



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

**TWENTY-EIGHTH EASTERN CARIBBEAN
WORKING GROUP MEETING**

28TH E/CAR WG

FINAL REPORT

OLD TOWNE, MONTSERRAT, 26 TO 29 APRIL 2004

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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HISTORICAL

ii.1 Establishment of the Group

The Eastern Caribbean Working Group (E/CAR WG) was established for the purpose of examining problems affecting airspace organization and utilization in the Eastern Caribbean region. Its terms of reference were expanded to include the examination on a continual basis of problems affecting all fields of Air Navigation in the Eastern Caribbean Region.

ii.2 Site and Duration of the Meeting

The Twenty-Eighth Eastern Caribbean Working Group Meeting (28th E/CAR WG), was held in Old Towne, Montserrat at the Vue Pointe Hotel. The Meeting started on 26 April 2004 and, after having dealt with all the Agenda Items provided for, it ended on 29 April 2004.

ii.3 Opening Ceremony

The Pastor Melroy Meade welcomed participants and gave an invocation to wish the participants success in their deliberations. Mr. Norman A M Cassell also welcomed participants and acted as Master of Ceremonies during the Opening Inauguration.

The Honourable Minister of Communications and Works, Montserrat, Mr. John Wilson addressed participants and welcomed them to the Island of Montserrat.

Mr. Guillermo Vega from the ICAO NACC Regional Office addressed the Meeting thanking Montserrat for hosting the 28th Eastern Caribbean Working Group Meeting and wished the Meeting the best success in their deliberations.

Mr. Alric Taylor, Permanent Secretary of the Ministry of Communications and Works, Montserrat addressed the Meeting and emphasized on the importance of holding the Meeting on the Island of Montserrat, and recognized that the Island is in the process of recovering from the volcanic eruption.

Sir Howard Fergus, acting Governor of Montserrat, addressed the participants and declared officially open the 28th E/CAR Working Group Meeting (28th E/CAR WG). Sir Fergus' speech is included in pages ii-6 to ii-7.

ii.4 Officers of the Meeting

The Meeting regretted that the Chairman, Mr. Simon Lewis from Grenada was not able to attend the Meeting, therefore, the Vice Chairman, Mr. Norman A M Cassell acted as Chairman for the term of this Meeting. Mr. Guillermo Vega, Regional Officer, Aeronautical Meteorology acted as Secretary of the Meeting and was assisted in the Secretariat duties by Mr. Víctor Hernández, Regional Officer, Air Traffic Management, both from the ICAO North American, Central American and Caribbean Regional Office.

ii.5 Working Arrangements

It was agreed that the working hours for the sessions of the meeting would be from 09:00 to 15:30 hours daily with adequate breaks. Ad-hoc Groups were created during the Meeting to do further work on specific items on the Agenda.

ii.6 Agenda

Agenda Item 1: **Approval of the Meeting Agenda and Schedule**

Agenda Item 2: **General Air Navigation Matters**

- 2.1 Valid Conclusions/Decisions of previous E/CAR/IWG and E/CAR/DCA Meetings
- 2.2 Deficiencies
- 2.3 CNS/ATM Systems

Agenda Item 3: **Specific Air Navigation Activities and Developments**

- 3.1 Aerodromes (AGA)
- 3.2 Aeronautical Information Services (AIS)
- 3.3 Aeronautical Meteorology (MET)
- 3.4 Aircraft Operations (OPS)
- 3.5 Air Traffic Management (ATM)
- 3.6 Search and Rescue (SAR)
- 3.7 Communications, Navigation and Surveillance (CNS)

Agenda Item 4: **Review of the Terms of Reference and Work Programme**

Agenda Item 5: **Next Meeting Site**

Agenda Item 6: **Other business**

ii.7 List of Working Papers

WORKING PAPERS				
Number	Agenda Item	Title	Date	Presented by
WP/01 Revised	1	Approval of the Meeting Agenda and Schedule	06/04/04	Secretariat
WP/02	2	Status of E/CAR WG Conclusions and Decisions	08/03/04	Secretariat
WP/03	2	Air Navigation Deficiencies in the E/CAR Region	17/03/04	Secretariat
WP/04	3.1	Aerodrome Certification and Audits	13/04/04	Secretariat

WORKING PAPERS				
Number	Agenda Item	Title	Date	Presented by
WP/05	3.2	WGS-84 System Implementation	05/04/04	Secretariat
WP/06	3.3	Current status of the WAFS Operations and the International Satellite Communication System (ISCS) Transition	29/03/04	Secretariat
WP/07	3.5	ATM progress in the E/CAR	15/04/04	Secretariat
WP/08	3.5	ATS Safety Management	07/04/04	Secretariat
WP/09	3.5	Quality Assurance Programmes in the E/CAR	07/04/04	Secretariat
WP/10	3.5	ATS Contingency Plan	14/04/04	Secretariat
WP/11	3.5	ATS Operational Requirements for Automated Systems	07/04/04	Secretariat
WP/12	3.5	ATS communications and Data Link applications	15/04/04	Secretariat
WP/13	4	Terms of Reference and Work Programme of the Eastern Caribbean Working Group	31/03/04	Secretariat
WP/14	5	Rotation of E/CAR WG Meeting Sites	31/03/04	Secretariat
WP/15	3.5	Proposed Revised Lateral Separation Criteria for use in the OECS	05/04/04	OECS
WP/16	2.2	CNS Deficiencies in the Eastern Caribbean Region – Aeronautical Fixed Telecommunications Network (AFTN)	05/04/04	Trinidad and Tobago
WP/17	2.2	CNS Deficiencies in the Eastern Caribbean Region – HF Communications (PIARCO FIR)	05/04/04	Trinidad and Tobago
WP/18	3.2	AIS /MAP Automation and Establishment of a Regional AIS Data Bank	05/04/04	Trinidad and Tobago
WP/19	3.2	Participation of AIS Personnel in Technical Visits	05/04/04	Trinidad and Tobago
WP/20	3.2	Coordination of common WGS-84 points with Neighbouring States	05/04/04	Trinidad and Tobago
WP/21	3.5	Aircraft Movements in the E/CAR – 2003	05/04/04	Trinidad and Tobago
WP/22	3.7	GNSS Developments	06/04/04	Barbados
WP/23	3.7	Radar Data Sharing	06/04/04	Barbados
WP/24	3.7	Design description of the upgraded E/CAR AFS Network	06/04/04	IACL

WORKING PAPERS				
Number	Agenda Item	Title	Date	Presented by
WP/25	2.3	Status of the E/CAR ATM/CNS Implementation Plan	05/04/04	IACL
WP/26	3.5	Operational Letters of Agreement with Piarco ACC	05/04/04	Trinidad and Tobago
WP/27	3.1	Aerodrome issues in the E/CAR Area	07/04/04	Secretariat
WP/28	3.5	E/CAR Contingency Procedures	19/04/04	France
WP/29	3.5	Harmonization of methods, and Coordination Procedures between the five ATC centres around E.T. JOSHUA TMA.	19/04/04	France
WP/30	2.3	ATM/CNS French Antilles Implementation Plan	19/04/04	France
WP/31	3.7	E/CAR Radar Data Sharing	19/04/04	France
WP/32	3.2	On line French AIP	19/04/04	France
WP/33	3.5	RVSM Implementation – Piarco FIR	05/04/04	Trinidad and Tobago

ii.8 List of Information Papers

INFORMATION PAPERS				
Number	Agenda Item	Title	Date	Prepared and Presented by
IP/01	--	General Information	17/03/04	Secretariat
IP/02	--	List of Working, Information and Discussion Papers	19/04/04	Secretariat
IP/03	2.1	Summary of 18 th E/CAR DCA Conclusions and Decisions relevant to the E/CAR WG	30/03/04	Secretariat
IP/04	3.4	Transition to a system approach for Audits in the ICAO Universal Safety Oversight Audit Programme (USOAP)	25/02/04	Secretariat
IP/05	3.7	Operation of the E/CAR Digital AFS Network	06/04/04	IACL
IP/06	3.5	GNSS Approaches Implementation at Piarco and Crown Point Airports	05/04/04	Trinidad and Tobago
IP/07	3.5	Cancelled – IP/07 was converted to WP/33	05/04/04	Trinidad and Tobago

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/08	3.2	Cancelled – IP/08 was converted to WP/32	19/04/04	France
IP/09	3.7	VHF coverage in French Antilles	04/04/04	France
IP/10	6	Transition to a Civil Aviation Authority	23/04/04	Trinidad and Tobago

ii.9 Draft Conclusions

No.	TITLE	PAGE
28/1	Action Plans for the Resolution of Air Navigation Deficiencies	2-1
28/2	Establishment of an AIS/MAP Automated regional Database System	3-2
28/3	Follow-up to the Total Implementation of WGS-84	3-3
28/4	AIS Coordination between Trinidad and Tobago and Venezuela	3-3
28/5	Participation of AIS Staff in Technical Visits Programme	3-4
28/6	Use of the Internet to access WAFS Forecasts and OPMET Data	3-5
28/7	RVSM, RNAV and RNP Implementation in the Eastern Caribbean	3-7
28/8	Implementation of ATS Safety Management Programmes and Minimum Safety Levels	3-7
28/9	Implementation of ATS Quality Assurance Programmes for the Eastern Caribbean through the Participation in the Special Implementation Project for the Caribbean Region	3-8
28/12	ATM Contingency Plan for the Eastern Caribbean	3-10
28/14	Terms of Reference and Work Programme of the Eastern Caribbean Working Group (E/CAR WG)	4-1

ii.10 Decisions

No.	TITLE	PAGE
28/10	Strategy for Operational Requirements of an ATM Automated System	3-9
28/11	Action Plan for the Implementation of D-ATIS and PDC Services in International Aerodromes of the Eastern Caribbean	3-9
28/13	Action Plan for Radar Data Sharing in the E/CAR	3-15

ii.11 Speech delivered by Acting Governor Professor Sir Howard Fergus at the Opening Ceremony of the 28th Eastern Caribbean Working Group Meeting of the International Civil Aviation Organization on 26 May 2004

I embrace this opportunity to make brief welcoming remarks, which means that I do not have to make any forays into civil aviation issues which are a matter for appropriately trained and experienced technocrats. We do of course have a lively interest in that subject as we plan our transition from helicopter to fixed wing air transportation – a move which has critical implication for our economic development and the tourism sector in particular. If you entered by air, you would have observed that we are working feverishly and I dare say, creatively, to complete a runway to facilitate the change. I believe that civil aviation issues will linger on our discussion and development agenda for a long while. And I am not alluding to debates over the length or siting of the runway. As our economy takes off, and the demand for moving people and goods escalated, we may well need to revisit the Bramble Airport, depending on the status and disposition of the Soufrière Hills volcano. I offer this as a purely personal conjecture.

So let me further welcome this conference and delegates to our beloved island. One reason why some of us chose to live through the challenging times and tribulations is because, as our calypso laureate, The Mighty Arrow, Alphonsus Cassell sings:

I love every hill and gully
Every ghaut, stream and valley
She's still my emerald city
Montserrat nice, nice, nice

I hope you find it nice, meaning, attractive even if awesome, interesting, friendly and that your surrounding will be conducive to creative discussions and progressive solutions.

You will discover that drastic changes have occurred since this conference was held here a decade ago, not the least of which is that the island has grown because of the effluents and deposits of the eruption! On the other hand, our habitable area and economic space have been reduced. But what has not been abridged is our capacity to enjoy our lives and our hospitality. And although we offer this naturally, we in the administration are even more anxious to present our best face and a matching heart to our visitors who are potential marketers of our island as a value for money tourist destination.

I am sometimes appalled about how little some Caribbean people know of our current situation. I offer for the record, that we are not precariously perched on giddy hillsides, there is no fear of terrorizing attacks from the volcano. We live abundant life in ample space without barricades. Indeed, we are host and home to large numbers from across the Caribbean.

Just over a week ago, we guardedly lifted the ban on what was dubbed the Daytime Entry Zone to give people greater freedom of movement over increased space. I say “guardedly”, because we do not recommend that persons immediately repatriate to these areas. And permit me, Mr. Chairman, to take this opportunity to sound a note of caution. We do not at this time advised permanent resettlement in the DTEZ for three main reasons:

Firstly, no one has said that the eruption is over and we all know how this volcano has sometimes made playthings of us all and scuppered our expectations. Secondly, The Government of Montserrat, who cannot adequately speak for, cannot have a magic wand and produce the infrastructure necessary to support normal life in that zone. This does not mean that it is not embarking on the long process of funding procurement. Thirdly, the decision was made on the relative safety of the DTEZ based on the likely future behaviour of the volcano as viewed by the Scientific Advisory Committee.

This is not to kill hope. After all, it is because of the improved and hopeful circumstances why this debate makes any sense. What I hope DTEZ home-owners will do, is to use this widened window of opportunity to repair and maintain their property, if they feel prudent to do so.

So our visitors can take back a positive message of a Montserrat, which is no longer in emergency mode. We are into development but sensibly cautious on how far and fast we pursue it.

Once again, I take great delight in welcoming you to a Montserrat on the rise, where we are building houses, an airport, a community college, a cultural centre; where we are staging plays, publishing poems, composing calypsos, dancing masquerades, clearing trails, devising sectoral development strategies and are into a number of other activities. Against this background it is my distinct pleasure to declare this conference of the 28th Eastern Caribbean Working Group Meeting of the International Civil Aviation Organization open and wish it ample success in the Montserrat setting.

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Agenda Item 1: Approval of the Meeting Agenda and Schedule

1.1 The Meeting reviewed WP/01 with the draft Meeting Agenda and Schedule. The Meeting approved the Agenda and decided to deal with all Agenda Items in the group as a whole. As it was agreed in the previous E/CAR IWG Meeting, the meeting invitation letter informed that Ad hoc Groups would be formed to deal with specific matters as established. It was indicated that the Ad hoc Group work methodology would deal on this occasion with items 3.5 and 3.6 as well as any other established by the Meeting.

