



Agenda Item 5: ICAO regional technical cooperation tools for the implementation of air navigation and safety improvements

Regional projects managed by the SAM Regional Office

(Presented by the Secretariat)

SUMMARY	
This working paper presents information on the activities and the progress made in the three regional projects managed by the SAM Regional Office, which are the regional tools for the implementation of air navigation and safety improvements.	
References:	
<ul style="list-style-type: none">• Project document - Project RLA/99/901 <i>Regional Safety Oversight Cooperation System (SRVSOP)</i>;• Project document - Project RLA/03/901 <i>REDDIG management system and satellite segment administration</i>;• Project document - Project RLA/06/901 <i>Assistance for the implementation of a regional ATM system, taking into account the ATM operational concept and the corresponding technical support in communications, navigation and surveillance (CNS)</i>;• Report of the Thirteenth Meeting of Civil Aviation Authorities of the South American Region (RAAC/13) (Bogota, Colombia, 18-20 April 2005);	
ICAO strategic objectives:	<ul style="list-style-type: none">- <i>Safety</i>- <i>Air navigation capacity and efficiency</i>- <i>Environmental protection</i>

1. Introduction

1.1 ICAO Assembly Resolution A38-2 acknowledged that the best way to further improve safety, capacity and efficiency of civil aviation worldwide was through cooperative partnership and collaboration among States. In this sense, member States were urged to think of sustainable solutions to fully meet safety and air navigation oversight responsibilities. This objective can be achieved by sharing resources, using internal and/or external resources of regional and sub-regional organisations and the specialised knowledge of other States, in coordination with all stakeholders, under the leadership of ICAO.

1.2 Since the 90's, South American States have been working in collaboration, helping each other to improve civil aviation safety, capacity and efficiency in the Region. To this end, three regional technical cooperation projects managed by the ICAO Regional Office have been used as tools, namely:

- RLA/99/901 Regional Safety Oversight Cooperation System (SRVSOP);
- RLA/03/901 REDDIG management and satellite segment administration system;

- RLA/06/901 Assistance for the implementation of a regional ATM system, taking into account the ATM operational concept and the corresponding technological support in communications, navigation and surveillance (CNS);

2. **RLA/99/901 – SRVSOP**

2.1 The Fifth Meeting of Civil Aviation Authorities (RAAC/5), held in Cusco, Peru, in 1996, requested ICAO to study the feasibility of creating an agile, dynamic and supranational multinational or regional safety oversight body to assist States in their responsibilities concerning the application of ICAO standards and recommended practices, which should operate under direct coordination of the International Civil Aviation Organization (ICAO) through its Regional Office.

2.2 Accordingly, on 1 October 1998, a memorandum of understanding (MOU) was signed in Montreal, Canada, between ICAO and the Latin American Civil Aviation Commission (LACAC) for the establishment of the Regional Safety Oversight Cooperation System (SRVSOP). The States that join the SRVSOP must deposit an accession agreement before LACAC. Upon signing this agreement, they acknowledge the Memorandum of Understanding between ICAO and LACAC and its regulations, while acquiring certain rights and international commitments.

2.3 Within this framework, in order to manage SRVSOP activities and funds, use is made of a Regional Technical Cooperation Project called RLA/99/901 *Regional Safety Oversight Cooperation System (SRVSOP)*.

2.4 The mission of the SRVSOP is to optimise civil aviation safety levels in the region, providing advice and assistance to resolve issues in those States that have difficulties meeting their safety oversight responsibilities, and to contribute, in close coordination with ICAO, to the harmonisation and updating of civil aviation safety regulations and procedures among the participating States.

2.5 From the beginning, member States recognised that the key to the establishment of a Regional Safety Oversight System was, as a first step, the establishment of Latin American Aeronautical Regulations to serve as a basis for the harmonisation of aeronautical regulations in the Region, so that the certification and oversight requirements for operators certified in the different States will be the same, ensuring compliance with ICAO Annexes. In this sense, SRVSOP activities have focused on the harmonisation of LARs and collaborative work among State experts.

