International Civil Aviation Organization

WORKING PAPER

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ASSEMBLY — 38TH SESSION

TECHNICAL COMMISSION

Agenda Item 35: Air Navigation — Implementation Support

SUPPORT TO SOUTH AMERICAN MEMBER STATES OF THE LATIN AMERICAN CIVIL AVIATION COMMISSION IN THE IMPLEMENTATION OF THE GLOBAL AIR NAVIGATION PLAN

Presented by the 22 member States[2] of the
Latin American Civil Aviation Commission (LACAC)

EXECUTIVE SUMMARY

This working paper describes the support provided by Regional Project RLA/06/901 "*Assistance for the Implementation of a regional ATM system, taking into account the ATM operational concept and the corresponding communication, Navigation and surveillance technological support*" for the implementation of the Global Air Navigation Plan (GANP), and the need to continue supporting its work. The States that participate in the project are: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Action: The Assembly is invited to encourage the international aeronautical community and ICAO States to take into account the Project RLA/06/901 model for the implementation of the necessary facilities and services, including those systems that require multinational mechanisms for their operation and maintenance, with a view to the Aviation System Block Upgrades (ASBUs) implementation.

Strategic Objectives:	This working paper relates to the Safety Strategic Objective.
Financial implications:	Not applicable
References:	Sixth Meeting of the Coordination Committee, Regional Project RLA/06/901, Final Report

[1] English and Spanish versions provided by LACAC.
[2] Argentina, Aruba, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay, and Venezuela.

1. INTRODUCTION

1.1 Sustained support to the implementation of the global air navigation plan in the South American Region is being provided since several years ago through Regional Technical Cooperation Projects. Project "*Transition to CNS/ATM in the Caribbean (CAR) and* South *American (SAM) Regions (RLA/98/003)* started in 1998. The purpose of this project was to assist the States in the implementation of the new communication, navigation, and surveillance/air traffic management (CNS/ATM) systems in accordance with the CAR/SAM Regional Implementation Plan and ICAO standards and recommended practices. It was financed by 15 countries of the CAR and SAM Regions, with a foreseen duration of 3 years and was then extended until 2006.

1.2 Project activities were very instrumental in the restructuring of the ATS route network through area navigation (RNAV) routes, which involved 64 RNAV routes implemented, the realignment/extension of 44 ATS routes, the elimination of 19 ATS routes, and the implementation of 12 ATS route segments, as well as the reduced vertical separation minima (RVSM)) implementation plan and the implementation of the required navigation performance (RNP 10) in the Santiago de Chile-Lima segment. Three seminars were conducted on the institutional aspects of CNS/ATM systems, as well as studies on possible alternatives for institutional arrangements to support the GREPECAS Institutional Aspects Subgroup, advisory missions to the States to check the status of implementation of the world geodetic system WGS-84 and four seminars on WGS-84 coordinates and aeronautical information issues, providing training to more than 150 experts in these areas, amongst the more than 1,400 professionals from the CAR and SAM Regions who participated in various seminars and workshops organised by the project.

1.3 The Ninth Meeting of Civil Aviation Authorities of South America (RAAC/9), held in Santiago de Chile on 18 to 20 April 2005, upon analysing the results of Project RLA/98/003 on the Transition to CNS/ATM Systems in the CAR and SAM Regions and the conclusions of the AN-Conf/11, felt the need to establish a new regional technical cooperation project to guide SAM States in the implementation of a regional ATM system, taking into account the global ATM operational concept and the corresponding CNS support.

1.4 Regional Project RLA/06/901 "Assistance in the implementation of a Regional ATM System, taking into account the ATM operational concept and the corresponding communication, navigation and surveillance technological support", is being executed since 2007, the purpose of which is to assist civil aviation authorities of the States and participating organisations in the execution of the global air navigation plan initiatives that may contribute to the implementation of a regional air traffic management system, taking into account the global ATM operational concept and the corresponding support of CNS technologies, including the required AGA, AIS, and MET elements, the exchange of experiences, and training of personnel in the areas involved.

1.5 The States that participate in Project RLA/06/901 are: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador Panama, Paraguay, Peru, Uruguay, and Venezuela. Participation in this project is open to SAM States that wish to join the project and contribute to its funding. This project is funded through voluntary contributions of the participating States.

