



International Civil Aviation Organization

North American, Central American and Caribbean Office

**Twenty First Meeting of Directors of Civil Aviation of the Eastern Caribbean  
(21<sup>st</sup> E/CAR DCA)**

Tortola, British Virgin Islands 11 to 14 February 2008

E/CAR DCA/21 - WP/03

10/01/08

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**Agenda Item 3:**

**Air Navigation Issues**

**3.1 Review of the Summary of Discussions of the First Caribbean Working Group Meeting**

**Executive Summary of the First Caribbean Working Group Meeting (CAR/WG/1)**

(Presented by the Chairman of the CAR WG and the Secretariat)

<p style="text-align: center;"><b>SUMMARY</b></p>
<p>This working paper presents the summary of discussions and draft conclusions formulated by the First Meeting of the CAR/WG/1.</p>
<p style="text-align: center;"><b>References:</b></p> <ul style="list-style-type: none"><li>• Summary of Discussions of the First Caribbean Working Group Meeting (CAR/WG/1) (Port of Spain, Trinidad and Tobago, 21 to 23 June 2007).</li></ul>



**1. Introduction**

1.1 The First Caribbean Working Group Meeting (CAR/WG/1) was held in Port of Spain, Trinidad and Tobago, from 21 to 23 June 2007, with the participation of 40 delegates of 12 States/Territories from the CAR Region, 1 State from the SAM Region and 2 International Organizations. The Meeting adopted the Summary of Discussions, which contained the most relevant matters considered and the draft conclusions presented in the **Attachment** to this working paper, for approval and/or consideration by the Civil Aviation Authorities of the Eastern Caribbean States/Territories.

**2. General Matters**

***Review of Valid Conclusions/Decisions of Relevant Meetings***

2.1. The results of the review carried out by the CAR/WG/01 Meeting on the status of the valid conclusions and decisions of the relevant E/CAR meetings are included in WP/02.

***Review of the Status of Air Navigation Deficiencies***

2.2 The results of the review carried out by the CAR/WG/01 Meeting on the status of the existing deficiencies of the Eastern Caribbean in the air navigation fields have been included in WP/04.

***Analysis of ICAO and GREPECAS Guidance on Global, Inter and Intra-Regional Air Navigation Activities***

2.3 In accordance with ICAO and GREPECAS guidelines, each State/Territory/International Organization and the CAR Working Group shall develop an action plan in order to implement relevant GREPECAS conclusions. This plan will be evaluated, including possible budgetary adjustments and the allocation of resources, according to the GREPECAS Action Plan shown in Appendix C to Agenda Item 1 of the C/CAR WG/01 Report. Therefore, **Draft Conclusion 1/1** was formulated.

***Worldwide Symposium on Performance of the Air Navigation System***

2.4 The CAR/WG/01 Meeting noted the results of the Worldwide Symposium on Performance of the Air Navigation System held at ICAO Headquarters from 26 to 30 March 2007, which covered safety, operational, economic and management performance, and technical aspects of the air navigation system.

2.5 According to the results of the foregoing Symposium, States should at a minimum encourage their ANSPs to measure performance in the areas of safety, quality of service, productivity and cost-effectiveness based on the optional guidelines included in the guidance material in the *Performance Management and Measurement for Air Navigation Services Providers*, available on the Symposium's web page.

**3 ATM Developments**

***Follow-up to the Implementation Strategies and Activities Related to the ATM Performance Objectives of the Second Amendment of the Global Plan (Doc 9750) and the Corresponding Initiatives***

3.1 The Meeting noted the ATM performance objectives approved by GREPECAS Conclusion 14/51 requiring States/Territories/International Organizations to develop their own work programme for the successful and cost-effective implementation of a seamless global ATM system.

3.2 For the development of action plans in accordance with the guidelines of the ICAO Council, the creation of an ATM Task Force was unanimously considered of vital importance. This group would perform a harmonised review of ATM future work programmes that also consider the implementation of ATM safety systems and the planning and training of human resources in accordance with the needs of the CAR Region. Therefore, the Meeting adopted **Draft Conclusion 1/2**.

***Follow-up on Regional Activities and Implementations Relating to Airspace Organization and Management (AOM)***

3.3 The Meeting noted that the Caribbean Region is an homogeneous ATM area that continues to require improvements of the current fragmented airspace in order to harmonise the diverse national systems and improve the segregation of airspace used by the military, which often prevents optimum utilization of airspace and limits the system's capability to meet aviation demand.

3.4 The Meeting considered that States/Territories should improve their efforts to optimise and redesign route structure and airspace to accommodate the existent systems, while ensuring that emerging systems and new technological solutions can be integrated into the air navigation infrastructure. The objective should be seamless functions, procedures and operations in different airspaces.

### ***Air Transport Environmental Challenges***

3.5 Taking into account ICAO Strategic Objective C – *Minimize the adverse effect of global civil aviation on the environment*, the C/CAR WG/01 Meeting recalled that States have the responsibility to analyse the impact that air transport has on global climate. This entails firm actions by the States/Territories in order to review and improve the ATS areas and route structures, airspace operational management and airports. Other actions include promotion of flight planning and flexible tracks, RNAV and RNP continental airspace implementation, continuous descent approach implementation, delay and airport noise reduction, etc.

### ***WATRS Plus Route Structure Redesign and Lateral Separation Reduction***

3.6 The Meeting reviewed the information presented by the United States to coordinate and progress on the implementation of the WATRS Plus Project with the related groups in the North Atlantic and Caribbean Regions. It was noted that the NAT/SPG subgroups and the NAT/CAR ATS working groups, had reviewed and approved the project's plan, programme and policies in the meetings held from March – May 2007. The implementation of RNP 10 with 50 NM of lateral separation and ATS route redesign in the WATRS airspace is foreseen for 5 June 2008.

3.7 Arising from the broad endorsement of the WATRS Plus Initiative, the Meeting recommended that ICAO disseminate the Proposal for Amendment of the CAR and NAT Regional Supplementary Procedures (SUPPS – Doc. 7030) as appropriate. All related information consisting of the Project Overview (updated version of FAA Notice (Nov. 2006); Draft Route Structure Redesign Chart (15 May 2007); Implementation Tasks List; and Planned Concept of Operations is included in Appendix B to Agenda Item 2 of the C/CAR WG/01 Meeting.

3.8 The Meeting agreed that the “WATRS Plus” Project is an excellent one and that it is a very good example of optimization of ATS airspace structure and requested full Project endorsement, its task schedule, planned operational policies and related revisions to NAT and CAR Regional Supplementary Procedures (NAT/CAR SUPPS), recognising the benefits it will provide to the CAR Region. To this end, the Meeting formulated **Draft Conclusion 1/3**.

### ***Performance-Based Navigation (PBN)***

3.9 The C/CAR WG/01 Meeting recommended that when developing operational risk assessment requirements as well as national regulations for PBN approval for aircraft and operators, consideration be given to the guidance and operational criteria developed by ICAO and that the States/Territories/International Organizations use the possible resources for training air traffic controllers and pilots, bearing in mind the future implementation of this concept in the CAR/SAM Regions.

3.10 The States/Territories/International Organizations involved should base their objective performance regarding airspace improvements in accordance with RNAV and RNP implementation, along with the PBN Roadmap approved by GREPECAS/14, which establishes a strategy in the short-term (until 2010) and medium-term (2011-2015), aimed at implementing en-route and terminal area PBN, when developing their own implementation action plans.

***Follow-up on Activities Relating to Air Traffic Flow Management Implementation (ATFM)***

3.11 The CAR WG/01 Meeting noted that GREPECAS/14 adopted a strategy and work programme for ATFM service implementation. Based on GREPECAS conclusion 14/51, **Appendix A** to this paper presents an action plan for States/Territories/International Organizations to plan ATFM implementation in the CAR Region.

3.12 ATFM training should cover capacity, airspace demand and international airport evaluation aspects, ATFM planning in the strategic, pre-tactical and tactical phases, as well as safety and collaborative decision making (CDM) methods to enhance air navigation efficiency. Appendix D to Agenda Item 2 of the CAR/WG/01 Report presents a model for determining the aerodrome acceptance rate (AAR).

***Collaborative Decision Making (CDM) and ATFM Coordination Procedures***

3.13 The CAR WG/01 Meeting began the study of Collaborative Decision Making (CDM), which represents a method for ATM stakeholders to work jointly to improve and share information ensuring that better decisions are made by the right person with the right information and data and the right input from all parties concerned. CDM is the key to optimizing aerodrome capacity with regard to air operations, examining the driving elements for each stakeholder and the interdependencies with adjacent stakeholders within their workflow process model.