2.6 To date, the SRVSOP has developed 31 LARs corresponding to Annexes 1, 2, 6, 7, 8, 14, 16, 18 and 19, and more than 65 support documents. Since 2002, 147 training activities and about 80 work meetings have been carried out; furthermore, various assistance activities have been carried out for States, as well as multinational activities, including multinational certification for maintenance organisations, training centres and intermediate centres.

2.7 Furthermore, the implementation of the ANS LAR Project started this year, whose purpose is to develop regulations for Annexes 3, 4, 10, 11, 12 and 15. This project has been implemented with separate funds, with the participation of Argentina, Bolivia, Colombia, Ecuador, Peru, and Uruguay.

2.8 The ANS LAR Project has developed model regulations for Annex 11 and it is expected that, by the end of the year, regulations for Annex 10 will be available. Likewise, the ANS Inspector Manual has been developed, and the first ANS government inspector course has been conducted, initially covering aspects of Annex 11 and Annex 10, which was very well received, with an attendance that included 23 participants of Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, and Venezuela.

2.9 In summary, 94% of the budget was implemented in 2014; and activities carried out in 2014 and 2015 are shown in Appendix A.

2.10 Finally, as part of project monitoring, an annual evaluation of project performance is conducted. The States conduct this evaluation and, according to the last survey, an average of 4 over a maximum of 5 was obtained. According to the evaluation scale, this means that project objectives were achieved in all cases.

3. **RLA/03/901 - REDDIG**

3.1 In 2003, the South American Digital Network was implemented through Technical Cooperation Project RLA/98/019 to meet aeronautical fixed service requirements in the medium term and to support relevant requirement of the aeronautical mobile service. In REDDIG, the satellite segment and network resources are shared by users for the establishment of a network management and control system. Currently, this network has 16 nodes.

3.2 Accordingly, for the administration and maintenance of this network, project RLA/03/901 *REDDIG management and satellite segment administration system* was generated with a view to establishing a multinational mechanism for the administration of the South American Digital Network (REDDIG), and implement CNS/ATM applications in accordance with the requirements of the CAR/SAM FASID and the SAM performance-based air navigation implementation plan. It will be in charge of hiring the satellite segment and adopting the required action to modernise the network infrastructure in accordance with operational requirements and available technological developments.

3.3 In order to update REDDIG equipment, the Twelfth Meeting of Civil Aviation Authorities of the South American Region (RAAC/12) approved the beginning of the REDDIG II bidding process by formulating Conclusion RAAC/12-6 – *Approval to start the bidding process for the implementation of the new REDDIG II digital network*, whereby civil aviation authorities of the SAM Region approved the start-up of the bidding process through the ICAO technical cooperation section.

3.4 REDDIG II started its operation in early February 2015. The installation of an additional node requested by Brazil for Brasilia also started this year.

3.5 REDDIG II is a mixed satellite-ground network fully based on IP technology. The ground network acts as backup in order to have a high level of availability. REDDIG II is in a position of supporting current services in addition to the new ones foreseen in the *SAM Performance-Based Air Navigation Implementation Plan (PBIP)*. The new services will be part of the requirements foreseen for the corresponding ASBU (Aviation System Block Upgrades) Block 0 and 1 modules, mainly global interoperability of data and systems through management of system-wide information (Area 2 of Efficiency enhancement - PIA 2).

3.6 In summary, 37% of the budget was implemented in 2014 because REDDIG II implementation was not fully accredited. The table of activities conducted in 2014 and 2015 appears in Appendix A.

3.7 According to the annual evaluation of project performance conducted by the States, an average of 4.2 over a maximum of 5 was assigned, which, according to the evaluation scale, means that project objectives were attained in all cases.

4. **RLA/06/901 Regional ATM**

4.1 The Ninth Meeting of Civil Aviation Authorities RAAC/9 (Santiago, 18-20 April 2005) deemed it necessary to have a support tool, similar to Project RLA/98/003, to support the implementation of the ATM operational concept. In this sense, Conclusion RAAC/9-8 instructs ICAO to draft a technical cooperation project document 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.

4.2 Accordingly, Project RLA/06/901 was created with the purpose of providing assistance to civil aviation authorities of participating States for the development of the initiatives of the global air navigation plan that will contribute to the implementation of a regional air traffic management system, taking into account the global ATM operational concept and the corresponding CNS technological support, including the required AGA, AIS and MET elements, the exchange of experiences in the processes, and training of personnel on the topics involved.

