainability of air navigation and airport infrastructure, monitoring is indispensable by means of measuring and controlling the implementation of operational objectives. One way to do this is through the use of indicators<sup>3</sup>. And it is applicable to both national and regional levels, reason why it would be useful, wherever possible, to develop a set of common indicators, whereby each State can adopt such indicators, establish its own national goals based on its capacity and operational requirements, thus facilitating national and regional reporting. These indicators can be grouped in two types: a) indicators of the status of implementation, and b) outcome indicators.

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1.Flexible and programme-wide systems engineering approach for improving air navigation capabilities, based on the specific operational requirements of each State.

2.Deficiencies originating in various sources: CMA, users, States)

3.In accordance with ICAO Doc 9883, *Manual on global performance of the air navigation system*.

### **3. Conclusion**

3.1 In accordance with Doc 9883, *Manual on global performance of the air navigation system*, and based on national experiences, design, wherever possible, common indicators so that States may adopted them, establish their own national goals, thus facilitating national and regional reporting.

3.2 Colombia invites the Meeting to consider the experience of Colombia in the drafting and updating of the PNA COL, as a demonstration of its commitment to the sustainable growth of the global civil aviation system.

### **4. Suggested action**

4.1 Colombia invites the Meeting to:

- a) consider the proposal of working at regional level, wherever possible, towards the development of common indicators and measurement methods to serve as reference for all the countries in the Region.

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