3.14 The CAR WG/01 Meeting also began the study for coordination of ATFM procedures, which need to assess conditions that will affect system safety and efficiency including time and meteorological conditions, each route and destination airport, feasibility of routes and new route requirements, traffic and saturation of airports.

3.15 States should continue the work already in progress with a view to harmonise the process of data collection and analysis, and coordinate activities on a regional basis so as to formulate a coordinated and integrated CAR ATFM Operational Plan.

***Contingency Procedures on Hurricanes and Volcanic Ash***

3.16 The Meeting recognised the impact of the annual hurricane season in the Caribbean and was informed of the activities undertaken by the Hurricane Hunters – Aircraft Flight Operations under the call signs TEAL & NOAA. Due to safety concerns, the Hurricane Hunters proposed to update their operational procedures to continuous Instrument Flight Rules (IFR) operations. The Meeting noted that the Federal Aviation Administration (FAA), the National Ocean and Atmospheric Administration (NOAA), and the U.S. Air Force are in the process of reviewing the proposed changes and will be updating the National Hurricane Operations Plan (NHOP) accordingly.

3.17 As the Hurricane Hunters area of operation includes the Caribbean, Gulf of Mexico, Central and Eastern Pacific, and Western Atlantic, coordination is expected with North American, Central American, and Caribbean States. The Meeting also noted the necessity to review Regional Contingency Procedures for Hurricane and Volcanic Ash coordination included in Appendix H to Agenda Item 2 of the CAR/WG/01 Report.

***Follow-up on Implementation Programmes Related to Air Traffic Management (ATM) Safety Management***

3.18 The Meeting took note that within the implementation programmes related to ATM safety management, the SMS Course being carried out by ICAO for all States/Territories/International Organizations for SMS implementation stands out. It was recalled that the ICAO NACC Office has produced an SMS training programme for the period 2007-2009 for the specialists proposed by the States. At the end of 2007, the CAR Region has 6 ICAO-recognised instructors and over 300 specialists trained in SMS.

***Follow-up on the Progress Achieved in Search and Rescue***

3.19 The Meeting reviewed a SAR Multilateral Agreement model for the Caribbean included in Appendix I to the CAR/WG/01 Report, which will allow efficient coordination and organization of SAR operations. It was recognised that SAR agreements are the cornerstone supporting any coordination plan for the efficient use of facilities and personnel in the provision of aeronautical and/or maritime SAR services. Some recognised advantages in the multilateral agreement model were strengthening of each State's national SAR system, enhancement of SAR relationships and co-operation, and reduced State SAR operational costs. Therefore, the Meeting adopted **Draft Conclusion 1/4**.

**4. CNS Developments**

***Follow-up on the Status of the E/CAR AFS and MEVA II Digital Networks and their Related Inter and Intra-regional Interconnection/Integration***

4.1 The CAR WG/01 Meeting, among other related aspects, followed-up on the status of the MEVA II VSAT Network and the interconnectivity status of this network with the South American Digital Network (REDDIG).

***Development of Voice and Data Air-Ground Communications and Ground-Ground Communications***

***Regional Plan for the Implementation of Air-Ground Data Links***

4.2 The Meeting, based on the review made by GREPECAS/14, reviewed and updated the corresponding CAR Region section of the Regional Plan for implementation of air-ground data communications and agreed on recommending amendments to CAR/SAM FASID Table CNS 2A. Therefore, it formulated **Draft Conclusion 1/5**.

**SARPs Development Status and ICAO Guidance Material on ATN**

4.3 The Meeting took note of the latest information of the ATN SARPs and guidance material status that resulted from the First Meeting of the Aeronautical Communications Panel (ACP/1) held in Montreal, Canada, in May 2007.

### ***Deployment of the ATN in the CAR Region***

4.4 In accordance with global strategies and the regional strategy drafted by GREPECAS (Con. 13/78) shown in Appendixes C and D respectively of this paper, and as a follow-up to GREPECAS Conclusions 13/75 and 13/79, the Meeting also noted the guidelines for the deployment of ATN.

### ***Initiatives for the Implementation of ATN Ground-Ground Applications***

4.5 The Meeting reviewed and updated the CAR Region corresponding parts of Table CNS 1BB – *ATN Ground-Ground Applications Plan*. In this respect, the delegate from Trinidad and Tobago indicated that the new completion date will be 2009 instead of 2007. The updated information is shown in Appendix E to Agenda Item 3 of the C/CAR WG/01 Report.

### ***AMHS Implementation National Plans***

4.6 The Meeting reviewed and updated the Table that contains the AMHS Implementation Plans for the CAR Region, which are presented in Appendix F to Agenda Item 3 of the C/CAR WG/01 Report.

### ***Preliminary Regional Approach for the Implementation of the AMHS Internet Protocol***

4.7 The CAR/SAM ATN Task Force of the GREPECAS mechanism prepared a preliminary regional approach for the implementation of the Internet Protocol for AMHS. This approach proposed using the Internet Protocol Version 6 (IPv6) as the network protocol. However, further analysis indicates that the AMHS applications do not yet support IPv6 internally in their communication stacks. Since many member States have either procured or implemented AMHS, the initial use of Internet Protocol Version 4 (IPv4) to expedite the implementation of AMHS service in the Region is recommended. In this regard, the Meeting formulated **Draft Conclusion 1/6**.

### ***Action Plan for the Follow-up and Implementation of Air-Ground and Ground-Ground Communications***

4.8 The Meeting developed and recommended the execution of the Action Plan for Implementation of Voice Communications and Ground-Ground and Air-Ground Data presented in **Appendix B** to this paper. Regarding this issue, the Meeting formulated **Draft Conclusion 1/7**.

### ***GNSS Implementation***

#### ***SARPs and ICAO Guidelines for the Progressive Implementation of GNSS Elements***

4.9 The Meeting took note of the ICAO SARPs and guidelines for the gradual implementation of GNSS and that ICAO recommends the introduction of GNSS navigational elements. Moreover, the Meeting took note that ICAO recently issued conclusions from the study of cost-allocation of global navigation satellite systems (GNSS) reported as “provisional policy guidance on the allocation of costs of GNSS Services” which is detailed on IP/04 of this Meeting, as well as a proposal for amendment to the SARPs related to GNSS implementation and development.

### ***Implementation and Updating of the Regional Navigation Plan***

4.10 The Meeting analysed Table CNS 3 (Navigation Systems Regional Plan) and noted that the requirements for GNSS, GBAS and SBAS augmentations are included within this Plan. As GNSS is being introduced, progressive deactivation of NDB and VOR stations would occur, but in the short term maintaining a combination of GNSS, autonomous systems, and conventional ground radio aids. In order to facilitate the update of Table CNS 3, the Meeting formulated **Draft Conclusion 1/9**, which requested that a point-of-contact in charge of national coordination be identified. The ICAO NACC Office sent a letter to the E/CAR States/Territories requesting this information through State Letter Ref. EMX0102 dated 31 January 2008.

### ***Development of a Progressive Deactivation Plan of NDB Stations***

4.11 The Meeting took note that GREPECAS drafted Conclusion 14/56 – *Progressive Deactivation of NDB Stations*, which urged States, Territories, International Organizations and airspace users to analyse the service provided by each NDB station, its function, procedural existence with other aids such as VOR/DME, GNSS-RNAV, as well as aircraft capacity/development that operate in the concerned airspace in order to develop progressive deactivation of NDB stations without affecting safety. The information requested in this conclusion is necessary for GREPECAS planning activities. The ICAO NACC Office has requested the abovementioned information from the CAR States for the through State Letter Ref. EMX0103 dated 1 February 2008. In this regard, the Meeting formulated **Draft Conclusion 1/8**.

### ***Follow-up to the Amendments, the New GNSS-related SARPs and ICAO Guidelines***

4.12 The Meeting noted that it is important that GNSS implementation and performance-based navigation are carried out in accordance with the strategy established by the Global Air Navigation Plan and ICAO SARPs and guidance. Taking into account GREPECAS Conclusion 13/85, as well as ICAO guidance on provisional policies regarding GNSS cost-allocation presented in IP/04, States/Territories/International Organizations should implement available GNSS basic services, promote GNSS use in several sectors of their corresponding country and disseminate the results of the studies for implementation of GNSS augmentation solutions in order to obtain the benefits and contribute to understanding the need to share costs between all users in a State.

### ***Follow-up to the Studies, Trials and Results of the Regional Projects Related with the GNSS, RLA/00/009 and RLA/03/902***

4.13 The Meeting noted the importance of following-up on the studies and results of regional projects RLA/00/009 and RLA/03/902, as well as the experiences obtained by States and other regions on the implementation of GNSS. The website of Project RLA/03/902 is: [www.rlasaccsa.com](http://www.rlasaccsa.com). Therefore, the Meeting formulated **Draft Conclusion 1/10**.

