

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**Eighth Meeting of Civil Aviation Authorities of the SAM Region
(RAAC/8)**

(Buenos Aires; Argentina, 23 - 25 April 2003)

(prepared by the Secretariat)

Agenda Item 6: **Review of institutional aspects related to CNS/ATM implementation**

Summary

The purpose of this working paper is to present information on the regional activities carried out for the establishment, in the medium and long term, of institutional arrangements in the region for the implementation of CNS/ATM systems/services, on which work is being done by regional technical co-operation project RLA/98/003 to support the GREPECAS mechanism.

References:

- CAR/SAM Air Navigation Plan, Vol II-FASID.
- Report of the GREPECAS/11 meeting (Manaus, Brazil, 3–7 December 2002).
- Report of the Seventh Meeting of Civil Aviation Authorities (Salvador, Bahia; Brazil, 1–3 July 2002) (RAAC/7).
- Report of the Fifth Meeting of the Co-ordination Committee of Regional Project RLA/98/003.

1. Introduction

1.1 With the approval of the CNS/ATM systems concept at the Tenth Air Navigation Conference (September 1991), it was also recognised that, although international civil aviation would derive significant benefits from the aforementioned systems, institutional agreements different from those used so far by most States to implement the services/facilities recommended in the ICAO Air Navigation Plan, which were based on bilateral agreements and charges generally considered as balanced, were required.

1.2 Although bilateral agreements continue to be common practice for the implementation of the Air Navigation Plan, technological developments and the multinational nature of ICAO CNS/ATM systems demand a different type of organisation for the implementation and future management of airport and air navigation systems, as well as significant investments, which would require a study of new funding mechanisms and sources.

1.3 The Seventh Meeting of Civil Aviation Authorities (RAAC/7), held in Salvador, Bahia, Brazil, on 1-3 July 2002, took note of the regional mechanisms available for examining institutional matters, and of a series of systems/services, listed in paragraph 2.2 of this working paper, whose management, maintenance, operation and control could be the subject of institutional agreements. Such systems/services are being studied by Project RLA/98/003, in support of the activities of the GREPECAS mechanism. The aforementioned RAAC/7 meeting considered that the results of the study on institutional arrangements to be carried out by GREPECAS will permit the implementation of RAAC/6 Conclusion 6/8. It also drafted the terms of reference and work programme of the Regional High-Level Panel that will study the feasibility of implementing the CNS/ATM systems in the Region (RAAC/7 Conclusion 7/5).

1.4 The CAR/SAM FASID, within the material on institutional arrangements, contains general guidelines on the establishment and provision of multinational facilities/services applicable to the CAR/SAM Regions. In this respect, the GREPECAS Institutional Aspects Task Force will take into account these guidelines when conducting, with the co-operation of project RLA/98/003, the study on the most suitable institutional arrangements. This Task Force is expected to hold its first meeting during the GREPECAS/12 meeting and to consider the relevant aspects emanating from the Eleventh Air Navigation Conference (AN-Conf/11).

2. Status of the planning of facilities and institutional arrangements in the CAR/SAM Regions

2.1 The need for institutional arrangements for the implementation of CNS/ATM systems has been under consideration at the regional level for some years, and this complex matter is gradually being addressed. The need and willingness to establish broad and transparent international co-operation among all the parties concerned and responsible for CNS/ATM implementation seems to be the best way to address the subject. In this respect, two important issues (one CNS and one ATM) have already been addressed and implemented within GREPECAS.

2.1.1 The CNS issue refers to the planning and implementation of the South American Digital Network (REDDIG) that GREPECAS/6 endorsed through the formulation of Conclusion 6/25 and a series of other conclusions emanating from subsequent meetings. The REDDIG is in the final stage of implementation, and working paper WP/8 contains relevant information on this topic.

2.1.2 The ATM issue refers to the implementation of the CAR/SAM Regional Monitoring Agency (CARSAMA), in support of RVSM implementation. In this regard, the GREPECAS/11 meeting designated Brazil to perform the tasks of this agency, with the corresponding duties and responsibilities (GREPECAS/11 Conclusions 11/33 and 11/34). Working paper WP/5 contains relevant information on this subject.

