

FINAL VERSION

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

# TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN

# 20<sup>TH</sup> E/CAR DCA

# **SUMMARY OF DISCUSSIONS**

MIAMI, FLORIDA, UNITED STATES 4 TO 7 DECEMBER 2006 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 Meeting

The Twentieth Meeting of Directors of Civil Aviation of the Eastern Caribbean was intended to address, at the Directors' level, the civil aviation development and problems of the Eastern Caribbean area since the last meeting of the Directors of Civil Aviation held on Christ Church, Barbados, 6 to 9 December 2004.

#### ii.2 Site, Duration and Opening of the Meeting

The Meeting took place at the Miami Marriott Dadeland Hotel, Miami, Florida, United States, from 4 to 7 December 2006. Mrs. Loretta Martin, Regional Director, ICAO Regional Office for North America, Central America and Caribbean (NACC), welcomed the participants and informed them of the work programme for the Meeting. Mr. Joseph Bogosian, Assistant Administrator for International Aviation, Federal Aviation Administration, also welcomed the participants and opened the meeting.

#### ii.3 Officers of the Meeting

Mr. Joseph Bogosian, Assistant Administrator for International Aviation, Federal Aviation Administration, acted as Chairperson of the Meeting during the first day. Mrs. Mayte Ashby, Senior Representative for Latin America and the Caribbean, Federal Aviation Administration, acted as Chairperson during the remainder of the Meeting. Mrs. Loretta Martin, Regional Director, ICAO Regional Office for North America, Central America and Caribbean, served as Secretary, supported by Mr. Victor Hernández, Regional Officer, Air Traffic Management, and Mr. Alfonso Escobar, Regional Officer, Flight Safety, both from the ICAO NACC Regional Office.

#### ii.4 Working Arrangements

It was agreed that the working hours of the Meeting would be from 08:30 to 14:00 hours. During the four days, the Meeting worked until a convenient recess time.

The Meeting approved the Draft Agenda and Work Programme as presented in WP/01.

#### ii.5 Attendance

The Meeting was attended by 32 participants from 6 Sates/Territories and 3 International Organizations. A list of participants is shown on pages iii-1 to iii-7.

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Agenda Item 1:Meeting Agenda and Schedule		
Agenda Item 2:Review of Valid Conclusions/Decisions of Previous E/CAR/DCA and Meetings Relevant to the E/CAR Area		
Agenda Item 3:	Air Navigation Developments	
	<ul> <li>3.1 30<sup>th</sup> E/CAR WG Meeting Report</li> <li>3.2 E/CAR AIS Committee Report</li> <li>3.3 E/CAR ATM Committee Report</li> <li>3.4 E/CAR CNS Committee Report</li> <li>3.5 Air Navigation Deficiencies</li> <li>3.6 Other Air Navigation Issues</li> </ul>	
Agenda Item 4:	MCI Task Force Activities Report	
Agenda Item 5:	genda Item 5: Safety Oversight Developments	
Agenda Item 6	tem 6 Aviation Security Developments	
Agenda Item 7: Other Business		

# ii.7 List of Working Papers

	WORKING PAPERS				
Num.	Agenda Item	Title	Date	Presented by	
WP/01 <b>Rev.</b>	1	Meeting Agenda and Schedule	19/10/06	Secretariat	
WP/02	2.1	Status of E/CAR DCA Meeting Conclusions	26/09/06	Secretariat	
WP/03	3.1	Review of the Thirtieth Eastern Caribbean Working Group Meeting	23/11/06	E/CAR WG Chairman	
WP/04	3.2	E/CAR AIS Committee Report	13/11/06	Rapporteur	
WP/05	3.3	E/CAR ATM Committee Report	22/11/06	Committee Rapporteur E/CAR ATM	
WP/06	3.5	Air Navigation Deficiencies	26/09/06	Committee Secretariat	
WP/07	4.	Progress Report on the Development of the Caribbean Regional CAAMCIRP	15/11/06	Secretariat	
WP/08 <b>Rev.</b> .	5	Report on the Implementation of the ICAO Universal Safety Oversight Audit Programme (USOAP) under the Comprehensive Systems Approach	24/11/06	Secretariat	

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WORKING PAPERS				
Num.	Agenda Item	Title	Date	Presented by
WP/09	5	Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety	26/09/06	Secretariat
WP/10	6	Review of the Global and Regional AVSEC Developments	12/10/06	Secretariat
WP/11	3.6	Report on the outcome of, and follow-up to, the Fifth Meeting of the ALLPIRG/Advisory Group (ALLPIRG/5)		Secretariat
WP/12	3.6	AIS/MAP Developments in the Eastern Caribbean	13/10/06	Secretariat
WP/13	3.6	Establishment of the FIR Policy Group and CANAS	20/10/06	Barbados
WP/14 <b>Rev.</b>	3.6	Aerodrome Acceptance Rate (Presented as Information Paper – IP/20)	23/11/06	United States
WP/15	3.6	Aerodrome Issues in the E/CAR	15/11/06	Secretariat
WP/16	5	Model Aviation Regulatory Document	21/11/06	United States
WP/17	5	Conflict of Interest: A threat to Effective Safety Oversight ( <b>Presented as Information Paper – IP/21</b> )	21/11/06	United States
WP/18	3.6	Air Traffic Flow Management Concept	21/11/06	United States
WP/19	3.6	West Atlantic Route System (WATRS)-Plus Airspace Redesign and Separation Reduction Initiative	22/11/06	United States
WP/20	3.6	International Planning Telephone Conference ( <b>Presented as Information Paper - IP/22</b> )	21/11/06	United States
WP/21	3.6	Sector Capacity ( <b>Presented as Information Paper – IP/23</b> )	21/11/06	United States
WP/22	3.6	Seamless ATM System	24/11/06	Secretariat
WP/23	6	Passenger and Cabin Baggage Screening Major International Airport	24/11/06	IATA
WP/24	3.4	E/CAR CNS Committee Report	27/11/06	Rapporteur CNS
WP/25	3.5	Proposal to Rectify Reported Deficiencies Runway Strips and Runway End Safety Areas (RESA)	29/11/06	Committee United States
WP/26	5	U.S. Approach to Safety Management System (SMS) Implementation: Commercial Air Operators and Approved Maintenance Organizations	29/11/06	United States
WP/27	3.1	Repetitive Flight Plan Processing in the E/CAR	30/11/06	France

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# ii.8 List of Information Papers