Agenda Item 2: General Air Navigation Matters

2.1 *Valid Conclusions/Decisions of previous E/CAR/IWG and E/CAR/DCA Meetings*

2.1.1 The Secretariat presented WP/02 on the status of the outstanding Conclusions and Decisions of previous E/CAR IWG Meetings. The Meeting reviewed the list and updated the status of outstanding conclusions and decisions as presented in **Appendix A** to this part of this report. The Secretariat also presented IP/03 on E/CAR DCA/18 Meeting Conclusions and Decisions relevant to the E/CAR WG. The Meeting used this information as a reference during its deliberations throughout the Meeting.

2.1.2 With regard to Conclusion 27/03, dealing with the translation of CAR/SAM AIS/MAP data model structure into English, the Group expressed its disappointment mentioning that very little had been done to translate the document and greater assistance in this sense, should be received either from the NACC Office or ICAO Headquarters to complete this task.

2.2 *Deficiencies*

2.2.1 The Secretariat presented WP/03, which contained the current version of the ICAO Air Navigation Deficiencies database in the Eastern Caribbean Area. No deficiency was reported to have been corrected. ICAO offered support to States and Territories in the preparation and implementation of Action Plans to resolve Deficiencies.

2.2.2 The Meeting reviewed the content of the papers and agreed for States/Territories to prepare Action Plans in accordance with the ICAO Council approved uniform Methodology, and the existing GREPECAS and DCA conclusions to encourage and facilitate the resolution of outstanding Deficiencies in the Eastern Caribbean Area.

2.2.3 The Secretariat informed the Meeting that the ICAO Council had approved a Special Implementation Project (SIP) to assist States/Territories/International Organizations to access the Air Navigation Deficiencies database in the CAR/SAM Regions using the Internet. Once implemented, this new system will provide a convenient means, on line access, to view their particular page and update their list of deficiencies accordingly. This system is expected to be ready by the end of 2004.

2.2.4 It was noted by many States and Territories that great efforts have been made to correct these Deficiencies. The remaining States/Territories who have not presented their Action Plans so far, should submit them to the ICAO NACC Regional Office **before** the 19th E/CAR DCA Meeting in December 2004. The Meeting decided to adopt the following Draft Conclusion:

DRAFT

CONCLUSION 28/1

**ACTION PLANS FOR THE RESOLUTION OF AIR
NAVIGATION DEFICIENCIES**

That the E/CAR State/Territory of Anguilla and Saint Kitts prepare Action Plans for the resolution of the outstanding Deficiencies and submit these to the ICAO NACC Regional Office as soon as possible , and definitely by **31 October 2004**.

2.3 *CNS/ATM Systems*

2.3.1 The Intercaribbean Aeronautical Communications Limited (IACL) presented WP/25 with an update on the status of the E/CAR/ATM Implementation Plan as required in the Work Programme of the E/CAR ATM/CNS Committee. It was indicated that Conclusion 18/12 from the 18th E/CAR DCA called for the update of information on their respective national ATM/CNS Plan in order to be presented at the ATM/CNS Subgroup. The E/CAR ATM/CNS Committee agreed to meet after they receive the updated Implementation Plan.

2.3.2 France presented WP/30 with their ATM/CNS Implementation Plan, which describes the planning for the new ATM/CNS systems in the E/CAR Region French Territories.

APPENDIX

OUTSTANDING CONCLUSIONS AND DECISIONS OF MEETINGS UP TO AND INCLUDING THE 27TH E/CARIWG MEETING

FIELD	CONCLUSIONS / DECISIONS	ACTION BY:	COMMENTS	STATUS
GEN	<p>DRAFT CONCLUSION 27/01 ACTION PLANS FOR THE RESOLUTION OF AIR NAVIGATION DEFICIENCIES</p> <p>That E/CAR States/Territories prepare Action Plans for the resolution of the outstanding deficiencies and submit these to the ICAO NACC Regional Office as soon as possible, and definitely by 30 September 2003.</p>	States/ Territories	This Conclusion was superseded by Draft Conclusion 28/1	Superseded
AIS	<p>DRAFT CONCLUSION 27/02 ICAO REGIONAL TECHNICAL COOPERATION PROJECT TO SUPPORT IMPLEMENTATION OF AIS/MAP AUTOMATED INTEGRATED AND AIS/MAP QUALITY ASSURANCE SYSTEMS</p> <p>That, the States/Territories in the Eastern Caribbean, in order to undertake actions toward effective implementation of the AIS/MAP Automated Integrated and AIS/MAP Quality Assurance Systems, in view of the problems reflected by the AIS/MAP Deficiencies, agree:</p> <p>a) to develop, within the ICAO Technical Cooperation Programme, a regional project aimed at resolving the deficiencies presented in the Aeronautical Information services;</p> <p>b) that the Technical Cooperation Project will focus on the effective implementation of the AIS/MAP Automated Integrated Systems and AIS/MAP Quality Assurance Systems;</p> <p>c) that the project will have as frame of reference the activities and developments by Cuba, COCESNA and EUROCONTROL in their respective systems; and</p> <p>d) that the ICAO Regional Office will prepare a Technical Cooperation Project Document, which will be submitted for consideration by the E/CAR DCAs at its 18th Meeting in December 2003.</p>	ICAO/States		Completed
AIS	<p>DRAFT CONCLUSION 27/03 TRANSLATION OF THE CAR/SAM AIS/MAP DATA MODEL STRUCTURE INTO ENGLISH</p> <p>That ICAO,</p> <p>a) translate the CAR/SAM AIS/MAP Data Model Structure into English and send it to the E/CAR States and Territories by 31 January 2004; and</p> <p>b) consider holding future GREPECAS AIS/MAP/SG Database and Automation Task Force (DB/AUTO) meetings in English.</p>	ICA O	This Conclusion was superseded by Draft Conclusion 28/2	Superseded

FIELD	CONCLUSIONS / DECISIONS	ACTION BY:	COMMENTS	STATUS
AIS	DRAFT CONCLUSION 27/04 SURVEY INVENTORY QUESTIONNAIRE ON THE STATUS OF WGS-84 IMPLEMENTATION That, the Eastern Caribbean States and Territories complete the Survey Inventory Questionnaire on the status of the WGS-84 implementation and submit it to the ICAO NACC Regional Office by 30 September 2003 .	States/ Territories	This Conclusion was superseded by Draft Conclusion 28/3	Superseded.
AIS	DRAFT CONCLUSION 27/06 E/CAR AIS NOTAM DATABASE That, Trinidad and Tobago take measures towards the upgrading of the NOTAM database, as part of the CAR/SAM AIS Integrated Automated System, by 30 November 2004 .	Trinidad and Tobago	No information was received at the ICAO NACC Office. This Conclusion was superseded by Draft Conclusion 28/2	Superseded.
AIS	DRAFT CONCLUSION 27/07 E-MAIL SUPPORT FOR AIS That, IACL support E/CAR States/Territories in providing EMail service at the AIS Units, as an alternate communication channel required for submission of raw data to AIS, taking into consideration the CNS/ATM Subgroup contribution in this matter, by 31 December 2003 .	States/ Territories and IACL	This Conclusion was superseded by Draft Conclusion 28/2	Superseded
AIS	DECISION 27/08 AIS COMMITTEE REVIEW OF THE AIS/MAP QUALITY SYSTEM GUIDES That, the task of reviewing and coordinating the comments, and proposing any modifications to the documents that form part of the AIS/MAP Quality System Guides be carried out by the AIS Committee and sent to the GREPECAS AIS/MAP Subgroup AIS/MAP Quality Management Task Force, through the ICAO NACC Regional Office, by 28 November 2003 .	AIS Committee	To be completed on 28 November 2004	Valid
AIS	DRAFT CONCLUSION 27/09 FULL IMPLEMENTATION OF AIS/MAP SERVICES PRIOR TO ICAO USOAP ANNEX 11 AND ANNEX 14 AUDITS That, given the direct impact of complete, accurate and timely availability of AIS/MAP information in the required format, including WGS-84 coordinates, on the safety of aircraft operations, States and Territories shall complete full implementation of AIS/MAP Quality Assurance and Automation systems, including the Integrated Aeronautical Information Package, in preparation for the ICAO USOAP ATS and Aerodromes audits that are scheduled to commence in April 2004.	States/ Territories	Trinidad and Tobago to advise strategy for implementation of AIS Automation, also task of the AIS Committee. This Conclusion was superseded by Draft Conclusion 28/3	Superseded

FIELD	CONCLUSIONS / DECISIONS	ACTION BY:	COMMENTS	STATUS
MET	<p>DRAFT CONCLUSION 27/11 NEW ICAO FORMAT FOR TROPICAL CYCLONE ADVISORY MESSAGES</p> <p>That, the Civil Aviation Authorities, in co-ordination with the Meteorological Authorities of the Eastern Caribbean States/Territories be prepared to receive and use the new tropical cyclone advisory message that is being issued by TCAC Miami following Amendment 72 to ICAO Annex 3/WMO Technical Regulations [C.3.1].</p>	States/ Territories	France and Trinidad and Tobago reported to have implemented.	Valid
ATM	<p>DRAFT CONCLUSION 27/16 IMPLEMENTATION OF THE UPPER LIMIT OF THE ADAMS, FORT-DE-FRANCE, POINTE-A-PITRE AND V.C. BIRD TMAs FROM FL195 TO FL245</p> <p>That, Trinidad and Tobago and Barbados sign a new Letter of Agreement by 30 September 2003 and that Trinidad and Tobago should verify by that date that all elements of the implementation are complete and notify Antigua and Barbuda, Barbados and France accordingly.</p>	Barbados and Trinidad and Tobago	During the Meeting all parties concerned reached substantial agreements. Trinidad and Tobago will develop ATM Regional Contingency Plan for Piarco FIR.	Completed
ATM	<p>DRAFT CONCLUSION 27/18 E/CAR REGIONAL ATS CONTINGENCY PLAN</p> <p>That,</p> <p>a) Trinidad and Tobago circulate the existing E/CAR Regional ATS Contingency Plan to States and Territories with TMAs for review and comment;</p> <p>b) Trinidad and Tobago update the E/CAR R Regional ATS Contingency Plan based on the comments received;</p> <p>c) Barbados, France and Trinidad and Tobago publish the E/CAR Regional ATS Contingency Plan in their respective AIPs by May 2004; and</p> <p>d) Trinidad and Tobago coordinate periodic table-top exercises of the revised E/CAR Regional ATS Contingency Plan, first of which by May 2005.</p>	<p>Trinidad and Tobago</p> <p>Trinidad and Tobago</p> <p>Barbados , France and Trinidad and Tobago</p> <p>Trinidad and Tobago</p>	This Conclusion was superseded by Draft Conclusion 28/12	Superseded
CNS	<p>DRAFT CONCLUSION 27/19 BARBADOS RADAR TRAINING</p> <p>That,</p> <p>a) Barbados send to the ICAO Regional Office information related to the radar training offered; and</p> <p>b) ICAO disseminate this information to States and Territories and coordinate the participation.</p>	<p>Barbados</p> <p>ICAO</p>	Barbados advised that the training programme is completed	Completed

FIELD	CONCLUSIONS / DECISIONS	ACTION BY:	COMMENTS	STATUS
CNS	DRAFT CONCLUSION 27/20 RADAR IMPLEMENTATION IN ANTIGUA That, Antigua and Barbuda expedite the commissioning of the new radar in Antigua.	Antigua and Barbuda	DCA OECS reported that the radar has been flight-checked and the controllers have been trained, but still need to be certified. Antigua and Barbuda has continued with the efforts to commission the radar to be completed by the end of 2004.	Valid
CNS	DRAFT CONCLUSION 27/21 REVIEW OF THE VHF AIR-GROUND VOICE COMMUNICATIONS COVERAGE That, States/Territories/International Organizations send to the ICAO NACC Regional Office information on their respective VHF air-ground voice communications stations using the form shown in Appendix E, and calculated theoretical graphic coverage and/or in-flight inspection measures, where available, by 30 November 2003 .	States/ Territories	Information was received from French Antilles, Grenada and Trinidad and Tobago/IACL. France presented during the Meeting, updated information explaining how the VHF coverage is being improved. States/Territories are expected to provide the requested information by December 2004	Valid
CNS	DRAFT CONCLUSION 27/22 GUIDANCE FOR THE WORK REGARDING THE VHF AIR-GROUND VOICE COMMUNICATIONS COVERAGE That, States/Territories with TMAs a) should calculate coverage for its terminal areas considering the minimum in-flight levels to be 4,000 ft and the maximum 12,000 ft and for control areas the minimum of 7,600 m (25,000 ft) and the maximum of 13,700 m (45,000 ft) flight level in accordance with the specifications of Annex 10, Volume III, Part II, Chapter II, on the required field intensity levels; b) propose corrective measures if range gaps are identified; and c) present this information at the 28th E/CAR IWG Meeting.	States/ Territories	France presented information study.	Valid
CNS	DRAFT CONCLUSION 27/23 IMPROVEMENT TO AFTN CIRCUITS That, ICAO support Trinidad and Tobago by coordinating and facilitating the convening of bilateral meetings with the United States and Venezuela with the aim of agreeing to the details of implementation of the Caracas–Port of Spain AFTN circuit, utilizing 2400 bps or higher, and X.25.	ICAO	Trinidad and Tobago reported that resolution by the implementation of a VSAT REDDIG node at Piarco by the last quarter of 2004.	Valid

FIELD	CONCLUSIONS / DECISIONS	ACTION BY:	COMMENTS	STATUS
CNS	<p>CONCLUSION 25/14 TRANSITION PLAN FROM AFTN TO AMHS IN THE EASTERN CARIBBEAN</p> <p>That the E/CAR States/Territories:</p> <p>a) commence the development of an implementation Plan for the transition from AFTN to AMHS in the Eastern Caribbean, studying the impact of the AMHS on the E/CAR Digital Network, and</p> <p>b) review and improve the AMHS requirements included in the CNS 1B part of the CAR/SAM FASID table and formulate the relevant proposals for amendments.</p>	States/Territories	The group should follow-up this conclusion and the work carried out by the CNS Committee of the ATM/CNS/SG of GREPECAS.	Valid
CNS	<p>CONCLUSION 24/17 SAN JUAN CERAP/PIARCO ACC CONNECTIVITY</p> <p>The proposal to establish an alternate route for the ATS Speech Circuit between San Juan CERAP/Piarco ACC submitted by United States was reviewed by the Informal E/CAR Working Group and although it was considered desirable, it was agreed to defer its study for a future date, to be reviewed at the 25th E/CAR IWG Meeting.</p>	Trinidad & Tobago and United States	This Conclusion will be reviewed during the 29 th E/CAR WG Meeting	Valid
ATM	<p>CONCLUSION 22/10 ATS ROUTE R888 MANAGEMENT BETWEEN MODUX AND GORET</p> <p>That,</p> <p>a) Antigua, France and the United States make the necessary coordination arrangements to initiate an experimental phase that delegates to Pointe-a- Pitre APP the responsibility of ATC up to FL195 on the route R888 between MODUX and GORET and consequently to make the coordination directly with San Juan ACC to minimize the ATC coordination; and</p> <p>b) San Juan ACC is requested to accept 10 minutes longitudinal separation between aircraft coming from Guadeloupe below FL 195 (same speed).</p>	Antigua, France and United States	<p>a) Antigua reported that delegation of airspace is temporary and it will return to Antigua in the future, the United States noted this information</p> <p>b) France will verify the need for 10 Min. Separation and will inform in the next IWG Meeting. United States will also provide the next Meeting a status update.</p>	<p>a) Completed</p> <p>b) Valid</p>

Agenda Item 3: **Specific Air Navigation Activities and Developments**

3.1 *Aerodromes (AGA)*

3.1.1 The Secretariat presented WP/04 on aerodrome certification and audits. The Meeting reviewed the Aerodrome Certification implementation status based on the information provided by States/Territories at regional Meetings and through correspondence with ICAO. The Meeting updated the implementation status with information provided by Montserrat, Saint Lucia and France. Montserrat requested to be included on the list as part of the safety regulation system of the United Kingdom CAA. OECS indicated that an update would be provided to the ICAO NACC Office soon. An updated version of the Aerodrome Certification progress is included in **Appendix A** to this part of the Report.

