

INTERNATIONAL CIVIL AVIATION ORGANIZATION

CAR/SAM AIS/ATM/CNS 02/00 Informal Meeting

(Cayenne, 27-29 March 2001)

- Item 3: Review of CNS matters, taking into account:**
- a) **AFS deficiencies and shortcomings**
 - b) **AMS deficiencies and shortcomings**
 - c) **Surveillance and radar implementation plans**

Deficiencies and shortcomings in radio aids systems
(presented by the Secretariat)

Summary

This working paper provides information about the aeronautical radio aid systems recommended for the Eastern CAR/SAM Subregion according to the new CAR/SAM Air Navigation Plan, in order to look into the systems that have not yet been implemented. The paper also discusses the need to protect the radio spectrum for RNSS services and the establishment of periodic flight tests of radio aids.

References:

- Report of the Third CAR/SAM Regional Air Navigation Meeting (Doc 9749);
- CAR/SAM Regional Air Navigation Plan, Volumes I and II.

1. Background

1.1 Conclusion 8/50 approved at the GREPECAS/8 Meeting, held in the Dominican Republic on 9-17 November 1998, referred to the desirability of holding a meeting to study and propose measures to remedy deficiencies in the provision of air traffic services in the Eastern CAR/SAM Subregion, that is, the Belem and Manaus (Brazil), Rochambeau (French Guiana), Paramaribo (Suriname), Georgetown (Guyana), Maiquetía (Venezuela), and Piarco (Trinidad and Tobago) FIRs.

1.2 In order to provide ATM services in the aforementioned Subregion, it is necessary to implement the radio aid systems recommended in the CAR/SAM Air Navigation Plan (Volume II - FASID).

1.3 Aeronautical radio navigation services are being currently supplied in the CAR/SAM Regions through ground radio navaids consisting of non-directional radio beacons (NDB), VHF omnidirectional radio range (VOR), and instrument landing systems (ILS). Most of the facilities needed in the CAR/SAM Regions have already been installed and it can be noted that NDBs are being gradually replaced by VORs.

1.4 Aeronautical radio aid services in the Eastern CAR/SAM Subregion present some limitations and the failure to implement some of the elements of these services has made it impossible to provide an efficient air traffic control. Table CNS 3 of the new CAR/SAM Air Navigation Plan, Volume II, FASID lists the radio aid systems that are in place and those that remain to be installed.

1.5 Likewise, some States in the Eastern CAR/SAM Subregion, because they do not have a regular radio aid flight testing system, continue having problems for the conduction of radio aid flight tests with the required regularity.

1.6 Frequency band 1559-1610 Mhz, allocated to the radio navigation satellite system (RNSS), must be protected if global navigation satellite systems (GNSS) are to operate. Consequently, the States in the Subregion should co-ordinate actions with the relevant national frequency management authorities in order to avoid implementing any fixed service that operates on this frequency band.

2. **Analysis**

2.1 According to Table CNS 3 of the CAR/SAM ANP FASID, almost all of the radio aid systems have been implemented in the Eastern CAR/SAM Subregion. Appendix A to this working paper contains part of Table CNS 3, showing the radio aid systems that are in place and those that are still to be installed in each of the States of the Eastern CAR/SAM Subregion.

2.2 Based on the foregoing, the meeting is invited to review this information and to report the planned dates for implementation of the lacking radio aids. Likewise, any State in the Subregion that has plans to renew its ground radio aids or to dismantle NDB systems and replace them with VORs should inform the meeting on the matter.

2.3 Some States in the Subregion, lacking the necessary testing system, have problems in carrying out their radio aid flight tests. According to Annex 10, Volume I, Section 2.7.1, radio aid systems must undergo periodic ground and flight tests in order to guarantee the safety of air navigation. Document 8071 contains guidelines for flight testing and states how frequently the tests should be performed. The CAR/SAM RAN/3 Meeting formulated Recommendation 10/4 urging States to carry out the tests periodically and to enter into bilateral or multilateral agreements to share their flight testing capabilities. The meeting is therefore invited to report on the actions taken in that regard.

2.4 In order to determine whether any State in the Subregion has fixed service facilities operating on the 1559-1610 Mhz frequency band and to keep that from happening in the future, aeronautical administration officials must co-ordinate with the national authorities responsible for managing the frequency spectrum so that, if appropriate, such facilities will be ordered to cease operations, inasmuch as that band is reserved for the exclusive use of radio navigation satellite services (RNSS), as determined at the ITU WRC-2000 Conference.

2.5 There are States in the CAR/SAM Region that, as part of the ICAO CNS/ATM systems planning, have already approved the use of the Global Positioning System (GPS) as a supplementary or primary means of navigation. The meeting is invited to report on the matter.

3. Suggested action

3.1 The meeting is invited to:

- a) take note of the information provided in this working paper; and
- b) report on the plans of each State in the Eastern CAR/SAM Subregion with respect to the implementation of the ANP CAR/SAM radio aid systems that have not yet been installed and to the actions to be taken for the conduction of flight and ground testing with the periodicity recommended by ICAO.
