



Agenda Item 2: Follow-up to the implementation status of the performance based navigation systems plans for the CAR and SAM Regions and to the latest amendments to the ATM- and CNS-related SARPS

RESULTS OF THE SEVENTH MEETING OF THE COORDINATION COMMITTEE OF THE ICAO REGIONAL PROJECT RLA/03/902 – SACCSA AND THEIR IMPACT IN THE PBN REGIONAL IMPLEMENTATION

(Presented by Project RLA/03/902 International Coordinator)

SUMMARY	
This working paper presents a panorama on the results of the RCC/7 Meeting of Project RLA/03/902 – SACCSA, that are related to the contribution to the work of CNS/ATM Sub-group, as well as the impact to the regional implantation of the performance-based navigation (PBN).	
<i>ICAO Strategic Objectives:</i>	A: Safety - Enhance global civil aviation safety D: Efficiency - Enhance the efficiency of aviation operations E: Continuity - Maintain the continuity of aviation operations
<i>Financial implications</i>	No additional sources required.
<i>References:</i>	<ul style="list-style-type: none">• Report of the CNS/ATM/SG/1 Meeting, Lima, Peru, 15 – 19 Mach 2010• Report of the RCC/7 Meeting, SACCSA Project, San Carlos de Bariloche, Argentina, 11 – 15 October 2010

1. Introduction

1.1 The Seventh Meeting of the Coordination Committee (RCC/7) of RLA/03/902 Project held in San Carlos de Bariloche, Argentina, 11 – 15 October 2010, which reviewed the status of the Project and the first results that are being obtained in Phase III-A. The aspects that are related to the contribution to the work of CNS/ATM Sub-group, as well as those that they hit directly in the regional implantation of the performance-based navigation (PBN) are the following:

- a) Support for the execution of the Phase III-A work packages
- b) Update contributions program
- c) Contributions of SACCSA Project to the GREPECAS mechanism
- d) Presentation of SACCSA Project to the before experts groups, authorities, users and international organizations that follow the GNSS progress
- e) Use of the GNSS - SACCSA for other sectors and not-aeronautical users

1.2 Next the contributions on these questions are analyzed.

2. Discussion

Support for execution of the Phase III work packages

2.1 Based on the results of the revision of the execution status of the Phase III work packages, the RCC/7 Meeting of RLA/03/902 Project, in order to obtain the culmination of the work packages, agreed undertaking the following actions:

- a) Support the requests of the Project Consortium in order to obtain the data of the additional GPS monitoring receiver stations. On this regards, the GREPECAS mechanism and the NACC and SAM Regional Offices could attend following for the States support that are in capacity to provide the data.
- b) Technical information of the telecommunications aeronautical VSAT networks of regions CAR, SAM, Central America (Network CAMSAT) MEVA and REDDIG, including nodes location, technical characteristics and present and future capacities. The RCC/7 addressed this request through the Regional Offices.
- c) Financial contributions by means of new members and extra contributions of those States and International Organizations who are in capacity to do it. It is consider that the GREPECAS mechanism and the NACC and SAM Regional Offices could contribute in the follow of this objective.

Updated contributions program to the SACCSA Project

2.2 RCC/7 Meeting updated the Contributions Program that participant Project' States and International Organizations are offering. This program, which is being coordinated by the Project, constitutes an important contribution to the Project's development, as well as an impetus to the implementation of the regional performance-based navigation (PBN) plans. Also, this paper proposes that the Meeting invites to other States and International Organizations to provide other contributions. This program is shown in **Appendix** of this paper. The results and benefits of this program will be offered to the States and International Organizations through GREPECAS mechanism and Regional Offices.