### ***Action Plan for the Follow-up of the GNSS Implementation***

4.14 Based on the information and analysis contained in the previous paragraphs, the Meeting reviewed and recommended the implementation of the GNSS Action Plan contained in **Appendix C** to this paper. Therefore, the Meeting formulated **Draft Conclusion 1/11**.

***Review of the Planning and Implementation of Surveillance Systems and Radar Data Sharing among Neighbouring ATS Units***

***Strategy of the Global Air Navigation Plan on Surveillance Based on Data and ICAO SARPS and Guidelines***

4.15 The Meeting noted that the Global Air Navigation Plan (Doc 9750 – AN/963) established Global Plan Initiative (GPI) 09. This strategy guides the application of data-based surveillance (ADS-C, ADS-B and SSR in Mode S) and the status of SARPs and ICAO guidelines on surveillance systems that were explained in the Surveillance Seminar that was carried out jointly with this Meeting.

***Follow-up to the Preliminary Regional Strategy for the ADS-C and ADS-B Deployment***

4.16 As follow-up to the work performed by the GREPECAS mechanism on the guidelines for ADS-B and ADS-C deployment, the Meeting noted the Preliminary CAR/SAM Regional Strategy for ADS-C and ADS-B System Implementation in the short, medium and long terms adopted by GREPECAS.

***ADS-B, ADS-C and Other Surveillance Systems Implementation Initiatives***

4.17 The Meeting considered GREPECAS Conclusion 13/87 and as a result, the First Meeting of the CNS Committee of the GREPECAS mechanism, which was jointly held with this Meeting, noted the initiatives to carry out ADS-C and ADS-B trials and multilateralism in the CAR Region. The delegate from Trinidad and Tobago informed that his State and the United States had already agreed to carry out ADS-B trials; other CAR/SAM States/Territories/International Organizations are invited to participate. The IATA representative informed the Meeting on the results of the survey made by his organization on navigation, surveillance and communication capacity of aircraft operating in the Region. Regarding the mentioned trials, the Meeting formulated **Draft Conclusions 1/12, 1/13 and 1/14**.

***Updating of the Surveillance Regional Plan***

4.18 Considering the implementation initiatives for ADS-C, ADS-B and multilateralism systems, as well as the results of the study on the Regional Implementation of SSR in Mode S and other surveillance systems, the Meeting took note of the update to FASID Table CNS 4A carried out by the GREPECAS/14 Meeting.

***Radar Data Sharing***

4.19 With regard to radar data sharing, the Meeting took note that there has not been a meeting of the E/CAR Data Sharing Task Force for the last two years; however, there were time lines presented at the last E/CAR WG and work is on-going. Also, Trinidad and Tobago indicated they have signed an agreement with Barbados and the French Territories for remoting their radar data.

***Action Plan for the Surveillance Systems Implementation Follow-up***

4.20 The Meeting recommended the review, adoption and execution of the Action Plan for the Implementation of Surveillance Systems presented in **Appendix D** to this paper, and it formulated **Draft Conclusion 1/15**.



***Support to the ICAO Position for the ITU WRC-2007***

4.21 The Meeting noted that recently ICAO prepared an updated ICAO position proposal for the WRC-2007, which was approved by the ICAO Council on 28 May 2007. The updated proposal was presented to the Meeting in Appendix Q to Agenda Item 3 of the CAR WG/01 Report. Additionally, the Meeting noted that the preparation of common inter-American positions for the WRC-2007 is being developed by CITEL's Permanent Consultative Committee (CCP.II). Therefore, it formulated **Draft Conclusion 1/16**.

**5 Establishment of Interfaces for ATM Automated Systems between Adjacent ATS Units**

5.1 Taking into account the guidelines of GREPECAS and the regional guidance material developed by the GREPECAS mechanism, including the Interface Control Document (ICD) for communications between ATS units, the Meeting reviewed and recommended the execution of the Action Plan for the Implementation of Interfaces for the Establishment of ATM Automated Systems among ATS Adjacent Units, considering the Plan presented in **Appendix E** to this paper. Therefore, the Meeting formulated **Draft Conclusion 1/17**.

**6 Other Air Navigation Matters**

6.1 The Meeting recalled that the NACC/DCA/2 adopted Conclusion 2/27 *Human Resources and Training Planning*, inviting States/Territories/International Organizations to consider as an urgent matter the need for human resource planning for the next five years within air navigation services units. The lack of personnel adversely affects service capability, hence an adverse impact on safety and efficiency. On this matter, the Meeting also recognised the important steps taken by the CAR Region on this subject highlighting Barbados, Cuba, Jamaica, and Trinidad and Tobago.

***Review of the AIS/MAP – AIM Activities***

6.2 Based on the guidelines issued by GREPECAS on AIS/MAP issues, the Meeting followed-up on related activities of the CAR Region States/Territories/International Organizations. The review focused on the main tasks still pending. The results of this follow-up are presented in **Appendix F** to this paper.

6.3 Furthermore, the Meeting agreed on the importance to train AIS/MAP experts from States/Territories/International Organizations. In this respect, the Secretariat informed that in accordance with the Meeting and Seminars Programme of the ICAO NACC Regional Office, a Seminar on Terrain and Obstacles Electronic Data (e-TOD) was held in the Dominican Republic the week of 22 October 2007. In order to find and apply solutions to AIS deficiencies as soon as possible and conserve State and ICAO resources, the Meeting suggested combining the e-TOD Seminar with a follow-up meeting on AIS deficiencies. As a result of the follow-up to these AIS/MAP issues, the Meeting formulated **Draft Conclusion 1/18**.

**7. Suggested Action**

7.1 The Meeting is invited to:

- a) note the information contained in this working paper; and
- b) review and approve the relevant Eastern Caribbean draft conclusions of the CAR/WG/01 Meeting Report shown in the attachment to this paper.

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**ATTACHMENT**  
**DRAFT CONCLUSIONS OF THE CAR/WG/1 MEETING**

**DRAFT**  
**CONCLUSION 1/1**

**IMPLEMENTATION OF AIR NAVIGATION SYSTEMS IN THE  
CAR REGION**

That:

- a) States/Territories/International Organizations develop and implement an action plan as a follow-up to the results of GREPECAS/14, shown in **Appendix C** to this part of the report (*refer to the Appendix to WP/04 of the CAR WG/01 Meeting*) and forward before **29 February 2008** to the ICAO NACC Office their respective action plan and progress achieved;
- b) the Working Groups of the CAR Region, assisted by ICAO, align its CAR Region planning and implementation work with the ICAO Strategic Objectives, the Global Air Navigation Plan and the Conclusions of GREPECAS; and,
- c) ICAO assists the States/Territories/International Organizations in developing and implementing their action plans and examining the terms of reference of the CAR Region working groups.

**DRAFT**  
**CONCLUSION 1/2**

**CREATION OF A CAR ATM TASK FORCE**

That, based in the existing Terms of Reference for the different subregional Working Groups (E/CAR, C/CAR, and Central America):

- a) ICAO NACC Office organize in early 2008, a CAR ATM Task Force Meeting to develop an ATM Regional Action Plan for seamless CAR ATM System, based in the **Appendix A** to this part of the report (*refer to Appendix I to Agenda Item 5 of the report of the GREPECAS/14 Meeting*), to be presented in the next CAR/WG Meeting; and,
- b) States/Territories/International Organizations, nominate its ATM experts to integrate the ATM Task Force Group of the Caribbean.

**DRAFT**  
**CONCLUSION 1/3**

**ENDORSEMENT TO WATRS PLUS PROJECT**

That,

- a) States/Territories/International Organizations of the CAR Region endorse the “WATRS PLUS” Project implementation work in **5 June 2008**; and,

- b) ICAO takes the necessary measures to distribute the proposals for amendment for the NAT and CAR Regions to the Regional Supplementary Procedures (SUPPs, Doc 7030) for the implementation of the 50 NM lateral separation and redesign of ATS routes in the WATRS airspace, as it corresponds.

**DRAFT**

**CONCLUSION 1/4**

**REVIEW OF THE MULTILATERAL SAR AGREEMENT MODEL**

That,

- a) ICAO take the appropriate actions to organize in early 2008, a CAR SAR meeting; and
- b) States, Territories and International Organizations appoint SAR experts to attend Regional CAR SAR meetings, to review the Multilateral SAR Agreement model for the CAR Region, as shown in the **Appendix** to this report (*refer to the **Annex** to this Attachment*).

**DRAFT**

**CONCLUSION 1/5**

**PROPOSAL FOR AMENDMENT TO THE FASID TABLE CNS 2A**

That the ICAO NACC Regional Office forward the corresponding proposal for amendment of the FASID Table CNS 2A – AMS and AMSS related to,

- a) the relevant requirements to the CAR Region States/Territories, as included in **Appendix C** to this part of the report (*refer to the Appendix E to WP/11 of the CAR WG/01 Meeting*); and
- b) modify the format of the FASID Table CNS 2A combining all the communication requirements' columns to only one column titled "A/G data".

