



SAM/IG/4
WP/02
16/07/09

**International Civil Aviation Organization
South American Regional Office**

**FOURTH WORKSHOP/MEETING OF THE SAM IMPLEMENTATION GROUP (SAM/IG/4)
REGIONAL PROJECT RLA/06/901**

Lima, Peru, 19 to 23 October 2009

Agenda Item 1: Monitoring to Conclusions and Decisions adopted by SAM/IG Meetings

**REVIEW OF THE STATUS OF COMPLIANCE OF CONCLUSIONS FORMULATED BY
SAM/IG MEETINGS AND PENDING ACTIVITIES**

(Presented by the Secretariat)

Summary	
This working paper has the intention that the Meeting may proceed with the revision on the application by SAM States of valid conclusions and pending activities formulated by SAM Implementation Group Workshop/meetings (SAM/IG).	
References: <ul style="list-style-type: none">- First Workshop/Meeting of the SAM Implementation Group (SAM/IG/1)- Second Workshop/Meeting of the SAM Implementation Group (SAM/IG/2)- Third Workshop/Meeting of the SAM Implementation Group (SAM/IG/3)- PBN Roadmap- ATFM Roadmap- ATFM CONOPS	
Strategic Objective C	<i>Environmental protection</i>
Strategic Objective D	<i>Efficiency</i>

1. Introduction

1.1 The Workshop/Meetings of the SAM Implementation Group (SAM/IG/1, 2 and 3), have timely produced a series of agreements translated into conclusions, that indicate the actions to be carried out by the Implementation Group and/or States, as well as activities assumed by the Working Groups.

1.2 This working paper presents a revision of the valid conclusions, and pending activities of the SAM Implementation Group (SAM/IG) workshops/meetings

2. Analysis

2.1 During SAM/IG/1 and SAM/IG/2 Meetings, some conclusions were formulated and a series of activities were adopted, oriented towards the implementation of different functions that will enable the Region to evolve towards the application of the global ATM operational concept.

2.2 Within the ATM field, there are three programmes approved by GREPECAS in which the Region has focused its attention; optimisation of the ATS routes network of the SAM Region, performance-based navigation (PBN) for en-route, terminal area and approach operations, and air traffic flow management (ATFM).

2.3 As you may recall, the activity related with ATS routes network optimisation has been faced in two different manners. Through the continuation of the implementation of routes and/or realignment of RNAV routes, and the elimination of conventional routes. This has been a task that is being held since 2001 and efforts continue to improve the current ATS network. On the other hand, in view of the analysis made by the SAM/IG/3 Meeting and the agreements reached, a feasibility study has been initiated for the optimisation of ATS routes network through the airspace structural modification and the ATS routes network. In view of the above, SAM/IG/3, through Conclusion SAM/IG/3-1 agreed that SAM States take pertinent actions to follow-up guidelines and comply with deadlines established in the ATS Routes Network Optimization Programme.

2.4 PBN implementation has been characterized by for en-route (RNAV 5) operations in terminal areas, as well as STAR and SIDs in terminal areas and instrument approach procedures for the main airports of the Region, applying RNAV/RNP, RNAV AR APCH and/or APV Baro/VNAV procedures. For TMA operations and approaches, the SAMIG meeting/workshop prepared action plans so that States may use as reference, as well as reference guidance for the elaboration of a national PBN implementation programme, so that States of the Region maintain a guideline with the regional plan on this matter.

2.5 On the other hand, one of the most important agreements relates with the dictation of RNAV/RNP and RNAV AR APCH design courses. To this end, two procedures design courses RNAV/RNP and RNP AR APCH were planned and executed through a Special Implementation Project (SIP) financed by ICAO and Regional Project RLA/06/901, in which experts in procedures from design participated, from 9 States of the Region in each course.

2.6 With regard to ATFM, it should be mentioned that SAM States are in different application phases. While some States have already implemented ATFM, others are at their initial phases. Notwithstanding, the objective pursued is that the Region, in a global manner make progress in ATFM implementation, following the ATFM Concept of Operations approved by GREPECAS, and also the ATFM Roadmap, approved during the SAM/IG/3 Meeting, and which is contributory to the ATFM CONOPS.

2.7 As agreed during the SAM/IG/3 Meeting, work continued with the ATFM Manual (See WP/10), and a document was also prepared where some points of view are presented on the use of common methodology for the estimate of airport capacity and ATC sectors (See WP/05). Also, Conclusion SAM/IG/3-5 was agreed, where States are encouraged to carry out at least one exercise to determine the runway capacity of an international airport and the associated ATC sector and present such results to the SAM/IG/4 Meeting.