4.3 In this regard, this project has been able to support the activities required by the SAM Implementation Group (SAM-IG), including the structuring of regional airspace, in addition to PBN implementation; support to automation; support to the implementation of quality systems for AIM and MET, among others. Since 2007, 41 training activities and 34 work meetings have been conducted with a total of 320 fellowships and approximately 2,400 participants, in addition to various assistance missions.

4.4 In 2014, the route network of the Region continued to be structured, obtaining an annual reduction of 51,132 tonnes of CO₂ for 2014. Likewise, 60% of upper airspace routes have become PBN, attaining the goal of the Declaration of Bogota; 6 terminal areas (TMAs) have been redesigned using PBN in Brazil, Chile, Panama, and Peru; in Peru, support has been provided to the PROESA/PBN project of the DGCA for the design of the Lima terminal area, and 34 TMAs of the Region are being considered as the next candidates. Another achievement related to the above and that exceeded the goal established in the Declaration of Bogota involved having more than 64% PBN departures (STARs) and arrivals (SIDs) of the TMAs of the Region.

4.5 Through Project RLA/06/901, it has been possible to implement a web-based RAIM availability prediction service to support PBN-based air navigation operations. The service was commissioned in September 2014.

4.6 Likewise, the project has permitted the development of guides to support the implementation of CNS systems, and has supported the implementation of automated system interconnections such as AIDC, supporting tests and training. Several training events (courses, seminars, and workshops) were conducted for the implementation of CNS improvements.

4.7 The project also supported the development of the SAM performance-based air navigation implementation plan (PBIP) and activities in the area of aeronautical information management, meteorology and aerodromes.

4.8 In summary, 98% of the budget was implemented in 2014. The table of activities carried out in 2014 and 2015 is shown in **Appendix A**.

4.9 According to the annual evaluation of project performance conducted by States, an average of 4 over a maximum of 5 was assigned, which, according to the evaluation scale, means that project objectives were achieved in all cases.

5. Conclusion

5.1 Implementation of the three regional projects reached 76% in 2014 and 2015. Through them, 148 missions were organised. Training was provided to 1,300 personas; 603 delegates participated in work meetings, with a total of 125 fellowships issued, as shown in the attached table.

5.2 According to the evaluation made, the level of satisfaction in these three projects reached an average of 4 out of a maximum of 5, which means that the Region is satisfied with these projects.

5.3 In summary, these projects are useful tools to support air navigation and safety improvement activities. Consequently, they are fundamental to achieve the objectives and goals of the Declaration of Bogota.

6. **Suggested action**

6.1 Based on the foregoing, the Meeting is requested to:

- a) take note of the information provided in this working paper;
- b) support the work of regional projects; and
- c) make comments or suggestions as it may deem appropriate.

- END -

Appendix A

Budget and total number of missions conducted in 2014

Projects	Scheduled GB/RCC	Projected + additional activities financed by the States	Expenditures	%	Missions conducted	Course participants	Meeting participants	Scholarships issued
RLA/99/901	\$ 597,694	\$ 798,855	\$ 749,119	94%	57	637	145	0
RLA/06/901	\$ 638,009	\$ 479,928	\$ 469,207	98%	13	221	194	79
RLA/03/901	\$ 5,800,437	\$ 5,800,437	\$ 2,141,829	37%	7	54	50	7
Total		\$ 7,079,220	\$ 3,360,155.00	76%	77	912	389	86

Budget and total number of missions conducted in 2015 (until September)

Projects	Scheduled GB/RCC	Projected + additional activities financed by the States	Expenditures	%	Missions conducted	Course participants	Meeting participants	Scholarships issued
RLA/99/901	\$ 642,389	\$ 864,874	\$ 740,117	86%	35	330	111	1
RLA/06/901	\$ 405,190	\$ 443,450	\$ 375,952	85%	29	85	82	28
RLA/03/901	\$ 1,416,982	\$ 3,955,119	\$ 1,908,070	48%	7	21	21	10
Total		\$ 5,263,443	\$ 3,024,139.00	73%	71	436	214	39