**DRAFT**

**CONCLUSION 1/6**

**PRELIMINARY REGIONAL APPROACH FOR THE IMPLEMENTATION OF THE INTERNET PROTOCOL FOR AMHS**

That when States/Territories/International Organizations plan and implement their respective AMHS systems, they keep into account, in an interim manner, the "*Preliminary Regional approach for the implementation of the Internet Protocol for AMHS*" which is presented in **Appendix G** to this part of the report (*refer to WP/18 of the CAR WG/01 Meeting*), until the GREPECAS considerations on this topic are issued.

**DRAFT  
CONCLUSION 1/7****ESTABLISHMENT AND IMPLEMENTATION OF AN ACTION  
PLAN FOR THE IMPLEMENTATION OF REQUIRED  
GROUND-GROUND AND AIR-GROUND VOICE AND DATA  
COMMUNICATIONS**

That States/Territories/International Organizations:

- a) review, complete and implement their respective action plan for the implementation of the ground-ground and air-ground voice and data communications, based on the format presented in **Appendix H** to this part of the Report (*refer to Appendix B to this working paper*); and
- b) forward the Plan mentioned in a) to the ICAO NACC Regional Office no later than **29 February 2008**.

**DRAFT  
CONCLUSION 1/10****FOLLOW-UP THE ACTIVITIES ON GNSS**

That, the States/Territories/International Organizations:

- a) follow-up the GNSS-related SARPs and GNSS related ICAO guidelines and policies;
- b) review and start actions to continue the implementation of GNSS basic services;
- c) follow-up the activities and results of the studies and trials of the regional; and
- d) the activities and results of the projects RLA/00/009 and RLA/03/902, which are related to the solution for the SBAS implementation and other GNSS augmentation systems.

**DRAFT  
CONCLUSION 1/11****ESTABLISHMENT AND IMPLEMENTATION OF AN ACTION  
PLAN FOR THE GNSS IMPLEMENTATION**

That States/Territories/International Organizations,

- a) review, complete and implement their respective action plan for the GNSS implementation, based on the Plan shown in **Appendix K** to this part of the report (*refer to Appendix C to this working paper*); and
- b) forward the Plan mentioned in a) above to the ICAO NACC Regional Office, in order to be received before **29 November 2008**.

**DRAFT**

**CONCLUSION 1/12**

**ADS-C TRIALS IN THE CAR REGION**

That, Trinidad and Tobago be urged to conduct ADS-C trials with the following tentative schedule:

- i. trials in the Piarco FIR;
- ii. the data and other results be informed to the ICAO NACC Office to be analysed and coordinated through the GREPECAS CNS/SUR Task Force; and
- iii. present an initial report on the analysis of the trials before **31 July 2008** to enable ICAO and the GREPECAS mechanism to present the results at the GREPECAS/15 Meeting tentatively to be held in October 2008.

**DRAFT**

**CONCLUSION 1/13**

**APPLICATION OF MULTILATERATION AS A SURVEILLANCE OPTION**

That,

- a) States/Territories/International Organizations consider multilateration as a viable option to provide immediate surveillance coverage in geographical areas where secondary radar cannot be effectively deployed and at the same time it provides an economically effective transition to ADS-B when all aircraft are fully and correctly equipped; and
- b) Trinidad & Tobago be urged to conduct trials in multilateration along similar guidelines used for the ADS-C trials as a transition path to ADS-B in a medium term.

**DRAFT**

**CONCLUSION 1/14 ADS-B TRIALS**

To urge,

- a) Cuba to continue its ADS-B trials in the Havana FIR;
- b) Trinidad and Tobago and the United States to establish and implement an ADS-B trials project in the Piarco FIR ;
- c) States/Territories/International Organizations from the CAR Region be invited to participate in the Project mentioned in b) above, expanding the trials in other airspace and follow-up the execution and results of the projects mentioned in a) and b), as well as other initiatives; and

## - ATT 5 -

- d) all States/Territories/International Organizations who conduct trials and other ADS-B related activities, inform the ICAO NACC Office before **31 July 2008** on the status of implementation and results of their activities to ease the analysis and coordination through the GREPECAS CNS/SUR Task Force.

**DRAFT****CONCLUSION 1/15****ESTABLISHMENT AND IMPLEMENTATION OF AN ACTION PLAN FOR THE SURVEILLANCE SYSTEMS IMPLEMENTATION**

That States/Territories/International Organizations:

- a) review, complete the information and execute their corresponding action plan for the implementation of surveillance systems, taking in consideration **Appendix P** to this part of the report (*refer to Appendix D to this working paper*); and
- b) forward the Plan mentioned in a) above to the ICAO NACC Regional Office, in order to receive it before **29 February 2008**.

**DRAFT****CONCLUSION 1/16****FINALIZING THE REGIONAL PREPARATION AND SUPPORT TO THE UPDATED ICAO POSITION FOR THE WRC-2007**

States and International Organizations are urged to:

- a) who take note of the updated ICAO position for the WRC-2007 presented in **Appendix Q** (*refer to the Appendix to WP/14 of the CAR WG/01 Meeting*) and to incorporate it into the positions of their own administrations who will participate at the WRC-2007;
- b) who are CITEL Member States, to participate in the preparation of common inter-American positions for the WRC-2007, which is being developed by CITEL's Permanent Consultative Committee (CCP.II), supporting the updated ICAO position for the WRC-2007; and
- c) participate in the WRC-2007 in order to support the updated ICAO position in order to guarantee the availability and protection of the aeronautical radiofrequency spectrum, which is essential to meet the civil aviation demands in a safe, efficient and cost-effective manner.

**DRAFT**

**CONCLUSION 1/17**

**ESTABLISHMENT AND IMPLEMENTATION OF AN ACTION PLAN FOR THE IMPLEMENTATION OF INTERFACES FOR THE ESTABLISHMENT OF ATM AUTOMATED SYSTEMS AMONG ATS ADJACENT UNITS**

That States/Territories/International Organizations:

- a) review, complete and execute their respective action plan for the implementation of interfaces for the establishment of ATM automated systems between adjacent units considering **Appendix C** to this part of the report (*refer to Appendix E to this working paper*); and
- b) forward the plan mentioned in a) above to the ICAO NACC Regional Office in order to be received no later than **29 February 2008**.

**DRAFT**

**CONCLUSION 1/18**

**IMPLEMENTATION OF AN AIS/MAP-AIM ACTION PLAN AND PARTICIPATION OF OFFICERS IN THE SEMINAR ON TERRAIN AND OBSTACLES ELECTRONIC DATA (e-TOD) AND THE FOLLOW-UP MEETING**

That States/Territories/International Organizations,

- a) follow-up and execute the AIS/MAP-AIM Action Plan presented in **Appendix B** to this part of the report (*refer to Appendix F to this working paper*), inform the ICAO NACC Regional Office on the results of the implementation of tasks that are relevant to them, in order to receive responses no later than **27 September 2007**;
- b) consider in their training plans the participation of AIS/MAP officers and the designation of AIS experts to participate in the Seminar on Terrain and Obstacles Electronic Data (e-TOD), and in the combined AIS follow-up Meeting scheduled as a first alternative in Dominican Republic on the week of 22 October 2007; and
- c) the ICAO Regional Office consider as a second option to hold the combined Seminar/Meeting in Trinidad and Tobago in the second trimester of 2008 in view of the importance of this fact for the support to the implementation of the ATM system.

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## **ANNEX TO THE ATTACHMENT**

### **REGIONAL AGREEMENT ON AERONAUTICAL AND MARITIME SEARCH AND RESCUE FOR THE CARIBBEAN**

#### **1 INTRODUCTION**

The present Regional SAR Agreement, is subscribed by the Caribbean States and is developed based on the principles and guidelines contemplated in the SAR Manuals and Documents of ICAO and of the IMO.

#### **2 OBJECTIVES**

This Agreement recognizes the SAR importance and its applicability in the Search and Rescue Region (SRR) of the Caribbean, and its objectives are the following:

- a. Ensure the compliance of the international principles supported by the Convention on International Civil Aviation signed in Chicago on December 7, 1944 (Chicago Convention), ICAO Annex 12, as well as other international instruments related to SAR;
- b. Through the coordination of efforts, establish an efficient use of all the resources available for the SAR service in the SRR of the Caribbean States;
- c. To assist in the SAR services provisions implementation, according to the Caribbean States laws and regulations;
- d. To direct and promote cooperation among the Parties of this agreement through its respective SAR Units (RCC and RSC), as well as other similar institutions which could help enhance the SAR response capabilities to whomever requires the service;
- e. Maintain the policies and procedures for the SAR coordination and operations.

