



International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
**First Meeting of the Communications, Navigation, and Surveillance / Air
Traffic Management Subgroup (CNS/ATM/SG/1)**
(Lima, Peru, 15-19 March 2010)

Agenda Item 4: Review of pending matters of the ATM/CNS/SG, ATM/COMM, CNS/COMM, and the respective Task Forces, for their consideration in the work programme of the CNS/ATM Subgroup

Project RLA/03/902 – SACCSA PHASE III

(Presented by Spain)

SUMMARY

Project RLA/03/902 SACCSA in its Phase III is a multi-disciplinary project for the acquisition of knowledge on all GNSS-related aspects that are of vital importance for the provision of air navigation services based on said system.

References:

- Phase III of Project RLA/03/902 SACCSA; and
- Phase II of Project RLA/03/902 SACCSA.

1. Introduction

1.1 Project RLA/03/902 – SACCSA PHASE III goes beyond SBAS studies, since the data to be collected may be used for other projects (such as GBAS, or use of GNSS for RNAV, or PBN). Likewise, the studies on financial, programme, and management aspects can serve as a model for other activities at regional or state level.

1.2 This makes the aforementioned project attractive in different areas. Consequently, consideration should be given to supporting or participating in the project.

2. Discussion

2.1 Project RLA/03/902 SACCSA, Phase III, is one of the most ambitious activities carried out in the CAR/SAM Regions, since it encompasses many aspects, enabling the States and Organisations involved to gain knowledge and experience on:

- a) General aspects of GNSS
- b) Specifications and technical development of SBAS
- c) SBAS operation
- d) Analysis of the ionosphere and methods to mitigate problems resulting from it
- e) Project management
- f) System management
- g) Financial analyses
- h) Management/operation of multinational SoL systems

- i) Institutional aspects
- j) Validation and certification of multinational SoL systems
- k) Applicable regulations

2.2 Its launching responds to the results obtained in Phase II, which showed the feasibility of implementing an SBAS in the CAR/SAM Regions. However, given the characteristics of the CAR/SAM Regions, it was necessary to conduct a series of real-time studies, with real data and algorithms, to confirm the analyses of Phase II, and have full assurance that if an operating system is implemented, it will operate properly, thus mitigating or minimising risk or unforeseen cost overruns. This solution emerged from the need of minimising financial risk to the States and/or institutions that might undertake the project.

2.3 Deliverables include real-time development of SBAS solutions that can be viewed on the Internet or applied through GPRS delivery, thus providing information about the services to be obtained from a real perspective. Likewise, the basis for support facilities will be established, thus giving the region the initial capability of analysing solutions and applications.

2.4 One of the highlights is that this project will collect plenty information about the ionosphere, part of which will be obtained during solar activity peaks. Therefore, information will be available not only for the definition of BAS systems, but also for working with GBAS, which is also significantly affected by the ionosphere. It will also cover aspects concerning operations and the combination of the various elements of GNSS (GPS, RAIM, ABAS, GBAS and SBAS) to solve any problems arising during all flight phases, as well as the interaction among those same elements.

2.5 Therefore, Project RLA/03/902 – SACCSA, in its Phase III, does not only define an SBAS, which is its main objective, but also meets the needs of all GNSS projects underway in the CAR/SAM Regions, including national GBAS projects, since the use of these stations in locations with complicated ionosphere conditions will require a study of such conditions and, consequently, plenty data on the locations where the stations would be located. Given the distribution of monitoring stations to be used for SACCSA, these data could be obtained without incurring in any cost.

2.6 Thus, SACCSA, in its Phase III, is a project that appeals not only to States that are interested in SBAS, but also to those who want to use the GNSS based on other elements (GPS, RAIM, ABAS, GBAS) that are also affected by the ionosphere and, thus, need to study its effects.

2.7 Furthermore, the studies of financial, programme, and management aspects will be valid for other projects at regional or state level, since they are based on models that can be adjusted to other needs. The results obtained cover a broad spectrum that, at the beginning, might appear to be only applicable to SACCSA.

3. **Suggested Action**

3.1 The participants are invited to:

- a) take note of the information contained in this working paper;
- b) analyse if the data and studies to be conducted are valid for other projects; and
- c) based on that stated in this working paper, consider their interest in participating in Project RLA/03/902.