FINAL VERSION

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

TWENTY FIRST MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN

21ST E/CAR DCA

REPORT

TORTOLA, BRITISH VIRGIN ISLANDS
11 TO 14 FEBRUARY 2008

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HISTORICAL

ii.1 Establishment of the Meeting

The Twenty-First Meeting of Directors of Civil Aviation of the Eastern Caribbean was intended to address, at the Director level, civil aviation development and the problems facing the Eastern Caribbean area since the last meeting of the Directors of Civil Aviation held in Miami, Florida, United States, 4 to 7 December 2006.

ii.2 Site, Duration and Opening of the Meeting

The Meeting took place at the Conference Room of the Long Bay Beach Resort & Villas, Tortola, British Virgin Islands from 11 to 14 February 2008. Mrs. Loretta Martin, Regional Director, ICAO Regional Office for North American, Central American and Caribbean (NACC), welcomed the participants and informed them of the work programme for the Meeting. His Excellency David Pearey, Governor of the British Virgin Islands representing the Queen, the Honourable Ralph O'Neal, Premier of the British Virgin Islands and Minister Julian Fraser, Minister of Communications and Works of the British Virgin Islands also welcomed the participants and opened the Meeting.

ii.3 Officers of the Meeting

Mrs. Margaret Wilson, acting Director of Civil Aviation of the British Virgin Islands, acted as Chairperson of the Meeting. Mrs. Loretta Martin, Regional Director, of the ICAO North American, Central American and Caribbean Regional Office, served as Secretary, supported by Mr. Victor Hernández, Regional Officer, Air Traffic Management, from the ICAO NACC Regional Office.

ii.4 Working Arrangements

It was agreed that the working hours of the Meeting would be from 09:00 to 14:30 hours. During the four days, the Meeting worked until a convenient recess time.

The Meeting approved the Draft Agenda and Work Programme presented in WP/01 with a minor change in Agenda Item 3, where 3.5 - Air Navigation Deficiencies, will be dealt with as 3.6.

ii.5 Attendance

The Meeting was attended by 20 participants from 7 Sates/Territories, 1 Regional Organization and 1 International Organization. A list of participants is shown on pages iii-1 to iii-5.

ii.6 Agenda

Agenda Item 1: Meeting Agenda and Schedule

Agenda Item 2: Review of Valid Conclusions/Decisions of Previous E/CAR/DCA and other Meetings Relevant to the E/CAR Area

Agenda Item 3: Air Navigation Issues

- 3.1 CAR/WG/1 Meeting Report
- 3.2 E/CAR AIS Committee Report
- 3.3 E/CAR ATM Committee Report
- 3.4 E/CAR CNS Committee Report
- 3.5 Other Air Navigation Issues
- 3.6 Air Navigation Deficiencies

Agenda Item 4: Safety Oversight Developments

Agenda Item 5: Aviation Security Developments

Agenda Item 6 Other Business

ii.7 List of Working Papers

WORKING PAPERS				
Num.	**Agenda Item**	**Title**	**Date**	**Presented by**
WP/01 **Rev.**	1	Meeting Agenda and Schedule	07/02/08	Secretariat
WP/02	2.1	Status of E/CAR DCA Meeting Conclusions	10/01/08	Secretariat
WP/03	3.1	Review of the First Caribbean Working Group Meeting	10/01/08	CAR WG Chairman
WP/04	3.6	Air Navigation Deficiencies	10/01/08	Secretariat
WP/05	3.5	Aerodromes Issues in the E/CAR	11/01/08	Secretariat
WP/6	3.5	Status of the VSAT MEVA II Network and its Interconnection Process with REDDIG	28/01/08	Secretariat
WP/07	3.2	Status of AIS in the E/CAR	30/01/08	Rapporteur E/CAR AIS Committee
WP/08	6	Rotational Scheme for States hosting the E/CAR/DCA Meeting	15/01/08	Secretariat

WORKING PAPERS

Num.	Agenda Item	Title	Date	Presented by
WP/09	3.5	Air traffic Flow Management in the North American and Caribbean Regions	30/01/08	United States
WP/10	3.5	Eastern Caribbean States Civil Aviation Accident Mass Casualty Incident Response Plan (E/CAR CAAMCIRP)	30/01/08	United States
WP/11 **Rev.**	3.5	Automated Dependent Surveillance – Broadcast (ADS-B) Data Collection efforts in the Eastern Caribbean (E-CAR) Region	05/02/08	United States
WP/12	3.5	SAR Matrix	30/01/08	United States
WP/13 **Rev.**	4	State Safety Programmes	12/02/08	Secretariat
WP/14	3.5	RNAV/RNP Procedure Development in LATAM/CAR	30/01/08	IATA
WP/15	4	IOSA – The IATA Operational Safety Audit Programme	30/01/08	IATA
WP/16	3.5	Radio Frequency Assignment Lists for the CAR Region	31/01/08	Secretariat
WP/17	3.5	SAR Agreements among E/CAR States	30/01/08	Secretariat
WP/18 **Rev.**	3.4	Specific Air Navigation Activities and Developments – Communications, Navigation and Surveillance	05/02/08	Rapporteur E/CAR CNS Committee
WP/19	3.3	Activities of the E/CAR ATM Committee	31/01/08	Rapporteur E/CAR ATM Committee
WP/20	3.5	AIS/MAP Developments and Follow-up in the Eastern Caribbean	31/01/08	Secretariat
WP/21	4	Protection of Certain Accident and Incident Records and of Safety Data Collection and Processing Systems in order to Improve Aviation Safety	05/02/08	Secretariat
WP/22	5	Developments in the ICAO Universal Security Audit Programme (USAP) and Continued Cooperation Required in the Field of Aviation Security	05/02/08	Secretariat
WP/23	6	Merging of the Eastern Caribbean (E/CAR) and Central Caribbean (C/CAR) Working Groups	07/02/08	Secretariat

ii.8 List of Information Papers

INFORMATION PAPERS				
Num.	**Agenda Item**	**Title**	**Date**	**Presented by**
IP/01	- - -	General Information	23/10/07	Secretariat
IP/02	- - -	List of Working, Information and Discussion Papers	07/02/08	Secretariat
IP/03	6	Tentative Schedule – 2008 ICAO NACC Office – Meetings, Seminars, Courses and Workshops	15/01/08	Secretariat
IP/04	3.5	ICAO Guidelines on the Politics of Cost Allocation for the GNSS and Proposal for Amendment of the SARPS related to the Implementation and Evolution of the GNSS	30/01/08	United-States
IP/05	3.5	Status of Engineered Materials Arresting System Installations in the United States	30/01/08	United States
IP/06	3.5	En Route Automation Modernization (ERAM) Transition: International Civil Aviation Organization (ICAO) Flight Planning (FPL) for Automatic Application of Preferential Routing in the United States (U.S.) Domestic Airspace	30/01/08	United States
IP/07	3.6	Runway Safety Area Improvements in the United States	30/01/08	United States
IP/08	3.5	U.S. Approach to Safety Management System (SMS) Implementation: Commercial Air Operators and Approved Maintenance Organizations	30/01/08	United States
IP/09	3.6	West Atlantic Route System (WATRS) Plus Route Structure Redesign and Separation Reduction: Significant Tasks and Events	30/01/08	United States
IP/10	4	IATA Safety Audit for Ground Operations	30/01/08	IATA
IP/11	4	U.S. Approach to Safety Management System (SMS) Implementation at Airports	11/02/08	United States

ii.9 List of Conclusions and Decisions

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Agenda Item 1: Meeting Agenda and Schedule

1.1 The Meeting reviewed the draft agenda and work schedule for the Meeting and approved changing Agenda Item 3: 3.5 - Air Navigation Deficiencies to 3.6.

Agenda Item 2: Review of Valid Conclusions/Decisions of Previous E/CAR/DCA and other Meetings Relevant to the E/CAR area

2.1 Under this Agenda Item, the Meeting determined the compliance with valid conclusions of previous Eastern Caribbean Directors of Civil Aviation Meetings. Comments and follow-up actions expressed by the Meeting and the compliance with the E/CAR DCA Meeting's conclusions are presented in **Appendix A** to this part of the Report.

2.2 The Meeting reviewed the First Meeting of the North American, Central American and Caribbean Directors of Civil Aviation (NACC) held in Grand Cayman, October 2002, as well as the Second NACC DCAs Meeting held in Tegucigalpa, Honduras, October 2005, which also refer to the Eastern Caribbean area. The results of the review of these conclusions are presented in **Appendix B** to this part of the Report.

2.3 Likewise, the Meeting was informed of the status of the conclusions of the previous Eastern Caribbean Working Group Meetings. (refer to **Appendix C** to this part of the Report).

2.4 The Meeting expressed concern about results achieved on training, follow-up of meetings and recommendations, as well as improvements in the provision of MET services. The Delegate from Montserrat suggested that the Regional Director of Meteorology from Trinidad and Tobago be invited to participate in the next meeting of Directors of Civil Aviation of the Eastern Caribbean.

2.5 ICAO informed on the action taken with the Council to carry out a Special Implementation Project and other efforts to develop a regional Technical Cooperation Project to improve MET services in CAR Region.

2.6 It was recognized that some States have achieved significant progress in the provision of MET services. However, considering that these matters are important to support the provision of services in the E/CAR, the Meeting agreed that the ICAO NACC Office should take appropriate action to coordinate a SIP and/or Technical Cooperation Project to improve MET services in the E/CAR. Therefore, the Meeting approved the following conclusion:

CONCLUSION 21/1 IMPROVEMENTS IN EASTERN CARIBBEAN MET SERVICES

That ICAO:

a) take appropriate actions to develop a regional Technical Cooperation Project to improve MET services of the States/Territories in the Eastern Caribbean covering the following issues**:**

- Training programmes for aeronautical MET personnel
- OPMET information exchange in E/CAR States
- Follow-up on the implementation of the recommendations formulated in the MET SIP for the CAR Region

- Improvements in the operational coordination and the provision of MET services
- Participation of MET personnel in ICAO meetings
- Establish Agreements between Civil Aviation Administrations and MET Authorities of CAR States / Territories / International Organizations

b) submit the regional Technical Cooperation Project to the NACC/DCA/3 Meeting for review and approval.

2.7 The Meeting took note that no progress has been achieved on Conclusion 18/7. It was recalled that due to Piarco FIR airspace organization characteristics, a solution must be reached to achieve a common transition altitude for all airports in this FIR. Therefore, the Meeting adopted the following conclusion:

CONCLUSION 21/2 COMMON TRANSITION ALTITUDE FOR THE E/CAR REGION

That France and Trinidad and Tobago:

a) develop and send to the E/CAR States/Territories for comments, not later than **30 November 2008**, a proposal for a common transition altitude among the Piarco FIR; and

b) present their recommendations to the Twenty-Second Meeting of Directors of Civil Aviation of the Eastern Caribbean (E/CAR/DCAS/22).

APPENDIX A

STATUS AND COMMENTS TO E/CAR/DCAS CONCLUSIONS OF PREVIOUS MEETINGS

AREA	CONCL.	COMMENTS
		Valid:
ATM	19/6	The Meeting agreed that urgent action should be carried out by the NACC/WG.
ATM	19/20	Need update from E/CAR ATM Committee
HRS	19/28	To remove paragraph c). ICAO NACC Office is developing a Technical Cooperation Project Proposal to address this issue.
AIS	20/2	Follow-up by the NACC/WG.
SAR	20/8	Paragraphs a) and b) valid. Paragraph c) completed.
		Superseded:
MET/ATM/CNS/ AIS/SAR	18/2 18/3 18/10 19/2 30/08	The Meeting recommended consolidation of MET issues into one conclusion. Superseded by E/CAR/DCA Conclusion 21/1.
ATM	18/07	Superseded by E/CAR/DCA Conclusion 21/2.
CNS/ATM	18/12	Superseded. States/Territories will complete and presented their national air navigation plan in accordance with GREPECAS Conclusion 14/51.
AVSEC	18/17	Superseded by E/CAR/DCA Conclusion 21/6.
ATM	19/1	Superseded by GREPECAS Conclusion 14/4.
SAR	19/4	Superseded by E/CAR/DCA Conclusion 21/4.
CNS	19/9	Superseded by E/CAR/WG Conclusion 30/15.
GEN	19/25	Superseded by GREPECAS Conclusion 14/59.
AGA	20/5	Superseded by GREPECAS Conclusion 14/32.
GEN	20/6	Superseded by GREPECAS Conclusion 14/2.
AVSEC	20/9	Superseded by E/CAR/DCA Conclusion 21/6.
		Completed:
MET	20/1	Completed.
AIS	20/3	Completed.
CNS	20/4	Completed.
ATM	20/7	Completed.

APPENDIX B

STATUS AND COMMENTS TO VALID CONCLUSIONS OF THE NACC DCA/1 AND NACC DCA/2 MEETINGS

AREA	CONCL.	COMMENTS
Follow-up Required:		
OPS	2/3	The PAAST recommendation regarding training in CFIT, ALAR and RIPP should include regulatory training requirements for flight crew and air traffic controllers licensing at least once a year.
OPS	2/8	Two seminar/workshops were conducted on language proficiency requirements. States/Territories should develop an action plan in order to comply with the ICAO deadline for language proficiency requirements before 5 March 2008.
CNS/ATM	2/9	It is important to take follow-up action on this conclusion in order to achieve coordinated implementation of the CNS/ATM systems. The NACC Office is collaborating with States/Territories/International Organizations to organize concrete action plans.
CNS/ATM	2/10	ICAO NACC Office is developing a regional Technical Cooperation Project Proposal to address this issue.
CNS/ATM	2/11	States/Territories should take note and follow-up on items a), b), c), d) and e) of this conclusion. f) The CAR/WG/1 Meeting recommended the implementation of an action plan for the CAR Region; therefore, E/CAR/DCA/21 Meeting approved CAR Working Group Conclusion 1/17.
CNS	2/12	States should adopt a modernization/implementation plan of ATIS equipment in accordance with ATM requirements.
ATM	2/18	Follow-up on this Conclusion is not related to the Eastern Caribbean.
ATM	2/21	ICAO will organize a course in 2008 to assist implementation.
AIS/MAP	2/25	ICAO NACC Office is developing a regional Technical Cooperation Project Proposal to address this issue.
AIS/MAP	2/26	Administrations are urged to implement these plans, adopting the guidance material contained in Appendix AE of the GREPECAS/13 Meeting.
HRT	2/27	The CAR/WG/1 Meeting has followed-up on this conclusion.
AVSEC	2/29	The only way to determine if States are implementing these SARPs is by conducting a new survey in 2008. It is important to have the attention and cooperation from Contracting States to finalize this conclusion.
Superseded in the Eastern Caribbean:		
ATM	1/8	Superseded by GREPECAS Conclusion 14/2.
ATM	1/10	Superseded by GREPECAS Conclusion 14/51.
AVSEC	1/28	Superseded by E/CAR/DCA Conclusion 21/6.
OPS	2/5	Superseded by GREPECAS Conclusion 14/2.
OPS	2/6	Superseded by GREPECAS Conclusion 14/4.
OPS	2/7	Superseded by GREPECAS Conclusion 14/4.
ATM	2/14	Superseded by GREPECAS Conclusion 14/46.
ATM	2/19	Superseded by CAR/WG Conclusion 1 / 2.