#### **3 RESPONSIBILITY AND ORGANIZATION OF THE SAR IN THE CARIBBEAN**

- a) The Caribbean States through the Directors of Civil Aviation, are responsible for the Caribbean Aeronautical SAR service in the Region (SRR);
- b) Each Caribbean State assumes the responsibility to form a Rescue Coordination Centre (RCC) with the following functions:
  - i) Designate a SAR Mission Coordinator (SMC).
  - ii) Coordinate with the SMC the operative activities for the carrying out of SAR missions.
  - iii) Coordinate with the adjacent RCCs.
- c) The area of responsibility of the RCCs/RSCs is constituted by its territory and territorial waters and eventually, SAR service operations could cover outside areas;

- d) The RCCs/RSCs will maintain close cooperation with the Air, Maritime and ground SAR authorities, and encourage such authorities in the SAR planning to ensure that adequate mutual aid is available;
- e) The RCCs/RSCs should coordinate immediate assistance to all persons in distress and requiring SAR aid, regardless of their nationality, status or circumstance;
- f) As indicated in this agreement, each State should establish a SAR National Plan and guarantee the necessary resources for its coordination and execution.

#### **4 POINT OF CONTACT AND EXCHANGE OF INFORMATION**

- a) Each CAR State will designate a SAR Operational Point of Contact, mainly among the Supervisors of the Rescue Coordination Centres (RCCs);
- b) The Directors of Civil Aviation of the concern States, will coordinate the issues related to policies and/or this agreement's regulations;
- c) The objective of the SAR Points of Contact is to facilitate the direct operational coordination among the authorities or SAR facilities;
- d) The SAR Authorities of the interested Parties, will exchange all the appropriate information in support of this agreement without limiting to: address, telephone, fax, electronic mail of the point of contact, information on SAR operational plans and supporting facilities and the available radio frequencies.

#### **5 GENERAL OPERATIONAL PROCEDURES**

- a) For an emergency alert, the RCCs/RSCs will exchange information among them, and maintain mutually informed in a timely and efficiently manner during operations, using for this purpose all available means;
- b) Any SAR Centre (RCC/RSC) when receiving emergency information will take urgent measures to provide the appropriate aid;
- c) The RCCs/RSCs leading SAR operations will cooperate among them whenever necessary and will coordinate their actions focus to this purpose, mutual advise among them according to their capabilities;
- d) If doubts arises in respect to the main responsibilities of each RCCs/RSCs, as per the coordination of SAR operations, the SMCs of each RCCs/RSCs involved will coordinate in each case by consulting among them determining which of the SMC will have the main responsibility in the coordination of SAR operations;
- e) Each State exercises their territory sovereignty and will respect the sovereignty of the other State. The States have the humanitarian obligation to safeguard lives of individuals during disasters whenever possible and collaborate with neighbouring countries for this purpose. Therefore, the signatory States agreed to keep in harmony the areas that could be consider as sensitive in the following manner:

- i) When there is an urgent need that the SAR units of one of the RCCs/RSCs enter in a territory or territorial waters of other RCCs/RSCs, with the purpose to carry out search and/or rescue operations, the permits will be arranged through the diplomatic channels involved, which will proceed according to the correspondent authorization as expedite as possible;
- ii) To facilitate the coordination and execution of the SAR operations, the RCCs/RSCs involved should be timely and completely informed of all the expected relevant activities;
- iii) Any SAR Unit receiving information in respect to a distress incident, will immediately take the correspondent actions to help as its capabilities allow or will alert other units that could help and notify the Rescue Coordination Centre or the Sub-centre located in the area of distress.
- f) To carry out the SAR operations in the SRR of the Caribbean, the RCCs/RSCs will implement a SAR Communications system according to the communications and equipment requirements established in the ICAO Document 9731 and in the IMO or other related Documents.;
- g) The SAR operation requirements should be contained in the National Plans and SAR Operative Procedures Manuals of the RCCs and of the RSCs as indicated by the IAMSAR.

## **6 MUTUAL COOPERATION**

- a) The RCCs/RSCs will exchange additional information related to specific cases of the SAR service that could be used to improve the SAR operations efficiency. This type of information could include information on SAR units, description of available aerodromes, medical facilities, fuelling, as well as any other resource and useful information for the SAR Service.
- b) The parties agreed to collaborate in the SAR efforts by:
  - mutual visits of the parties SAR personnel;
  - joint training exercises;
  - cooperate in the procedures formulation, techniques, equipments or SAR means;
  - exchange of the pertinent SAR information or communications; and
  - constitute one or more SAR committees as a mean of cooperation for the enhancement of the SAR efficiency.

## **7 GENERAL PROVISIONS**

- a) None of the information contained in this Agreement will affect in any way some the rights and obligations derived from the international agreements or of the International Law;
- b) Each State will finance their correspondent activities emerged from this Agreement, unless the parties decide otherwise and, in any case, will not allow a manner of reimbursement of cost to delay response to persons in distress;

- c) The termination of this Agreement by any of the signatories, will come into effect only after a written advisement with one year in advance by the signatory to the other involved signatories, or, based on the date of execution of a new Agreement;
- d) The termination, according to para b) above, will not affect SAR operations already initiated, they will keep its course until completed, unless otherwise agreed by the signatories;
- e) This Agreement will continue applying after its termination in respect to any Administrative or judicial process emerged from measures taken according to this Agreement;
- f) All the agreements related to SAR between RCCs/RSCs, should be, as far as possible, in accordance with the provisions of this Agreement. The Regional SAR agreements signed previously to this one, will continue in force;
- g) This agreement enters in force from the signatories signatures.

**SIGNED** in \_\_\_\_\_ (State) \_\_\_\_\_ (date) \_\_\_\_\_ with authentic texts in English and Spanish.

**BY THE GOVERNMENTS OF THE CAR REGION .....**

**XXXX**  
Director of Civil Aviation

**XXXXXX**  
Director of the Civil Aviation

**XXXX**  
Director of Civil Aviation

**XXXXXX**  
Director of Civil Aviation

**XXXX**  
Director of Civil Aviation

**XXXXXX**  
Director of Civil Aviation

**XXXX**  
Director of Civil Aviation

**XXXX**  
Director of Civil Aviation

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## APPENDIX A

## ACTION PLAN FOR ATFM IMPLEMENTATION - CAR REGION

State/Organization:

Date

Jun-07

No.	Strategic Objective/ AN-Conf/11	Global Plan/ GPI	Regional Plan / FASID	GREPECAS No. Con/Dec/Pa	Target Activity	Follow-up Action	To be developed by	Deliverable	Target date	Remarks
1	2	3		4	5	6	7	8	9	10
					<b>2008</b>					
1	C, D		GPI-6		Develop a regional strategy and work programme for harmonized implementation of ATFM service.	Completed	E/T/OI	Work programme	2007	
				14/48						
2	D		GPI-6		Identify key stakeholders (ATC service providers and users, military authorities, airport authorities, aircraft operators and relevant international organisations) for purposes of coordination and cooperation, using a CDM process.	Completed	E/T/OI	CDM process	2007	CDM guidelines in WP/07.
3	D		GPI-7		Identify and analyse traffic flow problems and develop enhancements in current:	Completed	E/T/OI	Improvements to operational capacity	GRPCS/13	GREPECAS has defined main traffic flows and homogeneous CAR/SAM areas.
			GPI-7		airspace organization and management (AOM) and ATS routes structure (unidirectional routes) and SID and STARS;	Valid	E/T/OI	Airspace improvements		Guidelines are presented in WP/06.
			GPI-6		publication of the correspondent regulation;	Valid	OACI	Amendment to Doc 7030.	2008	Publish standards in AIPs.
			GPI-16		ATM automation;	Completed	E/T/OI	Action plan of E/T/OI	2007	Additional guidelines are presented in WP/15 from the ones approved by GREPECAS.
				14/48						

## APPENDIX A

No.	Strategic Objective/ AN-Conf/11	Global Plan/ GPI	Regional Plan / FASID	GREPECAS No. Con/Dec/Pa	Target Activity	Follow-up Action	To be developed by	Deliverable	Target date	Remarks
1	2	3		4	5	6	7	8	9	10
		GPI-21-22			communication, navigation and surveillance systems;	Valid	E/T/OI	Define requirements	TBD	
		GPI-14			aerodrome capacity;	Completed	E/T/OI	Aerodrome Acceptance Rate (AAR)	2007	Guidelines in CAR/SAM ATFM CONOPS. Require to publish capacity.
		GPI-6			ATS capacity;	Valid	E/T/OI	ATS capacity	2008	Guidelines in the CAR/SAM ATFM CONOPS. Require to determine and publish the capacity.
		GPI-6		13/67	training for pilots and Controllers; and	Valid	E/T/OI	Training Programme	2008	Guidelines are presented in WP/07.
		GPI-6		14/48	ATS letters of agreement.	Valid	E/T/OI	ATS agreements	2008	ECAR completed.
4	D	GPI-9		14/48	Define common elements of situational awareness between FMUs;	Valid	E/T/OI	Enhance situational awareness	2008	Action plan of E/T/OI.
		GPI-9			common traffic displays;	Valid	E/T/OI	Define tools	2008	Analyze ETMS or similar applications.
		GPI-9			common weather displays (Internet);	Valid	E/T/OI	Define tools	2008	