INFORMATION PAPERS				
Num.	Agenda Item	Title	Date	Presented by
IP/01		General Information	07/11/06	Secretariat
IP/02 <b>Rev. 2</b>		List of Working, Information and Discussion Papers	04/12/06	Secretariat
IP/03	7	Tentative Schedule – 2007 ICAO NACC Office – Meetings, Seminars, Courses and Workshops	19/10/06	Secretariat
IP/04	6	The Emerging Threat Environment	21/11/06	United States
IP/05	3.6	U.S. Approach to Safety Management System (SMS) Implementation at Airports	21/11/06	United States
IP/06	3.6	Status of Engineered Materials Arresting System Installations in the United States	21/11/06	United States
IP/07	3.6	Runway Safety Area Improvements in the United States	21/11/06	United States
IP/08	3.6	Research Activities for Managing Wildlife Hazards to Aircraft	21/11/06	United States
IP/09	3.6	Operational Approval for Required Navigation Performance 10 (RNP10)	21/11/06	United States
IP/10	5	Repair Station Assessment Tool (RSAT)		United States
IP/11	5	Controlling Fleet Growth and Managing Used Aircraft		United States
IP/12	7	Advanced Technologies and Oceanic Procedures (ATOP) System		United States
IP/13	3.6	Next Generation Air Transportation System (NGATS)		United States
IP/14	3.6	The Fuel Crisis and the Urgent Need to Implement Fuel Saving Measures		IATA
IP/15	5	IOSA – The IATA Operational Safety Audit Programme	21/11/06	IATA
IP/16	3.6	ATS Incident Reporting	21/11/06	IATA
IP/17	5	Third Border Initiative	29/11/06	United States
IP/18	3.6	Plans for ADS-B and Communications Improvements in Gulf of Mexico Airspace	29/11/06	United States
IP/19	3.6	Current Status of the Federal Aviation Administration Telecommunications Programs	29/11/06	United States
IP/20	3.6	Aerodrome Acceptance Rate	23/11/06	United States

INFORMATION PAPERS					
Num.	Agenda Item	Title	Date	Presented by	
IP/21	5	Conflict of Interest: A Threat to Effective Safety Oversight	21/11/06	United States	
IP/22	3.6	International Planning Telephone Conference	21/11/06	United States	
IP/23	3.6	Sector Capacity	21/11/06	United States	
IP/24	5	RASOS Activities	04/12/06	RASOS	

## ii.9 List of Conclusions and Decisions

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20/10	Phase II ICAO/CANADA Awareness Training Programme	6-3
20/11	Implementation Status of AVSEC/COMM Conclusions	6-3

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## Agenda Item 1: Meeting Agenda and Schedule

1.1 The Meeting reviewed the draft agenda and work schedule for the Meeting and agreed to discuss Agenda Item 4: MCI Task Force Activities Report on Thursday, 7 December 2006, as the Delegate from CDERA was only be able to participate on that day. The Meeting approved the agenda as presented.

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

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

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

2.3 Likewise, the Meeting was informed of the status of the conclusions of the GREPECAS/13 Meeting, as well as the Draft Conclusions adopted by the ATM and CNS Committees during the last ATM/CNS/SG/5 Meeting, held in Lima, Peru, from 13 to 17 November 2006, that will be submitted to the GREPECAS/14 Meeting to be held in San Jose, Costa Rica in April 2007.

## APPENDIX A STATUS OF E/CAR DCA MEETINGS CONCLUSIONS

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	Status
АТМ	CONCLUSION 18/1 IMPLEMENTATION OF AN ATS QUALITY ASSURANCE PROGRAMME That, a) States/Territories/ATS Service Providers within the E/CAR sub-region develop and implement an ATS Quality Assurance Programme with associated supporting documents. The Programme should outline the purpose, goals, objectives and responsibilities of the programme, and each ATS unit should establish such a programme.	States/Territories		Completed
MET/ ATM/ CNS/ AIS/ SAR	CONCLUSION 18/2       TRAINING       FOR MET/ATS/CNS/AIS/SAR PERSONNEL         That the Directors of Civil Aviation of the E/CAR organise a series of training activities for ATS/CNS/AIS/SAR and aeronautical meteorological personnel covering the following issues:       a)         a)       operational coordination procedures concerning the provision of aeronautical MET service;       b)         b)       respective roles and responsibilities of ATS/CNS/AIS/SAR units and meteorological offices in the provision of aeronautical MET service; and         c)       interpretation of aeronautical meteorological products available to ATS/COM/AIS/SAR units and meteorological offices, in order to ensure the safety of aircraft operations.	States/Territories	<ul> <li>a) States to report</li> <li>No actions regarding AIS have been known in this regard.</li> <li>b) c) These matters were included in the E/CAR WG working arrangements for action</li> </ul>	Valid
MET	CONCLUSION 18/3 OPMET INFORMATION EXCHANGE IN E/CAR STATES That, a) the Directors of Civil Aviation of the E/CAR Region implement, as soon as possible, the establishment of coordination committees among AIS/ATM/CNS/MET units; and b) the E/CAR/IWG establish quality control mechanisms for OPMET exchange messages.	States/Territories E/CAR WG	a) States to report b) This matter was included in the E/CAR WG working arrangements for action	Valid
GEN	<b>CONCLUSION 18/4 WAR RISK INSURANCE</b> Recognizing the importance of the issue of War Risk Insurance, particularly for developing States, the Directors of the Eastern Caribbean request that ICAO conduct briefing exercises, Workshops or Seminars, on War Risk Insurance matters, in order that States may be fully apprised of the merits of application of Globaltime to their particular circumstances.	ICAO	ICAO unable to provide event due to financial constraints.	Completed