AREA	CONCL.	COMMENTS
ATM	2/20	Superseded by GREPECAS Conclusion 14/4.
MET	2/22	Superseded by E/CAR/DCA Conclusion 21/1.
MET	2/23	Superseded by E/CAR/DCA Conclusion 21/1.
AIS/MAP	2/24	Superseded by a CAR/WG Conclusion 1/18.
GEN	2/28	Superseded by GREPECAS Conclusion 13/61.
Inform the NACC/DCA/3 that these conclusions have been Completed in the Eastern Caribbean:		
GEN	2/1	The Meeting considered that States/Territories have taken note of this conclusion.
AIS	2/2	Completed.
AVSEC AIS	2/4	Completed.
CNS	2/13	Completed.
ATM	2/17	The Meeting considered that States/Territories have taken note of this conclusion.
AVSEC	2/29	Completed.
GEN	2/30	The Meeting considered that the Directors have taken note of this conclusion.
GEN	2/31	ICAO NACC Office is developing a regional Technical Cooperation Project Proposal to address this issue.

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APPENDIX C

STATUS AND COMMENTS TO E/CAR/WG/30 CONCLUSIONS

AREA	CONCL.	COMMENTS
		Valid:
AIS	30/6	ICAO NACC Office sent a State letter to support this Conclusion, no information has been received.
		Superseded:
ATM	30/1	Superseded by GREPECAS Conclusion 14/51.
AIS	30/4	Superseded by CAR/WG Conclusion 1/18.
SAR	30/7	Superseded by CAR/WG Conclusion 1 / 4.
MET	30/8	The Meeting recommended consolidation of MET issues into one conclusion. Superseded by E/CAR/DCA Conclusion 21/1.
ATM	30/14	Superseded by E/CAR/DCA Conclusion 21/5.
CNS	30/15	Superseded by CAR/WG Conclusions 1/7, 1/11, 1/15.
AVSEC	30/16	Superseded by E/CAR/DCA Conclusion 21/6.
AVSEC	30/17	Superseded by E/CAR/DCA Conclusion 21/6.
ATM	30/18	Superseded by CAR/WG Conclusion 1/1 and 1/2.
		Completed:
AIS	30/2	Completed.

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Agenda Item 3: Air Navigation Issues

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

3.1.1 The Meeting reviewed results of the First Meeting of the Caribbean Working Group (CAR/WG/1) held in Port of Spain, Trinidad and Tobago, from 21 to 23 June 2007. In this regard, the Meeting took note that participants to the abovementioned meeting from the Central and Eastern Caribbean expressed their enthusiastic support to participate in a working group formed by the entire CAR Region. CAR/WG/1 Meeting Draft Conclusions regarding the Eastern Caribbean, reviewed and approved by this Meeting, are referred to as "Conclusions" and are presented in **Appendix A** to this part of the Report. The results of the main issues addressed by the CAR/WG/1 Meeting, which were reviewed by this Meeting, are summarised below.

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

3.1.2 The Meeting agreed that in accordance with ICAO and GREPECAS guidelines, each State/Territory/International Organization, along with the CAR Working Group, should 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 CAR WG/1 Report; therefore, CAR/WG/1 **Conclusion 1/1** was approved. The Directors General agreed that the deadline in a) be changed to **30 June 2008**.

Worldwide Symposium on Performance of the Air Navigation System

3.1.3 The 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.

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

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 Planning Initiatives

3.1.5 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.

3.1.6 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 future ATM 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 CAR/WG/1 **Conclusion 1/2**. The Directors General agreed to read in a) 2008 vs. early 2008.

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

3.1.7 The Meeting noted that the Caribbean Region is an ATM homogeneous area that still requires improvements to 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 the airspace and limits the system's capability to meet aviation operational demand.

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

Air Transport Environmental Challenges

3.1.9 Taking into account ICAO Strategic Objective C – *Minimize the adverse effect of global civil aviation on the environment*, the CAR WG/1 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 ATS areas and route structures, operational airspace management and airports. Other actions include promotion of flight planning and flexible tracks, continental airspace RNAV and RNP implementation, continuous descent approach implementation, delay and airport noise reduction, etc.

WATRS Plus Route Structure Redesign and Lateral Separation Reduction

3.1.10 The Meeting took note of the information presented by United States to coordinate and progress with the implementation of the "WATRS Plus" Project among the related groups in the North Atlantic and Caribbean Regions. It was noted that the corresponding NAT/SPG subgroups and the NAT/CAR ATS working groups had reviewed and approved the Project's plans, programme and policies in the meetings held from March to 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.

3.1.11 Arising from the endorsement of the "WATRS Plus" Project initiatives, the Meeting noted that ICAO addressed the proposal for amendment of the CAR and NAT Regional Supplementary Procedures (SUPPS – Doc. 7030). All related information consisting of the Project Overview (updated version of FAA Notice - Nov. 2006); Draft Route Structure Redesign Chart (15 May 2007); Implementation Task List and Planned Concept of Operations is included in Appendix B to Agenda Item 2 of the CAR WG/1 Meeting.

3.1.12 The Meeting agreed that the "WATRS Plus" Project is an excellent example of optimisation of ATS airspace and requested full Project endorsement, its task schedule, planned operational policies and related revisions to NAT and CAR Regional Supplementary Procedures (NAT/CAR SUPPS), recognizing the benefits it will provide to the CAR Region. To this end, the Meeting adopted CAR/WG/1 **Conclusion 1/3**.

Performance-based Navigation (PBN)

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

3.1.14 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)

3.1.15 The Meeting noted that GREPECAS adopted a strategy and work programme for ATFM service implementation. Based on GREPECAS Conclusion 14/51, **Appendix B** to this part of the Report presents a model action plan for use by States/Territories/International Organizations to plan ATFM implementation in the CAR Region.

3.1.16 The Meeting also took note that ATFM training should cover evaluation aspects on capacity, airspace and international airport demand, ATFM planning in the strategic, pre-tactical and tactical phases, as well as safety and Collaborative Decision Making (CDM) methods in order to enhance air navigation efficiency. Appendix D to Agenda Item 2 of the CAR/WG/1 Report presents a model for determining the aerodrome acceptance rate (AAR).

Collaborative Decision Making (CDM) and ATFM Coordination Procedures

3.1.17 The CAR Working Group 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 the best decision making be made by the right person with the right information and data, and the right input from all parties concerned. CDM is the key to optimising aerodrome capacity by examining the driving elements for each stakeholder and the interdependencies with adjacent stakeholders within their workflow process model.

3.1.18 CAR/WG/1 Members also began the study of coordination of ATFM procedures, which needs to assess conditions that will affect system safety and efficiency including time and meteorological conditions of each route and destination airport, feasibility of routes, new route requirements, traffic and saturation of airport conditions.

3.1.19 The Meeting took note that States should continue the work already in progress with a view to harmonise the process of data collection and analysis of activities on a regional basis so as to formulate a coordinated and integrated CAR ATFM Operational Plan.

Contingency Procedures on Hurricanes and Volcanic Ash

3.1.20 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.

3.1.21 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/1 Report.

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

3.1.22 The Meeting took note that within the implementation activities related to ATM safety management, the SMS Course being conducted by ICAO for all States/Territories/International Organizations 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. Currently, 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

3.1.23 The Meeting took note of a SAR Multilateral Agreement model for the Caribbean, reviewed at the CAR/WG/1 Meeting included in Appendix I to the CAR/WG/1 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/Territory national SAR system, enhancement of SAR relationships and co-operation, and reduced State SAR operational costs. Taking into account the work carried out, the Meeting adopted CAR/WG/1 **Conclusion 1/4**.

3.1.24 With respect to the abovementioned Conclusion, the Meeting expressed that it was necessary to coordinate with other government entities such as the U.S. Coast Guard, CDERA and other pertinent parties. In this regard, the Meeting took note that other States/Territories should also apply similar coordination procedures with their respective entities.

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

3.1.25 The CAR WG/1 Meeting, among other related aspects, followed-up on the development status of the MEVA II VSAT Network and the interconnectivity of this network with the South American Digital Network (REDDIG).

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

Regional Plan for the Implementation of Air Ground Data Links

3.1.26 The Meeting, based on the review by GREPECAS/14, reviewed and updated the CAR Region corresponding part 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 adopted CAR/WG/1 **Conclusion 1/5**.

SARPs Development Status and ICAO Guidance Material on ATN

3.1.27 The Meeting took note of the latest information on ATN SARPs and guidance material status resulting from the First Meeting of the Aeronautical Communications Panel (ACP/1) held in Montreal, Canada, which ended on 18 May 2007.

Deployment of the ATN in the CAR Region

3.1.28 In accordance with the global strategy and the regional strategy drafted by GREPECAS (Conc. 13/78), and as follow-up to GREPECAS Conclusions 13/75 and 13/79, the Meeting noted the regional guidelines for the deployment of ATN.

Initiatives for the Implementation of ATN Ground-Ground Applications

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

AMHS Implementation of National Plans

3.1.30 The Meeting took note that the CAR Working Group reviewed and updated the table that contains the AMHS National Implementation Overview for the CAR Region, which is presented in Appendix F to Agenda Item 3 of the CAR WG/1 Report.

Preliminary Regional Approach for the Implementation of the AMHS Internet Protocol

3.1.31 The Meeting took note that the GREPECAS ATM/CNS Subgroup ATN Task Force 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 use of AMHS does not yet support IPv6 internally in its communication stacks. Since many member States have either procured or implemented AMHS, 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 adopted CAR/WG/1 **Conclusion 1/6**.

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

3.1.32 The Meeting took note that the CAR/WG/1 reviewed and recommended the execution of the Action Plan for Implementation of Voice Communications and Ground-Ground and Air-Ground Data presented in **Appendix C** to this part of the Report. Regarding this issue, the Meeting adopted CAR/WG/1 **Conclusion 1/7**. The Directors General agreed that the deadline in a) be changed to **30 June 2008**.

GNSS Implementation

ICAO SARPs and Guidelines for the Progressive Implementation of Global Navigation Satellite Systems (GNSS) Elements

3.1.33 The Meeting took note that ICAO SARPs and guidelines establish the progressive implementation of GNSS and 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), as well as a proposal for amendment to the SARPs related to GNSS implementation and evolution.

ICAO Guidelines on the Politics of Cost Allocation for GNSS and Proposal for amendment of the SARPS related to the implementation and evolution of the GNSS

3.1.34 The Meeting received information on the conclusions of the Secretariat's study on Global Navigation Satellite System (GNSS) cost allocation reviewed by the Council during its 180th Session in February 2007. The results of this review were reported by the Secretary General as "provisional policy guidance on the allocation of costs of GNSS services," through Electronic Bulletin, Ref. EC 2/84-EB/07/14, dated 11 May 2007. The bulletin is published on the ICAO-NET website, under the link "Electronic Bulletin."

3.1.35 The Meeting also took note that on 11 May 2007, ICAO circulated State Letter 2007/31, related to the proposals for amendment to the Standards and Recommended Practices (SARPs) of Annex 10, Volume I, as well as those in Annexes 11 and 15, related to the evolution of existing GNSS systems and equipment to achieve associated safety and efficiency benefits. Also included were resolutions to implementation issues that have arisen so far. The aforementioned letter is published on the ICAO-NET website under the link "State Letters." ICAO has requested to receive comments on the proposal for amendment before 24 August 2007.

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

3.1.36 The Meeting noted that it is important that performance-based navigation implementation be carried out in accordance with GNSS evolution and 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 State 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.

Development of a Progressive Deactivation Plan of NDB Stations

3.1.37 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 Meeting noted that the ICAO NACC Office requested the abovementioned information from the CAR States through State Letter Ref. EMX0103 dated 1 February 2008. In this regard, the Meeting adopted CAR/WG/1 **Conclusion 1/8.**

Implementation and Updating of the Regional Navigation Plan

3.1.38 The Meeting took note that the CAR Working Group analysed Table CNS 3 (Navigation Systems Regional Plan) and noted that the requirements for GNSS, GBAS and SBAS augmentations are included within this Plan; and as GNSS is being introduced, progressive deactivation of NDB and VOR stations would occur, but in the short term a combination of GNSS, autonomous systems and conventional ground radio aids would be maintained. In this regard, the Meeting adopted CAR/WG/1 **Conclusion 1/9.**

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

3.1.39 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 with the implementation of GNSS. Information on Project RLA/03/902 is published on webpage: www.rlasaccsa.com. The Report of Project RLA/00/009 is presented as Appendix 2B of the Report of the Fifth Meeting of the GREPECAS ATM/CNS/SG CNS Committee, and it is expected that the results of the RLA/00/009 Project Course held in Washington, D.C., United States, from 9 to 13 July 2007, will be published soon. Therefore, the Meeting adopted CAR/WG/1 **Conclusion 1/10**.

Action Plan for the Follow-up of GNSS Implementation

3.1.40 Based on the information and analysis contained in the previous paragraphs, the Meeting reviewed and adopted the GNSS Implementation Action Plan contained in **Appendix D** to this part of the Report. Therefore, the Meeting adopted CAR/WG/1**Conclusion 1/11**.

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

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

3.1.41 The Meeting noted that the Global Air Navigation Plan (Doc 9750 – AN/963) established Global Plan Initiative (GPI) 09- *Situational awareness*. This strategy guides the application of data-based surveillance (ADS-C, ADS-B and SSR in Mode S) and the status of ICAO SARPs and guidelines on surveillance systems that were explained in the Surveillance Seminar that was held jointly with the CAR/WG/1 Meeting.

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

3.1.42 As a follow-up to the work performed by the GREPECAS mechanism on the guidelines for ADS-B and ADS-C deployment, the Meeting took note of the preliminary CAR/SAM Regional Strategy for ADS-C and ADS-B deployment in the short, medium and long terms adopted by GREPECAS.

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

3.1.43 The Meeting considered GREPECAS Conclusion 13/87, and as a result the First Meeting of the GREPECAS ATM/CNS/SG CNS Committee Surveillance Task Force, which was jointly held with the CAR/WG/1 Meeting, noted the initiatives to carry out ADS-C and ADS-B trials and multilateration in the CAR Region. The delegate from Trinidad and Tobago also 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 CAR/WG/1 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 adopted CAR/WG/1 **Conclusions 1/12, 1/13** and **1/14**.

Updating of the Surveillance Regional Plan

3.1.44 Considering the implementation initiatives for ADS-C, ADS-B and multilateration 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 Exchange

3.1.45 With regard to radar data exchange, 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 timelines presented at the last E/CAR WG and work is on-going; Trinidad and Tobago indicated they have signed an agreement with Barbados and the French Territories for remoting of their radar data.

Action Plan for Surveillance System Implementation Follow-up

3.1.46 The Meeting reviewed and adopted the implementation of the Action Plan for the Implementation of Surveillance Systems presented in **Appendix E** to this part of the Report, and it adopted CAR/WG/1 **Conclusion 1/15**. The Directors General agreed that the deadline in b) be changed to **30 June 2008**.