Contributions of SACCSA Project to the GREPECAS mechanism, cycle 2010 - 2011

2.3 Considering the meetings program of the GREPECAS mechanism and the status of execution of RLA/03/902 Project, Phase III; the RCC/7 meeting decided that the most important matters that SACCSA Project RLA/03/902 will be able to contribute to the GREPECAS mechanism during the cycle 2010 - 2011 are the following:

- a) Presentation of the advances and results of the execution of the work packages and activities of Project, Phase III.
- b) Contribute to the CNS/ATM Sub-group in everything what will be possible, providing information on the project advance, materials and proposals.
- c) Participate in the works of CNS/ATM Sub-group that are included in the work PBN program of the Project A2. AIR NAVEGATION SYTEMS IN SUPPORT TO THE PBN GNP, which are including in the Appendix A of the Agenda Item 5 of the Final Report of the CNS/ATM/SG/1Meeting.
- d) Offers to the States and International Organizations in order to contribute to the

evolutionary GNSS implementation in accordance with the CAR and SAM regional plans on the performance-based navigation (PBN).

- e) Other possible contributions.

2.4 Like part of these joint efforts to contribute for the regional GNSS implementation, the RCC/7 meeting also decided to promote the publication and interchange of results and recommendations obtained by this project and other regional initiatives, as well as to obtain the relevant experiences in other regions, being shared the available resources and knowledges. So, this paper proposes that CNS/ATM Sub-group supports this initiative of international collaboration.

Presentation of the SACCSA Project to the expert groups, authorities, users and tie international organizations that follow the GNSS progress

2.5 Additionally, the RCC/7 meeting decided that the Project carries out a common strategy of information and diffusion of its programs and results; also with the ICAO support to continue presenting the SACCSA Project to the expert groups, users, international organizations and organizations that follow the GNSS developments, among them the following:

- a) Project of Air Navigation System in support to the PBN of the GREPECAS CNS/ATM Sub-group.
- b) Work groups of air navigation of CAR and SAM regions.
- c) Meetings of Directors of Civil Aviation of CAR and SAM regions.
- d) “International Committee on GNSS (ICG) – United Nations Office for Outer Space Affairs” (UNOOSA).
- e) “Latin American and Caribbean Air Transport Association” (ALTA).
- f) Other groups and international organizations related to the GNSS.
- g) Diffusion of the Project in the SACCSA Web site.
- h) Other initiatives.

2.6 The results of SACCSA Project, Phase II were presented in the ION GNSS 2010 Conference, that held in Portland, Oregon, United States, 21 – 24 September 2010.

Use of the SACCSA – GNSS by other sectors and non-aeronautical users

2.7 The RCC/7 Meeting considered that is extremely important the spreading of the possible applications and benefits of the use of the more advanced GNSS capacities that SACCSA would provide additionally to other sectors of the States, also is advisable and useful to stimulate and involve to those other sectors with SACCSA Project by means of the follow up and support to the Project activities execution, being established a mutual collaboration through the Civil Aviation Authorities signatory of the Project Document, which will be very beneficial to achieve the implementation of these GNSS capacities and obtaining its benefits and impelling the development of the States.

2.8 A view on applications and benefits of GNSS/SACCSA in other additional sectors of the States to the aeronautical was presented in Information paper No. 03 (NI/03) of the RCC/7 Meeting.

2.9 Product of this analysis the RCC/7 Meeting agreed the following Conclusion:

CONCLUSION
RCC/7/SACCSA/08 – COLLABORATION BETWEEN THE SACCSA PROJECT AND
NON – AERONAUTICAL SECTORS ON THE APPLICATIONS
AND BENEFITS OF SACCSA / GNSS

That, in order to the establishment of cooperation between the SACCSA Project and non-aeronautical sectors interested in the use and obtaining the benefits of the more advanced applications of SACCSA / GNSS, are urged to the Civil Aviation Authorities member of this Project:

- a) transmit to the pertinent administrations of the States considerations and information on the applications and benefits that the use of the more advance GNSS capacities would provide to numerous users and sectors of the society, considering the information that appear in the **Appendices 9A** and **9B** of this Meeting; and
- b) invite the administrations of non-aeronautical sectors to participate and follow up the SACCSA Project and the GNSS implantation.

