

APPENDIX A

SHORT-TERM EN-ROUTE PBN ACTION PLAN (RNAV-5)
(GPIs 1, 4, 5, 7, 8, 10, 11, 12, 16, 21, 23)

1. Airspace concept	Start	End	Responsible party	Remarks
1.1 Establish and prioritize strategic objectives (safety, capacity, environment, etc.)	June/2008	SAM/IG/2	SAM/PBN/IG (Project RLA/06/901)	Completed
1.2 Collect traffic data in order to understand traffic flows in a given airspace	June/2008	SAM/IG/4	SAM/PBN/IG (Project RLA/06/901)	Completed
1.3 Analyze the navigation capacity of the aircraft fleet	June/2008	SAM/IG/7	SAM/PBN/IG (Projects RLA/06/901 and RLA/99/901) States IATA	Completed 95% of the fleet in the SAM Region is candidate for RNAV5 approval. States should continue their efforts to complete the data base (Conclusion SAM/IG/4-3)
1.4 Analyze ground-based means of communication, navigation (VOR, DME) and surveillance to meet navigation specifications and the navigation reversal mode	June/2008	SAM/IG/7	SAM/PBN/IG (Projects RLA/06/901 and RLA/99/901) States	Completed The work was completed through the support of RLA/06/901 who CNS hired experts.
1.5 Optimize airspace structure, reorganizing the network or implementing new routes based on the strategic objectives of the airspace concept, taking into account airspace modelling, ATC simulations (fast time and/or real time), live tests, etc.	SAM/IG/2	SAM/IG/4	SAM/PBN/IG (Project RLA/06/901) States IATA	Transferred. The meeting reviewed this task and decided that it was more appropriate to incorporate to the SAM Region ATS routes network optimization action plan (2.2.5 SAM Region ATS routes network optimization action plan)

2 Safety assessment	Start	End	Responsible party	Remarks
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2	Safety assessment	Start	End	Responsible party	Remarks
2.1	Prepare safety assessment execution using a qualitative methodology through the application of SMS	SAM/IG/2	SAM/IG/6	CARSAMMA Project RLA/06/901 Regional Office	Completed

3 Establish a collaborative decision-making process (CDM)	Start	End	Responsible party	Remarks
3.1 Coordinate planning and implementation requirements with air navigation service providers, regulators, users, aircraft operators and military authorities	SAM/IG/2	SAM/IG/8	SAM/PBN/IG States	<p>Valid</p> <p>Some States have published an initial AIC. Other States have not done so yet. A new AIC is required informing on the change of implementation date.</p>
3.2 Establish the implementation date	SAM/IG/1	SAM/IG/4	SAM/PBN/IG States	<p>Completed.</p> <p>18 November 2009 was established as tentative date.</p> <p>States analysed the feasibility of the tentative date in coordination with domestic operators and military authorities</p> <p>SAM/IG/4 defined as tentative implementation date 18 November 2010.</p> <p>During the SAM/IG/6 Meeting, it was decided to postpone implementation for 22 September 2011 since some tasks had not been executed. Keeping in mind the need for an additional analysis in terms of VOR/DME coverage and DME/DME for the publication of ENR 3.3, SAM/IG/7 Meeting has made a 28 days adjustment in the date of implementation (20 October 2011).</p>
3.3 Establish the documentation format in the SAM PBN website	SAM/IG/1	SAM/IG/2	SAM Regional Office	Completed

3 Establish a collaborative decision-making process (CDM)	Start	End	Responsible party	Remarks
3.4 Report planning and implementation progress to the corresponding Regional Office. Conclusion to present national plans at SAM/IG/4	SAM/IG/2	SAM/IG/4	SAM/PBN/IG States	<p>Completed.</p> <p>Eight SAM States presented a draft of their national PBN implementation plans and it was agreed that for 31 December 2009, States shall present the final version of the plan. The Secretariat was requested to as States that have not done so yet, submit their respective plans.</p>

4 ATC automated systems	Start	End	Responsible party	Remarks
4.1 Assess PBN implementation in ATC automated systems, taking into account amendment 1 to the PANS/ATM (FPLSG). Note: It is not a requirement for RNAV5 implementation	June/2008	SAM/IG/4	SAM/PBN/IG (Project RLA/06/901)	Completed According to the programme presented in ICAO guidelines, it is not a requirement for the RNAV5 implementation. CNS/ATM sub-group will revise this issue.
4.2 Implement necessary changes in automated ATC systems	SAM/IG/2	TBD	States	Completed

5	Aircraft and operator approval	Start	End	Responsible party	Remarks
5.1	Analyze aircraft and operator approval requirements (pilots, dispatchers and maintenance personnel) in keeping with the PBN manual, and develop the necessary documentation.	June/2008	SAM/IG/2	Regional Project RLA/99/901-Regional Safety Oversight Cooperation System	Completed
5.2	Publish national regulations for the implementation of the RNAV-5 navigation specification	SAM/IG/2	SAM/IG/7	States	Completed
5.3	Approval of aircraft and operators	SAM/IG/3	Permanent	States	Valid This is a continuous task that States have initiated and shall continue to carry out upon requirement of operators. Operators should be encouraged to initiate this process.
5.4	Establish and keep up to date a registry of approved aircraft and operators	SAM/IG/3	Permanent	CARSAMMA States Regional Office	Completed During SAM/IG/7 meeting, CARSAMMA has received information on approvals of only 71 aircraft and 4 operators from Argentina (19 aircraft and 2 operators) and Colombia (52 aircraft and 2 operators). This is an activity being developed permanently by each one of the States.
5.5	Verify the operation of the continuous monitoring programme (aircraft and procedures)	Sep 2011	Permanent	States	Completed This is an activity being developed permanently by each one of the States and is considered in the surveillance plans.