Support to the ICAO Position for the ITU WRC-2007

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

Establishment of Interfaces for ATM Automated Systems between Adjacent ATS Units

3.1.48 Taking into account guidelines and 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 implementation 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 F** to this part of the Report. Therefore, the Meeting adopted CAR/WG/1 **Conclusion 1/17.** The Directors General agreed that the deadline in b) be changed to **30 June 2008**.

Other Air Navigation Matters dealt by the CAR/WG/1 Meeting

Human Resources and Training Planning

3.1.49 The Meeting recalled that the NACC/DCA/2 Meeting 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

3.1.50 Based on the guidelines issued by GREPECAS on AIS/MAP issues, the Meeting took note that the CAR Working Group followed-up on activities of the CAR Region States/Territories/International Organizations relating to the main tasks still pending. The results of this follow-up are presented in **Appendix G** to this part of the Report.

3.1.51 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 in 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 that ICAO should organize and combine an e-TOD Seminar with a follow-up meeting of the AIS Committee in the same venue and week. Trinidad and Tobago offered to host the Seminar and the Meeting in the fourth quarter of 2008. As a result of the follow-up to these AIS/MAP issues, the Meeting only adopted CAR/WG/1 **Conclusion 1/18 item c)**.

3.2 E/CAR AIS Committee Report

3.2.1 The Rapporteur of the E/CAR AIS Committee presented the Meeting with the status of AIS in the E/CAR and highlighted the major deficiencies that hinder the implementation of new AIS concepts in the E/CAR Region. The 20th Meeting of Directors of Civil Aviation of the Eastern Caribbean supported the recommendation of a visit by the Chief Technical Officer/AIS of Piarco to assess the status of AIS in E/CAR States. The visit was accomplished during August 2007, and focused on the following areas:

- Level of training and number of AIS staff
- Organization and efficiency of AIS office
- Level of available documentation available in the AIS Offices
- Degree of computerization
- Availability or access to the internet
- Status of implementation of a quality programme

3.2.2 The visit revealed major deficiencies in each of the areas outlined above, of major concern were the issues pertaining to staffing, training and organization of the AIS Offices. The report of the Chief Technical Officer Piarco/AIS on AIS/MAP deficiencies is attached as **Appendix H** to this part of the Report.

3.2.3 The Meeting recognised that in several cases, AIS Offices did not have dedicated staff and was manned by persons who were not trained to the level of proficiency required by ICAO for AIS staff. It was also noted that the focus of AIS functions was the filing of flight plans and NOTAMs. The fact that progress, as it relates to the implementation of new AIS systems in the E/CAR, has been slow, must in large measure be linked to the status of development of AIS offices and the availability of appropriately trained personnel.

3.2.4 The Meeting was informed that France, Trinidad and Tobago and Barbados agreed that their system is working well; however, the overall level of expertise in this area needs to be improved in order to create a good operating system throughout the sub-region.

3.2.5 It was recognised that the traditional provision of aeronautical information must be replaced by timely and reliable data and a systems oriented solution, available permanently and dynamically for use in applications that perform the required tasks such as flight planning, flight management, navigation, separation assurance, CDM or any other strategic or tactical ATM activity. The objective for the new role of AIS will be to achieve uniform and efficient aeronautical information management (AIM), in order to develop and provide a harmonised, coordinated service that delivers quality assured up-to-date information for all phases of flight and all users to serve future ATM needs.

3.2.6 In order to implement an effective Aeronautical Information System in the E/CAR Region, the Meeting agreed that ICAO take action to develop a Regional Technical Cooperation Project to assist E/CAR States/Territories to ensure viable solutions for fully integrated Aeronautical Information Services (AIS) through AIP, Chart and NOTAM production, all underpinned with a focus on data quality.

3.2.7 The Regional Technical Cooperation Project should also take into account the global ATM operational concept and the global air navigation plan initiatives including the corresponding communications, navigation and surveillance (CNS) technology support, the necessary aeronautical information services (AIS), aerodrome and ground aids (AGA) and meteorological (MET) services, as well as the training of personnel in the topics involved.

3.2.8 The draft project will be presented at the upcoming NACC/DCA/3 Meeting to be held in September 2008. This strategy must be to meet the needs of States of CAR Region to achieve global interoperability. Therefore, the Meeting agreed on the following conclusion:

CONCLUSION 21/3 REGIONAL TECHNICAL COOPERATION PROJECT FOR THE IMPLEMENTATION OF AERONAUTICAL INFORMATION MANAGEMENT (AIM)

That ICAO:

a) take the necessary actions to develop a Regional Technical Cooperation Project for the implementation of Aeronautical Information Services (AIS), taking into account Aeronautical Information Management (AIM), the global ATM operational concept, the corresponding CNS technology support, the necessary AIS, AGA and MET services, as well as the training of personnel in the topics involved; and

b) present the aforementioned project to the NACC/DCA/3 Meeting scheduled for 2008.

3.3 E/CAR ATM Committee Report

3.3.1 The Meeting took note of the activities of the ATM Committee of the E/CAR/WG since the E/CAR/WG/30 Meeting regarding plans for instituting flow management procedures prior to and during 2007 ICC Cricket World Cup Tournament, which revitalised the ATM Committee into reviewing the progress of activities for which it was constituted.

3.3.2 Over the 2007 ICC CWC period, only ATFM matters received the type of attention required. Through dedication and commitment on the part of the participants of the ATFM Team and the States and Territories of the E/CAR in conjunction with international organizations and support from the FAA ATC System Command Center a set of procedures were developed and put into place for the safe and efficient operation of air traffic during the Tournament.

3.3.3 The Meeting noted the following lessons learned from the 2007 ICC CWC ATFM tasks such as:

- In most States and Territories there were insufficient trained ATM personnel assigned to work on the 2007 ICC CWC ATFM initiatives;
- The inadequacy of trained ATM personnel assigned to ATFM plans and programmes and other new developments in Global ATM on a permanent basis needs to be addressed;

- The general lack of adequately trained ATM personnel without a rudimentary understanding of ATFM procedures should be cause for concern on the part of ANSPs as ATFM will soon become the "flavour of the mouth" in the CAR/SAM Regions;
- The E/CAR needs to establish a mechanism for discussion/collaboration between ANSPs, airport authorities, aircraft operators and other aviation community stakeholders as ATFM requires collaborative decision making to work smoothly and efficiently;
- Aircraft operators, States and Territories need to respond in a more timely manner with the provision of required information;
- Technology to aid in data collection/analysis was not available in several States and Territories, requiring manual input and analysis, which is very time consuming;
- There was appeared to be a misunderstanding by some States and Territories of the magnitude of necessary work to be completed;
- Time to train staff was inadequate in some cases and this gave rise to misunderstanding of some of the procedures and initiatives that were instituted; and
- Feedback was not easily volunteered.

3.3.4 The Meeting agreed that States, Territories and International Organizations should take action to make necessary resources and technology available to aid in traffic data collection and analysis to ensure the development of the ATM system in the E/CAR.

3.3.5 The Meeting noted the teleconferences carried out on a daily basis at 1315 UTC involving the ACCs of Miami, New York, Piarco and San Juan through the FAA ATC System Command Center, dealing with features of the hurricane season as well as forecasted severe weather phenomenon. It was agreed that Trinidad and Tobago should provide timely coordination to organize the Piarco FIR in order to participate in the above-mentioned teleconference.

3.3.6 The Meeting noted lessons learned, as well as the significant operational benefits based on the ATFM work and coordination accomplished to date between Centro de Control de Flujo de Mexico (CCFMEX), NAV CANADA National Operations Centre (NOC), and the United States Air Traffic Control System Command Center (ATCSCC). Air traffic service providers, airspace users, and other system stakeholders in the E/CAR can benefit from ATFM development and lessons learned by other States.

3.3.7 The Meeting agreed that it is very useful to take into account the lessons learned by Canada, Mexico and United States regarding air traffic flow management shown in **Appendix I** to this part of the Report and the operational benefits that have been realised to date by other States and Regions.

3.3.8 IATA presented information on RNAV/RNP procedure implementation projects in the Region that are being carried out according to the PBN roadmap approved by the GREPECAS/14 Meeting. IATA's programme and support is available upon request to airports, States and airlines. IATA offered additional training programmes to assist regulators as well as operators.

3.3.9 France identified that GNSS applications were scheduled for implementation at French Guiana, Guadeloupe and Martinique in the 2008-2009 timeframe.

3.4 E/CAR CNS Committee Report

3.4.1 The Meeting took note of the report of the E/CAR CNS Committee on the activities carried out in the Eastern Caribbean toward improving CNS. Detailed information is depicted in **Appendix J** to this part of the Report. Specific CNS activities and developments are as follows:

TASK	DEADLINES	Status	RESPONSIBLE REMARKS
Improve AFTN circuit reliability	Nov. 2006	Completed	Detailed action in appendix, literal 1.
Conclusion 29/4 Improve connections between E/CAR network and FAA AFTN and voice circuits	1st Quarter 2007	On-going	Detailed action in appendix, literal 1.4
Conclusion 29/5 Notification of network failures and feedback procedures between the French Antilles and Trinidad and Tobago		Completed	Detailed action in appendix, literal 1.3
Conclusion 29/6 Increase the reliability of the E/CAR digital network	On-going		TTCAA discussed an action plan for the improvement of the network, which will be circulated to States.
Conclusion 29/7 The need for a contract with the provider TSTT	Second quarter 2007	Completed	Detailed action in appendix, literals 1.2.5 and 1.2.6

3.4.2 The Meeting noted that the Conclusions concerning ATN/AMHS development have been considered for the IPv4 to IPv6 transition as referred in GREPECAS/14 and ICAO Doc 9705. These requirements have been included in the RFP document for a VSAT solution to solve the E/CAR network infrastructure problems. In this regard, in accordance to CAR/WG Conclusion 1/6, the initial date of 2007 has been changed to 2009 for Trinidad and Tobago AMHS implementation completion.

3.4.3 The Meeting noted ALLPIRG/5 Conclusion 5/16 that discourages the proliferation of VSAT networks in any region that already has a VSAT network, and at the same time expressed the necessity to ensure that the eventual replacement network service satellite fulfills the coverage requirements of the E/CAR.

3.4.4 The Meeting took note of the MEVA II network information and the interconnection process with REDDIG network that will be considered for the ECAR. Summary information on the implementation status of the MEVA II VSAT Network in the Central Caribbean and the process for its interconnection with the South American VSAT network (REDDIG) is depicted in the **Appendix K** to this part of the Report.

3.4.5 Concern was expressed regarding the capability of a different system to meet requirements and achieve interoperability. United States offered to provide additional information on MEVA II network and invited the E/CAR States to participate in the MEVA II Meeting that will be held in March in San Juan.

3.4.6 Trinidad and Tobago provided information on thecontract awarded for a full ATM system. The system will have the ability to display single, multiple or merged radar images. Letters of Agreements for the remote radar information from Barbados and France (combined Martinique and Guadeloupe radars) to Trinidad and Tobago were signed on 17/11/06 and 04/10/07, respectively.

3.4.7 France informed that the radar installed in St. Lucia is not working properly due to interruptions on the telecommunication protocol. ECCAA also informed that even though the radar has been installed ATCOs are not trained in radar procedures due to the unreliability of the system. The concerned parties agreed to meet to resolve these matters.

3.4.8 Information was provided on implementation of ADS-C in the oceanic portion of the Piarco FIR. The details of this project will be handled by the SUR/TF to coincide with the timelines of the delivery of the new ATM system for Piarco. The Directors General also noted that the E/CAR Region is planning on conducting Automatic Dependent Surveillance – Broadcast (ADS-B) trials within the near future in the airspace west of 56º in the Piarco FIR with the purpose to improve the knowledge on ADS-B and evaluate benefits for air traffic management in the CAR/SAM Regions.

3.4.9 United States offered to provide assistance to initiate this data collection effort and share information with the E/CAR States based on their experience with ADS-B trials. Information on the coordination process is depicted in **Appendix L** to this part of the Report.

3.4.10 The Secretariat provided information about the updated version of the radio frequency assignment lists for the CAR Region and their importance for State regional planning, as well as suggested actions for the review and respective updating of this information.

3.4.11 The radio frequency lists for the assignment of radio frequencies for new communication facilities, navaids and systems are:

- *"List No. 1 – List of Facilities operating on Frequencies in the LF/MF Band (190-1750 KHz)*
- *"List No. 2 – Record of VHF Frequency assignments to VOR and ILS Radio Navigation Aids"*
- *"List No. 3 – Record of VHF Frequency assignments in the band 117.975 – 137.000 MHz"*

3.4.12 The Meeting noted that the ICAO NACC Office has an updated version of these lists, which is going to be posted on the ICAO NACC Office website for States/Territories information and planning purposes at the end of February. Updates to the lists will be posted on the website accordingly. The lists will be available at:

www.icao.int/nacc
"eDocuments"
"Radio Frequency Assignment Lists"
Username: *to be provided at a later date*
Password: *to be provided at a later date*

3.4.13 Access to this information will be through a username and password and in read-only mode to allow States/Territories to verify and confirm the actual frequencies being used by the State/Territory, to know frequency assignments of an adjacent ATS unit or aeronautical user, and to permit the planning of future facilities and other technical/operative considerations for its implementation. A State letter will be issued in this regard.

3.5 Follow-up to Other Air Navigation Issues

Aerodromes and Ground Aids and Aerodrome Operational Planning Issues

Fifth Meeting of the GREPECAS Aerodromes and Ground Aids / Aerodrome Operational Planning Subgroup (AGA/AOP/SG/5)

3.5.1 The Meeting took note that the GREPECAS AGA/AOP Subgroup held its fifth meeting in Montevideo, Uruguay, from 20 to 24 November 2006. It was attended by 46 participants representing 16 States, 3 International Organizations, members of the Subgroup and participants from 2 States of the CAR/SAM Regions. Results of the meeting can be found on the GREPECAS website and were reviewed at the GREPECAS/14 Meeting.

3.5.2 The sixth Meeting of the GREPECAS AGA/AOPS/SG will be held in San Jose, Costa Rica, 23-27 June 2008.

Review of AGA Deficiencies

3.5.3 The Meeting expressed concern that from the existing deficiencies in the CAR Region, 55% belong to the AGA field, and from those approximately 48% are urgent (U). These numbers demonstrate the priority for civil aviation authorities to require airport administrations to initiate and execute corrective and specific actions to resolve deficiencies in the short term. In view of the above, the Meeting considered that the Directors of the Airport Authorities of the E/CAR States and Territories should be invited to participate in the E/CAR/DCAs Meetings.

3.5.4 The Meeting recognised that it is of utmost importance that States/Territories having deficiencies in the AGA field, send to the ICAO NACC Office, as soon as possible, their action plans to correct/mitigate each AGA deficiency, the corrective actions to be taken, the completion date and the assignment of the respective necessary resources, and that those action plans corresponding to "U" deficiencies be executed as soon as possible. The Meeting also reiterated and emphasised the need to inform and coordinate with the ICAO Regional Office regarding this mater.

ICAO Regional Manual on Airports Maintenance

3.5.5 The Meeting took note that the *"Latin American and Caribbean Association of Airfield Pavement" (ALACPA),* provided GREPECAS with the English and Spanish versions of the *ICAO Regional Airports Maintenance Manual* as requested. This document will be available for States/Territories soon.