2.8 As a consequence of the aforementioned, the chart shown in **Appendix A** to this working paper, has identified tasks to be developed and/or corresponding conclusion in the areas under analysis, the specific tasks that will lead to the compliance of the main task, which results are expected in each one of them, the finalisation dates, the persons responsible for its implementation, the supporting members for the task and finally in the last column, the status of execution of the same, and whenever necessary, for a better understanding, some explanatory comment has been included on the status of execution.

2.9 The Meeting should analyse each task identified and make the comments on specific tasks resulting, evaluate, and if necessary, modify the finalisation date, as well as the status of implementation of each specific task. The meeting may also wish to complete the chart shown in **Appendix B** to this working paper, showing the tasks in charge of the States, in order to make a follow-up of the same.

2.10 Within the environment of the activities related with CNS and automation improvements, as support to the implementation works for the ATS routes optimisation, performance based navigation (PBN), both for en-route operations, terminal area and approach and air traffic flow management (ATFM), guidelines have been made for the implementation of CNS Systems improvement, as well as in the implementation of automated systems, as well as the interconnection of the same.

2.11 This guidance material is being used at present in the SAM Region for the implementation of CNS improvements, as well as the interconnection of automated systems.

2.12 To support SAM Region States in the interconnection of AMHS systems, a guidance material for AMHS interconnection systems was prepared, and a guidance document on procedures to SAM Region States in the implementation of national networks using IP protocol, was also prepared.

2.13 A preliminary data bank was prepared with coverage data on VOR/DME installed in the SAM Region and an initial revision of VOR/DME and DME/DME coverage to support RNAV 5 operations in TMA areas.

2.14 **Appendices C and D** of this working paper present a follow-up of the conclusions formulated in SAMIG meetings on CNS improvements and automation.

3 Suggested action

3.1 The meeting is invited to:

- a) request the RNAV Routes , PBN and ATFM Implementation Groups, to analyse the tasks in the corresponding areas in **Appendix A** to this working paper, and evaluate each one of the tasks and its status of compliance, and complete the information, as applicable;
- b) request States to complete the chart shown in **Appendix B** to this working paper, in order to follow-up on those tasks under the responsibility of their respective administrations;

- c) analyse the status of implementation of the conclusions on CNS and automation systems presented at **Appendices C and D**, respectively; and
- c) if necessary, adopt the pertinent courses of action in relation to each one of such tasks.

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APPENDIX A**STATUS OF APPLICATION OF CONCLUSIONS AND/OR TASKS ORIGINATED IN SAM/IG MEETINGS**

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
1. ATS Routes Implementation							
1-1 Prev. 1-4	That States examine: a) Impact of RNAV routes implementation in the airspace b) Aircraft fleet c) Air traffic services, and d) Establish pertinent coordination so as to enable integrated, harmonious and timely implementation of more direct RNAV routes.	Analyse airspace Evaluate national and international fleet Evaluate ATS Coordinate with authorities involved Coordinate with adjacent States, if necessary	Adequate information will be available to execute PBN action plan. A new ATS routes network will be available, based on RNAV with necessary PBN values, so as to respond to current requirements of airspace users	SAM/IG/4	States	RO/ATM RO/AIM	
1-2 Prev 2-1	Route RNAV VOR CRR/VOR FNO	Coordinate the implementation. Issue AIC. Train personnel. Amend CAR/SAM ANP	Route implemented	TBD Information from Brazil is pending	States Secretariat	RO/ATM RO/AIM	

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
1-3 Prev 2-1	UM 662 Guayaquil – Madrid	Coordinate the implementation. Issue AIC. Train personnel. Amend CAR/SAM ANP	Route implemented	Agreement with FAV Venezuela is pending	States Secretariat	RO/ATM RO/AIM	
1-4 Prev 2-1	UM 527 Lima – Madrid	Coordinate the implementation. Issue AIC. Train personnel. Amend CAR/SAM ANP	Route implemented	Implementat ion agreement on 24 September 2009	States Secretariat	RO/ATM RO/AIM	
1-5 Prev 2-1	Santiago-Miami	Coordinate the implementation. Issue AIC. Train personnel. Amend CAR/SAM ANP	Route implemented	Finalise coordination with States involved and IATA	States IATA Secretariat	RO/ATM RO/AIM	

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
2. Optimisation of ATS routes in the SAM Region							
2-1	<p>Conclusion SAM/IG/3-1 ATS Route Network Optimising in the South American Region</p> <p>That the ICAO SAM States take relevant action to follow the guidelines and meet the target dates established in the ATS Route Network Optimising Programme in the South American Region that appears in Appendix B to this part of the report. (Action adopted in SAM/IG/2) Optimize the airspace structure, reorganizing the red or implementing new routes based on strategic objectives of the airspace, taking into consideration “airspace modelling”, ATC simulations (accelerated time and/or real time), life trials, etc.</p>	See action plan from the ATS routes network optimisation programme (Appendix B, Attachment 1 to SAM/IG/3 Meeting Report on Agenda Item 2)	Optimised ATS routes network	As per action plan	States RLA/06/901 IATA Regional Office	RO/ATM RO/AIM	Valid conclusion and action adopted in SAM/IG/2 are oriented towards achieving the same results.