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-2
ATM	CONCLUSION 18/6 IMPLEMENTATION OF FL245 IN THE PIARCO FIR That in support of the principle for the modification of the plane of division between the lower and upper airspace throughout the PIARCO FIR, Trinidad and Tobago analyze the impact on operational matters and lateral airspace changes resulting from the raising of the lower airspace in the entire PIARCO FIR to FL245.	Trinidad and Tobago		Completed	
ATM	<ul> <li>CONCLUSION 18/7 COMMON TRANSITION ALTITUDE FOR THE E/CAR REGION</li> <li>That,</li> <li>a) IFALPA prepare and send to ICAO a proposal for a common transition altitude for the E/CAR region;</li> <li>b) ICAO circulate the proposal to States/Territories for comments to be discussed at the 28<sup>th</sup> E/CAR/IWG Meeting; and</li> <li>c) E/CAR/IWG, through its ATM Committee, analyse the proposal and submit recommendations to the 19<sup>th</sup> Meeting of E/CAR DCAs.</li> </ul>	a) IFALPA b) ICAO c) ATM Committee	ICAO Secretariat provided guidelines. The Chairman of the ATM Committee and IFALPA should present progress on this matter.	a) Valid b) Completed c) Valid	
SAR	<ul> <li>CONCLUSION 18/8 SEARCH AND RESCUE PLANNING That,</li> <li>a) States/Territories provide copies of their respective National SAR Plans to the E/CAR SAR Committee by 30 March 2004;</li> <li>b) States/Territories review the SAR Operations Costs presented in Appendix A to this part of the report, establish how these costs could be covered and provide this information to the E/CAR SAR Committee for further analysis by 30 June 2004; and</li> <li>c) E/CAR SAR Committee prepare a programme for a table-top exercise of the E/CAR Regional SAR Plan to be presented at the 19<sup>th</sup> E/CAR DCA Meeting for consideration and approval.</li> </ul>	States/Territories E/CAR SAR Committee		Superseded by Conclusion 19/4	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
AGA	<ul> <li>CONCLUSION 18/9 CARIBBEAN REGIONAL CIVIL AVIATION ACCIDENT MASS CASUALTY INCIDENT RESPONSE PLAN (CAAMCIRP)</li> <li>That,         <ul> <li>a) E/CAR States/Territories review the draft Eastern Caribbean Civil Aviation Accident Mass Casualty Incident Response Plan (E/CAR CAAMCIRP), included in Appendix B to this part of the report, and provide any comments to the E/CAR SAR Committee for the final revision by 30 June 2004;</li> <li>b) CDERA, in collaboration with PAHO, coordinate the development of the expanded Caribbean Regional Civil Aviation Accident Mass Casualty Incident Response Plan (CAAMCIRP) for its member States in the Caribbean Region, to be completed by October 2004;</li> <li>c) the MCI part of the C/CAR MCI/SAR Task Force and the E/CAR MCI Task Force be combined to become the Caribbean MCI Task Force, with PAHO as Rapporteur, which will report to the C/CAR and E/CAR DCAs;</li> <li>d) C/CAR and E/CAR States, ICAO, PAHO, RSS and the USCG actively support CDERA and the Caribbean MCI Task Force in its related activities, as required;</li> <li>e) CDERA consider the establishment of MOUs/LOAs with CDERA non-member States in the Caribbean Region to incorporate them in the coverage of the Caribbean Regional CAAMCIRP; and</li> </ul> </li> <li>f) CDERA, through ICAO, provide IACL the communications requirements to enable the consideration of the provision of an E/CAR Digital AFS Network node to CDERA, the event of the CAR MERD</li> </ul>	States/ Territories(SAR Committee/ CDERA		Superseded by Conclusion 20/8
CNS/ MET	CONCLUSION 18/10 FOLLOW-UP MEETING ON THE IMPLEMENTATION OF THE RECOMMENDATIONS FORMULATED IN THE COM/MET SIP SECOND PHASE REPORT FOR THE CAR REGION That the Directors of Civil Aviation of the E/CAR ensure that the COM and MET specialists from the respective States/Territories attend the follow-up meeting on the implementation of the recommendations of the COM/MET SIP second phase scheduled for 2004, tentatively in Barbados.	States/Territories	The Meeting is scheduled to be held in Barbados, 2-3 December 2004. but was cancelled due to lack of participants. ICAO NACC Office to follow-up.	Valid

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS A
CNS/ ATM	CONCLUSION 18/12 UPDATED INFORMATION FOR THE E/CAR ATM/CNS IMPLEMENTATION PLAN That States/Territories/International Organizations in the E/CAR provide electronic copies of or updated information on their respective latest National ATM/CNS Plans to the E/CAR Regional ATM/CNS Committee by no later than 15 February 2004 in order to update the E/CAR ATM/CNS Implementation Plan for presentation to the GREPECAS ATM/CNS Subgroup Meeting scheduled to be held in Rio de Janeiro, Brazil from 15 to 19 March 2004.	States/Territories International Organizations	The E/CAR WG should review and update the mentioned plan. It is expected that E/CAR States/Territories will complete and present their National ATM/CNS Plan.	Valid
GEN	CONCLUSION 18/15 ACTION PLANS FOR THE RESOLUTION OF DEFICIENCIES That States/Territories prepare or complete, as applicable, Action Plans for the resolution of the outstanding air navigation deficiencies and submit these to the ICAO NACC Regional Office by 28 February 2004.	States/Territories		Superseded by Conclusion 19/25
AIS	<b>CONCLUSION 18/16 WORLD AERONAUTICAL CHARTS</b> That the E/CAR/IWG, through the AIS Committee, analyse the requirement for World Aeronautical Charts and if applicable, prepare a proposal of their production for the E/CAR Region.	E/CAR AIS Committee	The Chairman of the E/CAR AIS Committee is expected to inform about this issue.	Superseded by Conclusion 20/02
AVSEC	<ul> <li>CONCLUSION 18/17 AVIATION SECURITY         That the States and Territories of the Eastern Caribbean Region commit to:         <ul> <li>a) take advantage of ICAO AVSEC Mechanism assistance, courses, seminars and workshops;</li> <li>b) prepare adequately to receive the ICAO USAP AVSEC Audits; and</li> <li>c) support the GREPECAS AVSEC Committee activities and results.</li> </ul> </li> </ul>	States/Territories		Valid

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
ATM	CONCLUSION 19/1       IMPLEMENTATION OF AN ATS QUALITY ASSURANCE PROGRAMME         That,       a)       States/Territories/ATS Service Providers within the E/CAR sub-region develop and implement an ATS Quality Assurance Programme with associated supporting documents, outlining the purpose, goals, objectives and responsibilities of the programme; and         b)       each ATS unit should establish such a programme.	E/CAR States/Territories /ATS Service Providers	GREPECAS/12 Meeting, through its Conclusion 12/26 set December 2006 to complete QA Programmes. The ICAO NACC Office sent e-mail EMX084 dated 14 January 2004 requesting status of the programmes.	Valid
MET	CONCLUSION 19/2IMPROVEMENTOFMETSERVICESThat the Directors of Civil Aviation of the Eastern Caribbean, recognizing the importance of close communication between air navigation units and meteorological departments, agreed to: a) improve air navigation operational coordination procedures involving the provision of MET services; and b) clearly define the respective roles and responsibilities of air navigation units and meteorological offices in the provision of MET services.	E/CAR States/Territories		Valid
GEN	<ul> <li>CONCLUSION 19/3 WAR RISK INSURANCE</li> <li>That considering the complexity of this issue and the recurring need of States for information, the Directors of Civil Aviation of the Eastern Caribbean urge:</li> <li>a) ICAO to provide a training event on War Risk Insurance in 2005, and</li> <li>b) CARICOM to explore the possibility of providing information on this issue under its insurance programme review.</li> </ul>	ICAO/ CARICOM	ICAO does not have resources	Completed

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-6
SAR	<ul> <li>CONCLUSION 19/4 SEARCH AND RESCUE PLANNING That,</li> <li>a) States/Territories provide copies of their respective National SAR Plans to the E/CAR SAR Committee by 30 March 2005;</li> <li>b) States/Territories review the SAR Operations Costs presented in Appendix A to this part of the report, establish how these costs shall be covered and provide this information to the E/CAR SAR Committee for further analysis by 30 June 2005, and</li> <li>c) the E/CAR SAR Committee prepare a programme for a</li> </ul>	States/Territories	Ongoing	Valid	5.
AIS	<ul> <li>tabletop exercise of the E/CAR SAR Plan to be presented at the 20<sup>th</sup> E/CAR/DCA meeting for approval.</li> <li>CONCLUSION 19/5 MEETING OF THE E/CAR AIS COMMITTEE</li> <li>That accepting the generous offer from France, the Directors of Civil Aviation from the Eastern Caribbean agree to: <ul> <li>a) call for a meeting of the E/CAR AIS Committee, chaired by Barbados, to be hosted by France in Martinique by 30 March 2005, to deal with: <ul> <li>requirement for World Aeronautical Charts in the E/CAR; and</li> <li>standardizing common FIRs and CTR/TMAs geographical boundary WGS-84 coordinates; and</li> </ul> </li> <li>b) urge the E/CAR AIS Committee to provide a report to the 29<sup>th</sup> E/CAR/WG Meeting.</li> </ul></li></ul>	States/ Territories		a) Completed b) Completed	