3.1.2 The Meeting was also informed that further to the ICAO Aerodrome Certification Workshop in 2002, the ICAO NACC Regional Office, in cooperation with the United States' Federal Aviation Administration, held the ICAO/FAA Airport Certification Procedures for Inspector Workshops for the CAR/SAM Regions in Miami, United States, in September 2003. The Eastern Caribbean Region was represented by Antigua and Barbuda, Barbados, Dominica and Saint Kitts and Nevis.

3.1.3 The Secretariat also presented WP/27, which provided the latest information on the expansion of the Universal ICAO Safety Oversight Audit Programme (USOAP) to begin in 2005. Also the adoption of Amendments 6 and 3 of Annex 14 – Aerodromes – Volumes I and II respectively, with the proposal to upgrade to a Standard level certain recommended practices, applicable by November 2005.

3.1.4 To encourage regional cooperation the Meeting was informed on the establishment of the CAR/SAM Regional Bird Strike Hazard Prevention Committee, the names of the Board of Directors were provided. The Coordinator for the Caribbean Coordinating Group is Mr. Emeral Oree from Trinidad and Tobago, whose contact address is: eoree@caa.gov.tt

3.1.5 Furthermore, the Meeting was informed about the establishment of the Latin American and Caribbean Association of Airfield Pavements (ALACPA), the names of the Board of Directors were provided. The Coordinator of the Caribbean Assistant Secretary is Mr Norberto Cabrera from Cuba, whose contact address is: norberto.cabrera@iacc.avianet.cu

3.2 *Aeronautical Information Services (AIS)*

3.2.1 Establishment of an Automated AIS /MAP Regional Database System

3.2.1.1 The Meeting analysed the activities carried out under the project information presented by Trinidad and Tobago and the progress obtained by France towards the effective implementation of an automated AIS database System aimed to resolve Aeronautical Information Services Deficiencies. The objective is to meet the requirements related to the common procedures for NOTAM databases as contained in the Common Operating Procedures Manual (COPM) for an Integrated AIS System in the CAR/SAM Regions (COPM CAR/SAM). The French Aeronautical Information Service (SIA) activities and production are available at the following address: www.sia.aviation-civile.gouv.fr The Secretariat informed the Meeting that the manual mentioned will be included in the ICAO NACC Regional Office Website by May 2004.

3.2.1.2 In order to make improvements in the Piarco AIS/MAP Database, the Meeting discussed the need to have States implementing on-line access to provide an accurate and timely aeronautical information service for users. Other relevant considerations discussed were, the increased capability of the database storage and new processes tailored to automatically transmit information and agreements from all the Eastern Caribbean States and Territories that need to be reviewed in order to encompass new query procedures for NOTAM, MET and Pilot Information Broadcast (PIB), as well as the defined rules to use the system.

3.2.1.3 The Meeting took note that due to the fact that the ICAO NACC Regional Office does not have a Technical Co-operation Officer, at this time the Office cannot assess nor provide technical assistance to States in the CAR Region.

3.2.1.4 In view of the abovementioned, the Meeting agreed to forward the information to the E/CAR AIS Committee, so they can analyze it and make the corresponding coordination towards the establishment of an AIS/MAP Automated Regional Data Bank System for the Eastern Caribbean. The Meeting agreed to support the activities through the following:

DRAFT

CONCLUSION 28/2

**ESTABLISHMENT OF AN AIS/MAP AUTOMATED REGIONAL
DATABASE SYSTEM**

That, the Eastern Caribbean States and Territories support the activities and tasks of the E/CAR AIS Committee to review and coordinate requirements so as to develop and present an Action Plan for the Implementation of AIS/MAP Automated Regional Database System to the 19th E/CAR DCA Meeting.

3.2.2 Total implementation of the WGS-84

3.2.2.1 The Meeting took note of the date for ICAO USOAP ATS and Aerodromes audits scheduled to commence in 2005 and analysed the different conclusions adopted for the complete Implementation of the WGS-84 and the impact of its implementation in air navigation safety.

3.2.2.2 Notwithstanding the efforts and agreements carried out by some States and Territories, Aviation Authorities are urged, as a high-priority matter, to implement WGS-84, especially those with adjacent FIRs/TMAs, in order to coordinate, determine and publish geographical coordinates of common points in the boundaries of neighbouring States. The Meeting recognized that full implementation of the system is still pending after five years of the application date adopted by the ICAO Council. The RNAV and RNP systems that are being developed in the CAR Region require accuracy, availability and integrity in WGS-84 data.

3.2.2.3 In view of the abovementioned, the Meeting considered that greater efforts should be made to follow-up and establish the definite implementation of WGS-84 System in the Eastern Caribbean, and agreed on the next Draft Conclusion:

DRAFT

CONCLUSION 28/3

FOLLOW-UP TO THE TOTAL IMPLEMENTATION OF WGS-84

That,

- a) considering that the RNAV, RNP and RVSM are in an advanced phase of implementation, Eastern Caribbean States/Territories are requested to strictly adhere to the accuracy and integrity required in the implementation database on which they are based for their efficient application by:
 - i. carrying out a greater and more effective follow-up towards the total implementation of the WGS-84 System;
 - ii. establishing **30 November 2004** as the deadline for the total implementation of WGS-84 in the E/CAR area, including publication;
 - iii. developing technical assistance agreements to take advantage from the experience obtained by States who have already implemented the system in their territories;
 - iv) standardizing their common geographical coordinates for the points in the boundaries of the FIRs and CTR/TMAs by **30 August 2004**. In order to carry out this commitment, the corresponding data will be exchanged electronically; and
- b) the ICAO NACC Regional Office provide, upon request, coordination, assistance and guidelines to achieve a prompt solution to difficult discrepancies through the E/CAR/AIS/MAP/TF.

3.2.2.4 The Meeting urged ICAO to provide AIS Piarco with a contact point for the relevant section of the Venezuelan Civil Aviation Authorities, so that they can resume the coordination with them. The Secretariat indicated that the information would be requested and forwarded to Piarco AIS as soon as possible.

DRAFT

CONCLUSION 28/4

**AVIS COORDINATION BETWEEN TRINIDAD AND TOBAGO
AND VENEZUELA**

That the ICAO NACC Regional Office make the corresponding arrangements and provide the necessary support to carry out the coordination between Trinidad and Tobago and Venezuela CAAs in AIS matters.

3.2.3 Participation of AIS Staff in Technical Visits programme

3.2.3.1 In order to finish the work pending of the AIS/MAP Regional Database System project, the Meeting agreed to share information through the commitment of the E/CAR States' Aeronautical Authorities supporting the visits of their AIS staff to other neighbouring AIS offices so as to enrich the collaborative decision-making process and the technical level of AIS specialists through the exchange of knowledge and experience amongst States. Authorities are also requested to consider the new role and the global standardization of the AIS to implement new automatic type of messages, the AIS database system, as well as the work methods and upgrading level reached by other E/CAR States and Territories.

3.2.3.2 The harmonization methodology for the use and management of the AIS database system will permit a timely and efficient message process that will greatly aid if it is performed by staff that is familiar with the location and type of equipment, as well as procedures used by other AIS personnel with whom they must interact.

3.2.3.3 The sharing of experiences of the actual working environment performed by other AIS offices would facilitate to speed-up the identification and solution of problems assessed amongst these AIS units as well as the deficiencies listed in the ICAO NACC Regional Office Database.

3.2.3.4 The Meeting gave its unanimous support to this proposal and therefore agreed on the following:

DRAFT

CONCLUSION 28/5

PARTICIPATION OF AIS STAFF IN TECHNICAL VISITS PROGRAMME

That, E/CAR States and Territories' Aeronautical Authorities support their AIS staff to have an annual programme of technical visits to other AIS offices in order to be more productive by reporting the progress made as a result of the visit.

3.3 *Aeronautical Meteorology (MET)*

3.3.1 The Meeting took note of the overview of the current status of the World Area Forecast System (WAFS) and the information on the direction and timetable provided by the WAFS Provider States regarding the training in the operational conversion of GRIB data to wind and temperature charts and BUFR code to significant weather charts at regional seminars to be held from October 2004 until March in the CAR/SAM regions.

3.3.2 The Meeting was provided with updated information on the International Satellite Communications System (ISCS) implementation of the Transfer Communication Protocol/Internet Protocol (TCP/IP) and the X.25 Protocol (TCP/IP/X.25) overlap period as indicated by the United States ISCS Provider State. The ISCS Provider State confirmed that the ISCS/WAFS X.25 broadcast would be until 30 April 2004. This means that starting 1 May 2004, the ISCS broadcast will only be available in the TCP/IP Protocol.

3.3.3 An updated work schedule for the installation of workstations and validation of the sites in the Eastern Caribbean was presented. However, there is a serious concern by some States/Territories that will not receive their workstation until May 2004, when the X.25 ISCS service will have terminated and they will be without a means to directly receive/transmit OPMET data. A File Transfer Protocol (FTP) is the only means to obtain and send data for those States.

3.3.4 Based on the updated information and consideration expressed in paragraphs 3.3.2 and 3.3.3, the Meeting is invited to adopt the following Draft Conclusion:

DRAFT

CONCLUSION 28/6

**USE OF THE INTERNET TO ACCESS WAFS FORECASTS AND
OPMET DATA**

That, in case an Eastern Caribbean State/Territory does not have a new or updated operational workstation at the time X.25 Protocol is no longer supported on the ISCS, the alternative method of acquisition of WAFS data such as the File Transfer Protocol (FTP) service via Internet, should be considered and evaluated.

3.4 *Aircraft Operations (OPS)*

3.4.1 The Secretariat presented IP/04, informing the Meeting on the continuation and expansion of the ICAO Universal Safety Oversight Audit Programme (USOAP) for 2004 and beyond. The Meeting agreed that the information presented in relation to this programme was of relevance and interest, and, that this field should therefore continue to be included in agendas of future Meetings of the E/CAR WG.

3.5 *Air Traffic Management (ATM)*

3.5.1 ATM progress

3.5.1.1 The Meeting took note of the different conclusions from GREPECAS and the 18th E/CAR DCA Meetings to analyze the progresses made in ATM matters. Regarding Conclusion 18/7, *Common transition altitude for the E/CAR Region*, the Meeting took note of the guidelines provided by the Secretariat related to the ICAO Doc. 4444-PANS/ATM and Doc 8168-PANS/OPS and the regional guidelines for CAR/SAM Regions approved by GREPECAS to establish a common transition altitude for TMAs of Piarco FIR so as to present a solution in the near future.

3.5.1.2 The Meeting took note of the proposal of the revised ATC lateral separation criteria. The Secretariat provided guidelines related to the ICAO Doc. 4444-PANS/ATM and Doc 9689, *Manual on Airspace Planning Methodology for the Determination of Separation Minima*. After a brief discussion, the Meeting decided to postpone the analysis due to the wide and specialized context of the working paper presented by OECS.

3.5.2 Status of the RNP, RNAV Routes and RVSM implementation in the Eastern Caribbean

RVSM

3.5.2.1 Trinidad and Tobago, participate as a State with responsibility to providing ATS Services in the upper Piarco FIR, presented the status of the RVSM Implementation programme for the CAR/SAM Regions considering the start-up time of 09:01 UTC on 20 January 2005. In this regard, Trinidad and Tobago informed the Meeting that its airspace will be exclusively RVSM. With the exception of the ICAO recommendations for Non-RVSM approved State aircraft, Non-RVSM Humanitarian aircraft and Non-RVSM approved civil aircraft operating as Ferry or Maintenance flight, Non-RVSM approved aircraft will not be accommodated in RVSM airspace.

3.5.2.2 Updated information was provided on the activities and tasks of the RVSM Task Force to be performed by December 2004. Some of the issues concerned are considerations for new technologies; requirements for ATS automated systems; ATC training and procedures; monitoring procedures of air operators fleet; States regulations, etc. Current information is available from Piarco AIS, in AIC 07/03 dated 27 November 2003. Further information related to Airspace Regulatory Documentation including RVSM Policy and Procedures will be published by July 2004.

3.5.2.3 The ICAO NACC Regional Office will keep a close coordination for follow ing-up on the works carried out by the States/Territories/International Organizations for the RVSM implementation in the Piarco FIR.