## APPENDIX A

No.	Strategic Objective/ AN-Conf/11	Global Plan/ GPI	Regional Plan / FASID	GREPECAS No. Con/Dec/Pa	Target Activity	Follow-up Action	To be developed by	Deliverable	Target date	Remarks
1	2	3		4	5	6	7	8	9	10
		GPI-9			communications (teleconferences, web); and,	Valid	E/T/OI	Define tools	2008	Weekly teleconferences carried out in Piarco FIR between January-April 2007.
	D	GPI-6			define daily teleconference/messages methodology advisories.	Completed	E/T/OI	Teleconferences methodology	2007	Guidelines in WP-07. Requires an agreement.
5	D	GPI-6			Develop methods to establish demand/capacity forecasting.	Valid	E/T/OI	Traffic forecast methodology	2008	Electronic tools are being analyzed.
					<b>2010</b>					
6	D	GPI-1			Develop a regional strategy for the implementation of flexible use of airspace (FUA); -assess use of airspace management processes; -improve current national airspace management to adjust dynamic changes in tactical stage to traffic flows; -introduce improvements in ground support systems and associated procedures for the extension of FUA with dynamic airspace management processes; and,	Valid	E/T/OI	FUA implementation	2010	Requires to analyze RAN CAR/SAM/3 recommendations.
	D	GPI-6			implement dynamic ATC sectorization in order to provide the best balance between demand and capacity to respond in real-time to changing situations in traffic flows, and to accommodate in short-term the preferred routes of users.	Valid	E/T/OI	Dinamic Sectorization	2010	

## APPENDIX A

No.	Strategic Objective/ AN-Conf/11	Global Plan/ GPI	Regional Plan / FASID	GREPECAS No. Con/Dec/Pa	Target Activity	Follow-up Action	To be developed by	Deliverable	Target date	Remarks
1	2	3		4	5	6	7	8	9	10
7			GPI-16		Define common electronic information and minimum databases required for decision support and alerting systems for interoperable situational awareness between Centralized ATFM units.	Valid	E/T/OI		2010	Analyze ETMS or similar applications.
8	D		GPI-6		Develop regional procedures for efficient and optimum use of aerodrome and runway capacity.	Valid	E/T/OI	Improve aerodrome capacity	2010	Requires development of methodology to optimize runway occupancy.
9	D		GPI-6		Develop a regional ATFM procedural manual to manage demand/capacity balancing.	Valid	E/T/OI	Regional ATFM Procedures	2010	Requires development of regional manual in accordance with SUPPS.
10	D		GPI-6	13/64	Develop a regional strategy and framework for the implementation of a Centralized ATFM unit.	Completed	E/T/OI	Centralized ATFM strategy	GRPCS/13	Regional guidelines in CAR/SAM ATFM CONOPS.
11	D		GPI-6		Develop operational agreements between Centralized ATFM units for interregional demand/capacity balancing.	Valid	E/T/OI	Agreements between Central ATFM units.	2010	



## APPENDIX B

## ACTION PLAN FOR THE FOLLOW-UP AND IMPLEMENTATION OF AIR-GROUND AND GROUND-GROUND COMMUNICATIONS

Estado/Organización:

Fecha:

No.	Strategic Objective/ Objetivo	Global Plan/ Plan Mundial - GPI	GREPECAS No. Con/Dec/Pa	Target Activity/ Actividad Meta	Follow-up Action/ Acción de seguimiento	To be developed by/ A ser desarrollado por	Deliverable/ Entregable	Target date/ Fecha límite	Remarks/ Observaciones
1	2	3	4	5	6	7	8	9	10
1	A, D	GPI-17	13/71 a)	Improve or mitigate the VHF and HF/SMA ( R ) coverage		States and International Organizations.	Compliance with the required coverage		
2	A, D	GPI-17	13/71 b)	Implement required satellite voice communications		States and International Organizations.	Implement the required voice communications		
3	A, D	GPI-17	13/71 b)	Review and proposal for amendment corresponding to the FASID Table CNS 2A, according to the results of action 13/71 a).		States and International Organizations.	Proposal for amendment		
4	A, D	GPI-17	13/71 c)	Inform the ICAO NACC Regional Office regarding the progress on actions a) and b) of Con. 13/71		States and International Organizations.	Information sent		
5	A, D	GPI-17	13/72 a)	Prepare an execution Plan of the progressive air-ground data links, based on the Plan of activities and the Implementation Programme presented in Appendixes AW and AX to Agenda Item 3 of the GREPECAS/13 Report.		States and International Organizations.	Prepared Plan		
6	A, D	GPI-17	13/72 b)	Review and proposal for amendment corresponding to the FASID Table CNS 2A, according to the results of action 13/72 a).		States and International Organizations.	Proposal for amendment		
7	A, D	GPI-17	13/72 c)	Inform the ICAO NACC Regional Office regarding the progress on actions a) and b) of Con. 13/72		States and International Organizations.	Information sent		
8	A, D	GPI-17	13/74	Forward the proposal for amendment to the ATN Regional Plan format.		ICAO	Proposal for amendment forwarded		
9	A, D	GPI-17	13/75 a)	Analyze requirements and prepare plans to implement ATN ground-ground applications, such as AMHS and AIDC.		States and International Organizations.	Prepared Plan		

## APPENDIX B

No.	Strategic Objective/ Objetivo	Global Plan/ Plan Mundial - GPI	GREPECAS No. Con/Dec/Pa	Target Activity/ Actividad Meta	Follow-up Action/ Acción de seguimiento	To be developed by/ A ser desarrollado por	Deliverable/ Entregable	Target date/ Fecha límite	Remarks/ Observaciones
1	2	3	4	5	6	7	8	9	10
10	A, D	GPI-17	13/75 a)	Inform the ICAO NACC Regional Office regarding the results of action a) of Con. 13/75.		States and International Organizations.	Information sent		
11	A, D	GPI-17	13/78	Carry out activities for the deployment of the ATN and its applications according to the deadlines and strategies presented in Appendix BA to Agenda Item 3 of the GREPECAS/13 Report.		States and International Organizations.	Deployment of the ATN according to planned dates.		
12	A, D	GPI-17	13/79	Develop national plans for the implementation of the AMHS and the AIDC, contributing to the development of the ATM automation.		States and International Organizations.	Prepared Plan		
13	A, D	GPI-17	14/53	Forward the proposal for amendment of the FASID Table CNS 2A that was reviewed by the GREPECAS/14.		ICAO	Proposal for amendment forwarded		
14	A, D	GPI-17	GRP14 pa. 3.6.3.17	Forward the Table format proposal for the ATN air-ground applications regional plan, presented in Appendix AD to the Report on Agenda Item 3 of the GREPECAS/14 Report.		ICAO	Proposal for amendment forwarded		

**ACTION PLAN FOR THE GNSS IMPLEMENTATION FOLLOW-UP - CAR REGION  
APPENDIX C**

E/CAR DCA/21-WP/03

State/Organization:  
Estado/Organización:

Date/Fecha:

No.	Strategic Objective/ Objetivo	AN-Conf/11	Global Plan/ Plan Mundial - GPI	Regional Plan/ Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action / Acción de seguimiento	To be developed by / A ser desarrollado por	Deliverable / Entregable	Target date / Fecha límite	Remarks / Observaciones
1	2		3		4	5	6	7	8	9	10
1	A, D	Rec 6/1 b)	GPI-21			<b><u>Recommendations of the AN-Conf/11 for the transition to satellite-based air navigation</u></b> Adopt measures to achieve, as soon as possible, worldwide navigation capability to at least APV I performance.		States and air navigation services Providers	Adopted measures		
2	A, D	Rec 6/1 c)	GPI-21			Take note of the available and upcoming SBAS navigation services providing for APV operations.		States and air navigation services Providers	Take note		
3	A, D	Rec 6/1 c)	GPI-21			Take the necessary steps towards installation and certification of SBAS capable avionics.		States and airspace users	Installed and certified avionics		
4	A, D		GPI-21		12/45 a)	<b><u>New guidelines and regional strategy for the GNSS transition</u></b> Take into account the "Regional Guidelines for the transition to the GNSS" and the "Regional strategy for the introduction and application of non visual aids to approach, landing and departure"		States and International Organizations	Compliance with the required coverage.		
5	A, D		GPI-21	Tabla CNS 3	13/84 a)	<b><u>Studies for a CAR/SAM Regional SBAS solution</u></b> Continue introducing the GNSS in an evolutionary and coordinated manner, according to the ICAO Global Plan.		States and International Organizations	Introduce GNSS		
6	A, D		GPI-21	Tabla CNS 3	13/84 a)	Conducting the studies for a CAR/SAM regional SBAS solution; and applying other augmentations, also taking into account that added benefits should help to justify the cost of reaching the ultimate goal of migrating to the GNSS once ground-based aids are dismantled.		States and International Organizations	Studies carried out		

