



**Agenda Item 5: CNS Developments**

**FOLLOW-UP AND COORDINATION FOR THE IMPLEMENTATION OF THE CNS  
SYSTEMS IN THE CENTRAL CARIBBEAN**

(Presented by the Secretariat)

**SUMMARY**

This working paper proposes for consideration by the C/CAR Working Group actions for the follow-up and coordination of the improvement and implementation of the Communications, Navigation and Surveillance systems in the Central Caribbean.

**References:**

- Report of the First Central Caribbean Working Group Meeting (Mexico City, 19-23 February 2001).
- Report of the Second Central Caribbean Working Group Meeting (Pétion Ville, Haïti, 18-22 February 2002).
- Report of the First North American, Central America and Caribbean Directors of Civil Aviation Meeting (Grand Cayman, 8-11 October 2002).
- Report of the GREPECAS/11 Meeting (Manaus, Brazil, 48 de December 2002).

**1. Introduction**

1.1 The First Central Caribbean Working Group Meeting (C/CAR/WG/1) held in Mexico City from 19 to 23 February 2001, formulated several decisions to continue the development of the Communications, Navigation and Surveillance systems of the Central Caribbean, which are still effective and are listed hereunder with a summary of the tasks:

- Decision 1/19: Review/update the FASID CNS: CNS/2A, CNS 2B, CNS 3 and CNS 4A Tables;
- Decision 1/20: Review the status of CNS deficiencies;
- Decision 1/23: Review the VHF AMS coverage and formulate recommendations;
- Decision 1/27: The Radar Data Sharing Task Force should report the work done on the tasks assigned to it.

1.2. Moreover, the C/CAR/WG/1 Meeting made several recommendations to the Directors of Civil Aviation, thus, the Fifth Meeting of Directors of Civil Aviation of the Central Caribbean, held in Montego Bay, Jamaica, from 21 to 24 May 2001, formulated Conclusion 5/17– *Review of the VHF air-*

*ground voice communications coverage, Conclusion 5/18–Guidance on the Transition Plan from AFTN to AMHS, Conclusion 5/19–Publication/update of national legislations/regulations that approve the use of GNSS and Conclusion 5/20– Radar data sharing.* All these conclusions are still effective and aimed at improving and developing the CNS systems/services in the Central Caribbean.

1.3 The Second Central Caribbean Working Group Meeting (C/CAR/WG/2) held in Pétiön Ville, Haiti, from 18 to 22 February 2002, among other aspects, formulated the following CNS-related decisions:

- Decision 2/10: Activated a VHF/AMS Coverage Task Force.
- Decision 2/13: Designated a rapporteur of the Radar Data Sharing Task Force.

1.4 Likewise, the C/CAR/WG/2 Meeting proposed conclusions related with CNS systems listed hereunder. These conclusions were later ratified by the Central Caribbean Directors of Civil Aviation:

- Conclusion 2/6: Additional coordination to support ICAO position at the ITU's WRC-2003
- Conclusion 2/7: Review and update the status of implementation of the requirements contained in the FASID Tables CNS: CNS2A, CNS3 and CNS4A.
- Conclusion 2/8: Review and update1 on the status of implementation of CNS deficiencies.
- Conclusion 2/9: Re-send to States/Territories the information Form on VHF/AMS stations.
- Conclusion 2/11: Continuance of ATN developments in the Central Caribbean.
- Conclusion 2/12: Follow-up to GNSS implementation in the Central Caribbean.
- Conclusion 2/14: Information and Guidance for the initial phase of Radar Data Sharing in the Central Caribbean.

1.5 The First North American, Central America and Caribbean Directors of Civil Aviation Meeting held in Grand Cayman, Cayman Islands, from 8 to 11 October 2002 also formulated several conclusions related with CNS development in the CAR Region. For instance, as part of Conclusion 1/1, the following main work guidelines for the CNS area were established:

- Support to ICAO position at the ITU's WRC-2003.
- Development and interconnectivity of regional digital networks.
- Improvement of and compliance with the required VHF/HF AMS coverage.
- Transition from AFTN to ATN. Implementation of ATN ground portion.
- GNSS Implementation.
- Radar data exchange.