RNAV Routes

3.5.2.4 The Meeting reviewed the information presented by the Secretariat related to a regional strategy for RNAV implementation in the CAR/SAM Regions that will help to simplify airspace organization without increasing the number of RNAV routes. This information is presented in **Appendix B** to this part of the Report. The Meeting agreed that an action plan needed to be developed, particularly for those Eastern Caribbean RNAV routes that could be implemented in the lower and higher airspace. The agreement should consider weekly operations, distance savings, annual fuel savings and operational cost savings for each one of the trajectories in the Piarco FIR, or its adjacent FIRs.

RNP

3.5.2.5 The Meeting analysed the types of RNP applicable to the CAR/SAM regions for continental and oceanic airspace. In this regard, the Meeting took note that the Caribbean airspace, due to its CNS infrastructure characteristics, has been considered as continental airspace. Based on the current air traffic movement information provided by the CARSAMMA as well as air traffic forecasts, RNP implementation would be necessary in the CAR Region around the year 2008.

3.5.2.6 Additionally , the Secretariat provided information related to the fact that the Havana FIR is considered as a transitional airspace between the CAR and NAM Regions. This type of airspace justifies the implementation of RNP, and this implementation will cause a domino effect in the Region and might force to implement RNP in the whole CAR Region.

3.5.2.7 Considering the development of several projects aimed to the implementation of RNAV routes in the lower airspace, the Meeting considered that it is convenient to start analysing the implementation of available RNP in the long term within the Piarco FIR. In this regard, the need for an RNP implementation Action Plan was discussed based on the guidelines for CAR/SAM Regions. A copy of the guidelines are attached to this part of the Report as **Appendix C**, for its possible introduction in the Eastern Caribbean.

3.5.2.8 After a thorough discussion, the E/CAR WG agreed to continue its works towards the Air Traffic Management development in the Eastern Caribbean by developing an adequate Action Plan for the implementation of RNAV Routes, RNP and RVSM in the E/CAR. To this end, the Meeting adopted the following Decision:

DRAFT

CONCLUSION 28/7

**RVSM, RNAV AND RNP IMPLEMENTATION IN THE
EASTERN CARIBBEAN**

That Trinidad and Tobago,

- a) develops an Action Plan, based on the Appendixes B and D to this part of the Report in coordination with the ICAO NACC Regional Office, to be carried out by the Eastern Caribbean, in order to implement RVSM, RNAV and RNP in the Area; and
- b) presents the Action Plan in the 19th E/CAR DCA Meeting.

3.5.3 ATS Safety Management

3.5.3.1 The Meeting analysed the guidelines presented by the Secretariat in WP/08 related to the implementation of systematic safety management and programmes with levels and objectives provided by ICAO Annex 11 and Doc. 4444-PANS/ATM, which are effective since 27 November 2003. In this regard, the Meeting recognized the States' responsibility for the compliance with ICAO SARPs and emphasized on the importance of informing each other about their differences.

3.5.3.2 A State's Safety Management Programme should be addressed by two elements; the basic element of the direct responsibility of the State to regulate and verify safety aspects, and the active element of ATS safety management, which is implemented through ATS providers.

3.5.3.3 The Meeting agreed that States and Territories should continue to actively participate in activities organized by ICAO within the GASP in order to introduce improvements to ATM safety through the implementation of ATS safety management programmes in coordination with the ICAO NACC Regional Office. In view of all the above, the Meeting adopted the following:

DRAFT

CONCLUSION 28/8

**IMPLEMENTATION OF ATS SAFETY MANAGEMENT
PROGRAMMES AND MINIMUM SAFETY LEVELS**

That the E/CAR States/Territories/International Organizations:

- a) develop an action plan to implement ATS safety management programmes, in coordination with the ICAO NACC Regional Office, through systematic and suitable programmes with the aim of ensuring safety in the provision of ATS within the airspace and aerodromes under their jurisdiction by **31 August 2005**;
- b) establish in those programmes the objectives and minimum acceptable levels; and
- c) submit to the ICAO NACC Regional Office the ATS safety management programmes applicable to their airspace and aerodromes of jurisdiction.

3.5.4 ATS Quality Assurance Programmes

3.5.4.1 The Meeting also recognized the support made by the ICAO Council to assist Eastern Caribbean States and Territories through the ATS Quality Assurance Special Implementation Project (SIP) for the Caribbean Region. This SIP will be carried out for ten weeks in the second semester of 2004.

3.5.4.2 The main objective of this project is to assist Aruba, Bahamas, Barbados, Cuba, Dominican Republic, Haiti, Jamaica, Netherlands Antilles, Trinidad and Tobago and OECS (Antigua) in the implementation of ATS Quality Assurance Units and Programmes to enhance the provision of Air Traffic Services and to improve the proper use of aeronautical phraseology in their ATS units, as well as to follow up the level of implementation of the ATS Quality Assurance Programmes and Quality Assurance Unit. In this regard the Meeting adopted the following:

CONCLUSION 28/9 IMPLEMENTATION OF ATS QUALITY ASSURANCE PROGRAMMES FOR EASTERN CARIBBEAN THROUGH THE PARTICIPATION IN THE SPECIAL IMPLEMENTATION PROJECT FOR THE CARIBBEAN REGION

That the E/CAR States/Territories/International Organizations:

- a) take note of the approved Air Traffic Services Quality Assurance Special Implementation Project for the Caribbean Region;
- b) foster the participation of the E/CAR States/Territories/International Organizations in the QA SIP that will be held in the second semester of 2004; and,
- c) urge those States/Territories that have not done so, to provide the point of contact information for the QA SIP to the ICAO NACC Office by **31 May 2004**.

3.5.5 ATS Operational Requirements for Automated Systems

3.5.5.1 The Meeting discussed the requirements to be considered in other activities for the coordination that will facilitate the implementation and integration of the ATS automated systems, through bilateral or multilateral agreements, with a view to an ATM regional automation. The GREPECAS guidelines for the ATM Automation Implementation should be considered, as well as other aspects for the regional successful development and implementation of the CNS/ATM systems.

3.5.5.2 The Meeting concurred that technology by itself has a limited role in the efficiency and capability of the ATM system and recognized the need to migrate from a rigid ATC system to the flexible air traffic management; from the unilateral decision making to a form of collaboration through sharing of information and data from the integrated automated systems so as to obtain important advantages in the Eastern Caribbean with a lower investment.

3.5.5.3 In this regard, a regional strategy should be considered with gradual, harmonious and evolutionary vision for the inter-operability among systems allowing data-exchange amongst ATS units in order to attain a flexible, seamless and optimum airspace management in the Eastern Caribbean, increasing at the same time the future required ATM safety levels.

3.5.5.4 The Meeting agreed that the E/CAR ATM Committee should carry out a strategy, as pointed out in **Appendix D** of this report, in order to determine operational requirements and integration of the ATS automated systems, considering other operational requirements for the ATM regional automation. To this end the Meeting approved the following:

**DECISION 28/10 STRATEGY FOR OPERATIONAL REQUIREMENTS OF AN
ATM AUTOMATED SYSTEM**

That the E/CAR ATM Committee:

- a) develops an action plan to establish ATS operational requirements for the integration of automated systems in the E/CAR, through the strategy pointed out in Appendix D to this part of the report;
- b) presents the action plan in the next 29 E/CAR WG Meeting; and
- c) coordinates the action plan with the ICAO NACC Regional Office, so as to ensure an harmonious integration of the ATM automated systems in CAR Region to be coherent with the Regional Air Navigation Plan (ANP) for CAR/SAM Regions.

3.5.6 ATS Data Link Operational Applications

3.5.6.1 The Meeting discussed operational applications of Data Link technology for the Aeronautical Terminal Information Service – Data Link (ATIS-D) and Data Link Service of pre-departure clearance (PDC) in Air Traffic Services.

3.5.6.2 Operational benefits discussed were derived from the available avionics technology ACARS HF, VDL and Mode S for ATS applications of CPDLC.

3.5.6.3 The Meeting concurred that the Data Link application implementation might help to enhance aeronautical communications overseas and agreed that Trinidad and Tobago should develop an Action Plan to carry out a strategy for the implementation of D-ATIS and PDC services in the Eastern Caribbean international aerodromes. Special consideration in this implementation must be the training in operational requirements for the air traffic controllers and other aeronautical specialists. To this regard, the Meeting adopted the following:

**DECISION 28/11 ACTION PLAN FOR THE IMPLEMENTATION OF THE D-ATIS
AND PDC SERVICES IN INTERNATIONAL AERODROMES OF
THE EASTERN CARIBBEAN.**

That Trinidad and Tobago:

- a) develops, in coordination with NACC Regional Office, an action plan to implement ATS data link technology with benefits for ATS providers and users in the Eastern Caribbean; and
- b) presents to the 29th E/CAR WG the Action Plan to implement the D-ATIS and PDC services in the Eastern Caribbean international aerodromes.

3.5.7 ATS Regional Contingency Plan

3.5.7.1 The Meeting recalled the guidelines provided by Chapter 15 of ICAO Doc 4444-PANS/ATM, to develop contingency procedures for ATC units within their respective CTA/UTA/FIR such as air-ground communications failure, ground radio failure, blocked frequency, unauthorized use of ATC frequency, ATS Surveillance failure, emergency separation, automated warnings (STCA, MSAW, GPWS) ACAS and other in-flight contingencies.

3.5.7.2 Also, the Meeting took note of the Annex 11 SARPS which are applicable since 27 November 2003 and which call States/Territories/International Organizations to develop, promulgate and implement contingency plans for applicability in their airspace of jurisdiction in the event of a partial or total ATS disruption so as to ensure the continued safety to the international civil aviation in the major international air routes.

3.5.7.3 Bearing in mind the considerations pointed out before, the Eastern Caribbean States and Territories thoroughly discussed the progress made in the Eastern Caribbean Area for the ATS National Contingency Plans developed based in the regional guidelines approved by GREPECAS to support air navigation services for users.

3.5.7.4 The Meeting reviewed the Contingency Plan presented by Trinidad and Tobago for Piarco FIR and concurred to adapt it to the guidelines attached in **Appendix E** to this part of the report in agreement with other States who have adjacent airspaces, users and the ICAO NACC Regional Office. The plan will include information such as an alternate contingency coordinator, points of contact, action and responsibilities, coordination of contingency measures, required information to be included in the respective NOTAM, contingency routes and applicability of procedures by pilots and controllers.

3.5.7.5 Taking the above mentioned into consideration, the Meeting adopted the following:

DRAFT

CONCLUSION 28/12

ATM CONTINGENCY PLAN FOR THE EASTERN CARIBBEAN

That,

- a) E/CAR States/Territories/International Organizations who have not yet done so, develop their ATS National Contingency Plans to support Air Traffic Services within their airspace (CTA/UTA/FIR) and aerodromes of jurisdiction;
- b) Trinidad and Tobago carries out bilateral and multilateral agreements with States/Territories/International Organizations responsible for the adjacent airspace, in coordination with the ICAO NACC Regional Office, to develop an ATM Regional Contingency Plan for Piarco FIR in accordance with the guidelines attached in the Appendix E to this report; and
- c) E/CAR States/Territories/International Organizations submit to the ICAO NACC Regional Office a copy of their ATS Contingency Plan no later than **30 November 2004**.

3.5.8 Letters of operational agreement (LOA)

3.5.8.1 Considering the challenges performed in the Eastern Caribbean, the Meeting reviewed the status of several letters of agreement that have been updated in the last year, as follows:

3.5.8.1.1 Status of Piarco ACC Letters of Agreement with:

- Point Salines TMA Unit New LOA in force as of 2 October 2003
- E.T. Joshua TMA Unit New LOA in force as of 2 October 2003
- Adams TMA Unit New LOA in force as of 18 March 2004
- Fort de France TMA Unit New LOA in force as of 11 July 2002 - Amended Draft LOA submitted by Fort de France for the consideration by Piarco is being reviewed by Piarco.
- Saint Lucia APP LOA dated 18 May 1987 discontinued LOA with Fort de France replaces and supersedes the Old LOA between Piarco ACC and Saint Lucia Approach.
- Point-a-Pître TMA Unit New LOA in force as of 11 July 2002
- V.C. Bird TMA Unit New LOA in force as of 11 July 2002
- San Juan ACC (CERAP) New LOA in force as of 11 July 2002
- Paramaribo ACC New LOA in force as of 27 November 2003
- Georgetown ACC New LOA in force as of 27 November 2003
- Maiquetia ACC New LOA in force as of 19 February 2004

3.5.8.2 The process of obtaining revised letters of agreement with the adjacent ACCs of: New York, Santa Maria, Sal, Dakar and Rochambeau are ongoing and the process to review letters of agreement with all adjacent ACCs for the RVSM Implementation in the CAR/SAM Regions, are expected to be finalised on November 2004.

3.5.8.3 The Meeting reviewed and agreed to update and harmonize methods and coordination procedures between ATC adjacent units to E.T. JOSHUA TMA. Agreements were reached in substantial discussions. The corresponding letters of agreement will be sent to each State so as to be signed by the corresponding Authorities.

3.5.8.4 Regarding the Eastern Caribbean Agreements, the Meeting took note of the information on air operations' statistics presented by States and Territories.

3.6 *Search and Rescue (SAR)*

3.6.1 No matters were discussed under this Agenda Item.

3.7 *Communications, Navigation and Surveillance (CNS)*

3.7.1 The InterCaribbean Aeronautical Communications Limited (IACL) presented IP/05 on the operation of the E/CAR Digital AFS network.

3.7.2 IACL indicated that the reliability of the current and any future system is very dependent on reports on outages being received by the Fault Reporting Centre. For this reason, States and Territories are encouraged to take time and send a brief report to IACL which could be in the form of: an electronic message, a fax or a phone call.

3.7.3 France presented IP/09 on the status of the VHF coverage improvements in the French Antilles Territories. The improvements have been carried out in several phases including: diagnosis of the coverage gaps, conducting a theoretical assessment of the solutions, increasing the number of remote antennas and to consider a standard and back-up for the VHF coverage.

3.7.4 After the project is completed, the French Antilles TMA VHF coverage should not contain any hole and the normal and redundant VHF coverage should have been optimized.