2.10 This paper propose that this CNS/ATM Sub-group Meeting, proposes to the consideration of GREPECAS a similar Conclusion to which was agreed by the RCC/7, urging to all Civil Aviation Authorities of the CAR/SAM regions to increase the connection and multi-sector cooperation of the States with RLA/03/902 - SACCSA Project and the GNSS implementation activities.

3. **Action suggested**

1.2 The Meeting is invited to:

- a) take note of the information provide in this working paper;
- b) review the considerations expressed in this paper and consider to formulate the actions that are indicated under paragraphs 2.1 to 2.10 of this paper related to the multi-sectorial collaboration on the use of the applications and benefits of the more advanced GNSS capacities; and
- c) consider other aspects related to this item.

UPDATED PROGRAM OF CONTRIBUTIONS OF RLA/03/902 PROJECT TO THE PBN REGIONAL PLANS

Contribution	Contributor	Description	Date
<p>1. Contribute to the establishment of transition to the GNSS and to extend the use of the elements and the present capacities of the GNSS by means of the following tasks:</p> <p>1.1 Contributions on the use of the present GNSS capacities regarding RNAV/RNP/NPA, by means of the use of GPS and ABAS</p> <p>1.2 Analysis of SBAS implantation and use</p> <p>1.3 Analysis of GBAS implantation and use</p> <p>1.4 Contributions for the definition of the infrastructure in support to the implantation of the regional plan of the performance-based navigation (PBN)</p>	<p>SACCSA Project</p>	<p>This contribution constitutes the definition of the support infrastructure to the PBN regional plans, including the support to the work of the GREPECAS CNS/ATM Sub-group on this matter.</p>	
<p>2. Contribution to the implementation of the available GNSS elements:</p> <p>2.1 Use of GPS + SBAS/ABAS coverage</p> <p>2.2 Design of RNAV/RNP/NPA procedures based on the GNSS</p>	<p>COCESNA</p>	<p>It will be provide guidance on the use of ICAO documentation and the elaboration of applicable procedures for the design of procedures RNAV/RNP/NPA based on the GNSS; also it is offered to develop a Workshop linked with another Project activity or other activities of the regional Offices on the design of based procedures RNAV/RNP/NPA GNSS infrastructures. Additionally, adjustments of cooperation with States could be arranged ask for the design of specific procedures.</p>	
<p>3. Development of work packages of the Phase III:</p> <p>3.1 PT 7000: Institutional aspects (Phase III-A)</p> <p>3.2 PT 9000: Financing Study (Phase III-B)</p>	<p>Spain-AENA Spain-AENA</p>	<p>These contributions consist of the contemplated development of PT 7000, as well as PT 9000 in Phase III-A and III-B respectively.</p>	<p>They will be delivery when finalizing Phase III-A</p>

UPDATED PROGRAM OF CONTRIBUTIONS OF RLA/03/902 PROJECT TO THE PBN REGIONAL PLANS			
Contribution	Contributor	Description	Date
<p>4. Contributions by means of other studies of education centers, as well as of investigation and development:</p> <p>4.1 Development of a tool based on ICAO SARPS application and technical guidance that allows to characterize an airport with their operative schedules, surroundings, meteorology, floats operative, crews qualifications of and other so many conditions of contour by means of the analysis of the feasibility for implementing a system of precision approach and exit, including the conventional systems, as well as the systems based on the GNSS elements, determining the more suitable system for the existing conditions of contour in this airport.</p>	<p>Argentina- Universidad Nacional de La Plata – GTA Group</p>	<p>This tool will constitute a methodology that allows evaluating the feasibility of implementation of precision approach systems and exit in airports with complex surroundings orographic and in adverse meteorological condition. In the same basically the nocturnal operative conditions will be analyzed or the cancellations by operative minimums and will consider the different options possible to neutralize these cancellations. Starting of the systems of conventional aid to navigation, as well as the implementation of GNSS elements that SACCSA proposes.</p>	

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