1.6 Moreover, GREPECAS/11 Meeting, held in Manaus, Brazil, from 4 to 8 December 2002, formulated several conclusions on the development of CNS systems in the CAR/SAM Regions. Among these conclusions, which are applicable in the Central Caribbean, are the following:

- Conclusion 11/39: SUPPORT FOR THE ICAO POSITION AT THE ITU WRC-2003
- Conclusion 11/40: PUBLICATION OF THE THIRD EDITION OF THE “HANDBOOK ON RADIO FREQUENCY SPECTRUM REQUIREMENTS FOR CIVIL AVIATION”
- Conclusion 11/41: REVIEW OF THE STATUS OF IMPLEMENTATION OF THE AFTN PLAN AND RELEVANT AMENDMENTS
- Conclusion 11/43: USE OF PUBLIC INTERNET SERVICES FOR AERONAUTICAL PURPOSES
- Conclusion 11/44: FLIGHT INSPECTION OF GNSS NPA PROCEDURES
- Conclusion 11/45: SBAS-EGNOS TRIALS IN THE CAR/SAM REGIONS
- Conclusion 11/46: SUPPORT FOR THE CAR/SAM REGIONAL SBAS-GNSS AUGMENTATION PLAN
- Conclusion 11/47: REGIONAL GUIDELINES FOR THE EXCHANGE OF SSR RADAR DATA
- Conclusion 11/48: USE OF THE MINIMUM SAFE ALTITUDE WARNING (MSAW)
- Conclusion 11/49: REGIONAL GUIDELINES ON THE PLANNING AND IMPLEMENTATION OF RADAR SURVEILLANCE SYSTEMS
- Conclusion 11/50: PRELIMINARY REGIONAL GUIDELINES ON AUTOMATIC DEPENDENT SURVEILLANCE SYSTEMS
- Conclusion 11/54: REGIONAL ACTION ON COORDINATED POSITIONS ON CNS ISSUES AT THE AN-CONF/11

## 2. Discussion

2.1 According to the background expressed in paragraphs 1.1 to 1.6 of this working paper, the Meeting is invited to examine the status of implementation of the main CNS issues as follows, and to review and develop the relevant subregional action plans to help the coordination and implementation of these systems:

### General

#### *Support for the ICAO position at the ITU WRC-2003*

2.2 In accordance with GREPECAS Conclusions 10/19 and 11/39, as well as with the C/CAR/WG Conclusion 2/6, the States are reminded of the importance of optimizing the compliance with these conclusions before the convening of the WRC-2003.

#### *Review of FASID Tables CNS*

2.3 In accordance with Conclusion 2/7 – *Review and update the status of implementation of the requirements contained in the FASID CNS Tables: CNS2A, CNS 3 and CNS4A*, the ICAO NACC Regional Office has only received a reply from Cuba; according to this reply, it seems that it would not be necessary for the time being, to amend the aforementioned CNS tables.

### Communications

#### *Review of VHF AMS communications coverage*

2.4 Based on GREPECAS Conclusion 10/29 on the deficiencies due to the lack of air/ground VHF coverage and in reply to Conclusion 2/9 of the C/CAR Working Group, the ICAO NACC Regional Office received information from: Aruba, Cayman Islands, Cuba, Dominican Republic, Haiti, Jamaica and Turks and Caicos Islands. Additionally, it is expected that the Meeting will receive information of the VHF/AMS Coverage Task Force on the status of the task assigned to it by the C/CAR Working Group. Likewise, it is expected that the members of the C/CAR/WG report the Meeting on the improvements that were carried out and are still being carried out on VHF/AMS coverage at their respective assigned airspace. Moreover, the C/CAR Working Group is invited to continue the efforts of reviewing the air-ground communications coverage regarding Table CNS 2A. In this regard, the C/CAR WG should make an in-depth analysis on air-ground VHF communications coverage in the Central Caribbean, and the Meeting might take into account the proposals related with this matter contained in WP/04.