Field	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
ATM	<ul> <li>CONCLUSION 19/6 ATM CONTINGENCY PLAN FOR THE EASTERN CARIBBEAN</li> <li>That,         <ul> <li>a) E/CAR States/Territories/International Organizations who have not yet done so, develop their ATS National Contingency Plan to support Air Traffic Services (ATS) within their airspace (CTA/UTA/FIR) and aerodromes of jurisdiction;</li> <li>b) Trinidad and Tobago carry 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 Appendix C to this report; and</li> <li>c) E/CAR States/Territories/International Organizations submit to the ICAO Regional NACC Office a copy of their ATS Contingency Plan no later than 31 March 2005.</li> </ul> </li> </ul>	States/Territories /International Organizations	In accordance with the ICAO Council, the NACC Office is gathering information in order to develop a Catalogue. Coordination in progress	Valid
GEN	CONCLUSION 19/7 E/CAR WG TERMS OF REFERENCE AND WORK PROGRAMME That the E/CAR WG adopt the amended Terms of Reference and Work Programme as presented in Appendix E to this part of the Report.			Completed
CNS	<ul> <li>CONCLUSION 19/8 UPGRADE OF THE E/CAR AFS NETWORK ON FRAME RELAY MANAGEMENT SYSTEM</li> <li>That IACL,</li> <li>a) be urged to provide the E/CAR AFS Network on Frame Relay Management System platform before the end of December 2005; and</li> <li>b) following the conclusion 17/13 of the 17<sup>th</sup> E/CA DCA Meeting provide to the DCAs, as soon as possible, a report on the status of the implementation of the digital network, as well as an updated Project Plan related to this subject.</li> </ul>	States / Territories		Superseded by Conclusion 20/15

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-8
CNS	<ul> <li>CONCLUSION 19/9 IMPROVING THE INTERCONNECTION AND INTEROPERABILITY OF THE E/CAR AFS DIGITAL NETWORK WITH NEIGHBOURING NETWORKS</li> <li>That in order to fully meet the current AFS requirements and future new communication services providing interconnection/interoperability of the E/CAR AFS digital network with neighbouring networks:</li> <li>a) Trinidad and Tobago be urged to implement a REDDIG VSAT node at Piarco ACC before the end of March 2005;</li> <li>b) Trinidad and Tobago, United States and IACL study the feasibility to implement an additional interconnection/ interoperability point of the E/CAR Digital Network with other neighbouring networks;</li> <li>c) as mentioned in paragraph b) above, a meeting is proposed to be held in San Juan, Puerto Rico before the end of January 2005, reporting the results to the next E/CAR WG Meeting; and</li> <li>d) in order to meet the study mentioned in the paragraph b) above, take into account the</li> <li>1) updated AFS requirements contained in Tables CNS1A and CNS1C of the FASID that are shown as Appendices A and B to this part of the report;</li> <li>2) infrastructure and the available logistical support in the proposed interconnection site; and</li> <li>3) "Guidance material to initiate the analysis of digital network interconnection in the CAR/SAM Regions" recommended by Conclusion 10/27 of the GREPECAS.</li> </ul>	Trinidad and Tobago / United States	A REDDIG VSAT node at Piarco ACC was implemented. Therefore, this point provides the facility of interconnection between the E/CAR Network and the REDDIG Network b) IACL no longer exists c) scheduled for February 2007	<ul> <li>a) Completed</li> <li>b) Valid</li> <li>c) Valid</li> <li>1) completed</li> <li>2) on going</li> <li>3) on going</li> </ul>	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
CNS	<ul> <li>CONCLUSION 19/10 STUDY THE FEASIBILITY AND UPDATE THE STRATEGY PLAN OF MODERNIZATION OF THE VOICE AND DATA CIRCUIT BETWEEN PORT OF SPAIN AND SAN JUAN</li> <li>That based on the global development and the capabilities of the new AFTN switching of Piarco, Trinidad and Tobago, United States and IACL,</li> <li>a) study the feasibility, and update the strategy plan of modernization of the voice and data circuit between Port of Spain, Trinidad and Tobago and San Juan, Puerto Rico by the migration from X.25 protocol to TCP/IP protocol; and</li> <li>b) report the results of the study mentioned in the above paragraph to the 29<sup>th</sup> E/CAR Working Group Meeting.</li> </ul>	Trinidad and Tobago and United States	The 30 <sup>th</sup> E/CAR WG followed-up this Conclusion. TTCAA and the United States' FAA agreed on the AFTN upgrades being pursued by the transition onto TCP/IP protocol that is tentatively scheduled for the last quarter of 2006. IACL does not longer exist.	Superseded by Conclusion 20/15
CNS	CONCLUSION 19/11PROPOSAL FOR AMENDMENT TO THE ATS REQUIREMENTS FOR SPEECHCOMMUNICATIONSINTHETABLE CNS 1C, FASIDThat based on Appendix B to this part of the Report, ICAO NACC Regional Office establish the appropriate amendment in order to include in the Table CNS 1C of the FASID the ATS requirements for speech circuits communications in accordance with the aforementioned table by 31 March 2005.	ICAO NACC	The 30 <sup>th</sup> E/CAR WG followed-up this Conclusion. The NACC Office noted the proposed amendment to the Table CNS 1C of the FASID.	Completed
CNS	CONCLUSION 19/12 UPDATED E/CAR SURVEILLANCE PLAN That based on the Appendix C to this part of the report, ICAO update the E/CAR part of the Table CNS 4 A – Surveillance Plan of the FASID CAR/SAM ANP by 31 March 2005.	ICAO NACC	The NACC Office noted the proposed amendment of the Table CNS 4A of the FASID.	Completed
CNS	CONCLUSION 19/13 REQUESTED INFORMATION ON E/CAR RADAR COVERAGE That Antigua and Barbuda, Barbados, Trinidad and Tobago provide, through the ICAO NACC Office as appropriate, radar paper coverage charts at 3000, 5000, 10000 and 20000 feet by 31 January 2005.	Antigua and Barbuda, Trinidad and Tobago	Antigua and Barbuda remains fully committed to fulfilling its obligation towards radar harmonization within the E/CAR.	Superseded by Conclusion 20/15