3.7.5 Communications

3.7.5.1 The Meeting reviewed the advances for the future AFTN goals, the basic connectivity on the sub-network for Radar Data Sharing and the type of voice connectivity needed at the Radar Display positions in the Approach and Area Control Centres. The information provided by IACL to upgrade E/CAR AFS Network operating on a Frame Relay platform and the additional data services. Cable and Wireless (West Indies) Limited (C&W) will provide and manage the Network as one of the main advantages in all of the E/CAR territories and can provide first line maintenance at very short notice. Migration to the Frame Relay is due to the modern Network Management System based on this platform, which can transport and effectively manage a broad range of data protocols and voice.

3.7.6 The Voice Network

3.7.6.1 Some ATS units have installed their own voice switches in their ATC units. They do not need to change their equipment. The units will interface with the new network via the present Nautel Option 11 PBXs. Other ATS units without voice switches will continue to use the digital phones provided with the Option II PBXs. Speed dialling and call conferencing facilities will be available and present numbering system will prevail.

3.7.7 AFTN

3.7.7.1 The AFTN transport protocol will be TCP/IP, which can be transported over Frame Relay. This protocol supports the easy establishment of Local Area Networks at any airport whereas at some airports there has been a growing need of more than one AFTN terminal especially when the AIS is not located in the Control Tower.

3.7.7.2 Requests received from MET Services for AFTN cannot be accommodated at this time because there are no vacant ports remaining on the AFTN Switch in Trinidad and Tobago. The Civil Aviation Authority has indicated that a new AFTN Switch with adequate capacity will be commissioned in the fourth quarter of 2004. This equipment will support a number of protocols including X.25 and TCP/IP. This connectivity will be provided between the Trinidad AFTN Switch and adjacent Switching Centres in accordance to ICAO recommendations.

3.7.8 Radar Data

3.7.8.1 Regarding the proposed establishment of Radar Data Sharing in the E/CAR, two Frame Relay circuits out of Martinique to Hewanorra and George Charles Airports in St. Lucia will be built to provide the sharing of radar images from the radar head in Martinique in the first instance. IACL expects to receive a detailed description of the proposed sub-network from States involved in the E/CAR Project so that C&W may design a sub-network that best suits to the needs of the involved States.

3.7.9 E/CAR Frame Relay Network

3.7.9.1 In the basic topology of the E/CAR AFS Frame Relay Network each Island is connected to two hubs, the one in Trinidad and Tobago is the primary hub and the other in Barbados is the back-up with the hubs connected to each other by a 512 kbits IPLC. This arrangement provides the necessary diversity.

3.7.9.2 Depending on the basic network requirements requested by the States involved in Radar Data Sharing there may be a need to modify this basic topology and place a hub in Martinique.

3.7.10 Navigation

3.7.10.1 The Meeting examined the GNSS progress, and appealed for a renewal towards the accomplishment of the CNS/ATM objectives within the preset time frames. The Meeting expressed their concerns at the slow pace of progress that has been made in the area, but noted that the GNSS training available is ongoing, with a planned completion date of 31 July 2004.

3.7.10.2 The Meeting took note of the GNSS information about three constellations, mainly GPS, GALILEO and GLONASS as well as other augmentation systems such as, WAAS, EGNOS, MSAS and GAGAN to support CAT 1 Approaches that will be available for global air navigation in 2008.

3.7.10.3 The Meeting concurred their impetus in the implementation process for the E/CAR CNS/ATM programme by coordinating and committing to comply the tasks contained in the Terms of Reference of this E/CAR WG (Agenda Item 4 refers).

3.7.11 Surveillance

3.7.11.1 **Status of Radar Sharing Task Force in the E/CAR**

3.7.11.1.1 The Meeting took note of the information related to two projects of Radar Data Sharing in the E/CAR Area: one for Remote Radar Image in Saint Lucia and another for Common Seamless Radar Image provided by the Radar Data Sharing Task Force.

3.7.11.2 Remote Radar Image in Saint Lucia

3.7.11.2.1 Related to the project of a remote radar image in Saint Lucia, France informed that the letter of agreement between France and OECS had been signed on November 2003. Since this date, the project is under construction by France.

3.7.11.2.2 This project includes the providing of radar visualization material and software, as well as radar data from Martinique to Saint Lucia. OECS is in charge of the data transportation. The E/CAR Digital network will be used to carry the radar data. A list of network requirements has been sent to IACL. France is waiting for IACL's answer in order to take further steps.

3.7.11.2.3 Some French technical Meetings have already been held in order to assess technical points (local network architecture, required material). Some compatibility tests between local and IACL networks are to be carried out soon. A visit to Saint Lucia's airport by French technical staff is expected in June 2004. A schedule of the project should be available at this time. The project is not supposed to be completed before the second semester of 2005.

3.7.11.3 E/CAR Common Seamless Radar Image

3.7.11.3.1 The project aims at providing a common seamless radar image to any country in the E/CAR Area. This image should be built using all the available radars in the E/CAR, which are today Antigua and Barbuda, Barbados, Guadeloupe, Martinique and Trinidad and Tobago. This is the unique image that will be computed by the French DACOTA tool.

3.7.11.3.2 This project has started, the French radars are already integrated and a single image is available for Martinique and Guadeloupe. The requirements for the provision of other radar data recording are under construction. The integration of the multiple radar sources in DACOTA will take place progressively (depending on each radar). The integration of each radar in DACOTA will take place in two main phases: the mono-radar evaluation/integration and the multi-radar evaluation/integration. The French National Technical Service (STNA) is in charge of the technical integration of the E/CAR radars.

3.7.11.3.3 Requirement for radar data recording:

Content: ASTERIX category 01 (Mono-radar Target Reports) and 02 (Monoradar Service Messages) data (standard document available at <http://www.eurocontrol.int/asterix/latest.html>)

Format: PC File

Duration: 2 hours of live traffic at least

Media: Diskette (zip file if necessary), CD or by E-mail

3.7.11.3.4 *Available material* – The following table indicates which documentation and Data Recording are available so far at STNA:

Radar	Technical Documentation	Live Data Recording	Technical Contact	Remark/Question
Barbados	Interface Control Document for the CONDOR MK2 ASTERIX radar data output (ref IC 808136/801 issue 3 June 2002 provided by Raytheon GB)	The recording provided by Barbados contains south England traffic and was probably made at factory. A new one made in Barbados with actual on site implementation should be provided (use the Radar Maintenance Monitor).	Mitchinson BECKLES (BARBADOS)	Barbados will send precise data items produced by Barbados radar
Antigua	Provide an ICD document for the ASTERIX radar data output	Recording tool for radar data output	Maurizzio MARAZOTTI (ALENIA)	Will send data items produced by Antigua Radar
Trinidad and Tobago	Interface Control Document RAMP RSE to RAMP DES 95/05/01	2 diskettes of Radar Data recorded with a protocol analyser. These recording could not be read on STNA analysers. Documentation analysis shows that your output format is not ASTERIX.	Andrew RAMKISSOON (CAA PIARCO)	

3.7.11.3.5 In view that the two projects are entering an active phase, the Delegate from France proposed that the RSTF/3 be held late in the second semester of 2004. To this end, the Meeting adopted the following:

DECISION 28/13

ACTION PLAN FOR RADAR DATA SHARING IN THE E/CAR

That:

- a) the Radar Data Sharing Task Force attend the next GREPECAS CNS Committee Meeting to be held in September 2004;
- b) Barbados, Antigua and Trinidad and Tobago provide France with the required technical information on their radars; and
- c) the Radar Data Sharing Task Force present the action plan for radar data sharing in the E/CAR area in the 29th E/CAR WG.

Aerodrome Certification Implementation in the E/CAR Region States/Territories			
State/Territory	Certification System Implementation Progress/Status	Certification Commencement Date	Remarks
Barbados ¹	New legislation addressing aerodrome certification is being prepared and is expected to be enacted by June 2004. The production of an Aerodrome Certification Manual is in its Final Stages; it is expected that it will be completed by the time the new legislation is enacted.	3 rd Quarter of 2004	
France	At the present time, French CAA is including basic legislation about certification in civil aviation laws	No up to date information	
Netherlands Antilles	Implemented.	*****	
OECS ¹ Antigua and Barbuda Dominica Grenada Saint Kitts and Nevis Saint Lucia Saint Vincent and the Grenadines	New civil aviation regulations are under development based on the Jamaica/Canada model, which will require aerodrome certification. The certification of big airports (more than 1.5 million passengers) should be started before 1 January 2006. National audit will start in August 2004 and each last approximately 6 months.	August 2004	
Trinidad and Tobago ¹	The Civil Aviation Aerodrome Licensing Regulations 2004 made under primary Legislation, has been laid in the Parliament of the Republic of Trinidad and Tobago during the month of March 2004. The Regulations shall come into effect on March 2005	2005	
United Kingdom ² Anguilla British Virgin Islands Montserrat	A partial aerodrome certification/licensing system is in place, which will be replaced by new regulatory powers and systems including aerodrome certification.	No up to date information	
United States Puerto Rico US Virgin Islands	Implemented.	*****	

¹ CARICOM member States of Regional Aviation Safety Oversight System (RASOS) have approved the establishment of an Aerodrome Certification Working Group (AC/WG) to provide support to States for aerodrome certification.

² The United Kingdom Civil Aviation Authority has established the Air Safety Support International (ASSI) to help provide a civil aviation safety regulation system in the UK Overseas Territories. It is responsible for supporting the Territories' existing authorities in the safety regulation of all aspects of civil aviation, including the licensing of personnel and the certification of aircraft, airlines, airports and air traffic control.

CAR/SAM RNAV ROUTE PROGRAM - PROGRAMA DE RUTAS RNAV CAR/SAM (Summary - Listado General)								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons Ahorro anual comb en Galon US	Notes / Notas
1	Antigua	Miami	34	17.5	\$274,174	78,375	78,375	
2	Aruba	San Juan	14	8.3	\$37,684	10,549	10,549	
3	Asuncion	Buenos Aires	42	3.9	\$54,952	14,686	14,686	
4	Balmaceda	Buenos Aires	0	0	\$0	0	0	Route requested for operations from Buenos Aires to Australia/Ruta solicitada para operaciones de Buenos Aires a Australia
5	Barbados	Miami	39	23.7	\$394,608	107,656	107,656	
6	Belize	Miami	16	18.2	\$99,368	27,415	27,415	
7	Bonaire	Guayaquil	7	6	\$34,028	11,297	11,297	
8	Bonaire	Lima	7	50	\$283,567	94,144	94,144	
9	Bonaire	Quito	7	5.7	\$32,327	10,732	10,732	
10	Buenos Aires	Lima	48	7.7	\$164,300	44,271	44,271	
11	Buenos Aires	Santiago	107	3.6	\$163,926	48,205	48,205	Westbound only/En dirección oeste
12	Buenos Aires	Puerto Montt	0	2.4	\$0	0	0	Route requested for operations from Buenos Aires to Australia/Ruta solicitada para operaciones de Buenos Aires a Australia
13	Cancun	Havana	40	29.9	\$355,765	101,538	101,538	
14	Cancun	Houston	112	9	\$351,155	94,958	94,958	
15	Cancun	New York	42	176.8	\$2,899,397	798,946	798,946	
16	Cancun	Panama	10	8.6	\$37,315	8,906	8,906	
17	Cap Haitien	Puerto Plata	0	0	\$0	0	0	Route requested by Cuba and Haiti, unknown traffic/Ruta solicitada por Cuba y Haití, tráfico desconocido
18	Cap Haitien	Santiago de Cuba	0	0	\$0	0	0	Route requested by Cuba and Haiti, unknown traffic/Ruta solicitada por Cuba y Haití, tráfico desconocido
19	Caracas	Havana	0	21.6	\$0	0	0	At this moment there is not traffic, but in near future traffic will increase/Al momento no hay tráfico pero en un futuro próximo el tráfico aumentará

CAR/SAM RNAV ROUTE PROGRAM - PROGRAMA DE RUTAS RNAV CAR/SAM (Summary - Listado General)								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons Ahorro anual comb en Galon US	Notes / Notas
20	Caracas	Lima	20	24.2	\$137,348	40,684	40,684	
21	Caracas	Mexico	14	81.1	\$402,420	95,439	95,439	
22	Caracas	Miami	112	20.3	\$1,039,353	285,168	285,168	
23	Caracas	San Jose	16	22.7	\$133,512	32,056	32,056	
24	Cucuta VOR	Villavicencio VOR	10	49.2	\$386,157	128,204	128,204	Domestic route in Colombia/Ruta doméstica en Colombia
25	Elorza	San Gabriel	0	19.5	\$0	0	0	Requested by Colombia, unknown traffic/Solicitada por Colombia, tráfico desconocido
26	Great Inagua	Kingston	0	0	\$0	0	0	Traffic unknown, exit route to Europe, requested by Jamaica/Tráfico desconocido, ruta hacia Europa solicitada por Jamaica
27	Great Inagua	Montego Bay	0	0	\$0	0	0	Traffic unknown, exit route to Europe, requested by Jamaica/Tráfico desconocido, ruta hacia Europa solicitada por Jamaica
28	Guadalajara	Houston/Dallas	98	6.4	\$195,318	55,733	55,733	
29	Guatemala	Houston/Dallas	44	36	\$599,856	163,650	163,650	
30	Guatemala	Miami	82	12.3	\$407,571	115,301	115,301	
31	Guayaquil	Lima	42	5.5	\$98,821	26,333	26,333	
32	Guayaquil	San Jose	39	24.2	\$333,505	93,084	93,084	
33	Havana	Panama	48	5.7	\$88,346	24,761	24,761	
34	La Paz	Lima	22	3.4	\$29,605	7,888	7,888	
35	Lima	Houston/Dallas	28	23.7	\$296,978	87,018	87,018	
36	Lima	New York	16	77.3	\$646,759	179,335	179,335	
37	Lima	San Jose	22	34.3	\$248,066	63,430	63,430	Segment route/Segmento ruta Lima-Houston/Dallas
38	Lima	Sao Paulo	30	10.6	\$158,395	42,733	42,733	Continuation of UM415 to be implemented in Jun04/Continuación de UM415 a ser implantada en Jun 04
39	Managua	Miami	62	7.2	\$234,129	67,687	67,687	
40	Merida	Houston	8	46.7	\$158,760	37,685	37,685	
41	Mexico	Houston/Dallas	177	11.7	\$791,931	205,899	205,899	

