



**International Civil Aviation Organization
UNDP/ICAO Regional Project RLA/98/003
Transition to the CNS/ATM Systems in the CAR and SAM Regions**

**Sixth Meeting/workshop of Air Traffic Management (ATM) Authorities and
Planners for RVSM, RNAV routes and RNP implementation in the CAR and SAM Regions**

(San José, Costa Rica, 29 September-3 October 2003)

Agenda Item 1: Review of the RNAV routes Implementation Programme

RNAV routes Implementation Programme in Paraguay

(Presented by Paraguay)

Summary

This Working Paper presents the intention of Paraguay to implement an Air Navigation Routes Network (RNAV) that connects city pairs and others used by flights originated in or directed to Asunción.

The Civil Aviation Administration of Paraguay has carried out the respective coordinations in order to cover the interests of our airspace users.

References

- UNDP/ICAO Regional Project RLA/98/003 “*Transition to the CNS/ATM Systems in the CAR and SAM Regions*”
- Decisions of the ATM/CNS/SG/2 Subgroup
- GREPECAS 10 and GREPECAS 11 Reports
- ICAO Doc. 9426, Air Traffic Services Planning Manual

1. Introduction

1.1 The Civil Aviation Administration of Paraguay has carried out the analyses corresponding to the need for routes implementation in the SAM Region, in order to join city pairs and enable airspace users to follow direct trajectories receiving time savings and operative costs benefits.

1.2 The analysis carried out by Paraguay for the implementation of an RNAV routes network between the main cities of the SAM Region, has as main objective to take advantage of the participation of the States in this meeting, in order to develop agreements that may satisfy all the parties involved.

1.3 In this sense, Paraguay promotes the implementation of RNAV routes that could derive significant operational benefits to the users and a better utilization of the avionics available in the aircraft that enable a better Traffic Management by the services providers.

2. Analysis

2.1 Within UNDP/ICAO Project RLA/98/003 (Transition to the CNS/ATM Systems in the CAR/SAM Regions), a great progress has been obtained in RNAV routes implementation that in a short term has started to benefit the users.

2.2 The studies of RNAV routes implementation and the search for harmonization among the States of the CAR/SAM and NAM Regions, are making the necessary efforts to implement routes that facilitate, when possible, the most direct trajectories between city pairs and enable the users to plan their flights reducing the distances to be covered, flight time and, consequently, generating economic benefits, while reducing operational costs.

2.3 This model of Cooperation, among the Organizations and services providers States, reached in the different meetings carried out under RLA/98/003 Project, enable the creation of the scenario where harmonization of the main objective and the goals reached indicate that we are in the correct direction.

2.4 In view of the above and with the conviction that the proposal contained in this Working Paper will be thoroughly analyzed by each State involved at the end of the meeting and will allow a conclusion that may satisfy everybody.

3. Conclusion

3.1 The purpose of the Air Navigation Routes proposed in this Working Paper is to integrate and harmonize routes from/to Asunción with all the States involved and make the necessary adjustment for the benefit of the users.

4. Suggested Action

4.1 The Meeting is invited to:

- a) Urge the States involved to take note of the proposal;
- b) Analyze each one of the proposed routes described in **Appendix A** to this Working Paper, RNAV Routes proposed from/to Asunción to other cities of the SAM Region;
- c) After concluding the corresponding analysis, these routes could be definitely implemented;
- d) Determine a “Calendar of Activities” for the implementation of these routes so that they are effective in the shortest possible time.

*PLAN of AIR NAVIGATION ROUTES NETWORK (RNAV)
 (Presented by Paraguay)*

ROUTE	ORIGIN - DESTINY	SUPPORTING POINTS		ACTUAL ROUTE	RNAV ROUTE		DIFFERENCE
		VOR VAS	UMKAL	DIST.	RUMBO	DIST.	DIST.
01	ASUNCIÓN – SANTIAGO DE CHILE	S 25° 14' 39"	S 32° 53' 00"	898 NM	243°	798,7 NM	99,1 NM
		W 057° 31' 19"	W 070° 00' 00"				
03	ASUNCIÓN – IQUIQUE	VOR VAS	VOR IQQ	DIST.	RUMBO	DIST.	
		S 25° 14' 39" W 057° 31' 19"	S 20° 22' 30" W 070° 10' 24"	NM	301°	758,9 NM	97,1 NM
02	ASUNCIÓN – BUENOS AIRES	VOR VAS	VOR EZE	DIST.	RUMBO	DIST.	
		S 25° 14' 39" W 057° 31' 19"	S 34° 49' 24" W 058° 32' 06"	586 NM	196°	575,8 NM	10,2 NM
04	ASUNCIÓN – MONTEVIDEO	VOR VAS	VOR CRR	DIST.	RUMBO	DIST.	
		S 25° 14' 39" W 057° 31' 19"	S 34° 50' 00" W 056° 01' 30"	715 NM	184°	579,2 NM	135,8 NM
05	ASUNCIÓN – SANTA CRUZ DE LA SIERRA	VOR VAS	VOR VIR	DIST.	RUMBO	DIST.	
		S 25° 14' 39" W 057° 31' 19"	S 17° 37' 30" W 063° 08' 54"	555 NM	336°	553,6 NM	1,4 NM
06	ASUNCIÓN – COCHABAMBA	VOR VAS	VOR CBA	DIST.	RUMBO	DIST.	
		S 25° 14' 39" W 057° 31' 19"	S 17° 25' 18" W 066° 10' 42"	731 NM	324°	673,2 NM	57,8 NM