Aerodromes Emergency Plans (AEP) and Emergency Operational Centres (EOC)

3.5.6 The Meeting noted that the survey results from States/Territories of the CAR Region on Aerodrome Emergency Plans (AEP) and Emergency Operations Centres (EOC) show that a significant number of States did not respond. Regardless of the above, of a total of 134 international airports in the CAR Region (ANP CAR/SAM-Tables AOP), only 60% have updated their aerodrome emergency plans, their emergency operational centres and have carried out at least one general exercise of the plan as required every two years.

3.5.7 It was noted that RASOS is providing assistance with airport certification to members of the Eastern Caribbean.

3.5.8 The Secretariat identified that a Special Implementation Project (SIP) had been requested for Aerodrome Emergency Plans and Emergency Operations Centres for 2008-2009.

Airport Certification and Operational Safety Management System (SMS)

3.5.9 The Meeting took note that based on the survey by the Air Navigation Aerodromes Section, ICAO Montreal, 5 States of 29 have certified their international airports (ANP CAR/SAM – AOP Tables); 3 are in progress and 21 are finalizing their basic documentation. Regarding SMS implementation, no States have put SMS into practice based on the terms of reference established in the ICAO SARPs. Only 14 States responded to the survey requested by the AGA Section. As such, the true situation of States is unknown. Most importantly, it is unclear where to focus necessary efforts to assist States/Territories in the process.

3.5.10 The Secretariat identified that a Special Implementation Project (SIP) had been requested for Aerodrome Certification for 2008-2009.

Annex 14 and Universal Safety Oversight Audit Programme (USOAP)

3.5.11 The Meeting noted that the most recurring observations found during the USOAP audit process are: basic aviation legislation does not include aerodrome certification and civil aviation authorities are not clearly authorised to carry out the certification process; regulations for design and operation of aerodromes are not developed by States; uniformity of standards for aerodrome operational safety do not exist; generally, personnel that should execute aerodrome certification do not have the necessary training to verify all the aspects that are required in aerodrome certification; personnel in charge of aerodrome certification do not have the proper training to permit efficient execution of this process; personnel are not familiar with equipment, databases, and necessary elements to effectively manage the aerodrome certification process and SMS implementation.

Progress in the Activities of the CAR/SAM Regional Bird Wildlife Hazard Prevention (CARSAMPAF) Committee

3.5.12 The Meeting was informed that the CARSAMPAF Committee held the Fifth International Conference on Bird/Wildlife Hazard Prevention, (Guayaquil, Ecuador, from 1 - 5 October 2007). During the Conference, the level of maturity reached by this Committee was demonstrated by an invitation from the European, Canadian and United States international committees to work jointly. According to the ICAO NACC Regional Office Programme, the Sixth Conference of the Committee will be held in Brazil during the first week of November 2008.

Progress on the Activities of the "Latin American and Caribbean Association of Airfield Pavement" (ALACPA)"

3.5.13 The Meeting took note that the last event of ALACPA was held in Lima, Peru, from 12 to 17 November 2007. The issues dealt with were of a high academic level, contributing to enhanced knowledge among the professionals involved in the supervision and implementation activities of maintenance plans for paved and non-paved movement areas of aircraft.

Review of the AGA/AOP Issues Related to the Regional Air Navigation Plan

3.5.14 With respect to AGA/AOP regional planning activities, the Meeting was informed of two aspects. The first included the activities of the CAR/SAM Traffic Forecasting Group, which assists States/Territories of the Region to achieve regional and local visions based on an accurate forecast to properly balance demand and capacity of the aerodrome system, and the second related to the untimely communication received from States/Territories regarding updates to AOP Tables of the CAR/SAM ANP – Vol. II, when important changes are clearly known and are already implemented by States and Territories with respect to horizontal infrastructure and service levels of the airports listed in the mentioned document.

Airport Environmental Management Systems

3.5.15 The Meeting agreed that it very important for civil aviation authorities, together with airport administrations of States/Territories, to implement environmental management systems, which include inventory management of emissions and aircraft noise, the use of terrain in neighbouring areas adjacent to airports and, among other aspects, environmental impacts. This process should also include the participation of local and national environmental authorities.

State Responses to the Proposal for Amendment of ICAO Annex 14

3.5.16 According to follow-up of State responses to proposal for amendments to the Annexes, particularly to ICAO Annex 14, the Meeting took note that from a total of 190 States, 23 responded and only few of those provided comments. The conclusion is that States are not considering the submission of a detailed analysis of utmost importance to optimise and efficiently implement each proposal.

Search and Rescue (SAR)

3.5.17 The Meeting noted that the "State SAR Matrix" presented in Working Paper 12 by the United States was distributed to all States/Territories in the Caribbean Region by the ICAO NACC Office in early 2004, as part of the Quality Assurance SAR Manual, which will be presented for review in future SAR meetings. The Directors General agreed that it would be a useful tool for the Caribbean States to use to gauge the capacity of individual State SAR systems and to sustain government support for SAR services. It was noted that the fundamental elements listed in the matrix require further explanation and the ICAO NACC Office was requested to redistribute the related information.

3.5.18 The Meeting agreed that SAR agreements between all parties concerned are key to efficient provision of SAR services. Also, it was recognised that the United States, the Netherlands Antilles and the United Kingdom are part of the Piarco FIR and should be invited to participate as active members of the E/CAR SAR Committee. The FIR also serves as the SAR Aeronautical Region.

3.5.19 The Meeting took note of the information provided by CDERA on developments with the E/CAR CAAMCIRP document in organizing an effective, efficient response to an emergency on or near the airport, as well as providing a basis for responses to other types of emergencies. Information on the Urban SAR (light level) Course is included in the **Appendix M** to this part of the Report. ICAO NACC Office will collect available documentation of national mass casualty plans.

3.5.20 The Meeting recognised that E/CAR CAAMCIRP document planning is essential to support the airport emergency plan (AEP) to respond to emergencies that occur on and near airports in the Caribbean that have over water takeoffs and landings. These activities could involve aeronautical and maritime SAR bodies; therefore, there is a necessity to ensure coordination through the Rescue Coordination Center (RCC).

3.5.21 The draft E/CAR CAAMCIRP is available to all States; however, it is not considered the final product. The Meeting recognised that guidance should be provided by CDERA in order for States to take appropriate action to develop their national MCI plans.

3.5.22 The Meeting agreed that the United States should send official invitation to the E/CAR SAR Committee to attend the tentatively scheduled SAR Workshop in June 2008, in either Miami, Florida, or the Dominican Republic. It was also agreed that the E/CAR SAR Committee take appropriate action to coordinate further discussions of the draft E/CAR CAAMCIRP and other topics such as:

- review SAR agreements that seek permission for SAR units from other States to provide SAR assistance within jurisdiction of another State;
- the publication of SAR response capacity within the Piarco FIR;
- proper coordination between civil and military authorities for the efficient use of all available SAR resources;
- designation of a SAR Point-of-Contact (POC) to act as the operative coordinator in the Piarco RCC with the COSPAS-SARSAT system and with the RCC coordinator of adjacent FIRs; and
- development of a SAR training plan including coordinated exercises between the SAR services within the Piarco FIR.

3.5.23 Taking into consideration the information presented, the Meeting agreed on the following conclusion:

CONCLUSION 21/4 ACTIONS TO IMPROVE THE SAR SYSTEM IN THE E/CAR

That,

a) ICAO NACC Office will provide the Eastern Caribbean States and Territories by 14 March 2008, a full description of each fundamental element listed on the State SAR Matrix;

b) ICAO NACC Office send an official letter to CDERA and PAHO asking for documentation for the establishment of national mass casualty plans in order to be available to States at the next SAR Meeting scheduled for April 2008;

c) United States will extend an invitation to the Trinidad and Tobago representative of the E/CAR SAR Committee to participate in the next Caribbean SAR Workshop tentatively scheduled for June 2008 in Miami, Florida, or Dominican Republic;

d) the Rapporteur of the E/CAR SAR Committee coordinate with the members of the E/CAR SAR Committee, including the United States, the Netherlands Antilles and the United Kingdom, for their participation in the abovementioned Caribbean SAR Workshop;

e) Eastern Caribbean States and Territories, use the State SAR Matrix and full description of the fundamental elements to gauge the capacity of individual State SAR systems; and

e) present the status of the SAR System to the 22nd E/CAR DCA Meeting.

3.6 Review of the Status of Air Navigation Deficiencies

3.6.1 The Meeting took note that in support of ICAO Strategic Objective A (Safety - *Enhance global civil aviation safety),* the ALLPIRG/5 Meeting formulated Conclusions 5/14 — *A regional online database of air navigation deficiencies,* and *5/15 — Last resort action to resolve regional air navigation deficiencies.*

3.6.2 According to the Fifth Meeting of the ALLPIRG Advisory Group (ALLPIRG/5), as soon as each deficiency is published in the GREPECAS Air Navigation Deficiencies Database (GANDD), its impact on safety shall be identified. Moreover, when efforts to eliminate deficiencies prove unsuccessful after exhausting all alternatives, the following last resort action should be adopted:

a) propose the inclusion of an alternate facility/procedure in the Air Navigation Plan (ANP); or

b) when a corrective action as a) above cannot be recommended, provide the State(s)/Territory(ies)/users and ICAO with an analysis concerning risk associated with such a deficiency.

3.6.3 The Meeting recalled that GREPECAS Conclusion 13/92 urged States/Territories/International Organizations to eliminate "urgent" deficiencies by **31 December 2007;** afterwards, the use of "last resort action" will be considered. Furthermore, it urged to make utmost use of the GANDD and to develop and implement an action plan for each deficiency specifying corrective measures, the completion date, and assigning the necessary resources. It also requested that Administrations submit their action plan to the ICAO Regional Offices by 30 June 2006, indicating any difficulties encountered.

3.6.4 The Meeting also took note that the GREPECAS/14 Meeting noted that failure by States/Territories to update the GANDD could be due to lack of training for personnel responsible for this duty in the relative field of the State/Territory. Therefore, it was deemed necessary for each State/Territory to designate a National Coordinator to oversee this duty so as to expedite the administrative coordination of the database with those responsible for the various air navigation service fields in their States/Territories. Accordingly, GREPECAS adopted Conclusion 14/59 – *National Coordinator Responsible for Updating the GREPECAS Air Navigation Deficiency Database.*

3.6.5 Moreover, GREPECAS adopted Decision 14/60 – *Procedures for Classifying and Addressing GREPECAS "U" deficiencies*, through which it decided to convene the GREPECAS Air Safety Board (ASB) during the first week of March 2008, to review the completion of Conclusion 13/92 and follow-up on the application of "last resort action."

3.6.6 The review and solution of air navigation deficiencies is the responsibility of civil aviation authorities. Recognising that it is incumbent on the Directors of Civil Aviation to take note of these deficiencies and carry out action to resolve them, the Meeting reviewed Appendix A to WP/04, which contains updated information on outstanding deficiencies including deficiencies where action plans for their correction have been submitted by States/Territories, and Appendix B with information on corrected or eliminated deficiencies.

3.6.7 The Meeting encouraged States/Territories that have not yet taken action in this regard to implement GREPECAS Conclusion 13/92 by using the revised format for action plans for resolution of regional air navigation deficiencies presented in **Appendix N** to this part of the Report**.** The civil aviation authorities were reminded of their responsibility under Article 28 of the Chicago Convention for providing safe, regular and efficient air navigation services.

APPENDIX A

CONCLUSIONS OF THE CAR/WG/1 MEETING (RENAMED AS NACC/WG)

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.

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.

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.

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)*.

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".

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.

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 **30 June 2008**.

CONCLUSION 1/8 DEACTIVATION OF NDB STATIONS IN THE EASTERN CARIBBEAN

That,

a) States/Territories and airspace users should move towards implementing GNSS so that NDB stations can be gradually removed;

b) the E/CAR sub-region use the same time line for deactivation of NDB stations based on GREPECAS Conclusion 14/56; and

c) 2018 be considered the date for completion of NDB station deactivation by all E/CAR States/Territories.

CONCLUSION 1/9 E/CAR POINT–OF–CONTACT FOR UPDATING FASID TABLE CNS 3

That,

a) Eastern Caribbean States/Territories should provide a point-of-contact for the provision of information for updating FASID Table CNS 3 – Radionavigation Aids Table;

b) the ICAO NACC Office send a letter to the E/CAR States/Territories requesting a point-of-contact to be in charge of national coordination to propose amendments to the FASID Table CNS 3 as needed; and

c) E/CAR States/Territories send the ICAO NACC Office its proposals for amendment to the FASID Table CNS 3.

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.

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**.

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.

CONCLUSION 1/13 APPLICATION OF MULTILATERATION AS A SURVEILLANCE OPTION

That,

a) States/Territories/International Organizationsconsider 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 mutilateration along similar guidelines used for the ADS-C trials as a transition path to ADS-B in a medium term.

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 airspaces and follow-up the execution and results of the projects mentioned in a) and b), as well as other initiatives; and

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.

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 **30 June 2008**.

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.

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 **30 June 2008**.

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.

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
						2008					
1	C, D		GPI-6		14/48	Develop a regional strategy and work programme for harmonized implementation of ATFM service.	Completed	E/T/OI	Work programme	2007	
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		13/2	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 homogeneus CAR/SAM areas.
			GPI-7		14/48	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 correspondant regulation;	Valid	OACI	Amendment to Doc 7030.	2008	Publish standards in AIPs.
			GPI-16		14/48	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.

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	

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 analized.
						2010					
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 analize 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	

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	

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)	Analize requirements and prepare plans to implement ATN ground-ground applications, such as AMHS and AIDC.		States and International Organizations.	Prepared Plan		

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

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			***Recommendations of the AN-Conf/11 for the transition to satellite-based air navigation*** Adopt measures to achieve, as soon as possible, worldwide navigation capabillity 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)	***New guidelines and regional strategy for the GNSS transition*** Take into accoun 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)	***Studies for a CAR/SAM Regional SBAS solution*** Continue introducing the GNSS in an evolutionary and coordinated manner, according to the ICAO Global Plan.		States and International Organizations	Introduce GNSS		

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
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		
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 3.6.3.20 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			***Follow-up to the SARPs and ICAO guidelines and policies on GNSS*** 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. 3.6.3.61	Follow-up and implement GNSS in accordance to the SARPs and ICAO guidelines.		States and International Organizations	Take note and issue comments		

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
14	A, D		GPI-21	Tabla CNS 3	14/56 a)	***Progressive deactivation of conventional radio aids*** 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	Conduced 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	
16	A, D		GPI-21	Tabla CNS 3	14/57	***Update of the Regional Navigation Systems Plan*** 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. 3.6.3.25	***GNSS training activities*** 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	

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	***Global Plan Strategy GPI-09 - Situational Awareness*** Take note of GPI-09 - Situational awareness as a global strategy for data-based surveillance implementation. (Apendix A)		States and International Organizations	Knowledge of GPI-09 from the Global air navigation Plan		
2	A, D	GPI-09			***ICAO SARPs and guidelines on Surveillance Systems*** 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	***Preliminary Regional Strategy for the deployment of ADS-B and ADS-C*** 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	***Initiatives for the implementation of ADS-B, ADS-C as well as other Surveillance Systems*** 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		

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	***Update of the Surveillance Systems Regional Plan*** 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	***Radar data exchange*** Establish and implement bilateral/multilateral agreements for radar data exchange.		States and International Organizations	Radar data exchange established		

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

Organization: Date Jun-07

No.	Strategic Objective/	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
					Near term (2010)					
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 interfacility 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		

No.	Strategic Objective/	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	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		
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		
					Medium term (2015)					
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		

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

GREPECAS/14 reviewed the appliation 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.12/87	***ICAO SARPS and guidelines on WGS84 system*** 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	***ICAO SARPs and guidelines on WGS84 system*** Contribute to the coordination and follow-up of the total implementation of WGS-84 in the Caribbean States/Territories.	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	***ICAO SARPs anon AIS/MAP quality system.*** 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 *Guidance Manual for the Implementation of an AIS/MAP Quality System in the CAR/SAM Regions*

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	***ICAO SARPs and guidelines on digital charts and terrai and obstacle electronic data.*** 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**.**	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 *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* , 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	***ICAO SARPs and guidelines on AIS/MAP automation system.*** Recommend the necessary actions to develop and assist States/Territories with implementing the AIS Automation Plan approved for the Caribbean developing the relevant databases.	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.