2.2 The systems described above are part of or could be considered as initial institutional agreements that Regional Project RLA/98/003 will examine in support of the tasks to be carried out by GREPECAS. These systems are considered to be part of the systems/services already identified by the RAAC/7 meeting and contained in the following list:

- a) Multi-service/multi-protocol digital networks for voice and data, as communication platforms for the cost-efficient operation of the current and future communications required by the air navigation plan for the implementation of ground and ground-air applications that are consistent with the ATN inter-network, so as to expedite ATM automation.

- b) ATM automation for centralised management, which would begin with the implementation of a Regional Air Traffic Flow Management Unit (ATFM), that could be established with the support of digital network platforms and automatic flight plan processes, which might be supported by the AFTN while some other type of messaging service (ATSMHS).
- c) SBAS augmentation, in keeping with the results of regional augmentation planning under Regional Project RLA/00/009. This will permit the establishment of correction signals in the CAR/SAM Regions, in order to provide NPA and, if possible, APV-1 navigation, with the corresponding operational parameters.
- d) AIS/database automation systems, to expedite the implementation of the integrated automatic AIS system, as recommended in the CAR/SAM Air Navigation Plan.
- e) A regional programme for the implementation of conventional and satellite-based aid flight tests to expedite the cost-efficient application of the relevant ICAO SARPs, through agreements that establish regional co-operation and the sharing of flight test unit resources.
- f) Aeronautical Mobile Satellite System (AMSS) that will facilitate the implementation of ADS/CPDLC data link in remote (oceanic and continental) areas.
- g) Airspace Safety Monitoring and Management Agency to ensure compliance with the requirements for RVSM and RNP implementation in the CAR/SAM Regions.

2.3 The Eleventh Air Navigation Conference, when defining the operational concept for a global ATM, is expected to consider the operational and technical requirements that will serve as a guide for regional planning of future air navigation systems and for regional agreements on institutional aspects.

3. Discussion

3.1 Regional project RLA/98/003, as an advisory body to the GREPECAS mechanism, reviewed all of its immediate objectives at its Fifth Co-ordination Meeting. Thus, it examined the results and activities in the field of institutional agreements, so as to provide advice as required for the development of plans to expedite the implementation of CNS/ATM systems in the medium term, with the corresponding incorporation of the current REDDIG and CARSAMA systems into said plans. The aforementioned regional project also intends to expand said planning to include other institutional agreements, and, in the long term, plans for the implementation of a regional institutional system.

3.1.1 In co-ordination with the GREPECAS Institutional Aspects Task Force, project RLA/98/003 will provide, until mid-2005, the planning for institutional aspects at the regional level, with the corresponding implementation options. These results will be examined by the GREPECAS mechanism for their validation, if necessary, with other studies that the GREPECAS mechanism may have conducted. The activities of project RLA/98/003 on institutional matters are shown in **Appendix A** to this working paper.

3.1.2 Once GREPECAS has concluded the medium- and long-term programmes on regional institutional aspects, the high-level group mentioned in RAAC/7 Conclusion 7/5 will be able to study the feasibility of implementing the studies carried out, taking into account the corresponding financial and legal aspects.

3.2 Note should be taken of the regional importance of the work on institutional matters to be carried out by project RLA/98/003, and that, without the support of the States for its activities, it would be difficult to harmonise a plan which accommodates the interests of all and each of the States in the Region for the implementation of CNS/ATM systems in the medium and long term. In this regard, the meeting could consider formulating the following conclusion:

Conclusion 8/XX- Support to the Regional Technical Co-operation Project on institutional aspects for the implementation of CNS/ATM systems

In order for Regional Technical Co-operation Project RLA/98/003 to obtain effective and efficient results regarding institutional aspects, that the States, whether participating or not in the project, support its activities by:

- a) providing the project or the Regional Office with as complete information as possible on all the operational, technical and administrative aspects related to the planning and implementation of CNS/ATM services/systems;
- b) creating a broad regional co-operation environment that will facilitate the understanding, harmonisation and establishment of common CNS/ATM plans; and
- c) expediting, within each State, the internal procedures for approving the results of the project, so as to set the foundations for the creation of a framework for a regional institutional agreement on the future air navigation services.