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
2-2	Prepare the preliminary evaluation of airspace safety	Collect necessary data. Carry out safety assessment applying the methodology adopted.	PBN will be implemented showing that agreed safety levels will be kept or maintained	SAM/IG/5	CARSAMM A	RO/ATM	Valid SAM/IG/3 agreed that safety assessment should be based in a qualitative analysis through the use of SMS
2-3 Prev 2-15	Flexibility in special use airspace.	ANSPs will Establish coordination mechanism with military authorities Discuss matters such as location, altitudes, and validity periods of special use airspaces.	Obtain the efficient use of the airspace in terms coordinated and agreed between civil and military authorities, contemplating the benefit of all users	SAM/IG/4	States	N/A	Valid Global civil/military coordination forum (October 2009) A civil/military seminar/ workshop will be required for 2001 in the SAM Region

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
2-4 Prev 2-16	Handling of air transport environmental problems	Obtaining of objective data over benefits that will be reached in terms of reduction of harmful gas emissions into the atmosphere.	Known data Availability of information required for monitoring of environmental protection.	SAM/IG/5	States	N/A	Valid. Check fuel savings estimate chart.
2-5	Prepare a measurable plan of performance, including gas emissions safety, efficiency, etc.	Check available tools to carry out this task Prepare a measurable plan	A measurable plan will be available which will permit a clear vision of the current and future status of performance regarding gas emissions, safety and efficiency	SAM/IG/5	RLA/06/901	RO/ATM	Valid. No activity has been initiated yet.

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
2-6	<p>Conclusion SAM/IG/3-2 Data Collection</p> <p>That SAM States:</p> <p>a) collect data on all flights carried out in the SAM Region upper airspace (FL 245 or above) in national and international routes in the period 1-31 July 2009 and send them to the SAM Regional Office before 30 September 2009.</p> <p>b) use a sample consistent with the form and the instructions for completing the form, contained in Attachment 2 to Appendix B to this part of the report, using the EXCEL format.</p>	<p>The Secretariat should send a letter to States</p> <p>States should collect information as agreed.</p> <p>States should send information to the Regional Office.</p> <p>Information received must be assessed</p>	<p>A data base containing –</p> <ul style="list-style-type: none"> - movement in ATS routes per FIR - movement between pairs of cities, - peak hours - movement in TMA - FL most used - air operators and type of aircraft used. 	SAM/IG/5	Regional Office States RLA/06/901	RO/ATM RO/AIM CARSAMMA	<p>Letter LT 2/3A.13-LN 3/24.6.1-SA364 dated 8 June 2009</p> <p>Replies requested as per conclusion.</p>
2-7	Determine entry/exit points of main TMAs in the SAM Region	<p>States shall determine entry/exit points of main TMAs</p> <p>Shall present information at SAM/IG/4</p>	Adequate information will be available to prepare Version 1 of ATS routes network	SAM/IG/4	States	RO/ATM	Valid

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
2-8	Determine and obtain necessary tools for the development of Version 1 of routes network (aeronautical charts, specific software)	Evaluate necessary tools	Basic elements will be available for the development of Version 1 of ATS routes network	SAM/IG/4	SAM PBN RLA/06/901	RO/ATM	Flight available. Star
2-9	Interphase between ATS routes network of the CAR and SAM Regions	Evaluate interphase options in the ATS routes network in the CAR and SAM Regions	Develop Version 1 of ATS routes network to respond to users requirements	SAM/IG/5	SAM PBN TF Regional Office	RO/ATM	Valid
2-10	Carry out a detailed study of the ATS routes network, with a view to prepare Version 1 of routes network (ref 2.2.2 of the Action plan of the ATS routes optimization programme of the SAM Region.	Carry out a workshop among SAM experts, in order to review and validate the study of item 2.2.5 of the action plan of the ATS routes optimization programme of the SAM Region.	Initial draft of proposal Version 1 of routes network ready	March 2010	RLA/06/901 Regional Office IATA	RO/ATM	Valid. Will be presented at the RCC RLA/06/901 to obtain support from 3 persons to make a study. Will invite IATA and operators to select one person to assist in the development of the task.