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	***Update to the Air Navigation Plann*** 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	***Guidance material on human factors*** *Study the elements of human factors applied to the AIS/MAP, in accordance with the AIS/MAP/SG/10 Meeting results.*	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.

REPORT OF THE CHIEF TECHNICAL OFFICER PIARCO AIS ON AIS/MAP DEFICIENCIES WHICH HAVE AN IMPACT ON CNS/ATM SYSTEMS IN THE E/CAR REGION

SUMMARY

This report provides recommendations by the Chief Technical Officer Piarco AIS/MAP on deficiencies identified on a Technical visit to AIS offices of the Eastern Caribbean States during the period 13th August – 4th September 2007

Reference:

30th EASTERN CARIBBEAN WORKING GROUP MEETING,

Agenda Item 4.

Prepared by the Chief Technical Officer, Piarco AIS
08th January, 2008

Contents

1. INTRODUCTION

1.1 In keeping with Agenda Item 4 of the 30th. EASTERN CARIBBEAN WORKING GROUP (30th. E/CAR WG) MEETING, the Chief Technical Officer (CTO) Piarco AIS/MAP visited the ten (10) E/CAR States, which included eleven (11) AIS AD units. These units are listed in **Appendix A**.

1.2 These visits were conducted during the period 13th August - 4th September 2007. The objective is to report on the issues identified in agenda item 4 and to present the findings and recommendations of this report at the 21st Meeting of the Directors of Civil Aviation of the Eastern Caribbean States to be held in Tortola, British Virgin Islands, 11th to 14th February 2008.

The report focuses on the following AIS issues which have been formulated into conclusions 30/06 and 30/07of agenda item 4 of the 30th. E/CAR WG meeting.

a) CONCLUSION 30/06 STATUS OF IMPLEMENTATION OF THE E/CAR AIS/MAP SYSTEMS

b) CONCLUSION 30/07 HARMONIZATION OF THE WGS 84 BOUNDRY COORDINATES OF MAIQUETIA AND PIARCO FIRs

2. AREAS OF EXAMINATION BY THE CTO, PIARCO AIS

From **CONCLUSIONS 30/06** and **30/07,** the areas of examination decided upon were as follows:

1) Organizational Structure and efficiency of AIS office;
2) Resources of States AIS Units;
   - Facilities & Equipment (Degree of computerization)
   - Level of training, minimum staff & accommodation
3) Level of documentation (Basic Reference Material, BRM indicated in Doc 8126);
4) Status of implementation of a quality assurance program;
5) Implementation of WGS84 coordinates in E/CAR States;
6) Implementation of WGS 84 border coordinates and
7) Implementation of AIS Automation Plan.

2.1 Organizational Structure and efficiency of AIS Office

The new requirements of ATM, RNAV, RNP and other automated navigation system will depend extensively on the provision of timely relevant, accurate and quality assured information that allows the aviation community to make informed decisions.

In this regard the traditional role of AIS will evolve into an information management service with changing duties and responsibilities.

The AIS of the Eastern Caribbean has to keep pace with this changing environment.

ICAO has given guidelines for the training and organizational requirements for AIS (AIS/MAP SG10).

There is an urgent need for the states of the region to provide dedicated and trained staff to provide the functions of AIS.

During the visit to the AIS of the various ECAR states the level of staffing and training was found to be inadequate to meet the demands of AIS in this changing environment.

2.2 Resources of States AIS Units

a) Facilities & Equipment

The Thales IAT AFTN terminal units have been updated with template driven software for Flight Planning and NOTAM dissemination.

The equipment available at most states were sufficient for the purposes of providing AIS services, however due to limited space availability in some states services such as photocopying, printing, scanning and fax were sourced via the Airport Managers (APMs) or Senior Air Traffic Controllers (SATCOs) office. This was an undesirable and inefficient situation.

Internet services were unavailable at some stations. The use of communication between states via internet should be encouraged.

b) Level of training (AIS 021), minimum staff and accommodation

Level of staffing and training at all states were found to be inadequate for the provision of AIS services.

In most states the area available for AIS staff was sufficient, however in at least four (4) states AIS functioned in the tower area and as such full AIS services cannot be performed adequately.

There is an urgent need to provide dedicate staffing as outlined by guidelines provided in the AIS Manual Document 8126. Training should be to the minimum standard required by ICAO, i.e. AIS 021 Course.

2.3 Level of documentation (Basic Reference Material – BRM)

AIS Manual Document 8126 outlines the manuals that are required to be present in an AIS Office. On inspection, it was found that all States with the exception of Trinidad and Tobago and Barbados did not have the full compliments of these documents. The documents found were mostly outdated. There was no established mechanism where Airport Managers (APMs) or Senior Air Traffic Controllers (SATCOs) could requisition these documents from the relevant government ministry. In cases where these documents were requested, it was learnt that it took a considerable length of time for them to reach the AIS.

The Charts available were also found to be extremely outdated.

2.4 Status of implementation of a quality assurance programme

No states with the exception of Trinidad and Tobago has begun a programme to implement quality system as required by ICAO. Due to the staffing situation at these states there is no personnel available to dedicate the time necessary for the implementation of a quality assurance programme.

All States were provided with an electronic copy of the ICAO Guidance Manual Parts 1, 2, 3 & 4 for the implementation of an AIS/MAP quality system in CAR/SAM regions. In addition, staff was given instructions on how to access the relevant areas of the ICAO website for updates.

2.5 Implementation of WGS84 coordinates in E/CAR States

This project is 95% complete. Most E/CAR coordinates have been converted to WGS84 with the exception of a few aerodromes which have not been surveyed to date, e.g.

- Canefield, Dominica
- Lauriston, Grenada, and
- Bequia, St. Vincent

Coordination with Venezuela to verify the accuracy of the Enroute boundary coordinates between Piarco and Maiquetia continues to be a problem as we are unable to have fruitful dialogue thus far. The ICAO Regional office is aware of this problem and has indicated their willingness to help. It will be appreciated if the Regional Office can intervene in this matter in order to obtain a timely solution.

2.6 Implementation of AIS Automation plan

With the proposed movement from AIS to AIM the E/CAR Region has to develop a strategic plan of action for this migration. Automation of services such as Flight Planning, NOTAM Processing and the Integrated AIP need to be a priority for this transition. With the proposed upgrade of the E/CAR network using VSAT service automation of these services is possible.

The E/CAR AIS Committee needs to meet and discuss appropriate action plans in order to ensure the implementation of the AIS Automation Plan of the E/CAR States develop and implement as depicted in 2.6 of this report.

3. RECOMMENDATIONS

The following are the recommendations of this report.

#	Task	Corrective Action Proposed	Action Office
1	Training in AIS 021	Priority should be given to the training of the current ***eleven*** **(11) dedicated AIS staff** involved in the provision of AIS/MAP services in E/CAR States. Training to the level of AIS 021 course is recommended in the first instance until such time when the revised AIS Course becomes available	Manager CATC, CTO & EMANS of T&T, and APMs & SATCOs of E/CAR States
2	Organizational Structure & efficiency	• In cases where an APM has direct responsibility for AIS, It is recommended that a SATCO, Ops Officer, AIS Specialist or equivalent, should be given this responsibility in order to improve operational efficiency. This measure is recommended as if was found that APMs are usually burdened with other Administrative matters which are given priority over AIS matters • Based on the resource requirements contained in **Document 8126** and our own observations, there is an urgent need to recruit a combined total of ***forty four (44)*** additional **dedicated AIS staff** in order to provide an effective and efficient service in the States visited. This figure represents a significant 231% increase in the present number of **dedicated AIS staff** in all E/CAR States which is a total of nineteen (19) • Staff providing AIS/MAP services should be adequately compensated in order to encourage them to remain in AIS/MAP	APMs & SATCOs of E/CAR States
3	Level of documentation	APMs and SATCOs of E/CAR States to implement a system which will ensure that States have current copies of all the required documentation (BRM) listed in **Document 8126** in the AIS work area.	APMs & SATCOs of E/CAR States
4	Access to internet	Access to be given to staff involved in the performance of AIS/MAP duties so that they can access the relevant **ICAO Guidance materials** presented at E/CAR, SG and GREPECAS meetings.	APMs & SATCOs of affected States
5	Quality system	1) One (1) member of staff at the level of a SATCO, Operations Officer, AIS Specialist, or equivalent be given the responsibility and the resources necessary for implementing and maintaining the quality system in each E/CAR State 2) A series of ICAO workshops for States of the	DG, EMANS & CTO of T&T, and Rapporteur for the E/CAR AIS Committee

		E/CAR on: • interpretation of the ISO 9001 standard • Quality management • internal quality audits • Guidance on the implementation of an integrated quality management software solution for AIS/MAP	
6	AIS Automation Plan	AIS Committee to meet and discuss plan	Rapporteur

Table 1: OBSERVED RESOURCES OF E/CAR STATES AIS UNITS

STATE	**RESOURCES**									
	a) Facilities & Equipmen						**b) Level of training, minimum staff & accommodation (AD units)**			
	PC & printer	Internet	Photo copier	Scanner	Phone	Fax	Current **dedicated staff T/U**	Recommended (including one SATCO, Operations Officer, AIS Specialist, or equivalent)	Additional Staff required	Office (sq.ft) **R/O**
Grenada	2 PCs	no	Yes	no	yes	yes	2/2	5	1	150/375
St. Vincent	3 PCs	yes	Yes	yes	yes	no	1/	5	4	150/220
Barbados	2 PCs	yes	Yes	yes	yes	yes	1/3	10	6	300+/364
Castries	2 PCs	yes	Yes	no	yes	no	0/3	4	1	150/450
Hewanorra	1 PC	yes	No	no	yes	no	2/1	6	3	150/240
Melville Hall, Dominica	1 PC	no	Yes	no	yes	no	0/0	4	4	150/none
Montserrat	2 PCs	yes	Yes	no	yes	yes	0/0	6	6	150/none
Antigua	2 PCs	yes	Yes	no	yes	yes	0/0	8	8	300+/120
St. Kitts	1 PC	yes	Yes	yes	yes	yes	1/2	5	2	150/1155
Nevis	1 PC	yes	Yes	no	yes	no	0/0	5	5	150/none
Anguilla	2 PCs	no	Yes	no	yes	no	1/	5	4	150/220
					TOTAL		**8/11**	**63**	**44**	

Legend;

T: Number of **Dedicated Staff** trained in AIS 021
U: Number still to be trained in AIS 021
R: ICAO Recommended Office space (sq.ft)
O: Office space (sq.ft) recorded during visit

Note:

1) denotes only one dedicated staff
2) Figures and text in red indicate values below recommended minimum.
3) Barbados and Antigua were considered as Major AIS AD units (24 hours operation), as compared to all the others which were considered as Minor AIS AD units with limited hours of operation.

APPENDIX A: Schedule of visits to E/CAR STATES

#	STATE	No. of Days	PERIOD
1	Grenada, TGPY	2	13 Aug – 14 Aug
2	ST. Vincent, TVSV	2	15 Aug – 16 Aug
3	Barbados, TBPB	3	17 Aug – 19 Aug
4	Castries, St. Lucia, TLPC	1	20 Aug
5	Hewanorra, St. Lucia, TLPL	1	21 Aug
6	Melville Hall, Dominica, TDPD	2	22 Aug – 23 Aug
7	Montserrat, TRPG	2	24 Aug – 25 Aug
8	Antigua, TAPA	3	26 Aug – 28 Aug
9	St. Kitts, TKPK	2	29 Aug – 30 Aug
10	Nevis, TKPN	2	31 Aug – 01 Sep
11	Anguilla, TQPF	3	02 Sep – 04 Sep

APPENDIX I

OPERATIONAL BENEFITS

The ATFM system in the NAM region has realized a number of operational benefits. These include:

a) Increased information flow to customers regarding system constraints, route options, and terminal delays.

b) Reduced operating costs for customers through fuel savings and crew scheduling due to the type and amount of ATFM information available on a real-time basis.

c) Increased situational awareness by the ATFM Command Centers and Flow Management Units regarding air traffic flows and weather conditions. This has contributed significantly to enhancing system safety.

d) Increased operational communication and coordination between the ATFM Command Centers and Flow Management Units in the NAM/CAR regions. This has contributed to a more efficient use of airspace and the reduction of operational delays.

e) Enhanced management of trans-regional flows of air traffic, especially during periods of convective activity, during hurricane events, or during periods of reduced terminal capacity.

LESSONS LEARNED

3.1 The primary lessons learned during the development and implementation of ATFM between Piarco ACC, CCFMEX, NOC, and ATCSCC include:

a) Involve the customers, airport authorities, and other system stakeholders very early in the ATFM development process

This is the essence of the Collaborative Decision Making (CDM).

For example, the ACC's, customers and airport authorities have contributed numerous ideas and suggestions regarding the management of flights into key destination airports such as: Port of Spain and Grantley Adams during the 2007 Cricket World Cup games; St. Maarten, Cancun and Los Cabos during the 2008 winter vacation season. By considering their input, we have been able to minimize delays and maximize airport throughput.

b) Utilize a common suite of ATFM tools to evaluate air traffic flows, weather conditions, demand, and capacity.

As traffic managers in the NAM/CAR regions, we have come to rely very heavily on the Enhanced Traffic Management System (ETMS). Based on input from system stakeholders, ETMS has developed into a very comprehensive tool that accepts an array of flight plan messages, applies aircraft performance information, displays weather information, and models demand/capacity information.

Customers that participate in the CDM process have direct access to ETMS through an interface designed specifically for them known as the Common Constraint System Display (CCSD).

c) Develop ATFM with the neighboring States first. Then develop a regional approach to ATFM.

We have learned that the greatest traffic flow challenges exist with the first-tier (neighboring) States. As a result, it is important to develop, coordinate, test, and implement procedures for managing these traffic flows. These procedures then become the basis for bilateral ATFM Letters of Agreement with the first-tier States.

This tier-based approach to ATFM allows States the flexibility they need to address specific traffic flow issues and to develop the procedures needed to manage the traffic.

d) Allow flexible timeframes in which to implement the various aspects of ATFM.