No.	Strategic Objective/ Objetivo	AN-Conf/11	Global Plan/ Plan Mundial - GPI	Regional Plan/ Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action / Acción de seguimiento	To be developed by / A ser desarrollado por	Deliverable / Entregable	Target date / Fecha límite	Remarks / Observaciones
1	2		3		4	5	6	7	8	9	10
7	A, D		GPI-21		13/84 d)	Interested parties in participating in the Project RLA/03/902 should consider the revised rates to join this project.		States and International Organizations	Participation in the Project		
8	A, D		GPI-21		13/85	Foster the use of GNSS in diverse sectors of their respective States and disseminate the results of the studies on the solution of SBAS augmentation.		States and International Organizations			
9	A, D		GPI-21		GRP14 3.6.3.2 0 to 28	Follow-up to the studies and results of the regional projects RLA/00/009 and RLA/03/902 on the SBAS augmentation solution in the CAR/SAM Regions.		States and International Organizations	Consider the results of the studies		
10	A, D		GPI-21		14/55	Take note that the SBAS solutions proposed for the CAR/SAM Regions should be oriented to achieve at least APV I capability.		States and International Organizations	Proposed SBAS solution to at least APV I performance		
11	A, D		GPI-21			<b><u>Follow-up to the SARPs and ICAO guidelines and policies on GNSS</u></b> Reply State Letter Ref.: AN 7/1.3.91-07/31 dated 11 May 2007.				24-08-07	
12	A, D		GPI-21		GRP13 pa. 3.6.3.6 1	Follow-up and implement GNSS in accordance to the SARPs and ICAO guidelines.		States and International Organizations	Take note and issue comments		
14	A, D		GPI-21	Tabla CNS 3	14/56 a)	<b><u>Progressive deactivation of conventional radio aids</u></b> Analyse the service provided by each NDB station and the existence of procedures with other aids such as VOR/DME and GNSS-RNAV, as well as the aircraft capacity/development that operate in the serviced airspace.		States, International Organizations and airspace users	Conducted analysis		
15	A, D		GPI-21	Tabla CNS 3	14/56 b)	Based on the results of the action in 14/56 a) and on the Table format presented in Appendix AF to the Report on Agenda Item 3 of the GREPECAS/14 Meeting, prepare a progressive deactivation plan of NDB stations.		States and International Organizations	Develop and implement the Plan to deactivate NDB stations.	30-Nov-07	

No.	Strategic Objective/ Objetivo	AN-Conf/11	Global Plan/ Plan Mundial - GPI	Regional Plan / Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action / Acción de seguimiento	To be developed by / A ser desarrollado por	Deliverable / Entregable	Target date / Fecha límite	Remarks / Observaciones
1	2		3		4	5	6	7	8	9	10
16	A, D		GPI-21	Tabla CNS 3	14/57	<u><b>Update of the Regional Navigation Systems Plan</b></u> Taking into account the results of actions in 15/46 and the GNSS development, to review and propose amendments to the FASID Table CNS 3.		States, International Organizations and GREPECAS	Amendment to the FASID Table CNS 3		
17	A, D		GPI-21		GRP14 pa. 3.6.3.2 5	<u><b>GNSS training activities</b></u> Participate in the GNSS Advanced Course that will be held in the ICAO NACC Regional Office in Mexico City from 24 to 28 September 2007.		States and International Organizations	Participate in the GNSS Course	24-Sep-07	

## APPENDIX D

## ACTION PLAN FOR THE FOLLOW-UP AND IMPLEMENTATION OF SURVEILLANCE SYSTEMS - CAR REGION

State/Organization:

Estado/Organización:

Date/Fecha:

No.	Strategic Objective/ Objetivo	Global Plan/ Plan Mundial - GPI	Regional Plan / Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action/ Acción de seguimiento	To be developed by/ A ser desarrollado por	Deliverable/ Entregable	Target date/ Fecha límite	Remarks/ Observaciones
1	2	3	4	5	6	7	8	9	10	11
1	A, D	GPI-09		GRP14 pa 3.6.3.4 3	<b><u>Global Plan Strategy GPI-09 - Situational Awareness</u></b> Take note of GPI-09 - Situational awareness as a global strategy for data-based surveillance implementation. (Appendix A)		States and International Organizations	Knowledge of GPI-09 from the Global air navigation Plan		
2	A, D	GPI-09			<b><u>ICAO SARPs and guidelines on Surveillance Systems</u></b> Take into account and follow-up the Surveillance Systems SARPs and ICAO guidelines		States and International Organizations	Knowledge and application of the Surveillance SARPs		
3	A, D	GPI-09		GRP14 pa 3.6.3.4 4	<b><u>Preliminary Regional Strategy for the deployment of ADS-B and ADS-C</u></b> Take into account the "Preliminary Regional Strategy for the Deployment of ADS-C and ADS-B" and follow-up GREPECAS guidelines regarding the consolidation of this strategy into a Surveillance Systems Regional Unified Strategy." (Appendix B)		States and International Organizations	Preliminary regional strategy used to plan and deploy ADS. Follow-up to the evolution		
4	A, D	GPI-09		13/87	<b><u>Initiatives for the implementation of ADS-B, ADS-C as well as other Surveillance Systems</u></b> Assess the convenience to establish and implement ADS-B trials, as well as other surveillance systems.		States and International Organizations	ADS-B Trials		
5	A, D	GPI-09	Tabla CNS 4A	GRP14 pa 3.6.3.4 4	Continue the adoption of initiatives for the ADS-B, ADS-C and other surveillance systems planning and implementation, according to operational requirements. (Appendix C)		States and International Organizations	Established initiatives		

## APPENDIX D

No.	Strategic Objective/ Objetivo	Global Plan/ Plan Mundial - GPI	Regional Plan / Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action/ Acción de seguimiento	To be developed by/ A ser desarrollado por	Deliverable/ Entregable	Target date/ Fecha límite	Remarks/ Observaciones
1	2	3	4	5	6	7	8	9	10	11
6	A, D	GPI-09	Tabla CNS 4A	GRP14 pa 3.6.3.5 1	<u><b>Update of the Surveillance Systems Regional Plan</b></u> Considering the results of the previous actions and the development of the Surveillance Systems, to review and propose amendments to Table CNS 4A - Surveillance Systems of the FASID.		States and International Organizations	Amendment to Table CNS4A, FASID		
7	A, D	GPI-09		11/47 12/48 12/49 13/88	<u><b>Radar data exchange</b></u> Establish and implement bilateral/multilateral agreements for radar data exchange.		States and International Organizations	Radar data exchange established		

## APPENDIX E

## ACTION PLAN FOR THE IMPROVEMENT AND DEVELOPMENT OF ATM SITUATIONAL AWARENESS - CAR REGION

Organization:

Date

Jun-07

No.	Strategic Objective/ GPI	Global Plan/ GPI	Regional Plan / FASID	GREPCAS No. Con/Dec/Pa	Target Activity	Follow-up Action	To be developed by	Deliverable	Target date	Remarks
1	2	3		4	5	6	7	8	9	10
					<i>Near term (2010)</i>					
1	D	GPI-9		14/43 a)	Identify the feasibility to establish the bilateral/multilateral agreements for ATM automated systems.	Valid	E/T/OI	Agreements for ATS automated systems		
2	D	GPI-9		14/44	Identify the automation level required according to the ATM service provided in airspace and international aerodromes, assessing: - operational architecture design, - characteristics and attributes for interoperability, - data bases and software, and - technical requirements	Valid	E/T/OI	Requirements for ATM surveillance		
3	D	GPI-7	Tables CNS1A CNS1C	12/37	Improve ATS voice and data interfacing communication.	Valid	E/T/OI	Implementation of FASID Table 1-A, and identify other ATS comms. requirements		
4	D	GPI-9		13/79	Implement flight plan data processing system and electronic transmission tools.	Valid	OACI	Improve ATM surveillance		
5	D	GPI-9	Table CNS 4A	14/48	Implement radar data sharing programs where benefits can be obtained.	Valid	E/T/OI	Improve ATM surveillance		
6	D	GPI-9		14/44	Develop situational awareness training programmes for pilots and controllers.	Valid	E/T/OI	ATM situational awareness training programmes		
7	D	GPI-9	Table CNS 4A	14/44	Implement ATM surveillance systems for situational traffic information and associated procedures.	Valid	E/T/OI	Improve ATM capacity		