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
2-11	Prepare safety assessment required applying a qualitative methodology through the use of SMS (Ref 2.2.3 of the Action Plan – Programme for optimisation of the ATS Routes Network of the SAM Region)	Carry out safety assessment	Version 1 of ATS routes network will be implemented; demonstrating that agreed safety level will be maintained or improved.	October 2010	RLA/06/901	RO/ATM CARSAMMA	Valid

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
3. Implementation of Performance Based Navigation (PBN) in the SAM Region							
3-1 Prev. 1-1	SAM/IG/1-1 CAR/SAM PBN Roadmap That ICAO SAM States, in implementing RNAV/RNP, take the pertinent actions to follow guidelines contained in the CAR/SAM PBN Roadmap as shown in Appendix C to this part of the report.	Shall facilitate implementation at a regional level Each State should comply with the actions agreed in the PBN Roadmap	States will have a National en-route, TMA and APP PBN implementation Plan.	SAM/IG/3	States	N/A	Valid
3-2 Prev. 2-3	Conclusion SAM/IG/2-1 PBN implementation Programme for en-route operations That the ICAO SAM States take appropriate actions to follow the guidelines and comply with the targets established in the PBN implementation for en-route operations, which is shown in Appendix B to this part of the Report.	Execution of the action plan	RNAV 5 implemented in the SAM Region	SAM/IG/3	PBN focal points of the States.	RO/ATM	Valid. 11/2/09 a message was sent reminding activities to be developed.

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
3-3 Prev. 2-14	<p>Conclusion SAM/IG/2-4 PBN Implementation Model for TMA and Approach</p> <p>That States/Territories and International Organizations use the PBN Implementation Model for TMA and Approach in the preparation of their PBN implementation programmes for TMA and Approach, shown in Appendix E to this part of the Report.</p>	Prepare action plans for PBN implementation in TMA and approach	Action plans accompanying regional implementation	SAM/IG/4	PBN focal points of the States	RO/ATM	Valid. 11/2/09 a message was sent reminding activities to be developed.
3-4	Evaluate regulations for the use of GNSS, and if such were the case, proceed to its publication	Review information available.	All SAM States with regulations for the use of GNSS available	SAM/IG/3	Secretariat	RO/CNS	Valid

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
3-5 Prev. 1-1	<p>Conclusion SAM/IG/3-3 PBN Implementation National Plans</p> <p>That States of ICAO South American Region, present their PBN Implementation National Plans to SAM/IG/4 Meeting, using PBN Implementation Plan Model, shown in Appendix B of this part of the Report, as well as using the action plan models and information contained PBN Implementation Project TMA Operations and Short Term Approximations of SAM Region, approved by SAM/IG/2 Meeting.</p>	Prepare national PBN plans	All SAM States will have a PBN implementation plan aligned with the regional PBN plan	SAM/IG/4	States	RO/ATM	Valid

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
3-6 Prev. 2-12	<p>Conclusion SAM/IG/2-3 Survey on the Fleet Navigation Capacity</p> <p>That States conduct a survey on the fleet navigation capacity, using, to that end, the form contained in Appendix D to this part of the Report, and send the information collected to the ICAO South American Regional Office, on the following dates:</p> <p>a) Aircraft operating commercial flights, which have more than 5 700 kg. of MTOW – 15 February 2009;</p>	<p>States must carry out this survey</p> <p>Secretariat should upload Form of SAM/IG/2 Appendix 2 on Agenda item 2.</p>	Fleet navigation capacity flying in the SAM Region	It was re-programmed and unified the date for delivery of literals a), b) and c) until 31 July 2009	<p>Focal points designated by States</p> <p>RO</p>	JF/OQ/MU/VCH	<p>Valid During SAM/IG/3 the status of implementation will be verified. The initial date was modified to March 2009</p> <p>LT 2/3A.5-SA058 dated 29 January 2009</p> <p>Survey was sent to States, for its implementation. Clarification on the survey was sent.</p>

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
3-6 Prev. 2-12	b) Aircraft operating commercial flights, which have less than 5 700 kg. of MTOW – 15 May 2009; c) Other aircraft registered in the Region – 15 August 2009.						
3-7	Analyse aircraft fleet navigation capacity	Prepare data base	Aircraft fleet capacity analysed	SAM/IG/4	RLA/99/901	VCH	Valid In progress.
3-8 Prev. 2-13	Collect air traffic data to understand air traffic flows in a specific airspace.	States shall collect air traffic flow data	States will have a clear view of the type of traffic operating in a specific airspace	SAM/IG/4	States PBN focal points	JF/AO	in progress

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
3-9	Analyse communications, navigation means and surveillance (VOR, DME) ground to attend navigation specifications and reverse navigation	Prepare a CNS data base	Navigation specification and reverse navigation mode	SAM/IG/4	Regional Office SIP RLA/06/901	Brazil/ Chile RO/ATM	Finalized, two Courses dictated: RNAV/RNP and RNP AR APCH Brazil and Chile provided the instructors; support was obtained from a SIP and RLA/06/901 for the participation of students.
3-10	Design procedures training - RNP Approach with required authorization (AR)	Prepare SIP to have FAA instructors	Experts from States duly qualified in RNP, APCH AR matters	SAM/IG/4	Regional Office SIP RLA/06/901	Brazil/Chile RO/ATM	Completed. RNAV/RNP courses were dictated: RNAV/RNP and ARNP AR APCH. Brazil and Chile provided the instructors. Support was obtained from a SIP and from Regional Project RLA/06/901 for the participation of the students.