3.3 It is also important to note that the main entity for the analysis and review of institutional aspects in the CAR/SAM Regions will be the Institutional Aspects Task Force, which, by virtue of GREPECAS/11 Decision 11/20, is no longer a contributory body of the ATM/CNS Subgroup but a GREPECAS task force. By way of reference for the meeting, **Appendix B** contains the Terms of Reference, Work Programme and Composition of said group. As may be seen from the contents of Appendix B, the complex tasks to be carried out by the task force will require an effective and efficient co-operation from its members, who, in turn, will need the support of their administrations to fulfill the tasks assigned to them within the task force. In this respect, the meeting might consider the formulation of the following conclusion:

Conclusion 8/XX-Support to the work to be carried out by the Institutional Aspects Task Force

That Argentina, Brazil, Chile, Peru and United States, which have agreed to designate an expert for the Institutional Aspects Task Force, provide all possible support to said experts so that the task force may perform its tasks in an effective and efficient manner.

4. **Suggested action**

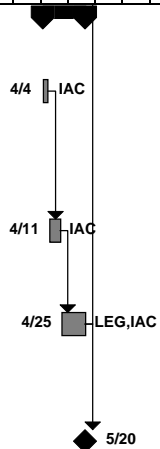
4.1 The meeting is invited to consider the information presented in this working paper in order to:

- a) take note of the reality of the region concerning the planning and implementation of institutional arrangements for CNS/ATM implementation;
- b) take note of the tasks on institutional aspects to be carried out by regional project RLA/98/003, and recognise the importance that this project will have in the performance of studies on regional institutional aspects in support of the tasks of the GREPECAS mechanism;
- c) take note of the status of the Institutional Aspects Task Force within GREPECAS and of the information presented in Appendix B; and
- d) consider the formulation of the conclusions proposed in paragraphs 3.2 and 3.3 above.



Project RLA/98/003
Transition to CNS/ATM Systems in the CAR/SAM Regions
Immediate Objective # 2
Institutional Aspects

Task Name	2002												2003												2004												2005											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
2.4 Migration strategy to the new institutional arrangements estab																																																
2.4.1 Study the institutional arrangements presently established a																																																
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2.4.3 Develop a model of institutional agreement with the corresp																																																
2.4.4 Approval of the model and legal basis																																																



APPENDIX A**Immediate Objective No. 2**

This objective has been reformulated so that the project effectively supports the development of institutional aspects derived from CNS/ATM implementation itself. The corresponding criteria have also been determined to ensure the success of the objective, as project monitoring and evaluation indicators. Result 2.3, initially considered for assistance to the CIACs, has been included within Immediate Objective No. 1, which is more directly related with result.

Immediate Objective N 2

Assist the States on institutional schemes for the implementation of national/regional CNS/ATM plans and their application.

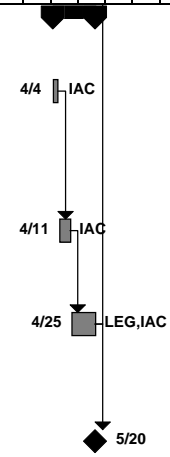
Indicators:

1. Availability of guidance material for the identification and validation and implementation of institutional arrangements for CNS/ATM systems.
2. (*Indicate amount*) regional arrangements developed for CNS/ATM systems management.



Project RLA/98/003
Transition to CNS/ATM Systems in the CAR/SAM Regions
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APPENDIX B

TASK FORCE ON INSTITUTIONAL ASPECTS

1. **Terms of reference**

- a) Study global actions adopted by the ICAO Council and by some States on the institutional aspects of CNS/ATM implementation in the CAR/SAM Regions;
- b) Suggest ways of assisting CAR/SAM States that so require, in conducting cost-benefit analyses and studies on the technical, financial, organizational and administrative aspects of CNS/ATM implementation; and
- c) Analyse those aspects of the CAR/SAM Regional Plan for the implementation of the CNS/ATM Systems requiring legal adjustments.

2. **Work programme**

- a) Develop guidance and application proposals for the CAR/SAM Regions, on the global actions adopted by the ICAO Council on the CNS/ATM institutional aspects, as well as by States;
- b) Identify those elements in the CAR/SAM CNS/ATM Implementation Plan that require institutional arrangements for their implementation;
- c) Determine the elements requiring legal adjustments of the Institutional Aspects identified in the previous paragraph;
- d) Develop regional guidelines to assist CAR/SAM States in conducting cost-benefit studies; and
- e) Develop proposals for financial, administrative, and other pertinent arrangements for the hiring of services for the implementation of the CNS/ATM systems.

3. **Composition**

Argentina, Brazil, Chile, Cuba, Peru, United States and COCESNA.

4. **Rapporteur**

Peru.

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