

**INTERNATIONAL CIVIL AVIATION ORGANIZATION
NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE OFFICE**

**FOURTH MEETING OF DIRECTORS OF CIVIL AVIATION
OF THE CENTRAL CARIBBEAN**

(Grand Cayman, Cayman Islands, 17-20 May 2000)

Agenda Item 4: Sharing of radar data between ATC centres in the CAR Region

**PROPOSAL FOR GUIDELINES AND TASKS TO CONTINUE THE PLANNING
AND IMPLEMENTATION OF RADAR DATA SHARING
IN THE CENTRAL CARIBBEAN**

(Presented by the Secretariat)

Summary

This Working Paper proposes to the Meeting actions for the planning and implementation of sharing of radar data in the Central Caribbean, based on the recommendations related with this Item, formulated by the Third Caribbean/South American Regional Air Navigation Meeting (CAR/SAM/3 RAN Meeting).

References:

- Draft Report of the CAR/SAM/3 RAN Meeting – Buenos Aires, Argentina, October 1999
- Report of the 85th Meeting of Directors of Central American and Panama Civil Aviation

1. Introduction

1.1 The CAR/SAM/3 RAN Meeting, when dealing Item 11 developed *Recommendation 11/4 – Further studies on the sharing of radar information in the CAR/SAM Region*, and requested GREPECAS to review the CAR/SAM Aeronautical Surveillance Plan, identify the ATC units that could obtain significant operational and economical benefits through the sharing of their radar data, and consider a common radar data format and a common communication protocol for radar data exchange in the CAR/SAM Regions.

1.2 Furthermore, the CAR/SAM/3 RAN Meeting, formulated *Recommendation 11/5 – Sharing of radar data*, in which CAR/SAM States are recommended that, in order to facilitate the implementation of surveillance radar service in a safe, efficient and cost-beneficial manner, consider the possibility of bilateral/multilateral arrangements for sharing of radar data between the ATC centres in neighbouring States, as well as the use of common radar data format and a common communication protocol for radar data exchange in the CAR/SAM Regions to be adopted by GREPECAS. In **Attachment A** Recommendations 11/4 and 11/5 formulated by the CAR/SAM/3 RAN Meeting are presented.

1.3 In other areas of the Caribbean Region work on the planning and implementation for the sharing of radar data have been started. For example, The United States and Mexico have achieved progress in the technical, operational, administrative and legal arrangements between adjacent ATC centres of those States.

1.4 Also, in this regard, work has been started in the Central American Region. The 85th Meeting of Directors of Central American and Panama Civil Aviation held in Mexico City, 15-17 March 2000, when dealing Agenda Item 6, agreed to continue and carry out studies on operational and technical-economical feasibility character, for the planning and implementation of the sharing of radar data, taking into account the possibility to coordinate bilateral and multilateral arrangements, with the view to facilitating the implementation of surveillance radar service in a safe, efficient and cost-beneficial manner and, therefore, adopted Recommendation 85/14, shown in **Attachment B**.

1.5 Likewise, the sharing of radar data between some ATC centres is being studied in the Eastern Caribbean States/Territories.

2. Discussion

2.1 Based on the above mentioned paragraphs and taking into account that in the Central Caribbean Primary Surveillance Radar (PSR), and Secondary Surveillance Radar (SSR), have been implemented, it is considered that benefits could be obtained through bilateral and multilateral arrangements, in order to continue developing the planning and implementation of sharing of radar data between ATC Centres. This will contribute to improve the efficiency of ATC services and the safety of air navigation in the Central Caribbean and, in general, in the Caribbean Region.

2.2 Also, the operational and technical studies to be carried out for the sharing of radar data in Central Caribbean will contribute to the work given to GREPECAS by the CAR/SAM/3 RAN Meeting.

