International Civil Aviation Organization
South American Regional Office
Sixth Workshop/Meeting of the SAM Implementation Group (SAM/IG/6) - Regional Project RLA/06/901
Lima, Peru, 18 to 22 October 2010

Agenda Item 2: Optimization of the ATS routes

REVISION OF THE ACTION PLAN FOR THE ATS ROUTES NETWORK OPTIMISATION IN THE SOUTH AMERICAN REGION

(Presented by the Secretariat)

Summary

This working paper presents information on the action plan for the SAM Region ATS routes network optimisation, and proposes the Implementation Group to revise and update it, as appropriate.

References:

- SAM ATSRO/1 and SAM ATRSO/2 Meeting Reports
- Fifth Workshop/Meeting (SAM/IG/5) Report

ICAO Strategic objectives	*A – Safety* *C – Environment Protection* *D – Efficiency*

1 Background

1.1 The SAM/IG workshops/meetings, among other matters, analyse matters related with the ATS routes network optimisation in the South American Region and the associated activities.

2 Discussion

2.1 From the discussions and exchange of views in SAM Region ATS routes network optimisation matters, the SAM/IG/5 Meeting reviewed and updated such action plan.

2.2 In view that the ATFM action plan contemplates tasks in charge of defined persons responsible with compliance dates established, a periodical revision is necessary as a follow-up of the tasks complied by each one of the persons responsible designated by the Implementation Group. To this end, **Appendix A** to this working paper shows the tasks that have been complied according to the information available in the Secretariat. This analysis should be carried out taking also into account WP/02.

3 Suggested action

3.1 The meeting is invited to:

a) Take note of the information provided; and
b) Review the progress reached, and if appropriate, update the action plan for SAM Region ATS routes network optimisation implementation in the SAM Region, shown in **Appendix A** to this working paper.

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APPENDIX A

PROGRAMME FOR OPTIMISING THE ATS ROUTE NETWORK IN THE SOUTH AMERICAN REGION (GPIs 1, 5, 7, 8, 10, 11)

Activity	Start	End	Responsible party	Observations
1. **Phase One – RNAV-5 Implementation**				
1.1. RNAV-5 implementation in the SAM Region	**Apr 2008**	**Nov 2010**	**Regional Project RLA/06/901**	**Valid** The implementation will be carried out according to the Implementation Programme approved at SAM/IG/2 meeting
2. **Phase Two – Implementation of Version 01 of the SAM ATS Route Network**				
2.1. Conduct a Feasibility Study for Optimising the SAM Route Network	March 2009	Apr 2009	Regional Project RLA/06/901	**Completed**
2.2. Airspace Concept				
2.2.1 Collect traffic data to understand air traffic flows	June 2008	SAM/IG/4	SAM/PBN/IG (Project RLA/06/901) States	**Completed** Task 1.2 o RNAV5 implementation project. The Secretariat will send a request to States for data collection using Attachment 2 of Appendix A in Excel format.
2.2.2 Analyse the fleet navigation capacity	June 2008	SAM/IG/4	SAM/PBN/IG (Projects RLA/06/901 and RLA/99/901) States-IATA	**Completed** Task 1.3 of RNAV-5 Implementation Project
2.2.3 Determine the gateways of the main TMAs in the SAM Region	SAM/IG/3	SAM/IG/4	States	**Completed**

Activity	Start	End	Responsible party	Observations
2.2.4 Determine and obtain the necessary tools to make the studies related with the ATS routes network (aeronautical charts, specific software)	SAM/IG/3	SAM/IG/5	SAM/PBN/IG (Project RLA/06/901)	**Completed**
2.2.5 Make a detailed study of the SAM ATS route network, with a view to preparing version 1 of the route network, including the following: • Indicate the domestic and international ATS routes that should be eliminated, in accordance with their use; • Indicate the "conventional" RNAV routes that should be eliminated or replaced by RNAV routes in the exclusionary RNAV-5 airspace. • Indicate the RNAV routes that should be realigned, in accordance with the gateways of the main SAM TMAs (see 2.2.3). • Describe in detail the proposed new SAM route network, based on the analysis of the aforementioned items.	SAM/IG/4	March 2010 Completed Completed Completed Version 1 Completed Version 1	SAM/PBN/IG (Project RLA/06/901)	**Completed** WP/06 presents Version 01 of the routes network, which is the result of the activities carried out so far for ATS routes network optimisation.
2.2.6 Detail the interphase between the SAM routes network and the CAR routes network		**Completed**		**Completed**
2.2.7 Propose initial draft proposal for amendment to the CAR/SAM ANP		Valid		**Completed** Proposal for amendment is presented in WP/06
2.2.8 Prepare safety assessment required, applying a qualitative methodology through the use of SMS	April 2010	October 2010	Project RLA/06/901	**Completed** Safety assessment and the corresponding safety plan for ATSRO is presented in WP/03.