## APPENDIX E

No.	Strategic Objective/ Global Plan/ GPI	Regional Plan / FASID	GREPCAS No. Con/Dec/Pa	Target Activity	Follow-up Action	To be developed by	Deliverable	Target date	Remarks
1	2	3	4	5	6	7	8	9	10
8	D	GPI-9		12/31	Implement ATS automated message exchanges, as required - FPL, CPL, CNL, DLA, etc.	Valid	E/T/OI	AIDC	
9	D	GPI-9		12/31	Implement automated radar handovers, where able.	Valid	E/T/OI	Improve ATM capacity	
10	A, D	GPI-16		12/31	Implement ground and air electronic warnings, as needed -Conflict prediction -Terrain proximity -MSAW -DAIW -Surveillance system for surface movement	Valid	E/T/OI	Improve ATM safety management	
11	D	GPI-17	Tables CNS4A, CNS1B	13/72	Implement data link surveillance technologies and ATN applications: ADS, CPDLC, AIDC, as required.	Valid	E/T/OI	Improve ATM surveillance	
					<i>Medium term (2015)</i>				
12	D	GPI-18/19		12/31  14/44	Implement additional/advanced automation support tools to increase sharing of aeronautical information -ETMS or similar -MET information -AIS/NOTAM dissemination -Surveillance tools to identify airspace sector constraints. -A-SMGC in specific aerodromes, as required.	Valid	E/T/OI	Improve ATM surveillance	
13	D	GPI-6		14/44	Implement teleconferences with ATM stakeholders.	Valid	E/T/OI	Improve CDM Process	

## APPENDIX F

## ACTION PLAN FOR THE FOLLOW-UP AND IMPLEMENTATION OF AERONAUTICAL INFORMATION MANAGEMENT - CAR REGION

GREPECAS/14 reviewed the application of human factors in Aeronautical Information Management (AIM) and its application, as well as the need for developing a manual containing the guidelines on human factors and an implementation plan.

State/Organization:

Estado/Organización:

Date/Fecha:

No.	Strategic Objective/ Objetivo	Global Plan/ Plan Mundial - GPI	Regional Plan / Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action/ Acción de seguimiento	To be developed by/ A ser desarrollado por	Deliverable/ Entregable	Target date/ Fecha límite	Remarks/ Observaciones
1	2	3	4	5	6	7	8	9	10	11
1	A, D	GPI/20	AIS 5 Table	GRP C.12/8 7	<u><b>ICAO SARPS and guidelines on WGS84 system</b></u> Resolve, under the ICAO NACC Office coordination, the discrepancies of the WGS-84 coordinates of common points in the adjacent FIRs, published in the AIPs of the States/Territories of the Caribbean and their adjacent regions.	The NACC Regional Office should be informed on the progress attained with regard to WGS-84 coordinates publication agreements	States, Territories and International Organizations	Publication in the AIPs of WGS-84 coordinates of the bordering points of adjacent FIRs.	31/12/07	To date, no information in the Regional Office indicates that these discrepancies in the area have been resolved.
2	A, D	GPI/20	AIS 5 Table	GRP C. 12/87	<u><b>ICAO SARPs and guidelines on WGS84 system</b></u> Contribute to the coordination and follow-up of the total implementation of WGS-84 in the Caribbean States/Territories.  <u><b>ICAO SARPs anon AIS/MAP quality system.</b></u>	The NACC Regional Office should be informed on the progress attained with regard to WGS-84 coordinates publication agreements in the respective AIPs.	States, Territories and International Organizations	Knowledge and application of Annex 15 SARPs.	31/12/07	The harmonization of the bordering FIRs coordinates for the CAR Region is still pending
3	A, D	GPI/18		GRP C. 14/36	Carry out the coordination, assistance and follow-up of the implementation of a standard AIS/MAP Quality Assurance System in the Caribbean States/Territories.	The ICAO NACC Office should be informed on the status of implementation of the quality management system of the States/Territories.	States, Territories and International Organizations	Knowledge and application of Guidance Manuals on AIS/MAP Quality System.		GREPECAS/14 approved a conclusion on the adoption of part 4 of the <i>Guidance Manual for the Implementation of an AIS/MAP Quality System in the CAR/SAM Regions</i>

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No.	Strategic Objective/ Objetivo	Global Plan/ Plan Mundial - GPI	Regional Plan / Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action/ Acción de seguimiento	To be developed by/ A ser desarrollado por	Deliverable/ Entregable	Target date/ Fecha límite	Remarks/ Observaciones
1	2	3	4	5	6	7	8	9	10	11
4	A, D	GPI/09, GPI/18		GRP C. 14/39	<p><u>ICAO SARPs and guidelines on digital charts and terrain and obstacle electronic data.</u></p> <p>Promote, with the assistance of the ICAO NACC Office, training actions related with the correct application and effective compliance with the quality requirements of the aeronautical data established in the ICAO Annex 15, in support of the electronic terrain and obstacle data determination e-TOD mentioned in Annex 15, Chapter 10 and Appendix 8 as referenced in Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information.</p>	The civil aviation authorities of the Region should seriously consider the participation of AIS/MAP experts at this important event.	States, Territories and International Organizations	Attendance in seminars and courses related to e-TOD implementation.	22/10/07	The ICAO Council approved a Special Implementation Project (SIP) aimed at training, through a <i>Seminar on the new standards derived from the amendments to Annexes 4 and 15 according to the development of CNS/ATM systems in the CAR/SAM Regions on e-TOD</i> , where the importance of holding a training event on the understanding and interpretation of the tables of quality requirement of aeronautical and electronic data on terrain and obstacles will be reviewed.
5	A, D	GPI/18		GRP C. 14/40	<p><u>ICAO SARPs and guidelines on AIS/MAP automation system.</u></p> <p>Recommend the necessary actions to develop and assist States/Territories with implementing the AIS Automation Plan approved for the Caribbean developing the relevant databases.</p>	During the GREPECAS/14 Meeting, it was reported that ICAO would have the Global Model for the Exchange of Aeronautical Information/Data (AIXM) ready by end 2007, and therefore, ICAO was urged to define the corresponding guidelines as soon as possible.	States, Territories and International Organizations	CAAs are requested to consider the participation of AIS/MAP experts in this important event.		ICAO Council informed on assistance to formalize a regional co-operation project to help solving the AIS deficiencies among which the following stand out: Digital development of aeronautical charts for visual or instrumental navigation, Quality assurance, Automation, Diffusion of AIPs by electronic means and Implementation and harmonization of WGS-84 coordinates.

## APPENDIX F

No.	Strategic Objective/ Objetivo	Global Plan/ Plan Mundial - GPI	Regional Plan / Plan Regional - FASID	GREPECAS No. Con/Dec/Pa	Target Activity / Actividad Meta	Follow-up Action/ Acción de seguimiento	To be developed by/ A ser desarrollado por	Deliverable/ Entregable	Target date/ Fecha límite	Remarks/ Observaciones
1	2	3	4	5	6	7	8	9	10	11
6	A, D	GPI/18		GRP C. 14/41 y 14/59	<b><u>Update to the Air Navigation Plann</u></b>  Review, propose actions and follow-up on the implementation of AIS/MAP requirements established in the CAR/SAM ANP and in GREPECAS conclusions	The NACC Regional Office should be notified on the action plans to resolve the AIS/MAP deficiencies.	States, Territories and International Organizations	Amendments to FASID AIS Tables.	31/12/07	The Table of Deficiencies controls the follow-up of the implementation of AIS/MAP requirements established in the ANP. In most cases, the table is not updated.
7	A, D	GPI/18		GRP D. 14/63	<b><u>Guidance material on human factors</u></b>  <i>Study the elements of human factors applied to the AIS/MAP, in accordance with the AIS/MAP/SG/10 Meeting results.</i>	The QM/TF will develop a Manual containing the guidelines on human factors and a plan for its implementation in the AIM.	States, Territories and International Organizations	Knolwedlge and application of Guidance Manuals on AIS/MAP human factors to be developed by the QM/TF.		The AIS/MAP Quality Management Task Force of the GREPECAS AIM Subgroup, in its new Terms of Reference and Work Programme, taking into account Standard ISO 001:2000 concerning Human Resources Management, has foreseen the development of relevant guidelines for determining the proficiency of AIS/MAP personnel.