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-
CNS	CONCLUSION 19/14       REQUESTED INFORMATION STATIONS       TECHNICAL ON RADAR STATIONS         That,       a)       Antigua/OECS       provide to       STNA/ALENIA       technical specifications; and         b)       Trinidad and Tobago, Barbados and Antigua and Barbuda provide the Radar Data Sharing Task Force Rapporteur with their ICD with their global radar architecture.	Antigua and Barbuda, Trinidad and Tobago and Barbados		Superseded by Conclusion 20/15	10
CNS	CONCLUSION 19/15 REQUESTED LETTER OF AGREEMENT REGARDING THE PROVISION OF RADAR DATA TO THE DACOTA SYSTEM That States and Territories listed hereunder <sup>1</sup> , be informed through the ICAO NACC Regional Office of the need for their agreement to provide radar data to the DACOTA System in Martinique by 31 January 2005, in accordance with the Draft Letter shown in Appendix D of this part of the Report. <sup>1</sup> Antigua and Barbuda, Barbados, Netherlands Antilles, Saint Maarten, Trinidad and Tobago.	E/CAR States / Territories ICAO NACC		Completed	
CNS	CONCLUSION 19/16 REQUEST FOR SUPPORT OF THE E/CAR CNS ACTIVITIES That the Directors of Civil Aviation of the E/CAR States and Territories review and support the organizational structure of their aviation administrations with a view to ensuring that suitably trained personnel are assigned to specific responsibility for CNS matters.	E/CAR States/Territories	It is expected that E/CAR States/Territories have already taken note of this Conclusion.	Completed	
CNS	CONCLUSION 19/17 FOLLOW UP THE PROGRESS OF THE POSSIBLE RADAR REMOTING TO PIARCO ACC That Trinidad and Tobago keep the Radar Sharing Task Force informed of the progress regarding the possible remoting of Barbados and current DACOTA images system to Piarco ACC.	Trinidad and Tobago		Superseded by Conclusion 20/15	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
CNS	CONCLUSION 19/18COMPLIANCEWITHTHE GREPECASGREPECASSAC-ASTERIX ASSIGNMENT PLANThat the E/CAR States/Territories be urged to become compliant with the GREPECASSAC-ASTERIX assignmentrecommended by Conclusion 12/48 of GREPECAS 2005.by the end of 2005.	E/CAR States / Territories		Completed
АТМ	CONCLUSION 19/19 PRELIMINARY GUIDANCE ON TECHNICAL INFRASTRUCTURE AS SUPPORT TO THE EVOLUTIONARY IMPLEMENTATION OF ATS/ATM AUTOMATED SYSTEMS That in order to implement the technical infrastructure as a support to the evolutionary implementation of ATS/ATM automated systems, the E/CAR States/Territories should consider the preliminary guidance that is shown in Appendix E of this part of the report.	E/CAR States / Territories		Superseded by Conclusion 20/18
АТМ	CONCLUSION 19/20TRANSFER THE TASK RELATED TO FLIGHT PLAN AND POSITION REPORTS TO E/CAR ATM COMMITTEEThat the task to analyze the transmission of flight plan data and updated position reports on airborne flights to be used for ATM purposes be transferred to E/CAR ATM Committee.	E/CAR ATM Committee	Information to be received during 2007. Under review by the E/CAR ATM Committee.	Valid
CNS	CONCLUSION 19/21TRANSFER THE TASK RELATED TO OCEANIC SURVEILLANCE TO E/CAR WORKING GROUPThat the task related to oceanic surveillance be transferred to the E/CAR WG.	E/CAR WG	The E/CAR WG noted this Conclusion.	Completed
CNS	CONCLUSION 19/22       PROVISION       OF       AMHS         TECHNOLOGY-RELATED       INFORMATION       INFORMATION         That ICAO provide each E/CAR State/Territory with AMHS       AMHS         technology related information by 28 February 2005.       AMHS	ICAO NACC	Two Seminars related to ATN-AMHS were held in 2006. The first one was held in Lima, Peru, in September and the second one was held in Santa Cruz, Bolivia in October. The technical information is being published in the websites of the ICAO NACC and SAM Regional Offices	Completed

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-
CNS	CONCLUSION 19/23 PROVISION OF AVAILABLE INFORMATION OF DATA LINK TECHNOLOGY That the E/CAR CNS/ATM Committee: a) further investigate the related technical aspects of data link; b) present the findings to the 29 <sup>th</sup> E/CAR WG Meeting; and c) make a similar presentation to the 20 <sup>th</sup> E/CAR DCA Meeting.	E/CAR CNS/ATM Committee		Superseded by Conclusion 20/15	12
CNS	CONCLUSION 19/24E/CARACTIVITIESFORGNSSIMPLEMENTATIONThat the E/CAR CNS/ATM Committee:a)conduct a thorough discussion on the E/CAR activities for GNSS implementation; andb)return the findings to the E/CAR WG for appropriate action by 15 March 2005.	E/CAR CNS/ATM Committee		Superseded by Conclusion 20/15	
GEN	<ul> <li>CONCLUSION 19/25 AIR NAVIGATION DEFICIENCIES</li> <li>That the Directors of Civil Aviation of the E/CAR:</li> <li>a) commit to the resolution of their air navigation deficiencies;</li> <li>b) submit action plans for those deficiencies not corrected; and</li> <li>c) utilize the on-line CAR/SAM Air Navigation Deficiencies Database for submission of information.</li> </ul>	E/CAR States/ Territories		Valid	
AGA	<ul> <li>CONCLUSION 19/26 CARIBEAN REGIONAL CIVIL AVIATION ACCIDENT MASS CASUALTY INCIDENT RESPONSE PLAN (CAR CAAMCIRP)</li> <li>That,</li> <li>a) CDERA coordinate PAHO's continued participation as Rapporteur of the Caribbean MCI Task Force;</li> <li>b) the Caribbean MCI Task Force initial composition include Jamaica, Trinidad and Tobago, United States (US Coast Guard), CDERA, PAHO and ICAO; and</li> <li>c) CDERA, coordinate with the ICAO NACC Office the convening a meeting of the Caribbean MCI Task Force in Barbados in 2005 for the completion of the CAR CAAMCIRP based on the inclusion of the C/CAR States in the existing E/CAR MCI Plan.</li> </ul>	CDERA/PAHO's CDERA	Dealt with under Agenda Item 4 of this Meeting.	Superseded by Conclusion 20/08	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
GEN	<ul> <li>CONCLUSION 19/27 NORTH AMERICAN, CENTRAL AMERICAN, AND CARIBBEAN DIRECTORS OF CIVIL AVIATION MEETING</li> <li>That the Directors of Civil Aviation of the Eastern Caribbean,</li> <li>a) support holding the NACC/DCA/2 Meeting as scheduled in Tegucigalpa, Honduras in the second half of 2005;</li> <li>b) provide the ICAO NACC Office with suggestions for the Agenda;</li> <li>c) consider the results of the E/CAR/WG/29 Meeting electronically;</li> <li>d) if necessary, call for a Meeting of the E/CAR/DCA the day prior to the NACC/DCA/2 Meeting; and</li> <li>e) as appropriate, coordinate joint documentation for the Meeting.</li> </ul>			Completed
HRS	<ul> <li>CONCLUSION 19/28 HUMAN RESOURCES AND TRAINING PLANNING</li> <li>That the States/Territories that do not have a human resources planning process at the different aeronautical services they provide, consider as an urgent matter the following measures: <ul> <li>a) designate and prepare personnel on human resources planning within the responsible units of the different aeronautical services:</li> <li>b) develop a plan on human resources aimed at covering the needs for the next five years, including a training programme for the civil aviation staff involved in the implementation and operation of the new CNS/ATM systems, safety oversight and civil aviation security; and</li> <li>c) develop and submit to the ICAO Regional Office by 31 March 2005 the form shown in the Appendix to this part of the report.</li> </ul> </li> </ul>	States/Territories	This requires an action by the ECAR/WG.	Valid