Activity	Start	End	Responsible party	Observations
2.2.9 Hold the Workshop of Experts from the SAM States to review and validate the study made under item 2.2.5 and 2.2.6.	SAM/IG/5	June 2010	SAM/PBN/IG (Project RLA/06/901) States	**Completed** The First Workshop was carried out from 1 to 5 March 2010, in Lima, Peru.
2.2.10 Carry out the second workshop of SAM States experts, in order to review and validate the study of item 2.2.5 and 2.2.6	SAM/IG/5	August 2010	Regional Project RLA/06/901	**Completed** The Second Workshop was carried out from 23 to 27 August 2010, in Lima, Peru.
2.2.11 Update LOAs among involved ACCs	SAM/IG/5	November 2010		**Valid** Most of the States have updated their letters of agreement.
2.3 Implementation of Version 1 of the SAM ATS Route Network				
2.3.1 Process the proposal of amendment to the CAR/SAM Air Navigation Plan	September 2010		SAM Regional Office	**Completed** SAM/IG/6 will review the proposal for amendment and will immediately circulate it among States and International organizations involved.
2.3.2 Present proposal for amendment				
2.3.3 Publish version 1 of the SAM ATS Route Network	November 2010		States ICAO ANP	**Valid** Shall depend on the decisions adopted in the Second ATS routes workshop
2.3.4 Entry into effect of version 1 of the SAM ATS Route Network	The dates will be defined during the second ATSRO Workshop		States	**Valid**

Activity	Start	End	Responsible party	Observations
3. **Phase Three – Implementation of Version 2 of the SAM ATS Route Network**				
3.1. **Flexible Use of Airspace**				
3.1.1. Develop guidance material for the application of the Flexible Use of Airspace concept, including: • Model for using non-permanent routes similar to that applied in EUROCONTROL (Conditional Routes – CDR). • Criterion for defining scenarios in which non-permanent routes are applied • Criterion for categorising non-permanent routes • Harmonised publication of non-permanent routes • Representation of non-permanent routes in aeronautical charts	SAM/IG/5	SAM/IG/6	SAM/PBN/IG (Project RLA/06/901)	Valid
3.1.2. Establish the Civil-Military Coordination Committee to evaluate application of the Flexible Use of Airspace concept mentioned in 3.1.1.	SAM/IG/6	SAM/IG/7	States	Valid The Civil/Military Committees should be implemented in those States which have not done so. Plan Civil/Military Meeting/Workshop in 2011. A Seminar has been planned to be held from 13 to 17 June 2011, the hosting of RLA/06/901 will be requested at the RCC/4 Meeting.
3.1.3. Develop proposals for route implementation and/or realignment, in keeping with the utilisation of FUA	SAM/IG/6	SAM/IG/7	States	Valid See 3.1.2

Activity	Start	End	Responsible party	Observations
3.2. **Airspace Concept**				
3.2.1. Collect traffic data to understand air traffic flows	SAM/IG/6	SAM/IG/7	SAM/PBN/IG (Project RLA/06/901) States	Valid
3.2.2. Analyse the fleet navigation capacity	SAM/IG/6	SAM/IG/7	SAM/PBN/IG (Projects RLA/06/901 and RLA/99/901) States IATA	Valid
3.2.3. Determine the gateways of the main TMAs in the SAM Region	SAM/IG/6	SAM/IG/7	States	Valid
3.2.4. Determine the necessary tools for making the study mentioned in item 3.2.5 (aeronautical charts, specific software)	SAM/IG/6	SAM/IG/7	SAM/PBN/IG (Project RLA/06/901)	Valid
3.2.5. Make a detailed study of the SAM ATS route network with a view to developing version 2 of the route network, including: • Definition of scenarios for the SAM airspace structure, including ATS routes, control sectors, TMA interface, for assessment using airspace modelling and fast-time ATC simulation tools. • Indicate the ATS routes that should be eliminated in accordance with their utilisation; • Propose, if necessary, the extent of exclusionary airspace volume for RNAV-5 application • Indicate, as necessary, the “conventional” ATS routes that should be eliminated or replaced by RNAV routes in accordance with the possible extension of the exclusive RNAV-5 airspace volume. • Indicate the RNAV routes that should be	SAM/IG/7	June 2011	SAM/PBN/IG (Project RLA/06/901)	Valid

Activity	Start	End	Responsible party	Observations
realigned in keeping with possible modifications to the gateways of the main TMAs in the SAM Region. • Detail possible scenarios for version 2 of the SAM route network and of control sectors, based on the analysis of the previous items • Detail the interface between the SAM route network and the CAR route network • Propose the initial draft Proposal of Amendment to the CAR/SAM ANP.				
3.2.6. Prepare a safety assessment and routes spacing	SAM/IG/7	July 2011	CARSAMMA	Valid Quantitative assessment in order to determine spacing between routes to be applied in item 3.2.5
3.2.7. Make Airspace Modelling and Fast-Time Simulation studies to assess the scenarios developed in 3.2.5	August 2011	SAM/IG/9		Valid
3.2.8. Hold the Workshop of Experts from the SAM States to review and validate the studies made in items 3.2.5, 3.2.6, and 3.2.7.	SAM/IG/9	June 2012	Project RLA/06/901 States	Valid The SAM ATSRO/3 Workshop is expected to be held from 4 to 8 July 2011.
3.3. **Implementation of Version 2 of the SAM ATS Route Network**				
3.3.1. Process the proposal of amendment to the CAR/SAM Air Navigation Plan	TBD		SAM Regional Office	Valid
3.3.2. Publish version 1 of the SAM ATS Route Network	TBD		States	Valid
3.3.3. Entry into effect of version 2 of the SAM ATS Route Network	TBD			Valid