2.3 According to the implementation status of radar systems in the Central Caribbean, as well as in neighbouring areas, it is considered convenient to carry out studies on the operational aspects and technical-economical feasibility for the planning and implementation of sharing of radar data, taking into account the possibility to enter into bilateral and multilateral arrangements, in order to facilitate the radar surveillance service implementation in a safe, efficient and cost-beneficial manner. To this end, the following tasks are proposed:

- a) Examine the CAR/SAM Aeronautical Surveillance Plan, with regard to States/Territories of the Central Caribbean, and identify ATC centres which could obtain important operational and cost benefits in the sharing of radar data, as well as ATC centres that do not have radar facilities, and that could be benefited through the radar data provided by the radar systems of neighbouring ATC centres.
- b) Determine the format which could be used for the sharing of common radar data.
- c) Study appropriate and feasible communication means to transfer radar data signals between ATC centres.
- d) Study which common communications protocol could be used for radar data exchange.
- e) Study the capacity of the current radar data presentation and processing systems in the ATC centres to be identified by task a), suggesting short and medium term solutions.
- f) Prepare an implementation plan for the sharing of radar data between ATC centres of the States/Territories of the Central Caribbean and other neighbouring States/Territories.

- g) Develop agreement formats, including operational, technical-economical, administrative and legal aspects. Also, consider the possibility of arranging bilateral and multilateral agreements among States/Territories of the Central Caribbean, as well as between States and States/Territories of other Caribbean and Central Caribbean areas to achieve progress through the sharing of radar data.
- h) Present to GREPECAS the results of the work on the sharing of radar data in the Central Caribbean.

3. Suggested actions

3.1 The Meeting is invited to adopt pertinent actions in order to develop guidelines and tasks of operational and technical-economical aspects, mentioned in par. 2.3, in order to develop the planning and implementation of sharing of radar data between the ATC centres, achieving operational and technical-economical progress, contributing to the efficiency and quality of ATC service and to the safety of the air navigation in the Caribbean Region.

ATTACHMENT A

**RECOMMENDATIONS 11/4 AND 11/5, ADOPTED BY THE
CAR/SAM/3 RAN MEETING**

**Recommendation 11/4: Further studies on the sharing of radar information in the
CAR/SAM Region**

That GREPECAS:

- a) review the CAR/SAM Aeronautical Surveillance Plan and identify the ATIS units that could obtain significant operational and economical benefits through the sharing of their radar data; and
- b) consider a common radar data format and a common communication protocol for radar data exchange in the CAR/SAM Regions.

Recommendation 11/5: Sharing of radar data

That, in order to facilitate the implementation of surveillance radar service in a safe, efficient and cost-beneficial manner, CAR/SAM States consider:

- a) the possibility of bilateral/multilateral arrangements for sharing of radar data between the ATC centres in neighbouring States; and
- b) use of a common radar data format and a common communication protocol for radar data exchange in the CAR/SAM Regions to be adopted by GREPECAS.

APPENDIX B

RECOMMENDATION 85/14 FROM THE 85TH MEETING OF DIRECTORS OF CIVIL AVIATION OF CENTRAL AMERICA AND PANAMA

Recommendation 85/14: Sharing of radar data in Central America and Panama

The Directors of Civil Aviation from Central America and Panama and COCESNA's General Manager agreed to take the following actions in order to accomplish the planning and implementation of the sharing of radar data among Air Traffic Control facilities; therefore obtaining operational, technical and economical advantages, which will improve the efficiency and quality in ATC services and the safety in air navigation throughout Central America:

- a) take into account the guidelines and tasks that are expressed in **Appendix B** of this Report;
- b) appreciate the work on the subject carried out by the "*Sharing of radar data among ATC dependencies Group*";
- c) COCESNA will coordinate a study for the regional integration concept, which will be based on the integral airspace reorganization in Central America; and to this end
- d) include the sharing of radar data in the formal application of technical assistance to be presented to ICAO, and considering in it all aspects and request of ATS personnel, communications and radar surveillance;
- e) that COCESNA and Panama; COCESNA and Mexico; and COCESNA and States who have responsibility in the neighboring FIRs to the CENAMER FIR, initiate communication and studies regarding the convenience, and feasibility to sign bilateral and multilateral agreements to share radar data; and
- f) that the ICAO NACC Regional Office request that Mexico and The United States share their experiences in the operational, technical, administrative and legal fields that have been obtained through the bilateral agreements that are being signed to share radar data.