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## APPENDIX A STATUS OF E/CAR DCA MEETINGS CONCLUSIONS

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
АТМ	CONCLUSION 18/1 IMPLEMENTATION OF AN ATS QUALITY ASSURANCE PROGRAMME That, a) States/Territories/ATS Service Providers within the E/CAR sub-region develop and implement an ATS Quality Assurance Programme with associated supporting documents. The Programme should outline the purpose, goals, objectives and responsibilities of the programme, and each ATS unit should establish such a programme.	States/Territories		Completed
MET/ ATM/ CNS/ AIS/ SAR	CONCLUSION 18/2       TRAINING       FOR MET/ATS/CNS/AIS/SAR PERSONNEL         That the Directors of Civil Aviation of the E/CAR organise a series of training activities for ATS/CNS/AIS/SAR and aeronautical meteorological personnel covering the following issues:       a)         a)       operational coordination procedures concerning the provision of aeronautical MET service;       b)         b)       respective roles and responsibilities of ATS/CNS/AIS/SAR units and meteorological offices in the provision of aeronautical MET service; and         c)       interpretation of aeronautical meteorological products available to ATS/COM/AIS/SAR units and meteorological offices, in order to ensure the safety of aircraft operations.	States/Territories	<ul> <li>a) States to report</li> <li>No actions regarding AIS have been known in this regard.</li> <li>b) c) These matters were included in the E/CAR WG working arrangements for action</li> </ul>	Valid
MET	CONCLUSION 18/3       OPMET INFORMATION EXCHANGE IN E/CAR STATES         That,       a)       the Directors of Civil Aviation of the E/CAR Region implement, as soon as possible, the establishment of coordination committees among AIS/ATM/CNS/MET units; and         b)       the E/CAR/IWG establish quality control mechanisms for OPMET exchange messages.	States/Territories E/CAR WG	<ul><li>a) States to report</li><li>b) This matter was included in the E/CAR</li><li>WG working arrangements for action</li></ul>	Valid
GEN	<b>CONCLUSION 18/4 WAR RISK INSURANCE</b> Recognizing the importance of the issue of War Risk Insurance, particularly for developing States, the Directors of the Eastern Caribbean request that ICAO conduct briefing exercises, Workshops or Seminars, on War Risk Insurance matters, in order that States may be fully apprised of the merits of application of Globaltime to their particular circumstances.	ICAO	ICAO unable to provide event due to financial constraints.	Completed

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-2
ATM	CONCLUSION 18/6 IMPLEMENTATION OF FL245 IN THE PIARCO FIR That in support of the principle for the modification of the plane of division between the lower and upper airspace throughout the PIARCO FIR, Trinidad and Tobago analyze the impact on operational matters and lateral airspace changes resulting from the raising of the lower airspace in the entire PIARCO FIR to FL245.	Trinidad and Tobago		Completed	
ATM	<ul> <li>CONCLUSION 18/7 COMMON TRANSITION ALTITUDE FOR THE E/CAR REGION</li> <li>That,</li> <li>a) IFALPA prepare and send to ICAO a proposal for a common transition altitude for the E/CAR region;</li> <li>b) ICAO circulate the proposal to States/Territories for comments to be discussed at the 28<sup>th</sup> E/CAR/IWG Meeting; and</li> <li>c) E/CAR/IWG, through its ATM Committee, analyse the proposal and submit recommendations to the 19<sup>th</sup> Meeting of E/CAR DCAs.</li> </ul>	a) IFALPA b) ICAO c) ATM Committee	ICAO Secretariat provided guidelines. The Chairman of the ATM Committee and IFALPA should present progress on this matter.	a) Valid b) Completed c) Valid	
SAR	<ul> <li>CONCLUSION 18/8 SEARCH AND RESCUE PLANNING That,</li> <li>a) States/Territories provide copies of their respective National SAR Plans to the E/CAR SAR Committee by 30 March 2004;</li> <li>b) States/Territories review the SAR Operations Costs presented in Appendix A to this part of the report, establish how these costs could be covered and provide this information to the E/CAR SAR Committee for further analysis by 30 June 2004; and</li> <li>c) E/CAR SAR Committee prepare a programme for a table-top exercise of the E/CAR Regional SAR Plan to be presented at the 19<sup>th</sup> E/CAR DCA Meeting for consideration and approval.</li> </ul>	States/Territories E/CAR SAR Committee		Superseded by Conclusion 19/4	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
AGA	<ul> <li>CONCLUSION 18/9 CARIBBEAN REGIONAL CIVIL AVIATION ACCIDENT MASS CASUALTY INCIDENT RESPONSE PLAN (CAAMCIRP)</li> <li>That,         <ul> <li>a) E/CAR States/Territories review the draft Eastern Caribbean Civil Aviation Accident Mass Casualty Incident Response Plan (E/CAR CAAMCIRP), included in Appendix B to this part of the report, and provide any comments to the E/CAR SAR Committee for the final revision by 30 June 2004;</li> <li>b) CDERA, in collaboration with PAHO, coordinate the development of the expanded Caribbean Regional Civil Aviation Accident Mass Casualty Incident Response Plan (CAAMCIRP) for its member States in the Caribbean Region, to be completed by October 2004;</li> <li>c) the MCI part of the C/CAR MCI/SAR Task Force and the E/CAR MCI Task Force be combined to become the Caribbean MCI Task Force, with PAHO as Rapporteur, which will report to the C/CAR and E/CAR DCAs;</li> <li>d) C/CAR and E/CAR States, ICAO, PAHO, RSS and the USCG actively support CDERA and the Caribbean MCI Task Force in its related activities, as required;</li> <li>e) CDERA consider the establishment of MOUs/LOAs with CDERA non-member States in the Caribbean Region to incorporate them in the coverage of the Caribbean Regional CAAMCIRP; and</li> </ul> </li> <li>f) CDERA, through ICAO, provide IACL the communications requirements to enable the consideration of the provision of an E/CAR Digital AFS Network node to CDERA, the examine of the CARMERD</li> </ul>	States/ Territories(SAR Committee/ CDERA		Superseded by Conclusion 20/8
CNS/ MET	CONCLUSION 18/10 FOLLOW-UP MEETING ON THE IMPLEMENTATION OF THE RECOMMENDATIONS FORMULATED IN THE COM/MET SIP SECOND PHASE REPORT FOR THE CAR REGION That the Directors of Civil Aviation of the E/CAR ensure that the COM and MET specialists from the respective States/Territories attend the follow-up meeting on the implementation of the recommendations of the COM/MET SIP second phase scheduled for 2004, tentatively in Barbados.	States/Territories	The Meeting is scheduled to be held in Barbados, 2-3 December 2004. but was cancelled due to lack of participants. ICAO NACC Office to follow-up.	Valid