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
3-11 Prev. 2-10	<p>Conclusion SAM/IG/2-2 Initial AIC</p> <p>That States of ICAO SAM Region using as model the AIC presented in Appendix C to this part of the Report:</p> <p>a) publish in the AIRAC date of 9 April 2009 an Aeronautical Information Circular (AIC) informing the aeronautical community on their intention to implement RNAV 5 on 18 November 2010;</p> <p>b) reflect in this AIC the specific situations within the airspace under their jurisdiction.</p>	<p>Prepare AIC</p> <p>Publish AIC</p>	<p>Aeronautical community duly informed on States plans for RNAV 5 implementation.</p>	SAM/IG/3	States	RO/ATM RO/AIM	<p>Partially implemented: at 24 April 2009, Colombia, French Guyana, Guyana, Panama, Paraguay, Suriname had not implemented yet.</p>

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
4. Standards and procedures for performance based navigation operations approval							
4-1	Analyse aircraft approval requirements and operators (pilots, dispatchers, and maintenance personnel) as established in PBN manual, and develop necessary documentation. Note: See Agenda Item 3, SAM/IG/2 and SAM/IG/3 Agenda Item 4.	Develop LAR with regard to PBN approvals	Guidelines at States disposal	SAM/IG/3 SAM/IG/4	Regional Project RLA/06/901	JF/OQ MU/VCH	In progress in charge of RLA/99/901. A work plan has been established for the development of the LAR. Modified during SAM/IG/4 See Agenda Item 4 of SAM/IG/3.

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
4-2	<p>Conclusion SAM/IG/3-4 Advisory Circulars CA 91-008, CA 91-009 and CA 91-010</p> <p>That States of the SAM Region:</p> <p>a) use as acceptable means of compliance in aircraft approval and exploiters for RNP APCH, RNP AR APCH and APV/baro-VNAV operations, Advisory Circulars CA 91-008, CA 91-009 and CA 91-010, shown in Appendices B, C and D, respectively to this part of the report; and</p> <p>b) publish the corresponding national regulations until 5 October 2009.</p>	Develop the procedures related to aircraft and users approval regarding RNP, APCH, RNP AR APCH and APV/Baro-VNAV operations	National regulation ready for approval of aircraft and users	SAM/IG/4	States Regional Project RLA/06/901	JF OQ MU VCH	

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
5-1 Prev 4-2	<p>Conclusion SAM/IG/2-6 ATFM Roadmap</p> <p>That,</p> <p>a) the ATFM Roadmap in Appendix B to this part of the Report be adopted, with the aim of providing orientation to the ATFM community with regard to ATFM applications to be implemented in the short and medium term in the SAM Region; and</p> <p>b) the ICAO Secretariat send the ATFM Roadmap to the GREPECAS ATFM Task Force for the analysis and actions deemed pertinent.</p>	States must adopt ATFM Roadmap sheet and inform on the intentions to national aeronautical community	<p>Aeronautical Community in knowledge of regional and national activities related to ATFM</p> <p>ATFM roadmap shall be presented to the ATFM/5 Meeting</p>	SAM/IG/3	<p>States ATFM Focal points</p> <p>ATFM Rapporteur</p>	<p>ATFM Rapporteur/ Jorge Fernández/ Alberto Orero</p>	<p>Valid See Task 4-5</p> <p>ATFM/5 will be held in Bogotá, Colombia, from 8 to 12 June 2009</p> <p>The ATFM Roadmap will be presented at this meeting</p>
5-2	Carry out the tasks to be developed by Regional Project RLA/06/901. See SAM/IG/3 Report	Hire experts through Regional Project RLA/06/901	Tasks identified by the meeting to be executed by Regional Project RLA/06/901 carried out.	SAM/IG/4	RLA/06/901 Experts	JF/OQ	Completed

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
5-3 Prev 4-5	Publish initial AIC ATFM using the model prepared by SAMIG						
5-4	ATFM Manual	Continue developing ATFM manual	States will have a manual for its harmonized application in the SAM Region	SAM/IG/4	RLA/06/901 Expert	JF/AO	Completed (SAM/IG/4-WP/10)