6	Standards and procedures	Start	End	Responsible party	Remarks
6.1	Assess and, if applicable, publish the regulations on the use of GNSS.	June/2008	SAM/IG/2	SAM/PBN/IG (Project RLA/06/901) States	Completed
6.2	Finalize WGS-84 implementation	TBD	TBD	States	Completed States which have not done so, should provide the information
6.3	Develop an AIC model to report PBN implementation plans	June/2008	SAM/IG/2	SAM/PBN/IG (Project RLA/06/901)	Completed
6.4	Publish the AIC reporting PBN implementation plans	SAM/IG/2	SAM/IG/4	States	Completed States should publish on 9 April 2009
6.5	Develop an AIP Supplement model containing applicable standards and procedures, including the corresponding in-flight contingencies	SAM/IG/4	June 2010	SAM/PBN/IG (Project RLA/06/901)	Completed
6.6	Develop AIP amendment/AIP Supplement Model that contains in the part corresponding to ENR 3.3, including information related to RNAV5, as well as limitations as regards sensors applicable and critical radio navigation aids of each route segment	SAM/IG/5	SAM/IG/7	SAM/PBN/IG States	Completed A new format to publish ENR 3.3 routes was approved (Conclusion SAM/IG/6-4 and Appendix D to the Report on Agenda Item 6. Keeping in mind the results presented in task 1.4, at the SAM/IG/7 meeting made the necessary adjustments in the format to publish RNAV routes ENR 3.3 and formulated Conclusion SAM/IG/7-3
6.7	Publish the AIP Supplement containing applicable standards and procedures, including the corresponding in-flight contingencies	22 September 2011		States	Valid
6.8	Review the Procedural Handbook of the ATS units involved	SAM/IG/5	October 2011	States	Valid
6.9	Update the letters of agreement between ATS units	SAM/IG/5	October 2011	States	Valid Several States have updated their LOAs.

6	Standards and procedures	Start	End	Responsible party	Remarks
					The process is ongoing.
6.10	Develop an amendment to regional documentation, if necessary	SAM/IG/3	June 2011	SAM/PBN/IG (Project RLA/06/901)	Completed
6.11	Submit a proposal of amendment to Doc. 7030, if necessary	SAM/IG/5	SAM/IG/6	SAM Regional Office	Completed

7. Training	Start	End	Responsible party	Remarks
7.1 Develop a training and documentation programme for operators (pilots, dispatchers and maintenance personnel)	SAM/IG/4	SAM/IG/5	Regional Project RLA/99/901	Completed The matters to be incorporated into each one of the training programmes of operators have been included in the corresponding advisory circulars
7.2 Develop a training and documentation programme for air traffic controllers and AIS operators	SAM/IG/4	SAM/IG/5	SAM/PBN/IG (Project RLA/06/901)	Completed
7.3 Develop a training programme for regulators (aviation safety inspectors)	SAM/IG/4	SAM/IG/5	RLA/99/901 States	Completed The SRVSOP technical committee has proposed a training programme oriented to the authorities
7.4 Conduct training programmes	SAM/IG/5	20 October 2011	States	Valid In order to conduct the training programmes, States should consider training programme and documentation for ATCOs and AIS operators Conclusion SAM/IG/5-1 and Appendix A to the Report on Agenda Item 3 (SAM/IG/5).
7.5 Conduct seminars for operators, explaining plans and expected operational and economic benefits	SAM/IG/1	20 October 2011	States	Valid States are encouraged to continue with the dissemination of RNAV5 implementation among such users.

8. Implementation decision	Start	Responsible party	Remarks
8.1 Assess the available operational documentation (ATS, OPS/AIR)	October 2011	States	Valid
8.2 Assess the percentage of aircraft and operators (non-exclusionary airspace)	SAM/IG/7	States	Completed Keeping in mind that 95% of the fleet is in a condition for RNAV5 operations approval and that only completion of approval process is pending, the meeting has considered this task as completed.
8.3 Analyze the results of the safety assessment	SAM/IG/6	States	Completed
8.4 Publish trigger NOTAM	3 October 2011	States	Valid

9. Performance monitoring system	Start	End	Responsible party	Remarks
9.1 Develop a post-implementation en-route operations monitoring programme	SAM/IG/4	SAM/IG/6	SAM/PBN/IG (Project RLA/06/901)	Completed
9.2 Implement a post-implementation en-route operations monitoring programme	October 2011	October 2012	States	Valid
Pre-operational implementation date	20 October 2011	20 October 2012		Valid SAM/IG/4 defined the tentative implementation date 18 November 2010. It was decided to postpone implementation for 22 September 2011 during SAM/IG/6, since some tasks had not been executed. Keeping in mind the need for an additional analysis VOR/DME and DME/DME for the publication of ENR 3.3, the meeting has made an adjustment of 28 days in the implementation date.
Definitive implementation date	20 October 2012			