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS A
CNS/ ATM	CONCLUSION 18/12 UPDATED INFORMATION FOR THE E/CAR ATM/CNS IMPLEMENTATION PLAN That States/Territories/International Organizations in the E/CAR provide electronic copies of or updated information on their respective latest National ATM/CNS Plans to the E/CAR Regional ATM/CNS Committee by no later than 15 February 2004 in order to update the E/CAR ATM/CNS Implementation Plan for presentation to the GREPECAS ATM/CNS Subgroup Meeting scheduled to be held in Rio de Janeiro, Brazil from 15 to 19 March 2004.	States/Territories International Organizations	The E/CAR WG should review and update the mentioned plan. It is expected that E/CAR States/Territories will complete and present their National ATM/CNS Plan.	Valid
GEN	CONCLUSION 18/15 ACTION PLANS FOR THE RESOLUTION OF DEFICIENCIES That States/Territories prepare or complete, as applicable, Action Plans for the resolution of the outstanding air navigation deficiencies and submit these to the ICAO NACC Regional Office by 28 February 2004.	States/Territories		Superseded by Conclusion 19/25
AIS	<b>CONCLUSION 18/16 WORLD AERONAUTICAL CHARTS</b> That the E/CAR/IWG, through the AIS Committee, analyse the requirement for World Aeronautical Charts and if applicable, prepare a proposal of their production for the E/CAR Region.	E/CAR AIS Committee	The Chairman of the E/CAR AIS Committee is expected to inform about this issue.	Superseded by Conclusion 20/02
AVSEC	<ul> <li>CONCLUSION 18/17 AVIATION SECURITY         That the States and Territories of the Eastern Caribbean Region commit to:         <ul> <li>a) take advantage of ICAO AVSEC Mechanism assistance, courses, seminars and workshops;</li> <li>b) prepare adequately to receive the ICAO USAP AVSEC Audits; and</li> <li>c) support the GREPECAS AVSEC Committee activities and results.</li> </ul> </li> </ul>	States/Territories		Valid
FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
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ATM	CONCLUSION 19/1IMPLEMENTATION OF AN ATS QUALITY PROGRAMMETMa)States/Territories/ATS Service Providers within the E/CAR sub-region develop and implement an ATS Quality Assurance Programme with associated supporting documents, outlining the purpose, goals, objectives and responsibilities of the programme; and b)b)each ATS unit should establish such a programme.		E/CARGREPECAS/12 Meeting, through its Conclusion 12/26 set December 2006 to complete QA Programmes. The ICAO NACC Office sent e-mail EMX084 dated 14 January 2004 requesting status of the programmes.Providersprogrammes.	
MET	CONCLUSION 19/2IMPROVEMENTOFMETSERVICESThat the Directors of Civil Aviation of the Eastern Caribbean, recognizing the importance of close communication between air navigation units and meteorological departments, agreed to: a) improve air navigation operational coordination procedures involving the provision of MET services; and b) clearly define the respective roles and responsibilities of air navigation units and meteorological offices in the provision of MET services.	E/CAR States/Territories		Valid
GEN	<ul> <li>CONCLUSION 19/3 WAR RISK INSURANCE</li> <li>That considering the complexity of this issue and the recurring need of States for information, the Directors of Civil Aviation of the Eastern Caribbean urge:</li> <li>a) ICAO to provide a training event on War Risk Insurance in 2005, and</li> <li>b) CARICOM to explore the possibility of providing information on this issue under its insurance programme review.</li> </ul>	ICAO/ CARICOM	ICAO does not have resources	Completed

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-6
SAR	<ul> <li>CONCLUSION 19/4 SEARCH AND RESCUE PLANNING That,</li> <li>a) States/Territories provide copies of their respective National SAR Plans to the E/CAR SAR Committee by 30 March 2005;</li> <li>b) States/Territories review the SAR Operations Costs presented in Appendix A to this part of the report, establish how these costs shall be covered and provide this information to the E/CAR SAR Committee for further analysis by 30 June 2005, and</li> <li>c) the E/CAR SAR Committee prepare a programme for a</li> </ul>	States/Territories	Ongoing	Valid	5.
AIS	<ul> <li>tabletop exercise of the E/CAR SAR Plan to be presented at the 20<sup>th</sup> E/CAR/DCA meeting for approval.</li> <li>CONCLUSION 19/5 MEETING OF THE E/CAR AIS COMMITTEE</li> <li>That accepting the generous offer from France, the Directors of Civil Aviation from the Eastern Caribbean agree to: <ul> <li>a) call for a meeting of the E/CAR AIS Committee, chaired by Barbados, to be hosted by France in Martinique by 30 March 2005, to deal with: <ul> <li>requirement for World Aeronautical Charts in the E/CAR; and</li> <li>standardizing common FIRs and CTR/TMAs geographical boundary WGS-84 coordinates; and</li> </ul> </li> <li>b) urge the E/CAR AIS Committee to provide a report to the 29<sup>th</sup> E/CAR/WG Meeting.</li> </ul></li></ul>	States/ Territories		a) Completed b) Completed	

Field	CONCLUSION/DECISION A		ACTION FOR COMMENTS AND FOLLOW UP	
ATM	<ul> <li>CONCLUSION 19/6 ATM CONTINGENCY PLAN FOR THE EASTERN CARIBBEAN</li> <li>That,         <ul> <li>a) E/CAR States/Territories/International Organizations who have not yet done so, develop their ATS National Contingency Plan to support Air Traffic Services (ATS) within their airspace (CTA/UTA/FIR) and aerodromes of jurisdiction;</li> <li>b) Trinidad and Tobago carry 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 Appendix C to this report; and</li> <li>c) E/CAR States/Territories/International Organizations submit to the ICAO Regional NACC Office a copy of their ATS Contingency Plan no later than 31 March 2005.</li> </ul> </li> </ul>	States/Territories /International Organizations	In accordance with the ICAO Council, the NACC Office is gathering information in order to develop a Catalogue. Coordination in progress	Valid
GEN	CONCLUSION 19/7 E/CAR WG TERMS OF REFERENCE AND WORK PROGRAMME That the E/CAR WG adopt the amended Terms of Reference and Work Programme as presented in Appendix E to this part of the Report.			Completed
CNS	<ul> <li>CONCLUSION 19/8 UPGRADE OF THE E/CAR AFS NETWORK ON FRAME RELAY MANAGEMENT SYSTEM</li> <li>That IACL,</li> <li>a) be urged to provide the E/CAR AFS Network on Frame Relay Management System platform before the end of December 2005; and</li> <li>b) following the conclusion 17/13 of the 17<sup>th</sup> E/CA DCA Meeting provide to the DCAs, as soon as possible, a report on the status of the implementation of the digital network, as well as an updated Project Plan related to this subject.</li> </ul>	States / Territories		Superseded by Conclusion 20/15