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
5-5	<p>Conclusion SAM/IG/3-5 Runway capacity of an international airport and ATC associated sector</p> <p>SAM States are encouraged to carry out at least an exercise to determine the runway capacity of an international airport and ATC sector, associated or another one selected for each State, to present the results to the SAM/IG/4 Meeting, providing the following information:</p> <ul style="list-style-type: none"> a) Amount of personnel trained for the exercise b) Methodology applied c) Result of the exercise, providing the declared capacity for each runway and ATC selected sector. d) Identification of problems found in the methodology applied. 	Carry out estimate capacity in an airport and its associated ATC sector	States shall put into practice the course dictated on this matter and shall obtain the necessary experience to evaluate capacity at a national level.	SAM/IG/4	States	JF	Valid

No.	Task to be developed	Specific tasks	Deliverables	Finalization date	Responsible	Supporting members to the task	Status of implementation
5-6	Guidance document for the application of a common methodology for the estimation of airport capacity and ATC sectors for the SAM Region	Prepare a guidance document for the application of a common methodology for the estimation of airport capacity and ATC sectors for the SAM Region	States will have a guide for the application of a common methodology for the estimation of airport capacity and ATC sectors for the SAM Region	SAM/IG/4	RLA/06/901 Expert	JF/AO	Completed (SAM/IG/4-WP/05)

APPENDIX B

FOLLOW-UP OF CONCLUSIONS AND PENDING TASKS OF THE SAM/IG MEETING

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES REMARKS
1-1 SAM/IG/1-1 CAR/SAM PBN Roadmap That ICAO SAM States, in implementing RNAV/RNP, take the pertinent actions to follow guidelines contained in the CAR/SAM PBN Roadmap as shown in Appendix C to this part of the report.	O/G	O/G	O/G	O/G	O/G	O/G	--	--	O/G	YES	O/G	--	O/G	O/G	COL: May.2009 PER: Dec 2009 VEN: Oct.2009
1-1 That States examine: a) Impact of RNAV routes implementation in the airspace Aircraft fleet, Air traffic services, and b) Establish pertinent coordination so as to enable integrated, harmonious and timely implementation of more direct RNAV routes.	O/G	O/G	O/G	O/G	O/G	O/G	--	--	O/G	O/G	O/G	--	O/G	O/G	COL: June ECU: Local coordination with corresponding area. PAR: SAMIG 4 y 5 PER: Dec 2009 VEN: Oct.2009
2-1 Implementation of RNAV routes	YES	YES	YES	O/G	NO	YES	--	--	YES	O/G	O/G	--	YES	NO	ECU: Missing pronouncement of PER: Chile and Peru agree in the part corresponding to their FIRS. VEN: Missing to know PBN capacities of ACFT for domestic flights in order to define the need for implementation.

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES REMARKS
2-3 Conclusion SAM/IG/2-1 PBN implementation Programme for en-route operations That the ICAO SAM States take appropriate actions to follow the guidelines and comply with the targets established in the PBN implementation for en-route operations, which is shown in Appendix B to this part of the Report.	YES	O/G	--	O/G			--	--	YES	O/G	O/G	--	YES	O/G	PER: Dec 2009 VEN: Jul.2009 - Oct.2009
2-10 Conclusion SAM/IG/2-2 Initial AIC That States of ICAO SAM Region using as model the AIC presented in Appendix C to this part of the Report: a) publish in the AIRAC date of 9 April 2009 an Aeronautical Information Circular (AIC) informing the aeronautical community on their intention to implement RNAV 5 on 18 November 2010; b) reflect in this AIC the specific YESituations within the airspace under their jurisdiction.	YES	YES	YES	YES	O/G	YES	--	--	O/G	NO	YES	--	YES	YES	COL: June ECU: AIC published PER: AIC 01/09
2-12 Conclusion SAM/IG/2-3 Survey on the Fleet Navigation Capacity That States conduct a survey on the fleet navigation capacity, using, to that end, the form contained in Appendix D to this part of the Report, and send the information collected to the ICAO South American Regional Office, on the following dates:	YES	NO	O/G	OG	O/G	O/G	--	YES	O/G	NO	YES	--	O/G	O/G	BRA: Survey on commercial aircraft with MTOW, has been delivered COL: June ECU: Developing PER: March 2009 URU: Jul 25, 2009.