We have learned that the development of ATFM is not always a linear process. What looks good in theory is not always feasible in practice. For example, what seemed to be a simple process of flowing traffic smoothly to airports in first-tier States has been impacted by both State regulations and airport management requirements. Consequently, customer concerns and airport management issues had to be evaluated and addressed before flow solutions could be reached.

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APPENDIX J

SPECIFIC AIR NAVIGATION ACTIVITIES AND DEVELOPMENTS – COMMUNICATION, NAVIGATION AND SURVEILLANCE

1. **Agenda Item 3.1: Follow-up on the status of the E/CAR AFS and MEVA II digital networks and their related inter and intra-regional interconnection/integration.**

1.1 Aeronautical Fixed Services (AFS) - AFTN

1.1.1 At the 20th E/CAR DCA Meeting, December 4-7 2006 held in Miami, United States the CNS Committee reported on a proposed solution to the E/CAR AFTN problems of unreliable aging hardware and obsolete software as presented by Trinidad and Tobago in IP/06 at the 30th E/CAR WG. In keeping with this plan Trinidad and Tobago embarked on a total AFTN E/CAR end user solution. In the first phase of the project the AFTN hardware, inclusive of printers and uninterruptible power supplies, and AIS software on the islands of Anguilla, Antigua, Barbados, Dominica, Grenada, Montserrat, Nevis, Saint Lucia (2 sites), St. Kitts and Saint Vincent were successfully replaced over the period 28/01/07 – 26/02/07. Technical first level maintenance was conducted by TTCAA with the Cable & Wireless personnel and the local Information Technology/CAA technical staff. AIS operators' training was also conducted on site by a trained AIS officer from the TTCAA.

1.1.2 The second phase comprised the addition of a Flight Plan Management (FPL) Module to the Trinidad and Tobago AFTN/AMHS switch. This FPL module was added to improve the efficiency of transmission and reception of flight plans and Pre-flight Information Bulletins (PIB) in the region. The second phase was accomplished over the period 31/01/07 - 22/02/07.

1.1.3 The third phase was the introduction of the ICAO format templates to the AIS software. This was a software build at the specific request of Trinidad & Tobago in response to the needs of the E/CAR AIS. The templates allow user-friendly insertion of flight plan information in the format that is familiar to ATS users. The enhanced AIS software was successfully installed on the ten (10) E/CAR islands on 13/08/07 – 05/09/07. Operator training on the use of the enhanced software was also conducted on site.

1.1.4 The TTCAA continues to provide proactive maintenance support for the AFTN by telephone follow-up with on site technical support and/or on-site maintenance as necessary.

1.2 AFS – Solutions for the network infrastructure

1.2.1 Trinidad and Tobago participated in the Third CNS Committee ATN Task Force (CNS/ATN/TF/3) Meeting in Miami, United States, 20-22 March 2007. The ATN/TF reviewed a working paper presented by the ATN Task Force Group Coordinator proposing the modification of the existing Initial Transition Plan for the Evolutionary Development of the ATN in the CAR/SAM Regions and incorporating the CAR/SAM ATN Ground/Ground and AMHS Transition Plans. The AMHS Transition Plan will address issues of network incompatibility, timely coordination and management of the AMHS addressing scheme, upgrading of backbone circuits and the network along with security management.

1.2.2 The ATN/TF/1 reported that the use of AMHS over TCP/IP for this region was adopted by the CAR/SAM Regional ATN Task Force and recommended the initial use of IPv4 since AMHS applications do not yet support IPv6 internally in their communication stacks although IPv6 is available. IPv4 is recommended during the initial period within the CAR/SAM region and IPv6 should be used for Inter-Region AMHS connection. During the transition phase dual stack (IPv4 and IPv6) applications will be introduced. Eventually a full transition to IPv6 will be implemented.

1.2.3 At the 30/ECAR/WG the CNS Committee agreed that the existing E/CAR AFS network did not fulfill the requirements to transport AMHS/ATN protocol IP v6. IP/07 presented by Trinidad and Tobago at that Meeting proposed possible solutions to the resolve the network infrastructure problems. After regional discussion it was agreed that the best solution would be the replacement of the existing terrestrial based E/CAR network with a VSAT network. In this regard Trinidad & Tobago utilized the information from the contracted survey design report and drafted a Request for Proposal (RFP) to provide a VSAT solution for the Eastern Caribbean. Initially the RFP invited an outright purchase, own and maintain philosophy with Trinidad and Tobago as the System Administrator and owner of the network. This philosophy has since been revised for economical, logistical and managerial reasons. The RFP is now being redrafted for a service provider type of network, that is, the successful bidder will own and maintain the hardware and software and provide network and bandwidth management facilities which will be maintained and verified by contractual arrangements.

1.2.4 ALLPIRG/5 Conclusion 5/16 discourages the proliferation of VSAT networks in any region that already has a VSAT network that may be expanded to provide the necessary coverage and urges States to work towards integrated regional/interregional digital communication networks with a single centralized operational control to avoid costly interconnection/interconnectivity issues. The CNS Committee has taken note of this information and at the same time needs to ensure that the eventual replacement network service satellite fulfills the coverage requirements of the E/CAR

1.2.5 Trinidad and Tobago signed a Labour and Equipment Maintenance Agreement for the existing E/CAR AFS and VHF Aeronautical Mobile Services (AMS) networks, with Telecommunications Services of Trinidad and Tobago (TSTT) for maintenance of the AMS, AFTN interface and voice equipment on the E/CAR islands. The Agreement was deemed to have commenced on 1st January 2006 for an initial period of twenty-four (24) months to be thereafter automatically extended by successive twelve (12) month periods unless terminated.

1.2.6 Until replacement, Trinidad and Tobago has a responsibility to maintain the existing network at a reliable operational level. To ensure this reliability a set of recommended spares for the AFS was purchased and are in the possession of TSTT. A RFP was recently invited to provide two additional VHF frequencies for the Piarco ACC and spares for the current configured AMS.

1.3 Fault reporting and resolution procedures

1.3.1 Fault reporting and resolution procedures agreed at the E/CAR WG/29 continue to be implemented. Quarterly reports of E/CAR AFS failures are emailed to States by the TTCAA based on fault reports received. States are advised to complete the fault report forms as indicated on the form in the required format for institutional information of date, time, fault number, designator, etc. The statistics generated from these reports are only as accurate as the information received.

1.4 Automatic Message Handling System programs and interconnection activities between the FAA and the E/CAR AFS digital network.

1.4.1 Work between the Trinidad and Tobago Civil Aviation Authority and the United States Federal Aviation Administration to reconfigure the Piarco/Atlanta Aeronautical Fixed Telecommunications Network (AFTN) connection to direct X.25 protocol has not progressed significantly from the last meeting. A follow up meeting with FAA/TTCAA is tentatively planned for the first quarter of this year to progress this activity.

1.5 The provision of support structure for CNS/ATM

1.5.1 One of the problems encountered on most Eastern Caribbean States is the unreliability of the commercial power being supplied to airports. Operational reliability of air navigation services is adversely affected by fluctuations and disruptions in commercial power. While individual uninterruptible power system (UPS) may be provided to support the end user equipment, if commercial power is interrupted for

over two hours, the UPS batteries, depending on the capacity, may become depleted at which time the equipment is no longer powered and becomes unserviceable. Power surges may even damage a UPS. States are urged to provide standby electrical generating systems with conditioned uninterruptible power systems to ensure that air navigation services and its associated ATM/CNS support are provided with reliable power.

1.5.2 Manufacturers recommend that electronic equipment be housed in a dust free, static and climate controlled environment to obtain optimal operating parameters for Mean Time Between Failures (MTBF) and life cycle management of the equipment. Most of the AFS/AFTN equipment is housed in environments that are not ideally recommended. States are urged to re-examine the environmental conditions under which air navigation services equipment is housed and operated and rectify as necessary.

1.6 GREPECAS Conclusion 14/52 – Review for the adoption of the memorandum of understanding and implementation of the action plan for the MEVA II/REDDIG interconnection.

1.6.1 Trinidad and Tobago has no operational requirement to interconnect the Piarco REDDIG node to the MEVA II network. REDDIG consists of sixteen (16) nodes located in Argentina, Bolivia, Brazil (3), Chile, Colombia, Ecuador, Guyana, French Guyana, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela. The MEVA II VSAT Network provides modern voice and data services between 11 States of the Central Caribbean region: The Bahamas (Nassau and Freeport), Netherlands Antilles (Curacao and St Maarten), Aruba, Dominican Republic, Haiti, Cuba, Jamaica, Cayman Islands, Panama, and COCESNA (a Central American Air Navigation Service Provider) and the United States (Miami and San Juan).

1.6.2 Presently Bogota, Colombia has operational requirements to communicate with Curacao, Aruba and Puerto Rico. Caracas, Venezuela has operational requirements to communicate with Curacao, Jamaica, Panama, and COCESNA (Tegucigalpa, Honduras). The aspects of possible solutions to the interconnectivity are under discussion via the MEVA II/REDDIG Coordination Group. This interconnectivity interests Trinidad and Tobago with regards to the cost sharing as part of the REDDIG cooperative project and future interconnectivity of E/CAR - MEVA II.

2. Agenda Item 3.2 and 3.3: Development of voice and data air-ground communication and Development of ground-ground communications

2.1 HF AMS

2.1.1 Trinidad and Tobago procured through ICAO Procurement Section in Montreal a HF AMS system with SELCAL to meet the responsibilities of the Piarco FIR/UIR for HF Communications. The complete system was to have been delivered and commissioned in eighteen (18) months with a then projected date in the first quarter of 2004. Deficiencies relating to the tendered technical specifications were identified and the equipment was not accepted until the deficiencies were rectified. In October 2005, a Supplementary SAT was conducted and the TTCAA signed the SAT certificate and accepted the equipment. The TTCAA was advised to record the performance of the HF AMS and forward these records to ICAO for analysis.

2.1.2 Some shortcomings with reception of aircraft at various flight levels within the Piarco FIR were noted to ICAO. After discussions the supplier agreed to replace the receive antenna with a more powerful and sensitive antenna. The antenna was replaced in May 2007 and after successful operational tests the Piarco HF AMS resumed operational status in June 2007.

2.2 FASID

2.2.1 The CAR/WG/1 CNS Committee, under Conclusion 1/5, reviewed and updated the Regional Plan for the implementation of the air-ground data links and recommended the following modifications to the CAR/SAM FASID Table CNS 2A:

- Combine columns 4 (VHF data), 6 (HF data), 8 (Satellite data) and 9 (Mode S) into one column titled A/G data communication; and
- A completion date of 2015.

2.3 **AMHS AND AIDC implementation national plans**

2.3.1 ATS operational requirements do not necessitate total E/CAR AMHS implementation. The consensus based on operational and economical reasons is that only Trinidad and Tobago as the service provider and administrator of the AFTN/AMHS switch to the Eastern Caribbean will implement AMHS services to adjacent Switching Centres, namely, Atlanta and Caracas. AFTN services will continue within the Eastern Caribbean States. Regarding Conclusion CAR/WG 1/6, the initial date of 2007 for Trinidad and Tobago AMHS implementation as per Appendix G of CAR/WG/1, WP/11 has now been re-estimated to 2009 for completion.

2.3.2 Trinidad and Tobago with responsibility for the Flight Information Region (FIR) has plans to implement AIDC between one of its adjacent ATS unit, New York, not before the last quarter of 2009. In reference to CAR/WG Conclusion 1/7, Appendix H of CAR/WG/1, WP/11 'Plan for the follow-up and implementation of air-ground and ground-ground communications' will be reviewed and completed accordingly.

2.4 To alleviate the problems experienced with the existing AFS voice network plans are underway to implement dedicated leased 64 Kbps ATS speech circuits between Martinique/Piarco and Guadeloupe/Piarco. The AFS network is set up as 'bandwidth on demand' which means that if the full bandwidth of the network is in use then a call cannot be established until bandwidth is freed by another caller releasing his call. The problem identified was given by an example that a circuit may be unsuccessful for the first three to ten tries and then a connection may be established on the fourth or eleventh try or the circuit may be established on the first try. In addition to AFS unreliability it was noted that sometimes this inability to establish a call also occurred with PSTN lines for example office telephones and fax numbers between Trinidad and the French Antilles. TSTT advised that there are a limited number of international trunk lines between Trinidad and the French Antilles. This situation is to be addressed by TSTT.

3 **Agenda Item 3.4: Global Navigation Satellite System (GNSS) Implementation**

3.1 As reported at the 20th DCA Meeting the GNSS Task Force/2 of the ATM/CNS/SG after analysis of trials agreed that SBAS solution with APV 1 Performance for the CAR/SAM region is technically feasible. Conclusion CNS/5/7 of the ATM/CNS/SG/5, invites all States to subscribe to the Project RLA/03/902 – SACCSA in order to get full advantage from this GNSS project. The E/CAR WG CNS Committee recommendation that Trinidad and Tobago subscribe to this project has not been progressed.

3.2 **FASID TABLE CNS 3**

3.2.1 The CAR/WG/1 Committee forwarded the following recommendations:

a) That the CAR/SAM ANP –FASID Table CNS 3 be modified to reflect the following:

- Column 10 'GBAS' should be changed to 'Basic GNSS' only; and
- Column 11 'SBAS' should be changed to 'GNSS with Augmentation'.

b) CAR/WG Conclusion 1/9: a) That ICAO request from States a point of contact and that States should provide a point of contact regarding updating information of Table CNS 3 and b) That States update the FASID Table CNS 3.

3.3 **Progressive de-activation of NDB**

3.3.1 In reference to CAR/WG Conclusion 1/8, the work to develop a regional plan, as GREPECAS Conclusion 14/56, recommendation on the progressive deactivation of NDBs in light of other aids as VOR/DME and GNSS-RNAV with reference to aircraft capacity and equipage that operate in the respective airspace through the E/CAR WG CNS Committee has not been progressed. Emails were sent in the third quarter of 2007 to the CNS representatives of the Eastern Caribbean requesting information. So far information has been received from Barbados. The Committee agreed that the E/CAR region should use the

same timeline for completion of NDB deactivation as recommended by GREPECAS of no later than 2018. The plan will be forwarded to the ICAO Regional office as and when information is received.

4 Agenda Item 3.5: Review of the planning and implementation of surveillance systems (Reference CAR WG Conclusions: 1/10, 1/11, 1/12, 1/13, 1/14 and 1/15)

4.1 The CNS/SUR/TF chaired by Trinidad and Tobago held its first meeting on 20-21 June 2007 and comprised members from Brazil, Colombia, Cuba, Trinidad and Tobago, United States, IATA, SITA and Thales. The SUR/TF was tasked with the development of a strategy for the evolution of aeronautical surveillance in the CAR/SAM Regions and examined the following surveillance systems: SSR Mode S 1090 MHz (ES), ADS-C for oceanic Region, ADS-B for surface and air movements, and multilateration.

4.2 The work of the Task Force has thus far been progressed via email. A draft strategy presented by Brazil was circulated to members for comments. The SUR/TF/2 is scheduled for May 9-10 in Lima, Peru.