CAR/SAM RNAV ROUTE PROGRAM - PROGRAMA DE RUTAS RNAV CAR/SAM (Summary - Listado General)								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons Ahorro anual comb en Galon US	Notes / Notas
42	Mexico	Miami	76	24.4	\$897,641	260,559	260,559	
43	Mexico	Salvador	22	14.3	\$103,421	26,444	26,444	Segment of route Mexico-San Jose/Segmento de ruta México-San José
44	Mexico	San Jose	48	9.7	\$185,841	48,139	48,139	
45	Mexico	San Pedro	7	62.3	\$195,166	57,186	57,186	
46	Montego Bay	Miami	60	0.9	\$24,685	6,736	6,736	
47	Panama	Houston	14	9.7	\$44,040	12,328	12,328	
48	Panama	New York	14	30.1	\$136,660	38,256	38,256	
49	Panama	Port au Prince	4	21.5	\$37,507	8,964	8,964	
50	Port au Prince	Miami	77	4.9	\$177,460	50,431	50,431	
51	Salvador	Houston/Dallas	36	67	\$798,364	215,362	215,362	
52	Salvador	San Francisco	14	42.7	\$211,878	50,249	50,249	
53	Salvador	San Jose	42	7.2	\$107,180	25,419	25,419	Domestic route within Cenamer, segment route Mexico-San Jose/Ruta doméstica dentro de Cenamer, tramo ruta México-San José
54	San Jose	Houston	28	24.7	\$309,509	90,689	90,689	Segment route Lima-Houston/Dallas/Segmento ruta Lima-Houston/Dallas
55	San Jose	New York	24	71.8	\$580,468	151,607	151,607	
56	San Pedro	New Orleans	8	7.5	\$17,027	5,043	5,043	
57	Santa Cruz	Santiago	10	24.6	\$113,108	28,949	28,949	
58	Santiago	Buenos Aires	107	14.2	\$646,599	190,143	190,143	Eastbound only/En dirección este solamente
59	Sao Paulo	Houston\Dallas	28	36.5	\$662,871	187,276	187,276	
60	Sao Paulo	Memphis	14	39	\$517,711	165,223	165,223	
61	Tegucigalpa	Miami	29	21.1	\$246,100	65,765	65,765	
62	Havana	Santo Domingo	4	92.3	\$169,754	\$43,448	\$43,448	
63	Cancun	Miami	42	7.7	\$113,794	32,983	32,983	Southbound operations only, northbound no need improvement/Operaciones en dirección al sur solamente, en dirección al norte no necesitan mejorar

<p>SCHEDULE FOR THE RNAV ROUTES IMPLEMENTATION PROGRAMME IN THE CAR/SAM REGIONS (Phase II-a)</p>

EXPLANATION OF THE TABLE

Column 1	Describes the activities to be carried out by the States/Organizations involved
Column 2	Shows the target dates for completion of the activities described in column 1
Column 3	Contains additional information

Activities under the responsibility of the States and International Organizations, which FIR/s are involved		
ACTIVITY	COMPLETION DATE	REMARKS
1	2	3
In accordance with phase 2 implementation priorities	12/06/04	GREPECAS/12 should approve the RNAV list to be implemented in phase 2 of the RNAV Routes Implementation Programme of the CAR/SAM/Regions.
States' preliminary analysis	09/07/04	CAR/SAM States should analyze RNAV Routes proposals under their responsibility and send the results to the ICAO NACC and SAM Offices, keeping in mind the planning principles and issues to be considered in the planning process appearing in this Guidance Material.
CAR/SAM analysis regarding the routes implementation impact in the CAR/SAM RVSM implementation programme .	30/11/04	The CARSAMMA shall evaluate the implementation impact of phase 2 of the CAR/SAM RVSM implementation programme in the CAR/SAM RVSM Implementation Programme Safety Assessment
Agreement on the RNAV routes to be implemented	09/07/04	Route paths, reporting points, agreements, etc., to be defined at the Third Meeting/Workshop of ATM Authorities and Planners.
Review of bilateral/multilateral agreements between service suppliers and/or identification of cases requiring their execution	09/07/04	According to the route paths, reporting points (including the geographical coordinates), agreements, etc., established during the Third Meeting/Workshop of ATM Authorities and Planners.
Verification and approval of geographical coordinates	09/08/04	The geographical coordinates should be established in the course of the meeting. Otherwise, the necessary coordination will be made for that purpose through the respective ICAO NACC and SAM Regional Offices.
Distribution of the proposal for amendment to the ANP CAR/SAM – Basic Vol. by the ICAO NACC and SAM Regional Offices.	10/04	The distribution of the proposal for amendment will enable parties involved expressing their comments or observations.

Activities under the responsibility of the States and International Organizations, which FIR/s are involved		
ACTIVITY	COMPLETION DATE	REMARKS
1	2	3
Remittance of comments or remarks on the proposal for amendment to the ANP CAR/SAM – Basic Vol. to the corresponding ICAO NACC and SAM Regional Offices.	11/04	The timely response to the proposal for amendment will enable a quick processing of the comments or remarks for submission to the ICAO Council and further approval.
Inclusion of agreements and procedures in national operating manuals	03/05	If necessary, States shall include the agreements and procedures in their operating manuals
Publication of AIC and AIP Supplement	03/05	States affected by RNAV routes should publish a common AIC and AIP Supplement with three AIRAC cycles in advance.
Entry into effect of the Implementation	06/05	

CAR/SAM RNAV ROUTE PROGRAM - PROGRAMA DE RUTAS RNAV CAR/SAM (FASE II-a - PHASE II-a)								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons / Ahorro anual comb en Galon US	Notes / Notas
13	1	Cancun	Havana	40	29.9	\$355,765	101,538	
20	2	Caracas	Lima	20	24.2	\$137,348	40,684	
26	3	Great Inagua	Kingston	0	0	\$0	0	Traffic unknown, exit route to Europe, requested by Jamaica/Tráfico desconocido, ruta hacia Europa, solicitada por Jamaica
27	4	Great Inagua	Montego Bay	0	0	\$0	0	Traffic unknown, exit route to Europe, requested by Jamaica/Tráfico desconocido, ruta hacia Europa, solicitada por Jamaica
32	5	Guayaquil	San Jose	39	24.2	\$333,505	93,084	
38	6	Lima	Sao Paulo	30	10.6	\$158,395	42,733	Continuation of UM415 to be implemented in Jun 04/Continuación de UM415 a ser implantada en Jun 04
43	7	Mexico	Salvador	22	14.3	\$103,421	26,444	Segment of route Mexico-San Jose/Segmento de ruta México-San José
44	8	Mexico	San Jose	48	9.7	\$185,841	48,139	
53	9	Salvador	San Jose	42	7.2	\$107,180	25,419	Domestic route within Cenamer, route segment Mexico-San Jose/Ruta doméstica dentro de Cenamer, tramo ruta México-San José
57	10	Santa Cruz	Santiago	10	24.6	\$113,108	28,949	
58	11	Santiago	Buenos Aires	107	14.2	\$646,599	190,143	Eastbound only/Solamente en dirección este
62	12	Havana	Santo Domingo	4	92.3	\$169,754	\$43,448	

CAR/SAM RNAV ROUTE PROGRAM - PROGRAMA DE RUTAS RNAV CAR/SAM (FASE II-b / PHASE II-b)								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons / Ahorro anual comb en Galon US	Notes / Notas
3	2	Asuncion	Buenos Aires	42	3.9	\$54,952	14,686	
4	3	Balmaceda	Buenos Aires	0	0	\$0	0	Route requested for operations from Buenos Aires to Australia/Ruta solicitada para operaciones de Buenos Aires a Australia
7	4	Bonaire	Guayaquil	7	6	\$34,028	11,297	
8	5	Bonaire	Lima	7	50	\$283,567	94,144	
9	6	Bonaire	Quito	7	5.7	\$32,327	10,732	
10	7	Buenos Aires	Lima	48	7.7	\$164,300	44,271	
12	8	Buenos Aires	Puerto Montt	0	2.4	\$0	0	Route requested for operations from Buenos Aires to Australia/Ruta solicitada para operaciones de Buenos Aires a Australia
16	9	Cancun	Panama	10	8.6	\$37,315	8,906	
17	10	Cap Haitien	Puerto Plata	0	0	\$0	0	Route requested by Cuba and Haiti, unknown traffic/Ruta solicitada por Cuba y Haití, tráfico desconocido
18	11	Cap Haitien	Santiago de Cuba	0	0	\$0	0	Route requested by Cuba and Haiti, unknown traffic/Ruta solicitada por Cuba y Haití, tráfico desconocido
19	12	Caracas	Havana	0	21.6	\$0	0	At this moment there is not traffic, but in near future traffic will increase/Al momento no hay tráfico pero muy pronto el tráfico aumentará
21	13	Caracas	Mexico	14	81.1	\$402,420	95,439	
23	14	Caracas	San Jose	16	22.7	\$133,512	32,056	
24	15	Cucuta VOR	Villavicencio VOR	10	49.2	\$386,157	128,204	Domestic route in Colombia/Ruta doméstica en Colombia
25	16	Elorza	San Gabriel	0	19.5	\$0	0	Requested by Colombia, unknown traffic/Solicitada por Colombia, tráfico desconocido

CAR/SAM RNAV ROUTE PROGRAM - PROGRAMA DE RUTAS RNAV CAR/SAM (FASE II-b / PHASE II-b)								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons / Ahorro anual comb en Galon US	Notes / Notas
33	17	Havana	Panama	48	5.7	\$88,346	24,761	
34	18	La Paz	Lima	22	3.4	\$29,605	7,888	
37	19	Lima	San Jose	22	34.3	\$248,066	63,430	Segment route Lima-Houston/Dallas/Segmento ruta Lima-Houston/Dallas
45	20	Mexico	San Pedro	7	62.3	\$195,166	57,186	
49	21	Panama	Port au Prince	4	21.5	\$37,507	8,964	
11	22	Buenos Aires	Santiago	107	3.6	\$163,926	48,205	Westbound only/En dirección oeste, solamente
31	23	Guayaquil	Lima	42	5.5	\$98,821	26,333	UL 780 segment Guayaquil/Trujillo to Lima/UL 780 segment Guayaquil/Trujillo, then UG436 to Lima/UL 780 Tramo Guayaquil/Trujillo a Lima/UL780 segmento Guayaquil/Trujillo, luego UG436 hasta Lima

CAR/SAM RNAV ROUTES PROGRAM FROM/TO NAM REGION - PROGRAMA DE RUTAS RNAV CAR/SAM DESDE/HACIA REGION NAM								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons / Ahorro anual comb en Galon US	Notes / Notas
1	1	Antigua	Miami	34	17.5	\$274,174	78,375	
5	2	Barbados	Miami	39	23.7	\$394,608	107,656	
6	3	Belize	Miami	16	18.2	\$99,368	27,415	
14	4	Cancun	Houston	112	9	\$351,155	94,958	
15	5	Cancun	New York	42	176.8	\$2,899,397	798,946	
22	6	Caracas	Miami	112	20.3	\$1,039,353	285,168	IATA requests to be implemented during the year 2004/IATA solicita se implemente durante el año 2004
28	7	Guadalajara	Houston/Dallas	98	6.4	\$195,318	55,733	
29	8	Guatemala	Houston/Dallas	44	36	\$599,856	163,650	
30	9	Guatemala	Miami	82	12.3	\$407,571	115,301	IATA requests to be implemented during the year 2004/IATA solicita se implemente durante el año 2004
35	10	Lima	Houston/Dallas	28	23.7	\$296,978	87,018	
36	11	Lima	New York	16	77.3	\$646,759	179,335	
39	12	Managua	Miami	62	7.2	\$234,129	67,687	
40	13	Merida	Houston	8	46.7	\$158,760	37,685	
41	14	Mexico	Houston/Dallas	177	11.7	\$791,931	205,899	
42	15	Mexico	Miami	76	24.4	\$897,641	260,559	
46	16	Montego Bay	Miami	60	0.9	\$24,685	6,736	
47	17	Panama	Houston	14	9.7	\$44,040	12,328	
48	18	Panama	New York	14	30.1	\$136,660	38,256	
50	19	Port au Prince	Miami	77	4.9	\$177,460	50,431	
51	20	Salvador	Houston/Dallas	36	67	\$798,364	215,362	
52	21	Salvador	San Francisco	14	42.7	\$211,878	50,249	
54	22	San Jose	Houston	28	24.7	\$309,509	90,689	Segment route Lima-Houston/Dallas/Segmento ruta Lima-Houston/Dallas (IATA comment - Comentario de IATA)
55	23	San Jose	New York	24	71.8	\$580,468	151,607	
56	24	San Pedro	New Orleans	8	7.5	\$17,027	5,043	
59	25	Sao Paulo	Houston/Dallas	28	36.5	\$662,871	187,276	
60	26	Sao Paulo	Memphis	14	39	\$517,711	165,223	
61	27	Tegucigalpa	Miami	29	21.1	\$246,100	65,765	

CAR/SAM RNAV ROUTES PROGRAM FROM/TO NAM REGION - PROGRAMA DE RUTAS RNAV CAR/SAM DESDE/HACIA REGION NAM								
N° Summary / N° Listado Gral	N°	Trajectory between/ Trayectoria entre		Total weekly operations/ Total operaciones semanal	Distance saved in N.M./ Dist. Ahorro en NM	Operational annual savings / Ahorro operacional anual	Annual fuel savings in us gallons / Ahorro anual comb en Galon US	Notes / Notas
62	28	Cancun	Miami	42	7.7	\$113,794	32,983	Southbound operations only, northbound no need improvement /Operaciones en dirección norte solamente, no necesitan mejora (IATA comment - Comentario de IATA)

APPENDIX C

BRIEF SUMMARY OF THE CONCLUSIONS REACHED DURING THE SEPARATION AND SAFETY AIRSPACE PANEL (SASP) REGARDING TO THE DIFFERENCES ON RNP BETWEEN ICAO AND INDUSTRY DOCUMENTATION (RTCA DO-236A Y EUROCAE ED-75A)

1. Introduction

1.1 During successive meetings, the SASP discussed the differences found on RNP between the ICAO and Industry, and proposed solutions to the current general confusion about the terminology and requirements for RNP, RNAV, RNP RNAV and other related acronyms. These differences are detailed in the following paragraphs.