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES REMARKS
a) Aircraft operating commercial flights, which have more than 5 700 kg. of MTOW – 15 February 2009; b) Aircraft operating commercial flights, which have less than 5 700 kg. of MTOW – 15 May 2009; c) Other aircraft registered in the Region – 15 August 2009.															
2-13 1.2 1.2 Collect air traffic data to understand air traffic flows in a specific airspace	YES	O/G	YES	O/G	O/G	O/G	--	--	O/G	O/G	O/G	--	YES	YES	COL: July ECU: Developing PER: will be carried out on July 2009
2-14 Conclusion SAM/IG/2-4 PBN Implementation Model for TMA and Approach That States/Territories and International Organizations use the PBN Implementation Model for TMA and Approach in the preparation of their PBN implementation programmes for TMA and Approach, shown in Appendix E to this part of the Report	O/G	O/G	O/G	OG	O/G	O/G	--	--	O/G	O/G	O/G	--	O/G	O/G	COL: July ECU: Developing PAR: Foreseen/to be verified. PER: SAM/IG/4 VEN: Jul.2009 – Oct.2009
2-15 Flexibility in special use airspace.	O/G	O/G	O/G	OG	O/G	O/G	--	--	N/A	O/G	YES	--	O/G	O/G	CHI: They have a committee responsible for these subjects ECU: Will require information at SAM/IG/3 PAN: Panama does not have army nor air force. PER: 2002 VEN: Undetermined
2-16 Handling of air transport environmental problems	O/G	NO	O/G	YES	NO	NO	--	--	O/G	O/G	O/G	--	O/G	NO	ECU: Example: Chile SAM/IG/5 PER: SAM/IG/5

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES REMARKS
3-1 Conclusion SAM/IG/2-5 Advisory Circular CA 91-002 and Job Aid for Aircraft and operators RNAV 5 operational approval That States of ICAO South American Region: a) Use as an acceptable compliance source in aircraft and operators RNAV 5 operational approval Advisory Circular CA 91-002 and Job Aid for Aircraft and operators RNAV 5 operational approval, presented in Appendices A and B , respectively, to this part of the Report. b) Publish respective national regulations up to April 2009.	O/G	NO	O/G	O/G	NO	O/G	--	--	O/G	NO	O/G	--	O/G	O/G	ECU: Coord. with OPS PAR: Developing PER: Dec 2009 VEN: Jul.2009 – Oct.2009
4-2 Conclusion SAM/IG/2-6 ATFM Roadmap That, a) the ATFM Roadmap in Appendix B to this part of the Report be adopted, with the aim of providing orientation to the ATFM community with regard to ATFM applications to be implemented in the short and medium term in the SAM Region; and b) the ICAO Secretariat send the ATFM Roadmap to the GREPECAS ATFM Task Force for the analyses and actions deemed pertinent	O/G	O/G	O/G	O/G	O/G	O/G	--	--	O/G	O/G		--	O/G	O/G	COL: ATFM/4 ECU: ATFM PAR: Final verification VEN: Oct.2009

Conclusión/Tarea Conclusion/Task	ARG	BOL	BRA	CHI	COL	ECU	FGY	GUY	PAN	PAR	PER	SUR	URU	VEN	OBSERVACIONES REMARKS
4-5 Manual ATFM	YES	YES	N/A	O/G	O/G	YES	--	--	O/G	O/G		--	YES	O/G	ECU: AIC published COL: June PAR: In Publishing process URU: AIC published 07 May 2009 VEN: Mar.2010

Instrucciones para el llenado del formulario - Instructions to fill in the form

- Cumplida: colocar **Sí** en el casillero correspondiente. / Accomplished: place **YES** in the corresponding box
- En ejecución: colocar **O/G** (on going) e indicar en “observaciones” la fecha prevista de término./ In execution: place **O/G** (on going) and indicate under “remarks” the estimated deadline
- No cumplida: colocar **NO** en el casillero correspondiente y, de ser el caso, hacer comentarios en columna de observaciones/ Not complied: place **NO** in the corresponding box and if such were the case, make comments in the remarks column

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APPENDIX C

FOLLOW-UP TO CONCLUSIONS ON CNS IMPROVEMENTS

Conc/Dec Strategic Objective	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status	Deliverable	Target date
SAM/IG 1-5 D	Adoption of Action Plan Models for the improvement of communications and surveillance systems for en-route and terminal area operations	When carrying out activities for the improvement of communications and surveillance systems for en-route and terminal area operations, the action plan models are to be taken into account for the improvement of ground-air, ground-ground communications and surveillance systems being presented as Appendices D, F and I to the report of this agenda item.	A Guide for the improvement of communications, navigation and surveillance systems to meet short- and medium-term operational requirements for en route and terminal area operations has been prepared. In addition, some States of the Region have presented action plans for the improvement of the CNS systems in the short and medium term.	SAM States/ Territory and ICAO SAM Regional Office	Valid	Improvement of the communications, navigation and surveillance systems	2012

Note: ICAO has established the following Strategic Objectives for the period 2005-2010: **A: Safety** - Enhance global civil aviation safety; **B: Security** - Enhance global civil aviation security; **C: Environmental Protection** - Minimize the adverse effect of global civil aviation on the environment; **D: Efficiency** - Enhance the efficiency of aviation operations; **E: Continuity** - Maintain the continuity of aviation operations; **F: Rule of Law** - Strengthen law governing international civil aviation.