2. CURRENT STATUS

2.1 The project has conducted activities in support of the optimisation of the ATS route network, which involved the realignment of 19 routes, the elimination of 18 routes, and the

implementation of 15 new RNAV routes, resulting in a reduction of 22 500 tonnes of CO2 per year in the Region, in addition to providing support for the drafting of documents such as the Regional Performance-based Air Navigation Implementation Plan for the South American Region (PBIP), updated by the ASBU methodology; the optimisation of the SAM ATS route network; an operational analysis to verify RNAV 5 navigation procedures; AIC supplement model for PBN implementation that contains the applicable standards and procedures; the implementation of RNAV 5; the interconnectivity of AMHS systems and the interoperability of control centres using AIDC; and support to the implementation of the new flight plan format.

2.2 It has also supported AIS-to-AIM transition with the development of all the documented processes aimed at QMS implementation in aeronautical information services, as well as the implementation of QMS in MET services in the Region. Furthermore, the Action Plan for the implementation of e-TOD and the technical specifications and service level agreement (SLA) model have been developed.

2.3 At present, the project has started the procurement of the RAIM service for the SAM Region, which will support PBN implementation in the Region. Likewise, regarding training activities, emphasis has been placed on the generation of knowledge amongst aerodrome personnel in the region (both operators and authorities), in order to facilitate compliance with aerodrome certification requirements.

2.4 To this end, the Project has contributed to the preparation and holding of 25 work meetings and about 28 seminars and courses, with the participation of more than 1,400 attendants, 1,206 of which were from the SAM Region, and 404 fellowships were provided.

3. SITUATION FORESEEN AT THE END OF THE PROJECT

3.1 Several initiatives of the global air navigation plan will have been planned and implemented in a coordinated and homogeneous manner in the South American Region, experiences exchanged during the process, and information and knowledge shared at meetings, seminars, and other training events, including:

a) The application of the performance-based navigation (PBN) concept, with the incorporation of advanced aircraft navigation capabilities to the air navigation system infrastructure, including the implementation of a regional RAIM availability prediction service for the SAM Region through a web site, in support of en-route, terminal, and approach PBN procedures;

b) The implementation of air traffic flow management (ATFM) measures at regional scale;

c) The evolution of the mobile and fixed aeronautical communications infrastructure;

d) The implementation of an interface protocol (IP) addressing plan to harmonise aeronautical telecommunication network (ATN) applications at regional level;

e) The drafting of a GNSS facilities plan for the medium and long term;

f) The operational implementation of data link-based surveillance;

g) The implementation of aerodrome management and design strategies;

h) Real-time dissemination of quality electronic information;

i) The optimisation of the SAM ATS route network;

j) The proposal of a SAM regional performance-based air navigation implementation plan (SAM ANIP); and

k) Sensitisation of the authorities concerned and training of the technical personnel dealing with issues related to the project.

3.2 Quality assurance systems will have been established in MET and AIS services.

3.3 The States will have established safety programmes and will require air service providers to implement a safety management system (SMS) approved by the State.

3.4 The automation of air traffic management and the integration of its services will have improved the quality of air traffic information and increased the capacity, efficiency, and safety of flight operations.

3.5 The implementation of real-time databases for satellite navigation, including aeronautical and meteorological information, flight plans, radar information, and their corresponding integration.

4. CONCLUSION

4.1 Each State must provide facilities and services within their territory as foreseen in the global plan. Through this project, SAM States have been supporting the implementation of the global air navigation plan in a collaborative manner, sharing the cost of implementation and training of the various facilities and services foreseen, including those systems that require multinational mechanisms for their operation and maintenance. If these tasks had been conducted independently by each State, maybe it would not have been possible to make progress and achieve homogeneity in the systems required for the growing global and regional air traffic.

5. MEASURES PROPOSED TO THE ASSEMBLY

5.1 The Assembly, the international aeronautical community, and ICAO Contracting States are invited to take into account the Project RLA/06/901 model for the implementation of the necessary facilities and services, including those systems that require multinational mechanisms for their operation and maintenance, with a view to ASBU implementation.

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