4.3 The E/CAR Region is planning on conducting Automatic Dependent Surveillance – Broadcast (ADS-B) trials within the near future in the airspace West of 56º in the Piarco FIR with the purpose to improve the knowledge on ADS-B and evaluate benefits for air traffic management in the CAR/SAM Regions. The United States has offered their assistance with planning, technical expertise, analysis of data and the loan of ADS-B equipment. A letter formally requesting Trinidad and Tobago's participation in the CAR/SAM ADS-B data collection effort including the long term loan of ADS-B ground stations and FAA assistance with the analysis of the data that is collected is to be sent to the FAA. The FAA would then document the plan in an annex to an existing FAA/CAA bilateral Memorandum of Agreement. The annex would include how many stations the FAA will lend to the effort and would also identify the FAA and CAA responsibilities.

4.4 SITA was identified as a possible provider of the medium to transport the data from the ground stations to the display(s). For trial purposes SITA would utilize existing infrastructure. The number of ground stations and the number of sites required have yet to be determined.

4.5 The meeting agreed that ADS-C was widely deployed in Australia and recently in the United States and other parts of the world. Trinidad and Tobago wishes to implement ADS-C in the oceanic portion of the Piarco FIR. The details of this project are being handled by the SUR/TF to coincide with the timelines of the delivery of the new ATM system for Piarco. IATA offered to provide assistance to the CAR/SAM Regions and share information based on their experience with ADS-C trials carried out in a portion of the Pacific and North Atlantic.

4.6 Based on the information received during the surveillance seminar (18-20 June 2007, Trinidad and Tobago) interest was expressed in conducting trials in the Eastern Caribbean portion of the Piarco FIR where there currently exists limited surveillance coverage. It was generally agreed that the CNS/SUR/TF would not look at surface movement multilateration but focus on wide area multilateration (WAM). Discussions revealed that many helicopter platforms are examining the use of multilateration to provide low-level coverage and air traffic services in an environment where secondary radar is not possible. Brazil indicated that they were interested in studying the implementation of multilateration sensors as a transition path to ADS-B in their offshore area for the oil platform operation. Active Multilateration provides immediate coverage with existing on-board avionics and will decode ADS-B when installed in the future with the existing multilateral sensors.

4.7 The United States agreed to provide information on their projects in Colorado on multilateration techniques and Juneau, Alaska on ADS-B conducted since 2001 and continuing. Cuba informed their plans to perform multilateration trials in the Havana International Airport. ICAO cautioned that separation and safety standards have not yet been established for multilateration and the process for individual States to individually carry out these types of exercises would be time consuming and costly and added that trials in

this area for WAM would be costly and further advised that this should be placed in the near future for consideration trials.

5 Agenda Item 3.6: Radar data sharing among neighboring ATS units

5.1 Trinidad and Tobago recently awarded a contract for a full ATM system. The system will have the ability to display single, multiple or merged radar images. Further to the work of the Radar Sharing Task Force and WP/26 presented by Trinidad and Tobago at the 29th E/CAR WG Meeting Letters of Agreements for the remoting of RADAR information from Barbados and France (combined Martinique and Guadeloupe radars) to Trinidad and Tobago were signed on 17/11/06 and 04/10/07 respectively.

5.2 The request for dedicated leased 64Kbps circuits was made to TSTT, Cable & Wireless and France Telecoms and coordination is being made with the Barbados civil aviation authority and the French SNA/AG. Installation of circuits, radar interface equipment on Barbados and Martinique and ATM equipment is being coordinated with a tentative timeframe of third quarter of 2008.

5.3 The dedicated leased 64Kbps circuits for radar remoting between Martinique and Saint Lucia (Hewanorra and George Charles), were installed in Martinique and St. Lucia. It was noted that while the lines and the equipment were installed, Saint Lucia has not been utilizing the remote radar data. The LOA between Saint Lucia and SNA/AG provided for technical training but not ATC training. Saint Lucia is responsible for providing the appropriate radar training. SNA/AG will support the system for one year from the date of the LOA and then Saint Lucia would assume the responsibility. Saint Lucia's technical staff was trained to support the equipment. The dedicated leased circuits are billed to the TTCAA.

6 Consideration on the support of communications to the migration to the BUFR-coded OPMET format

6.1 The plan for the migration from the traditional alphanumeric format to a coded format based on bit-oriented tables (BUFR *Binary Universal Form for the Representation of Meteorological data*) for the transmission of OPMET meteorological information was approved at the 14th Congress of the World Met Organization (WMO) held in Geneva, Switzerland on 5-23 May 2003. A plan of action is under development in conjunction with the MET office and the Trinidad and Tobago AFTN supplier for timely transition to BUFR code.

7 States are urged to forge closer relationships in the sharing and harmonizing of national plans for the upgrade of ATM/CNS systems. This approach will provide greater economical and operational advantages for the region and promote a smooth transition to a fully automated ATM system in the region. The collation of strategies and plans should involve the expertise of the CNS Committee which is composed of all the Eastern Caribbean States. The CNS Committee of the E/CAR WG was created for this purpose and ought to be utilized to its fullest for the benefit of all States.

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APPENDIX K

SUMMARY ON THE IMPLEMENTATION STATUS OF THE MEVA II VSAT NETWORK IN THE CENTRAL CARIBBEAN AND THE PROCESS FOR ITS INTERCONNECTION WITH THE SOUTH AMERICAN VSAT NETWORK (REDDIG)

1. The MEVA VSAT network was developed and has been implemented since 1996, mainly in the Central Caribbean, providing voice and data communications for Aeronautical Fixed Services (AFS) between 15 VSAT-equipped nodes in the Central Caribbean and neighbouring zones. MEVA operates in the 4-6 GHz C-band on the PAS-1R satellite and uses SCPC/DAMA technology for bandwidth-on-demand communications and circuit management. This network has made implementation and improvement of the AFTN and ATS speech circuits required for this area in the Air Navigation Plan possible.

2. The States, Territories and International Organizations Members MEVA I, considering the SARPs contained in Annex 10, Vol. III, Chapter 3, as well as the ICAO guidance related to the need not only to satisfy AFS communications requirements, but also aimed at supporting communications, navigation, surveillance and air traffic management services to facilitate the introduction of aeronautical telecommunications network (ATN), recognized the need to update the MEVA Network to facilitate the adoption of protocols and services with common interface equipment based on the reference model for the open system interconnection (OSI) of the International Standardization Organization (ISO), and the MEVA Network interconnection/interoperability achievement with other regional and sub-regional digital networks, such as the South American Digital Network (REDDIG). This initiative was called the “MEVA II Network”.

3. The MEVA Technical Management Group, integrated by experts from States, Territories and an International Organization, studied in detail the MEVA update aspects toward the MEVA II Network implementation. Such work represented the basis for the Request for Information (RFI) and subsequently the Request for Proposals (RFP) for the MEVA II and the evaluation and selection of the best proposal. This stage of the process culminated with the MEVA/10 Meeting held in Mexico City, 13 – 15 December 2004, in which the Civil Aviation Directors approved the Service Provider for the MEVA II Network, as well as the updated Document of Agreement (DOA) for the MEVA II Network, which has been approved through the signatures of Directors of Civil Aviation.

4. The MEVA II Network has been conceived with a satellite technology access VSAT/TDMA/Frame Relay type, through a “Full Mesh” network topology, the use of IS 1R satellite with beam directed over United States / Latin America, operation frequencies in the C Band, and vertical linear polarization. All of this contributes to objectives to satisfy the AFS communications required at present, to ease the ATN sub-networks implementation and to achieve interoperability between the MEVA II and REDDIG networks and other CAR Region subregional networks, contributing to the implementation of the new CNS/ATM systems, including the new ATM integrated global system.

5. During the first months of 2005, the MEVA II TMG finalized Annex I of the MEVA II Document of Agreement, which is a technical document describing the network. Likewise, the transition plan of MEVA to MEVA II was developed. Based on these documents and in accordance with the corresponding national laws, the MEVA II members arranged their contracts with the MEVA II Service Provider. Cuba and Panama established their MEVA contracts through the ICAO Technical Co-operation Bureau.

6. The implementation of the following MEVA II nodes were completed in November 2006:

- Aruba, Aruba
- Bahamas, Freeport
- Bahamas, Nassau
- Cayman Islands, Grand Cayman
- Cuba, Havana
- Netherlands Antilles, Curacao
- COCESNA, Honduras, Tegucigalpa
- Dominican Republic, Santo Domingo
- Haiti, Port-au-Prince
- Jamaica, Kingston
- USA, Miami, FL
- Panama, Panama
- USA, Puerto Rico, San Juan

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APPENDIX L

AUTOMATED DEPENDENT SURVEILLANCE – BROADCAST (ADS-B) DATA COLLECTION EFFORTS IN THE EASTERN CARIBBEAN (E-CAR) REGION

Discussion

An essential component of the NextGen integrated plan is a surveillance system that can increase safety, capacity, and efficiency of air travel. ADS-B technology has been identified as the surveillance solution that can meet these needs by providing critical flight information simultaneously to pilots and air traffic controllers. ADS-B transmits air traffic and flight information to aircraft, vehicles, and ground stations to improve situational awareness and provide unprecedented levels of service inside the cockpit and to air traffic control facilities.

ADS-B stations on oil platforms in the Gulf of Mexico, beginning this year. Aircraft that fly between the CAR/SAM region and the U.S. already have some ADS-B capable equipment on board the aircraft that meets existing specifications. In addition, helicopters operating offshore will have the capability to receive instrument flight rules (IFR) surveillance services. The United States wishes to identify these airframes in preparation for an ADS-B service in the Gulf of Mexico.

ADS-B is a low-cost surveillance system with increased accuracy and faster update rate. ADS-B can provide the air navigation service providers with tools to increase capacity, specifically where legacy en route separation is used today. Finally, there are air-to-air applications that can provide increased surface situational awareness and safety benefits.

At the first meeting of the GREPECAS ATM/CNS Subgroup – CNS Committee, Surveillance Task Force in June 2007, several members of the CAR/SAM region of the International Civil Aviation Organization expressed an interest in conducting an ADS-B data collection effort in the region. To determine the feasibility of using ADS-B as a surveillance tool in the CAR/SAM, which includes E-CAR, it is necessary to collect data to validate the quality of the ADS-B messages currently being broadcast. Although some aircraft may have ADS-B capable equipment installed, there are unknown configurations of Global Positioning System (GPS) and Flight Management System equipment that may or may not support ADS-B separation services.

This paper outlines a process for ECAR, along with other CAR/SAM States to follow if they would like to participate in the data collection efforts.

Process

The E-CAR State makes an official request via memorandum, e-mail, or fax to:

Federal Aviation Administration
Office of International Aviation, AWH-10
800 Independence Ave. S.W.
Washington D.C.
(202) 267-5032 Fax

The FAA and the E-CAR State develop a bilateral agreement that both parties sign.

A Timeline is established in accordance to the terms of the bilateral agreement.

ADS-B data collection activities commence.

Roles and Responsibilities

The U.S. FAA will:

- Following request from a Civil Aviation Authority, negotiate and enter into a bilateral agreement;
- Provide a contract vehicle for the participating State to procure turn-key surveillance services; and
- Provide technical assistance in data reduction and analysis.

The interested CAR/SAM CAA will:

- Establish a bilateral agreement with the U.S.;
- Provide ground-based surveillance technology;
- Provide infrastructure necessary to install ground stations in suitable geographic locations. The infrastructure will include: Telecommunications, power, and equipment shelters;
- Collect and record ADS-B messages from aircraft transitioning, departing, or landing at various airports; and
- Participate in data reduction and analysis.

Conclusion

The FAA sees benefits from future use of ADS-B and is ready to participate with E-CAR States by providing both technical expertise and a contract vehicle for procuring turn-key surveillance services.

Recommendation

Interested E-CAR States should contact the FAA Office of International Aviation, Western Hemisphere Division via letter, fax, or e-mail to express interest in participating in the data collection effort. Additionally, interested E-CAR States should identify point of contact information to begin discussions necessary to enter into a bilateral agreement with the FAA.

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APPENDIX M
URBAN SEARCH AND RESCUE (LIGHT LEVEL) COURSE
FOR COLLAPSED STRUCTURES

BACKGROUND

1. Between the period 2002 and 2005 CDERA, USAID and SOUTHCOMIHAP have partnered together to deliver three Land Search and Rescue (LSAR) Projects for CDERA Participating States (LSAR I, LSAR I1 & LSAR m). These resulted in the development of plans, procedures and protocols; the supply of "First Responders" Kits and equipment; and the training and organizing of National and Regional LSAR Teams in CDERA 16 Participating States.

The LSAR projects covered a number of different response scenarios that are encountered on land and must not be confused with the Maritime Search and Rescue which is covered by the Coast Guard and Maritime agencies in various states. The Urban Search and Rescue Light Level (USAR LL) Course concentrated on one aspect of LSAR - which is operations in and around collapsed structures in a built up environment. This Course was developed and offered by USAID OFDA in December 2007.

CONCEPT OF THE USAR LL PROJECT

2. The concept for the USAR LL Course is to develop a cadre of trained and equipped personnel in CDERA Participating States who are capable of conducting national and regional, light level search and rescue operations in collapsed structures.

This involves the development of course materials (USAR LL Training Curriculum), selection and training of instructors, the provision of personnel safety equipment and training aids; and conducting the USAR LL Course model training in Panama.

THE USAR LL MODEL TRAINING COURSE

3. The USAR LL Model Course is a collaborative effort of USAID / OFDA through its programme run by the International Resources Group (IRG), the International Search and Rescue Advisory Group (INSARAG) - Americas and other contributing partners, who have, during the past three years, undertaken a comprehensive course design and development process based on International Standards. It has been tested several times in order to validate the whole course and its individual units, as well as to maintain the quality and reliability of the training activity.

The USAR LL Model Course was conducted in Panama from 3 to 6 December for 12 participants from three countries (Jamaica, Barbados and Saint Kitts & Nevis). The purpose of the training was to train participants in SAR procedures for victims that were found on the surface of collapse structures.

THE AFTER ACTION REVIEW

4. At the successful completion of the model course an "After Action Review" was conducted and is attached at **ANNEX A.**

SAR KIT/EQUIPMENT HAND OVER

5. A list of Personal Safety Equipment for SAR operations which will be handed over to CDERA CU on Friday 1 February 2008 at 11:00 a.m. is attached at ANNEX B for information.

THE WAY FORWARD

6. A meeting is scheduled at the CDERA CU Board Room at 9:00 a.m. on Friday I February 2008 to discuss the way forward for the USAR LL Project. This meeting will be attended by representatives from USAID OFDA, CDERA CU and DEM Barbados.

APPENDIX M
ANNEX A

AFTER ACTION REVIEW MEETING, 7 DECEMBER 2007 - USAR LL POINTS

PURPOSE

The purpose of the meeting was to discuss the vision for and direction of the USARLL process in the Caribbean, to agree on the need to further improve the Course material and to outline the commitment of CDERA to lead the process and secure the commitment of the Participating States.