1.2 In ICAO's Manual on Required Navigation Performance (RNP), Doc. 9613, RNP concept is only established in terms of accuracy, which is specified as a limit, which Total System Error (TSE) must not exceed for 95% of flight time.

1.3 The Minimum Aviation System Performance Standard (MASPS) established by the Industry (RTCA DO-236A y EUROCAE ED-75A) introduced, in addition to the navigation accuracy as established by ICAO, the concept of containment integrity limit at a distance equal to twice the RNP value, as well a containment continuity for the containment limit.

1.4 To distinguish the two concepts, the MASPS introduced the term RNP RNAV to describe systems which compliant with all the requirements of the MASPS, in addition to the accuracy requirements.

1.5 Doc. 9613 establishes that a navigation data base is optional for RNP 4 to RNP 20, whereas MASPS indicates specifically such requirement because certain required functions could not be implemented without a data base. The MASPS required that the data base compliant with DO-200A/ED-76 and DO-201A/ED-77.

1.6 The MASPS requires parallel off set capability for all RNP 4 RNAV or less, and for systems operating to RNP 12.6 and RNP 20 if an offset capability is provided. In Doc. 9613, offset capability is only desirable for RNP 4 to RNP 20.

1.7 The MASPS required RNAV holding capability for all RNP RNAV types, whereas in Doc. 9613 this capability is only desirable for RNP 4 al RNP 20.

2. Discussion

2.1 Speciation of navigation accuracy only not necessarily fulfil all the navigation requirements, and as such some indication of the other navigation performance parameters would be required.

2.2 If terms RNP and RNP RNAV would be applicable in the context of global navigation requirements, this could itself create confusion and the difference could easily be misunderstood to be direct related only to the availability of an RNAV capability.

2.3 The current implementation developments and those foreseen in the near future would not need the full performance and functionality requirements as expressed in the RNP RNAV MASPS.

2.4 TMA operations would require more stringent navigation performance and functionality requirements that en-route.

2.5 The current plans for en-route all considered RNP 4 and higher. The application of RNP 4 for the 30/30 separation minima as expressed in the Annex 11, Air Traffic Services, Attachment B, and PANS/ATM Air Traffic Management, Doc. 4444, no requires the full MASPS.

2.6 There are currently no aircraft that are fully RNP RNAV MASPS compliant.

2.7 Taking the above into account, it was considered the merits of linking only the more stringent RNP types with RNP RNAV MASPS (i.e. RNP types lower than 4).

2.8 This still left potential problem areas in the context of the global applicability/consistency of RNP requirements and RNP approvals for the RNP types 4 and higher.

2.9 The discussions included the applicability of RNP approval regarding continental versus oceanic applications, the navigation systems on which RNP approval would be based and the potentially different needs region by region regarding functional requirements.

2.10 In this context, it was considered that in the longer term certain additional functionalities may be required in airspace where, from an accuracy requirement point of view, RNP 4 or higher would be sufficient.

2.11 Given the availability capabilities of the aircraft operating in the airspace by the time that MASPS compliance is a reality, a requirement for RNP 1 may be an option, which would include the functionalities as specified in the MASPS.

3. Conclusions

3.1 Taking into account that still some issues need to be clarified, the meeting developed the following revised approach regarding to the terminology, requirements and applicability in the context of RNP, RNAV, RNP RNAV:

Where RNP is specified:

P1. Navigation Aids/Systems (applicable for all RNP types):

Approval Authority to determine which systems are appropriate for intended operation, and indicate limitations which apply given the navigation systems on which the RNP approval is based.

The aircraft operator is responsible for ensuring that the operation complies with the RNP approval and indicated limitations. (e.g. max x hrs outside range ground navaids, or only within range of an appropriate DME-DME ground infrastructure (see also Doc 9613, §6.1.1.8)).

- P2. RNP accuracy (95%) is globally applicable
- P3. RNP functionality:
 - a) For RNP < 4: The required functionalities as indicated in the RNP RNAV MASPS apply globally.
 - b) For RNP 4 – RNP 10: A subset of the RNP RNAV MASPS functionalities applies globally. This subset is still to be defined, and should be such that it caters for global requirements to the extent possible (i.e. to prevent the requirement for regional deviations).
- P4. RNP performance parameters other than accuracy:
 - a) For RNP < 4: The required performance as indicated in the RNP RNAV MASPS applies globally.
 - b) For RNP 4 – RNP 10: A set of parameters less stringent than the RNP RNAV MASPS applies globally. This set was still to be defined, and should be such that it caters for global requirements to the extent possible (i.e. to prevent the requirement for regional deviations).
- P5. The requirements referred to in items P3.b) and P4.b) above are to be specified in the RNP Manual (or alternatively, will be basis for changes to the RNP RNAV MASPS; this would simplify the required text in the RNP Manual)
- P6. If regional needs in the context of a specific RNP Type require a deviation from the above RNP requirements (e.g. in terms of functionality or navigation performance), than the authorities have two options:
 - a) if a higher functionality and/or more stringent performance is required than defined under respectively P3.b and P4.b above, the applicability of a more stringent RNP (<4) may be considered;
 - b) if P6. a) is not feasible, the requirement should not be specified as an “RNP”, but as an alternative requirement using terminology clearly different from “RNP”. The need for this option should be limited to the extent possible through an appropriate definition of the global requirements referred to in P3.b and P4.b above.

3.2 This approach is a reasonable compromise between the need for a common basis for long term RNP requirements (RNP RNAV MASPS) and also for shorter term applications of RNP not required to meet the RNP RNAV MASPS. The approach did not particularly distinguish between “RNP” and “RNP RNAV” as terms describing different navigational requirements or concepts as this was agreed to cause more confusion in the aviation world.

3.3 The above approach had been described as accepting the RNP RNAV MASPS as the RNP requirement, but allowing the less accurate RNP types to be implemented without requiring the MASPS. This would permit early introduction of RNP given that very few aircraft are currently compliant with the RNP RNAV MASPS, which would not change in the short term.

3.4 Regarding short-term requirements for the availability of RNP 4 approval requirements (in support of 30/30 NM minimum separations), according to this point of view, some reference would have to be included on the required performance, besides precision. One option would be, as a temporary solution, to refer to the performance currently reached by aircraft navigation systems expected to operate in the routes system proposed.

3.5 The three main issues that seemed still to require further discussion were considered to be:

- a) which of the RNP types would need to comply with the RNP RNAV MASPS;
- b) the terminology applied for the navigation performance requirements, e.g. whether or not compliance with the MASPS would need to be expressed in the name of the RNP type; and
- c) the performance and functional requirements for those RNP types that are not compliant with the RNP RNAV MASPS.

3.6 One issue that need to be resolved in the short term is the set of navigation performance and functional requirements for RNP 4 as required to support the 30/30 separation minima. In the current approach, an RNP 4 requirement would not need to comply with the RNP RNAV MASPS. However, the approach also required that any (non-MASPS) RNP requirement would, to the extent possible, need to be globally applicable. In this context, the RNP 4 requirements as detailed in the RNP Manual (Doc 9613) were consulted, with the aim to achieve a globally applicable RNP 4 requirement based on the Doc 9613 requirements.

APPENDIX D

STRATEGY FOR AN OPERATIONAL INTEGRATION OF THE ATS AUTOMATED SYSTEMS OF THE CAR/SAM REGIONS

Objective: Through a committed participation of the States, users and ATS providers of the CAR/SAM Regions,

- 1) to cooperate jointly in the implementation/integration of technologies for ATM automation, in accordance with ICAO guidelines, considering the best regional and global alternatives;
- 2) develop a well-balanced strategy for the operational implementation/integration among ATS automated systems with a safe, gradual, harmonious, evolutionary and interoperable vision that facilitates the information exchange and the collaborative decision-making of all the components of the ATM system for a transparent, flexible, optimum and dynamic management of airspace and international aerodromes, and at the same time that it increases the required safety levels.
- 3) take into account an electronic and network environment, considering the use of ground and spatial-based segments for the ATS information interactive process, under integrity, quality and real-time criteria.

FRAMEWORK

- a) identify homogeneous areas on the basis of traffic flows operating in the different airspace and international aerodromes;
- b) carry out a study on the operational environment scenarios of the air traffic services currently provided and those that are planned;
- c) determine the scope, architecture design, characteristics and attributes of the operational requirements for the short-term integration of the current automated systems of the ATS units depending on the current provided service levels, as well as other operational requirements that respond to future expectations of the components of the ATM system, considering;
 - i) arrange the requirements in logical sequence through the following stages;

Phase	Function
Phase I	- Flight Data Processing System (FDPS)
Phase II	- ATS Radar Data Processing System (RDPS/, ADS); mono-radar; multi-radar/multi-tracking; radar data sharing.
Phase III	- Automated digital communications (Automated traffic hand off, AIDC/ CPDLC, etc).
Phase IV	- Implementation of CDM aspects (Collaborative Decision Making) for other ATM requirements (AOM [Airspace Organization and Management], CM [conflict management], DCB [Demand/Capacity Balancing], AO [Aerodrome Operation], TS [Traffic Synchronization], AUO [Airspace User Operation], ASDM [ATM Service Demand Management], AIS, MET, statistics, etc)

NOTE: SAR should be considered in all the stages in all the lower airspace.

ii) identify the ATS functions required in the airspace and international aerodromes as follows:

ATS Operational functions required in the automated systems (ATC, FIS, SAR)							
APPLICABLE ATS FUNCTIONS	ATS Airspace						
	A	B	C	D	E	F	G
Identification							
Separation							
Navigation guide							
Surveillance							
Transfer							
Coordination							
Information of flight plans in real time							
Visualization of the geographical position of the aircraft (longitude, latitude, history)							
Statistical data of flight plans (past and forecasted information).							
Radar data processing system (RDPS)							
Flight data processing system (FDPS)							
ATS inter-facility data communications (AIDC)							
Controller-pilot data link communications (CPDLC)							
Flight profile information (altitude, vertical speed, offset speed, predictive vector, turn angle, etc.)							
Automatic alerts (STCA, MSAW, DIAW, emergency, communication failure, unlawful interference, etc.)							
AIS Interface							

ATS Operational functions required in the automated systems (ATC, FIS, SAR)							
APPLICABLE ATS FUNCTIONS	ATS Airspace						
	A	B	C	D	E	F	G
Meteorological information							

- iii) define the incoming and outgoing data, and functional interfaces data applicable to functions and sub-functions of the service;
 - iv) define from the highest to lowest level the functional decompositions for all the ATM components;
 - v) successively determine the different operational applications from the functional level or lowest interface to the upper interface;
 - vi) define the current and future operational applications needs;
 - vii) determine the short-term operational requirements; and
 - viii) determine the future operational requirements.
- d) determine the existing facilities and technological equipments in the CAR/SAM Regions, as well as the inter-operability technical requirements, data bases, equipped aircraft, software tools, etc., required for the implementation/integration of automated systems;
- e) develop a cost-benefit analysis for the implementation/integration of ATM automated systems;
- f) establish bilateral and multilateral agreements as appropriate, among States/Territories/International Organizations of adjacent airspace and regions for trials and the operational implementation/integration of ATS automated systems;
- g) develop standards, procedures and guidance material (among which the Interphase Control Document (ICD) for data communications and the common coordination among ATM centres, document based on SARPs) required for the functional operation of ATS automated systems, including the critical contingency cases, so that it may be helpful for users;
- h) take the necessary measures for human resources training on a national and regional basis and allowing the facilitation of the implementation/integration of ATS automated systems;
- i) identify other potential benefits for the ATM community that may be obtained in the long-term; and
- j) assess and document all the available information in order to establish an action plan for the regional implementation/integration of ATS automated systems on 31 March 2008.

APPENDIX E

ATM REGIONAL CONTINGENCY PLAN FOR CTA/UTA/FIR

OBJECTIVE: This contingency plan contains arrangements to ensure the continued safety of air navigation in the event of partially or total disruption of air traffic services (ATS) and is related to ICAO Annex 11- *Air Traffic Services* Chapter 2, paragraph 2.2.8. The contingency plan should be designed to provide alternative routes, using existing airways in most cases, which will allow aircraft operators to fly through or avoid airspace within the (XXX) CTA/UTA/FIR.

AIR TRAFFIC MANAGEMENT

ATS Responsibilities

Tactical ATC considerations during periods of over-loading may require re-assignment of routes or portions thereof.

Alternative routes should be designed to maximize the use of existing ATS route structures and communication, navigation and surveillance services.

In the event that ATS cannot be provided within the (XXX) CTA/UTA/FIR, the Civil Aviation Authority shall publish the corresponding NOTAM indicating the following:

- a) Time and date of the beginning of the contingency measures;
- b) Airspace available for landing and overflying traffic and airspace to be avoided;
- c) Details of the facilities and services available or not available and any limits on ATS provision (e.g., ACC, APP, TWR and FIS), including an expected date of restoration of services if available;
- d) Information on the provisions made for alternative services;
- e) ATS contingency routes;
- f) Procedures to be followed by neighbouring ATS units;
- g) Procedures to be followed by pilots; and
- h) Any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

In the event that the CAA is unable to issue the NOTAM, the (alternate) CTA/UTA/FIR will take action to issue the NOTAM of closure airspace upon notification by corresponding CAA or the ICAO NACC Regional Office.

Separation

Separation criteria will be applied in accordance with the *Procedures for Air Navigation Services-Air Traffic Management* (PANS-ATM, Doc 4444) and the Regional Supplementary Procedures Doc. 7030).

Level Restrictions

Where possible, aircraft on long-haul international flights shall be given priority with respect to cruising levels.

Other measures

Other measures related to the closure of airspace and the implementation of the contingency scheme with the (XXX) CTA/UTA/FIR may be taken as follows:

- a) Suspension of all VFR operations;
- b) Delay or suspension of general aviation IFR operations; and,
- c) Delay or suspension of commercial IFR operations.

TRANSITION TO CONTINGENCY SCHEME

During times of uncertainty when airspace closures seem possible, aircraft operators should be prepared for a possible change in routing while en-route, familiarization of the alternative routes outlined in the contingency scheme as well as what may be promulgated by a State via NOTAM or AIP.