#### *Implementation of the ATN ground portion*

2.5 In accordance with GREPECAS Conclusion 10/22 item b), and with the C/CAR/WG Conclusion 2/11, the States/Territories/International Organizations, based on the SARPs on ATN/AMHS, should continue the efforts towards the implementation of the ATN ground portion, through action plans for the transition from AFTN to AMHS.

### Navigation

#### *Implementation of GNSS*

2.6 In accordance with the C/CAR/DCA/5 Meeting Conclusion 5/19 and GREPECAS Conclusion 10/32, the States/Territories/International Organizations should continue publishing and updating the legislations/regulations authorizing the use of GNSS at their respective airspace in terminal area and en-route.

#### *Follow-up to the SBAS Augmentation Systems TRIALS IN THE CAR/SAM REGIONS*

2.7 The C/CAR Working Group should also keep itself informed on the status and results of the SBAS/WAAS augmentation systems trials being held in the CAR/SAM Regions under the RLA/00/009 Project; as well as on the SBAS/EGNOS trials, which are initiating in the CAR/SAM Regions under the RLA/03/902 Project and on the global development of GNSS implementation, taking into account the results of the CAR/SAM/RAN 3 Meeting, the conclusions and recommendations of GREPECAS and the available GNSS SARPs and guidance material.

### Surveillance

#### *Update of the radar surveillance Plan corresponding to the Central Caribbean*

2.8 In reply to the C/CAR Working Group Conclusion 2/14, the ICAO NACC Regional Office received information from: Cuba, Cayman Islands, Dominican Republic and Jamaica. Information on radar systems from the other States/Territories possessing these systems would be required. Thence, the C/CAR Working Group might continue updating the corresponding Central Caribbean surveillance plan, especially the implementation of the Primary Surveillance Radar (PSR), and Secondary Surveillance Radar (SSR).

#### *Radar data exchange*

2.9 Likewise, in accordance with the C/CAR/DCA/5 Meeting Conclusion 5/20 and bearing in mind the “*Reviewed Regional Guidelines for the Exchange of Radar Data among ATM units*” issued by GREPECAS, through Conclusion 11/47, the States/Territories/International Organizations and the C/CAR Working Group, supported by its Radar Data Sharing Task Force would continue working on planning and implementation of radar data exchange among ATM units.

### Other matters related with the implementation of CNS system

2.10 Additionally, the C/CAR Working Group may initiate coordination and implementation of other matters related with the CNS systems foreseen in the Regional CAR/SAM Air Navigation Plan and the Regional Plan for the Implementation of the CNS/ATM Systems, taking into account the guidance of GREPECAS.

## **3. Suggested actions**

3.1 The C/CAR Working Group is invited to continue its efforts towards the coordination, improvement and implementation of the communications, navigation and surveillance systems, developing subregional C/CAR action plans and following it up bearing in mind the background expressed in paragraphs 1.1 to 1.6 of this paper, as well as the following suggested actions:

- a) note the contents of this working paper;
- b) develop the general CNS matters taking into account paragraphs 2.1 and 2.3 of this paper;
- c) develop communication systems, considering the guidance expressed in paragraphs 2.4 and 2.5 of this paper;
- d) develop the navigation systems, considering the guidance expressed in paragraphs 2.6 and 2.7 of this paper;
- e) continue the development of surveillance systems, considering the guidance expressed in paragraphs 2.8 and 2.9 of this paper; and
- f) the development of other matters related with the CNS systems that the Meeting may consider appropriate to deal with bearing in mind paragraph 2.10 of this paper.