



TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

Agenda Item 6: Future direction

6.1: Implementation plans and methodologies

SUPPORT OF THE REGIONAL SAFETY OVERSIGHT COOPERATION SYSTEM (SRVSOP) TO THE IMPLEMENTATION OF PERFORMANCE-BASED NAVIGATION (PBN) IN THE ICAO SOUTH AMERICAN (SAM) REGION

(Presented by Brazil on behalf of all SRVSOP Member States)

SUMMARY

The SAM Implementation Group (SAM/IG), to begin the work of performance-based navigation (PBN) implementation in South America in 2008, entrusted the Regional Safety Oversight Cooperation System (SRVSOP) with the responsibility of developing the requirements, procedures and advisory circulars related to the aircraft and operators approval for RNAV and RNP operations.

Up to date, the SRVSOP has completed the following activities in support of PBN implementation in Latin America:

- a) development of regulations to be contained in LAR 91, 121 and 135;
- b) development of RNAV/RNP procedures and job aids in the SRVSOP operations inspector manual;
- c) development of nine advisory circulars related to the aircraft and operators approval for RNAV and RNP operations; and
- d) training for operations and airworthiness inspectors of SRVSOP States on aircraft and operators approval process for RNAV and RNP operations.

1. INTRODUCTION

1.1 The 36th Session of the ICAO Assembly, through Resolution A36-23, urged States to implement area navigation (RNAV), required navigation performance (RNP), air traffic services (ATS) routes and approach procedures in accordance with ICAO PBN concept as defined in the *Performance-based Navigation (PBN) Manual* (Doc 9613) , and resolved that States and the planning and implementation regional groups complete a PBN implementation plan for 2009.

1.2 In this regard, the GREPECAS/15 Meeting held in Río de Janeiro, Brazil, from 13 to 17 October 2008, adopted Conclusion 15/38 – PBN national implementation plan, through which CAR/SAM States/Territories were urged to develop national PBN implementation plans, and present them to the corresponding ICAO Regional Offices.

1.3 In order to implement PBN as required by ICAO Assembly, ICAO South American Regional Office encouraged the creation of SAM Implementation Group (SAM/IG) in 2008, and developed the performance-based navigation route map for CAR/SAM regions.

2. SRVSOP SUPPORT TO PBN IMPLEMENTATION IN THE SOUTH AMERICAN REGION

2.1 During the First Workshop/Meeting of the SAM Implementation Group (SAM/IG/1) (Lima, Peru, 21 to 25 April 2008), the Workshop/Meeting examined the corresponding regional action plan, and under agenda Item 7, regarding aircraft and operators' approval for RNAV/RNP operations, the following activities were agreed upon:

- a) evaluate regulations on GNSS use, taking into account their use in RNAV and RNP navigation specification;
- b) analyse aircraft and operators approval requirements (pilots, dispatchers and maintenance personnel), as stipulated in the PBN manual and develop necessary documentation;
- c) publish the operational approval process;
- d) initiate aircraft and operators approval;
- e) establish and maintain updated an approved aircraft and operators registry; and
- f) verify the operation within the continuous monitoring programme (aircraft and procedures).

2.2 In this respect, the SAM Implementation Group, entrusted the Latin America Regional Safety Oversight Cooperation System (SRVSOP), the development of requirements, procedures and advisory circulars related to the aircraft and operators approval for RNAV/RNP operations.

2.3 Appendices to this information paper contain information regarding the SRVSOP developments in support of PBN implementation in the South American Region:

- a) Appendix A – PBN chapters developed in the SRVSOP operations inspectors manual;
- b) Appendix B – SRVSOP advisory circulars on aircraft and operators approval for RNAV/RNP operations, and
- c) Appendix C – Courses on RNAV/RNP procedures design and approval for aircraft and operators imparted in the South American region.

3. CONCLUSION

3.1 The Conference is invited to consider the information being provided in this information paper and on SRVSOP support to performance-based navigation implementation in the South American Region.

APPENDIX A

**PBN CHAPTERS INCLUDED IN THE SRVSOP OPERATIONS
INSPECTORS MANUAL (MIO), PART II, VOLUME III**

Chapter	Title
2	Introduction to Performance-based navigation (PBN)
3	RNAV and RNP implementation
4	RNAV and RNP navigation performance
5	RNAV/RNP approval generic process
6	RNAV approvals
7	RNP approvals

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APPENDIX B
SRVSOP PBN ADVISORY CIRCULARS

AC	Navigation specifications	Status
AC 91-001	RNAV 10 (RNP10)	Approved
AC 91-002	RNAV 5	Approved
AC 91-003	RNAV 1 and RNAV 2	Approved
AC 91-004	RNP 4	Approved
AC 91-005	RNP 2	To be developed
AC 91-006	Basic RNP 1	Approved
AC 91-007	Advanced RNP 1	To be developed
AC 91-008	RNP APCH down to LNAV and LNAV/VNAV minima	Approved
AC 91-009	RNP AR APCH	Approved
AC 91-010	APV/baro-VNAV	Approved
AC 91-011	RNP APCH down to LP and LPV minima	Approved

APPENDIX C

**COURSES ON DESIGN OF PROCEDURES AND AIRCRAFT AND
OPERATORS APPROVAL FOR RNAV/RNP OPERATIONS IMPARTED
IN THE SOUTH AMERICAN REGION**

Course	Date
Course on RNAV/RNP procedures design	Lima, Peru, 01 to 11 September 2009
Course on RNP AR APCH procedures design	Lima, Peru, 06 to 16 October 2009
Course on RNAV approval	Lima, Peru, 22 to 26 March 2010
Course on APV/baro-VNAV procedures design	Lima, Peru, 06 to 16 April 2010
Course on RNP approval	Lima, Peru, 17 to 21 May 2010
Course on RNAV and RNP approval	Buenos Aires, Argentina, 16 to 27 August 2010
Course on RNAV and RNP approval	Quito, Ecuador, 22 November to 03 December 2010
Course on RNAV and RNP approval	Santa Cruz, Bolivia, 11 to 21 April 2011
Course on RNAV and RNP approval	Sao Paulo, Brazil, 06 to 08 June 2011
Course on RNAV and RNP approval	Rio de Janeiro, Brazil, 15 to 19 August 2011
Course on RNAV and RNP approval	Rio de Janeiro, Brazil, 22 to 26 October 2011

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