Conc/Dec Strategic Objective	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status	Deliverable	Target date
SAM/IG 3-5 D	State implementation plans for improving CNS systems in the short and medium term	That, taking into account the guide for the improvement of CNS systems to meet the short- and medium-term operational requirements for en-route and terminal area operations developed by Project RLA/06/901 and reviewed by the SAM States/Territory (Appendix A to report on Agenda Item 5) and the action plan model for CNS improvements, in Appendix A to this part of the Report, SAM States draft an action plan for the improvement of CNS systems and, once completed, the plans be sent to the ICAO South American Regional Office before 28 August 2009 .	Letter SA276 of 4 May 2009 was sent requesting States to draft the action plan for CNS improvements in the short and medium term. Letter of reminder SA602 was sent on 1 September 2009.	ICAO SAM Regional Office	Valid To date, Argentina, Chile, Guyana and Suriname have sent the ICAO SAM RO their action plans for required CNS improvements	SAM States action plans on CNS improvements in the short and medium term	28 August 2009

Conc/Dec Strategic Objective	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status	Deliverable	Target date
SAM/IG 3-6 D	Interconnection of AMHS Systems in the SAM Region	That, in order to start implementing the interconnection of automated systems in the SAM Region: a) the SAM States/Territory take note of the AMHS addressing structure in Appendix B to this Agenda Item, when implementing AMHS systems: - review the router implementation plans, the ATN ground-ground applications in Appendix D to SAM/IG/2-WP/19 and present their results to the ICAO Regional Office by 29 May 2009; - review the Guide for the implementation of national digital networks in IP protocol to support current and future aeronautical applications in Appendix E to SAM/IG/2-WP/19 and present their comments by 30 June 2009;	Letter SA277 of 4 May 2009 was sent to SAM States requesting the information required through Conclusion SAM/IG/3-6	ICAO SAM Regional Office	Completed	SAM Region AMHS addressing plan duly updated. SAM Region router implementation plan and ATN ground applications duly updated	31 July 2009
		b) project RLA/06/901 elaborate a guide for the interconnection of AMHS system, by 31 July 2009; and c) SAM States, upon implementing the automated system interconnection, use the guidance documents prepared by project RLA/06/901.	Guide for the interconnection of AMHS systems drafted	Mission of CNS expert	Completed	Guide for the interconnection of AMHS systems	30 September 2009

APPENDIX D

FOLLOW-UP TO CONCLUSIONS ON AUTOMATED SYSTEMS

Conc/Dec Strategic Objective	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status	Deliverable	Target date
SAM/IG 3-7 D	Updating of SCID Document	In order to update the SICD document, prepared in 2007: a) States of the SAM Region included in the SICD, are encouraged to review and update the information contained in the document; b) Any State of the Region having automated systems not included in the SICD, should send the information to the ICAO South American Regional Office; and c) The information requested in a) and b) above, should be sent to the ICAO South American Regional Office, not later than 29 May 2009.	The ICAO SAM Regional Office sent the information required to the SAM States/Territory	ICAO SAM Regional Office and SAM States/Territory	Completed	Updated SICD document	30 June 2009

Note: ICAO has established the following Strategic Objectives for the period 2005-2010: **A: Safety** - Enhance global civil aviation safety; **B: Security** - Enhance global civil aviation security; **C: Environmental Protection** - Minimize the adverse effect of global civil aviation on the environment; **D: Efficiency** - Enhance the efficiency of aviation operations; **E: Continuity** - Maintain the continuity of aviation operations; **F: Rule of Law** - Strengthen law governing international civil aviation.

Conc/Dec Strategic Objective	Title of Conclusion/ Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status	Deliverable	Target date
SAM/IG 3-8 D	Preparation of specific implementation plans for the interconnection of automated systems	<p>That States of the SAM Region start the development of specific plans for the implementation of automated systems interconnection, considering the implementation dates indicated in Regional Interconnection Plan for Automated Systems in adjacent ACCs, specified in Appendix B of this part of the Report, and information contained in the following documentation:</p> <p>a) Memorandum of Understanding for the implementation of automated systems interconnection between two States having adjacent ACCs, Interface Control Document (ICD) for data communication between ATS dependencies in Caribbean and South American Regions (CAR/SAM ICD);</p> <p>b) Interface control document (ICD) for data communications between ATS units in the Caribbean and South American Regions (CAR/SAM ICD);</p> <p>c) System Interface Control Document (SICD); and</p> <p>d) Regional interconnection initial plan for ACC automated systems.</p> <p>e) Preliminary reference system/subsystem specification for the air traffic control automation system (SSS).</p>	To date, as follow-up to the action plan for the implementation of automated systems between SAM pairs of States, Argentina-Uruguay, Argentina-Brazil and Brazil-Uruguay have drafted and signed MoUs for the interconnection of their automated systems.	SAM States	Valid	Memorandum of Understanding (MoU) between SAM pairs of States for the interconnection of automated systems	2012