In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all aircraft in their airspace, what airspace is being closed and to stand by for further instructions.

ATS providers should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to any request by aircraft and react commensurate with safety.

TRANSFER OF CONTROL AND COORDINATION

The transfer of control and communication should be at the common FIR boundary between ATS units unless there is mutual agreement between adjacent ATS units. ATS providers should also review current coordination requirements in light of contingency operations or short notice of airspace closure.

PILOTS AND OPERATOR PROCEDURES

Pilots need to be aware that in light of current international circumstances, a contingency routing requiring aircraft to operate off of normal traffic flows, could result in an intercept by military aircraft. Aircraft operators must therefore be familiar with international intercept procedures contained in ICAO Annex 2 to the Chicago Convention, paragraph 3.8 and Appendix 2, Sections 2 and 3.

Pilots need continuously guard the VHF emergency frequency 121.5 MHz and should operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on a discrete code assigned by ATC or select code 2000 if ATC has not assigned a code.

If an aircraft is intercepted by another aircraft, the pilot shall immediately :

- a) Follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with international procedures;
- b) Notify, if possible, the appropriate ATS unit;
- c) Attempt to establish radio communication with the intercepting aircraft by making a general call on the emergency frequency 121.5 MHz and 243 MHz if equipped; and
- d) Set transponder to code 7700, unless otherwise instructed by the appropriate ATS unit.

If any instructions received by radio from any source conflict with those given by the intercepting aircraft, the intercepted aircraft shall request immediate clarification while continuing to comply with the instructions given by the intercepting aircraft.

OVERFLIGHT APPROVAL

Aircraft operators should obtain overflight approval from States for flights operating through their jurisdiction of airspace, where required. In a contingency situation, flights may be rerouted at short notice and it may not be possible for operators to give the required advanced notice in a timely manner to obtain approval. States responsible for the airspace in which contingency routes are established should consider making special arrangements to expedite flight approvals in these contingency situations.

CONTINGENCY UNIT

The ATM national contingency unit assigned the responsibility of monitoring developments that may dictate the enforcement of the contingency plan and coordination of contingency arrangements is:

Name of Agency:

Contact Person:

Telephone:

Fax:

Email:

The National Contingency Unit will liaise through the ICAO NACC Regional Office.

The ICAO NACC Office will:

- a) closely monitor the situation and coordinate with all affected States and the IATA Regional Office, so as to ensure air navigation services are provided to international aircraft operations in the CAR Region;
- b) take note of any incidents reported and take appropriate action;

- c) provide assistance as required on any issue with the Civil Aviation Administrations involved in the contingency plan; and
- d) keep the President of the Council of ICAO, the Secretary General, C/RAO, D/ANB and C/ATM continuously informed on developments, including activation of the contingency plan.

REROUTING SCHEME

In the event of closure the (XXX) CTA/UTA/FIR, aircraft operators should file their flight plans using the alternative contingency routes listed in the scheme below in order to ensure avoidance that airspace (CTA/UTA/FIR).

Present ATS ROUTE	CONTINGENCY ROUTINGS	FIRs INVOLVED
In lieu of:	(ATS unit) provides ATC on the following routings: CR1: CR2: CR3:	XXX: In coordination with XXX
In lieu of:	(ATS unit) provides ATC on the following routing: CR4:	XXX: In coordination with XXX

All aircraft should establish and maintain contact on published VHF or HF frequencies with the (XXX) ATS unit (APP/ACC/FIC) responsible for the airspace being traversed.

List of points of contact of all concerned States, IATA and ICAO NACC Office.

State /International Organization	Point of contact	Telephone/Fax	E-mail
		Tel. Fax.	
		Tel. Fax.	
		Tel. Fax.	
IATA		Tel. Fax:	
ICAO	Raymond Ybarra Victor Hernandez	Tel.: (5255) 5250 3211 Fax: (5255) 5203 2757 AFTN: MMMXICOX	rybarra@mexico.icao.int vhernandez@mexico.icao.int icao_nacc@mexico.icao.int

Agenda Item 4: **Review of the Terms of Reference and Work Programme**

4.1 The Secretariat presented WP/14 inviting the Meeting to review and update the Terms of Reference and Work Programme for the Eastern Caribbean Working Group. New proposals for amendment to change the table format and the Priority text were made, in order to keep the E/CAR WG Work Programme in line with the Work Programmes of GREPECAS and its Contributory Bodies. The results are presented in the **Appendix** to this part of the Report. The Meeting therefore adopted the following Draft Conclusion:

DRAFT

CONCLUSION 28/14

**TERMS OF REFERENCE AND WORK PROGRAMME OF THE
EASTERN CARIBBEAN WORKING GROUP (E/CAR WG)**

That, the E/CAR WG adopt the revised Terms of Reference and Work Programme as presented in the Appendix to this part of the Report.

4.2 The Meeting agreed on the proposal to change the title of the Working Group in order to be in line with the Work Programme of GREPECAS and its Contributory Bodies. The word “Informal” was deleted from the title, and the new name to be used for this Meeting, including the Meeting’s Acronym, will be “Eastern Caribbean Working Group” and “E/CAR WG”.

APPENDIX

REVISED

EASTERN CARIBBEAN ~~INFORMAL~~ WORKING GROUP (E/CAR ~~I~~WG) TERMS OF REFERENCE AND WORK PROGRAMME

1. Terms of reference

- a) The Informal E/CAR Working Group was established for the purpose of examining problems affecting airspace organization and utilization in the Eastern Caribbean area for States and Territories in the PIARCO and San Juan FIRs.
- b) Its terms of reference were expanded at the 18th E/CAR ~~I~~WG Meeting (Saint Lucia, October 1994) to include the examination on a continual basis of problems affecting all fields of Air Navigation in the Eastern Caribbean area.

2. Work Programme

TASK NUMBER	FIELD	TASK DESCRIPTION	Priority	Date	
				Start	End
1	AIS	Coordinate common WGS-84 points information with neighbouring States for the full implementation of WGS-84 in the E/CAR area. (1)	A		Dec. 2003 2004
2	AIS	Implement the AIS/MAP Automation -System and the AIS/MAP Quality Assurance Programme for the E/CAR area. (1)	A		May 2004 June 2005
3	AIS	Identify, study and take actions to resolve deficiencies in all AIS/MAP facilities in the E/CAR area. (1)	A		On-going
4	AIS	<i>Establish procedures to access on line AIS information in accordance with ICAO guidelines</i>	B	2004	Dec. 2006
5	AIS	<i>Analyse the requirements for world aeronautical charts and, if applicable, prepare a proposal of their production for the E/CAR Region</i>	B	2004	Dec. 2006
46	ATM	Develop an E/CAR Contingency Plan to support the ICAO Regional Contingency Plan. (2)	A		May-Dec. 2004
57	ATM	Develop an implementation strategy for GNSS procedures in the E/CAR area. (2)	A		On-going May 2004
68	ATM	Identify, study and make recommendations to resolve deficiencies in all ATS facilities in the E/CAR area. (2)	A		On-going
79	ATM	Review and make recommendations to enhance the airspace configuration, ATC procedures and ATS route network in the E/CAR area. (2)	A		On-going
810	ATM	Develop and implement a RNAV Routes Regional Plan compatible with the CAR/SAM RNAV Programme, analysing the impact on the airspace provision of Air Traffic Services and establishing the relevant coordination to enable the integrated, harmonious and timely implementation. (2)	B		May 2004 2005

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Appendix to the Report on Agenda Item 4

4A - 2

TASK NUMBER	FIELD	TASK DESCRIPTION	Priority	Date	
				Start	End
911	ATM	Develop and implement a Human Resources Training Plan considering the requirements for the next five years, in accordance with RVSM Implementation and the Guidance Manual for the Training of Human Resources on CNS/ATM Systems. (2)	B		July 2004 May 2005
12	ATM	<i>Develop operational strategy for the integration of ATS automated systems in applications of the CNS/ATM Implementation Plan in the Piarco FIR (2)</i>	B		May 2005
13	ATM	<i>Prepare a proposal to establish a common transition altitude in the TMAs of the Piarco FIR</i>	A	2004	Dec. 2005
14	CNS	<i>Implementation of a Frame Relay network to support a number of services including protocols X.25 and TCP/IP (4)</i>	A		Nov. 2004
10	ATM	Support the development, acquisition and installation of the automation systems necessary to implement future ATM/CNS enhancements. (2)	B		On-going
11	CNS	Develop and recommend improvements to the performance in the implementation and maintenance of the new aeronautical communications network in the E/CAR area (4).	A		June 2004
1215	CNS	Develop and make recommendations on the Establishment of a common seamless ATS surveillance image system in the E/CAR region area through radar data sharing. (3)	A		May 2006
1316	CNS	Conduct a study on GNSS augmentation system in the E/CAR area. (4)	B		On-going May 2004
1417	CNS/ATM	Develop and maintain up-to-date a CNS/ATM Transition Implementation Plan for the E/CAR area. (5)	B		On-going
18	MET	<i>Establish quality control mechanisms for OPMET exchange messages</i>	B	2004	On-going

Notes:

- (1) denotes tasks assigned to the AIS Committee
(Rapporteur: Barbados - ~~Hugh Brathwaite~~ *to be appointed*)
- (2) denotes tasks assigned to the ATM Committee
(Coordinator: Trinidad and Tobago - *to be appointed* ~~Trevor Downrich~~)
- (3) denotes tasks assigned to the Radar Data Sharing Task Force
(Rapporteur: France - Roger Prudent)
- (4) denotes tasks assigned to IACL
- (5) denotes tasks assigned to the E/CAR Regional CNS/ATM Committee
(Coordinator: IACL).

3. Priority

A High priority tasks, on which work should be speeded up.

~~A High priority tasks, Tasks on which work should be speeded up.~~

B Medium priority tasks, on which work should commence as soon as possible, but without detriment to priority A tasks.

~~B Medium priority tasks, Tasks on which work should commence be undertaken as soon as possible, but without detriment to priority A tasks.~~

C Tasks of lesser priority, on which work should commence as time and resources allow, but without detriment to Priority A and B tasks.

~~C Low priority Tasks on which work should be undertaken as time and resources permit, but without detriment to Priority A and B tasks.~~

4.3. Composition

Anguilla, Antigua and Barbuda, Aruba, Barbados, British Virgin Islands, Dominica, France, Grenada, Guyana, Montserrat, Netherlands Antilles, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, United Kingdom, United States, Venezuela, ACI, IACL, IATA, IFALPA, IFATCA, and OECS.

5.4. Working Methods

- a) the E/CAR ~~I~~WG has established a standing Chairperson for its meetings with a term of 3 years on a rotational basis to lead the E/CAR ~~I~~WG meetings providing continuity to its work and establishing a communication link between the ICAO NACC Regional Office and the members of the E/CAR ~~I~~WG in between meetings;
- b) the host State or Territory of the E/CAR ~~I~~WG Meetings will serve as Vice-Chairperson of the Meeting;
- c) nomination for the position of Rapporteur of Committees and/or Task Forces may be presented by any State or Territory which is a member of the E/CAR ~~I~~WG;
- d) the Committees and Task Forces should co-ordinate and advance their works between meetings as follows;
 - conduct work via written correspondence, i.e. e-mail, fax, etc.
 - conduct work via phone and teleconference calls;
 - hold meetings when necessary;
- e) when required, the Secretariat, in consultation with the Chairperson, should establish the first day of the E/CAR ~~I~~WG Meeting as a Committee/Task Force meeting day for these groups to advance their work; and
- f) classification/definitions to record recommendations in the meeting reports:

DECISIONS

Internal actions of the E/CAR ~~IWG~~

CONCLUSIONS

Actions requiring communications to States and Territories and/or endorsement by the E/CAR DCAs Meeting.

6.5.

Meeting Sites

- a) the following meeting host rotation programme has been adopted for the E/CAR Informal Working Group Meetings;
- b) any other States and International Organizations normally invited to participate in the E/CAR ~~Informal~~ Working Group meetings may at any time offer to host a meeting;
- c) should a State or Group of Territories be unable to host a particular Working Group meeting as per the programme, it may exchange positions with another State or Group of Territories through bilateral discussions and the ICAO Regional Office should be informed of the change at the latest six months before the convening of the meeting;
- d) should a State or Group of Territories be unable to host a particular Working Group meeting as per the programme and not have exchanged positions in the programme with another State or Territory, the ICAO Regional Office should be advised at least six months before the convening of the meeting, where upon the next State on the list should take on the responsibility of hosting the meeting; and
- e) Meeting Host Rotation Programme:

YEAR	STATES OR GROUP OF TERRITORIES
2004	UK Overseas Territories (Anguilla, British Virgin Islands, Montserrat)
2005	Saint Vincent and the Grenadines
2006	Saint Lucia
2007	Trinidad and Tobago
2008	Antigua and Barbuda
2009	Netherlands Antilles
2010	Barbados
2011	French Antilles
2012	United States
2013	Saint Kitts and Nevis

Agenda Item 5: **Next Meeting Site**

5.1 Saint Vincent and the Grenadines informed the Meeting that in accordance with the established meeting host rotation programme, last updated at the 26th E/CAR IWG Meeting, which establishes that the meeting should be hosted in 2005 by Saint Vincent and the Grenadines. Saint Vincent and the Grenadines has indicated its ability to host the 29th E/CAR WG Meeting in May 2005..

Agenda Item 6: **Other business**

6.1 *Trinidad and Tobago Transition to a Civil Aviation Authority*

6.1.1 Trinidad and Tobago presented IP/10 informing the Meeting that they had completed the transition from a Civil Aviation Division of a Government Ministry to the Trinidad and Tobago Civil Aviation Authority.

6.1.2 Information was provided regarding the composition of the Trinidad and Tobago CAA, including the contact address for the Board of Directors and its Technical Officers.

6.1.3 The Secretariat informed the Meeting that this information will be used to update the ICAO DGCA Directory.

6.1.4 The Meeting regretted the lack of attendance on this occasion of the Netherlands Antilles and the United States. The Working Group requested that ICAO send a letter to the Netherlands indicating the importance of attending the Meetings and also to encourage their participation in future meetings of the Eastern Caribbean Working Group.