DISCUSSION/AGREEMENTS

The meeting discussed and agreed that;

1. Emphasis/priority should be placed on the development of national capacity in the short to medium term.
2. Regional capacity will be developed utilizing and in alliance with the best of the national resources.
3. The timeframe for the establishment of the regional team would be undertaken during the next five (5) year programming phase for OFDA beginning in June 2008.
4. There was a need for ongoing improvement of the Course material with the need to incorporate and streamline and ensure standardization the regional and international terminology for broad common understanding.
5. There was need for the development of a strategic programming approach (CDERA) to guide the process from stage to stage.
6. The national/ regional stakeholders present needed to identify national and regional "selling points" and commitment from their respective entities and to secure local logistical, financial support and develop/improve partnerships.
7. One local training facility would be developed and used as a model by the other countries. This facility would be built using the guidelines prepared by LA/Fairfax Counties and incorporated into the Instructors Course Guidelines.
8. The USAR LL programming need to be linked to the other aspects of the Disaster Risk Management as well as to other aspects of national/regional response.
9. Efforts should be made to ensure long term sustainability of the training strategy by maintaining persons trained involved in all the phases of the process (USARLL Regional Strategy, USARLL Training Strategy, Drills & Exercises....).
10. The Course could be used as a first level or as an Instructor preparation/consolidation course.

It was also agreed that;

a. A Field Guide/Cheat Sheet should be developed as part of the improvement of the materials and to assist practitioners in the field.
b. A profile of potential Instructors should be defined for use in the future.
c. The training as conducted during the course was useful for the networking opportunities and the sharing of techniques and the standardization of terms.

It was further agreed that the next steps would include;

1. The development of the strategic programme proposal by CDERA.
2. The provision of training equipment by OFDA to CDERA.
3. The execution of a "Workshop" for the participants in which they would present the practical aspects of the Course facilitated by the Instructor Team.
4. The organization of a Training for Instructors Course for the participants and then a Hand-off Workshop to train future instructors of the Collapsed Structure Rescue Course .
5. The identification of a location for the Field Site (Team Leaders in collaboration with CDERA) and technical assistance with its construction (OFDA).
6. The identification of opportunities for the exposure of the participants to the additional support courses (ICSBC, ICS, Hazardous Material First Response.

APPENDIX M
ANNEX B

SAR SAFETY EQUIPMENT FOR HANDING OVER TO CDERA

1. Helmet	-	30
2. Flash light	-	30
3. Gloves	-	30
4. Elbow pads	-	30
5. Knee pads	-	30
6. Safety glasses	-	30
7. Foam ear plugs	-	30

Total Value = US $ 8,386.

APPENDIX N

ACTION PLAN FOR THE RESOLUTION OF EACH ONE OF THE REGIONAL AIR NAVIGATION DEFICIENCIES
PLAN DE ACCIÓN PARA RESOLVER CADA UNA DE LAS DEFICIENCIAS REGIONALES DE NAVEGACIÓN AÉREA

State/Intl. Organization:
Estado/Org. Internacional: Date/Fecha:

ID	Deficiency/ Deficiencia	Corrective Action/ Acción correctiva	Date of Correction/ Fecha de corrección	Executing Body/ Organo Ejecutor	Difficulties encountered/ Dificultades encontradas
Identificación de la deficiencia usando el formato AREA-NUM-REG	**Descripción exacta de la deficiencia tal y como aparece en la Base de Datos**	**El Estado deberá informar la acción correctiva propuesta o que llevará a cabo, tomando en cuenta la acción ya descrita por la Secretaría**	**Fecha estimada para concluir la acción correctiva de la deficiencia, indicando al menos el año en que se finalizará**	**Responsable de llevar a cabo la acción correctiva**	**Mencionar cualquier dificultad encontrada o que se pueda presentar para la adecuada implementación de la acción correctiva.**
Identify the deficiency using the format AREA-NUM-REG	**Exact description of the deficiency as appears in the Databank**	**State must inform the proposed corrective action or to be carried out, taking into account the action described by the Secretariat**	**Estimated date for the conclusion of the corrective action of the deficiency, indicating at least the year in which it will be completed**	**Responsible of carrying out the corrective action**	**Indicate any difficulty encountered or that could appear for the adequate implementation of the corrective action**

Agenda Item 4: Safety Oversight Developments

4.1 The Secretariat presented to the Meeting WP/13, which informed on experience gained in different ICAO regions with the implementation of SMS to manage safety by developing safety policies, procedures and practices that allow an organization to achieve its safety objectives. Similar to other management functions, safety management requires planning, organizing, communicating and providing direction.

4.2 The Meeting noted the progress being achieved by France in ISO 9000:2001 certification for ATS and safety certification for the aerodromes of Guadeloupe and Martinique, as well as the legislation that has been passed in support of a "just culture" concept by Trinidad and Tobago.

4.3 IATA presented information on their IATA Operational Safety Audit Programme (IOSA) certification process and, in order to make IOSA reports readily available to States, identified a "fast track" method for regulators requesting copies of IOSA reports. Contact should be made through IATA Headquarters in Montreal with copy to IATA/LATAM in Miami. Information can also be obtained from their website: www.iata.org/iosa/registry.

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Montreal, Quebec, Canada H4Z 1M1
www.iata.org

4.4 The Meeting recognized that to maintain the safety of the entire aviation system, it is important to ensure consistency in the use of SMS across all sectors and disciplines of the different parts of the aviation system, including safety oversight and regulatory functions, thus closing the safety loop.

4.5 The Meeting was presented with WP/21, establishing the need for development of legislation and regulations to protect safety critical information that emanates from confidential reports and information from accidents and serious incidents so that this information can be effectively used in the prevention of aviation related accidents and thus, the initiation of a just aviation culture. The Secretariat suggested that the Meeting support an effective safety reporting environment just culture.

4.6 The Meeting considering the importance of properly using information to create an effective safety reporting environment for the prevention of aviation related accidents, agreed to the following conclusion:

CONCLUSION 21/5 EFFECTIVE SAFETY REPORTING CONTEXT

That, States/Territories of the Eastern Caribbean, for an effective safety reporting environment in the prevention of aviation related accidents, seek to adopt a "just culture" under the following definition:

"An Effective Safety Reporting Context is one in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated."

Agenda Item 5: Aviation Security (AVSEC) Developments

5.1 The Meeting noted that since the launch of the first cycle of USAP audits in 2002, 181 aviation security (AVSEC) audits have been conducted complying with the objective that all Contracting States benefit from an initial audit by the end of 2007. The Meeting took note that only nine States worldwide have not been audited due to United Nations safety reasons, Haiti being one of those States. All E/CAR States/Territories have been audited and as of 31 January 2008, 101 follow-up missions have been conducted. These missions take place two years after the initial audit with the purpose of validating the implementation of State corrective action plans and providing support to States in remedying deficiencies. They are normally conducted by the relevant Regional Office and coordinated through ICAO Headquarters. In this regard, it is important that States notify ICAO on the status of compliance of their corrective action plans.

5.2 The Meeting took note that the ICAO USAP has been implemented on schedule and within its budget allocation, thanks to the active participation of aviation security experts in the CAR Region that have been certified to assist as team members on USAP audits. The audits have proven to be instrumental in the identification of aviation security concerns and in providing recommendations for their resolution. From its inception, the USAP has enjoyed the support of contracting States and is promoting positive change as States become increasingly sensitized to the international requirements. The USAP follow-up missions have validated a markedly increased level of implementation of ICAO security standards, thereby attesting to State commitment in achieving the objective of the USAP to strengthen aviation security worldwide.

5.3 The USAP looks forward to the continued cooperation of States in the CAR Region as it commences its second cycle in 2008, adopting a new methodology where audits will focus primarily on State national oversight capabilities with regard to aviation security activities, where possible, and expanded to include relevant security-related provisions of Annex 9 – *Facilitation.* This second cycle started in the CAR Region in January 2008 with the audit of Jamaica.

5.4 The Meeting was informed that ICAO/Canada Security Awareness Training Programme, under the Department of Foreign Affairs and International Trade (DFAIT) Counter-Terrorism Capacity Building Programme, began Phase II in January 2007 and several National Civil Aviation Security Programme and National Quality Control Programme (NQCP) workshops were conducted in the CAR Region during the second semester of 2007. These events have been designed to assist States in remedying Annex 17 deficiencies and enabling aviation security management personnel to establish an aviation security legal framework and develop effective aviation security quality control measures to implement ICAO Standards and Recommended Practices of Annex 17 and security elements of other Annexes.

5.5 The Meeting noted that as part of this same ICAO/DFAIT Training Programme and in order to assist States in resolving deficiencies regarding AVSEC personnel certification, various Aviation Security Screener Certification Workshops have been scheduled for the CAR States/Territories during 2008. States were encouraged to participate in this training.

5.6 The Meeting was informed that the Aviation Security and Facilitation Branch continues to conduct training at the Regional Aviation Security Training Centres (ASTCs) in Buenos Aires, Quito and Port of Spain utilizing the standardized Aviation Security Training Packages (ASTPs) and topic specific workshops. The schedule of courses is available in the ICAO website www.icao.int/atb/avsec. The Meeting convened that it is important that States/Territories participate in this training.

5.7 The Meeting recalled that follow-up and implementation of the following issues is important:

a) participation in the ICAO Point of Contact Network (PoC);

b) the security control guidelines for screening of liquids, gels and aerosols recommended to States for implementation no later than 31 March 2007, and recommended guidelines for the validation of supply chain security of liquids, aerosols and gels and security tamper-evident bags (STEBS); and

c) the ICAO annual reports on acts of unlawful interference are based on official and non-official reports; therefore, it is important to remind States to provide the reports on acts of unlawful interference pursuant to their obligation under Article 11 of The Hague Convention, Article 13 of the Montreal Convention, as well as Standard 5.3.1 of Annex 17.

5.8 The Meeting took note that the revision conducted by the ICAO Specifications and Guidance Material (SGM) Section of the seventh edition of Doc 8973 (Restricted) - *Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference* has been finalized, and that the initial English language version is planned to be ready for distribution to States by June 2008. This new version of the manual will be separated into five volumes, which will include:

a) Volume I – National Organization and Administration;
b) Volume II – Training, Selection and Recruitment;
c) Volume III – Airports Design and Administration;
d) Volume IV – Preventive Measures; and
e) Volume V – Crisis Management and Response.

5.9 Also, in order to complete the aforementioned, a new manual entitled *Establishment and Management of a State's Aviation Security Oversight* – Doc 9734 has been developed and was published in the third quarter of 2007.

5.10 The Meeting took note of the information provided by Transport Security Administration (TSA) regarding transparency and identified deficiencies with the purpose to avoid duplication of effort, urging participation in the Point of Contact Network, low-cost methods using a layered approach to security, as well as available training.

5.11 TSA also advised that they would be conducting a survey concerning general aviation. TSA also informed of their interest in procuring bilateral agreements regarding federal air marshals. ECCAA stated that federal air marshals were not within their purview.

5.12 The Meeting noted that the Caribbean Community (CARICOM) is responsible for collecting passenger information for all types of flights in the Caribbean.

5.13 In order to enhance the international civil aviation security, the Meeting agreed on the following conclusion:

CONCLUSION 21/6 ENHANCEMENT OF THE INTERNATIONAL CIVIL AVIATION SECURITY

The E/CAR States/Territories are urged to:

a) continue supporting USAP and ensuring the implementation of their corrective action plans regarding compliance with Annex 17 SARPs;

b) provide qualified AVSEC Specialists in the form of Short-Term Experts to contribute to the AVSEC Action Plan through the ICAO Training Schedule for 2008;

c) participate in the different courses and workshops on aviation security screener certification organized by ICAO at different States and ASTCs of the CAR/SAM Regions;

d) provide ICAO with up-to-date information on their AVSEC and FAL points-of-contact (if they have not already done so);

e) implement the recommended guidelines on security controls for screening liquids, gels and aerosols; and

f) provide ICAO with timely information on acts of unlawful interference that have occurred within their territories.

Agenda Item 6: Other Business

6.1 The Meeting was informed that the First Caribbean Working Group Meeting (CAR/WG/1) held in Trinidad and Tobago from 21 to 23 June 2007, to combine the E/CAR, C/CAR and CA Working Groups was due to ICAO NACC Office budgetary constraints. This was the first opportunity to reorganize the regional work programme of future meetings, improve the collaborative decision-making (CDM) processes, and avoid any unnecessary duplication work.

6.2 The Second Caribbean Working Group Meeting (CAR/WG/2), scheduled to be held in Montego Bay, Jamaica, tentatively from 19 to 23 May 2008, will be renamed as the Second North American, Central American and Caribbean Working Group Meeting (NACC/WG/2). The Meeting will address issues specific to the E/CAR, C/CAR and CA sub-regions through the creation of ad hoc groups. The results of this meeting will be presented to the corresponding E/CAR DCA, C/CAR DCA and DGCAS/CAP Meetings.

6.3 The purpose of the NACC/WG is harmonisation of ATM and CNS system implementation, including a review of the methods, report of completed work, ensure that progress will be measured against timelines and that resources are more appropriately directed to support the ICAO business plan.

6.4 After productive discussions, the Meeting agreed that the E/CAR/WG should continue working on specific implementation topics of interest to the E/CAR. It also was agreed that hosting States will fund the expenses for ICAO NACC Officers to participate in future E/CAR/WG Meetings. To this end, the Meeting agreed the following conclusion:

CONCLUSION 21/7 Organization and Holding of E/CAR/WG Meetings

That, when E/CAR States find it necessary to convene E/CAR/WG Meetings, they should fund expenses for the participation of ICAO NACC Officers at the convened E/CAR/WG Meeting and support the participation of their specialists in the E/CAR/WG; and that the next E/CAR/WG meeting be held jointly with the NACC/WG/2 Meeting scheduled in Jamaica; and that ICAO develop a rotational list for NACC Working Group Meetings.

6.4 The Meeting reviewed and agreed to a rotational scheme for States hosting E/CAR/DCA Meetings through the following conclusion:

CONCLUSION 21/8 SITES OF DCA MEETINGS

That,

a) beginning with the 22nd E/CAR DCA Meeting in 2009, the host of the annual DCA meetings should successively follow this rotational list, with each entity determining the actual site of the meeting:

- Trinidad and Tobago
- Barbados
- France
- OECS
- USA
- United Kingdom

b) the other States and International Organizations normally invited to participate in the E/CAR DCA meetings can at any time offer to host a DCA meeting: Aruba, Guyana, Netherlands Antilles, Suriname, Venezuela;

c) should a State not be able to host a particular DCA meeting, the ICAO NACC Office should be advised at least 6 months before the convening of the meeting, whereupon the next State on the rotational list should take the responsibility of hosting that meeting; and

d) the E/CAR DCA Meetings, using the rotational list shown in paragraph a) should be carried out during the first week of December of each year.

6.5 The Secretariat informed the Meeting of recent staff changes at the ICAO NACC Regional Office including Mr. Jaime Calderon, RO/AGA, Mr. Julio Siu, RO/CNS, the retirement of Mr. J. A. Diaz de la Serna, DRD, and the appointment of Mr. Victor Hernandez as Acting DRD with effect 1 March 2008.

6.6 Mr. Roger Prudent, France informed that this Meeting was his last meeting as he is retiring during 2008. The Meeting recognized the work performed by Mr. Prudent during his attendance at 18 E/CAR/DCAS Meetings and wished him a happy retirement.