2A-7

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-8
CNS	<ul> <li>CONCLUSION 19/9 IMPROVING THE INTERCONNECTION AND INTEROPERABILITY OF THE E/CAR AFS DIGITAL NETWORK WITH NEIGHBOURING NETWORKS</li> <li>That in order to fully meet the current AFS requirements and future new communication services providing interconnection/interoperability of the E/CAR AFS digital network with neighbouring networks:</li> <li>a) Trinidad and Tobago be urged to implement a REDDIG VSAT node at Piarco ACC before the end of March 2005;</li> <li>b) Trinidad and Tobago, United States and IACL study the feasibility to implement an additional interconnection/ interoperability point of the E/CAR Digital Network with other neighbouring networks;</li> <li>c) as mentioned in paragraph b) above, a meeting is proposed to be held in San Juan, Puerto Rico before the end of January 2005, reporting the results to the next E/CAR WG Meeting; and</li> <li>d) in order to meet the study mentioned in the paragraph b) above, take into account the</li> <li>1) updated AFS requirements contained in Tables CNS1A and CNS1C of the FASID that are shown as Appendices A and B to this part of the report;</li> <li>2) infrastructure and the available logistical support in the proposed interconnection site; and</li> <li>3) "Guidance material to initiate the analysis of digital network interconnection in the CAR/SAM Regions" recommended by Conclusion 10/27 of the GREPECAS.</li> </ul>	Trinidad and Tobago / United States	A REDDIG VSAT node at Piarco ACC was implemented. Therefore, this point provides the facility of interconnection between the E/CAR Network and the REDDIG Network b) IACL no longer exists c) scheduled for February 2007	<ul> <li>a) Completed</li> <li>b) Valid</li> <li>c) Valid</li> <li>1) completed</li> <li>2) on going</li> <li>3) on going</li> </ul>	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
CNS	<ul> <li>CONCLUSION 19/10 STUDY THE FEASIBILITY AND UPDATE THE STRATEGY PLAN OF MODERNIZATION OF THE VOICE AND DATA CIRCUIT BETWEEN PORT OF SPAIN AND SAN JUAN</li> <li>That based on the global development and the capabilities of the new AFTN switching of Piarco, Trinidad and Tobago, United States and IACL,</li> <li>a) study the feasibility, and update the strategy plan of modernization of the voice and data circuit between Port of Spain, Trinidad and Tobago and San Juan, Puerto Rico by the migration from X.25 protocol to TCP/IP protocol; and</li> <li>b) report the results of the study mentioned in the above paragraph to the 29<sup>th</sup> E/CAR Working Group Meeting.</li> </ul>	Trinidad and Tobago and United States	The 30 <sup>th</sup> E/CAR WG followed-up this Conclusion. TTCAA and the United States' FAA agreed on the AFTN upgrades being pursued by the transition onto TCP/IP protocol that is tentatively scheduled for the last quarter of 2006. IACL does not longer exist.	Superseded by Conclusion 20/15
CNS	CONCLUSION 19/11PROPOSAL FOR AMENDMENT TO THE ATS REQUIREMENTS FOR SPEECHCOMMUNICATIONSINTHETABLE CNS 1C, FASIDThat based on Appendix B to this part of the Report, ICAO NACC Regional Office establish the appropriate amendment in order to include in the Table CNS 1C of the FASID the ATS requirements for speech circuits communications in accordance with the aforementioned table by 31 March 2005.	ICAO NACC	The 30 <sup>th</sup> E/CAR WG followed-up this Conclusion. The NACC Office noted the proposed amendment to the Table CNS 1C of the FASID.	Completed
CNS	CONCLUSION 19/12 UPDATED E/CAR SURVEILLANCE PLAN That based on the Appendix C to this part of the report, ICAO update the E/CAR part of the Table CNS 4 A – Surveillance Plan of the FASID CAR/SAM ANP by 31 March 2005.	ICAO NACC	The NACC Office noted the proposed amendment of the Table CNS 4A of the FASID.	Completed
CNS	CONCLUSION 19/13 REQUESTED INFORMATION ON E/CAR RADAR COVERAGE That Antigua and Barbuda, Barbados, Trinidad and Tobago provide, through the ICAO NACC Office as appropriate, radar paper coverage charts at 3000, 5000, 10000 and 20000 feet by 31 January 2005.	Antigua and Barbuda, Trinidad and Tobago	Antigua and Barbuda remains fully committed to fulfilling its obligation towards radar harmonization within the E/CAR.	Superseded by Conclusion 20/15

2A-9

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-
CNS	CONCLUSION 19/14       REQUESTED INFORMATION STATIONS       TECHNICAL ON RADAR STATIONS         That,       a)       Antigua/OECS       provide to       STNA/ALENIA       technical specifications; and         b)       Trinidad and Tobago, Barbados and Antigua and Barbuda provide the Radar Data Sharing Task Force Rapporteur with their ICD with their global radar architecture.	Antigua and Barbuda, Trinidad and Tobago and Barbados		Superseded by Conclusion 20/15	10
CNS	CONCLUSION 19/15 REQUESTED LETTER OF AGREEMENT REGARDING THE PROVISION OF RADAR DATA TO THE DACOTA SYSTEM That States and Territories listed hereunder <sup>1</sup> , be informed through the ICAO NACC Regional Office of the need for their agreement to provide radar data to the DACOTA System in Martinique by 31 January 2005, in accordance with the Draft Letter shown in Appendix D of this part of the Report. <sup>1</sup> Antigua and Barbuda, Barbados, Netherlands Antilles, Saint Maarten, Trinidad and Tobago.	E/CAR States / Territories ICAO NACC		Completed	
CNS	CONCLUSION 19/16 REQUEST FOR SUPPORT OF THE E/CAR CNS ACTIVITIES That the Directors of Civil Aviation of the E/CAR States and Territories review and support the organizational structure of their aviation administrations with a view to ensuring that suitably trained personnel are assigned to specific responsibility for CNS matters.	E/CAR States/Territories	It is expected that E/CAR States/Territories have already taken note of this Conclusion.	Completed	
CNS	CONCLUSION 19/17 FOLLOW UP THE PROGRESS OF THE POSSIBLE RADAR REMOTING TO PIARCO ACC That Trinidad and Tobago keep the Radar Sharing Task Force informed of the progress regarding the possible remoting of Barbados and current DACOTA images system to Piarco ACC.	Trinidad and Tobago		Superseded by Conclusion 20/15	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
CNS	CONCLUSION 19/18COMPLIANCEWITHTHE GREPECASGREPECASSAC-ASTERIX ASSIGNMENT PLANThat the E/CAR States/Territories be urged to become compliant with the GREPECASSAC-ASTERIX assignmentPlan recommended by Conclusion 12/48 of GREPECAS 2005.by the end of 2005.	E/CAR States / Territories		Completed
ATM	CONCLUSION 19/19 PRELIMINARY GUIDANCE ON TECHNICAL INFRASTRUCTURE AS SUPPORT TO THE EVOLUTIONARY IMPLEMENTATION OF ATS/ATM AUTOMATED SYSTEMS That in order to implement the technical infrastructure as a support to the evolutionary implementation of ATS/ATM automated systems, the E/CAR States/Territories should consider the preliminary guidance that is shown in Appendix E of this part of the report.	E/CAR States / Territories		Superseded by Conclusion 20/18
АТМ	CONCLUSION 19/20 TRANSFER THE TASK RELATED TO FLIGHT PLAN AND POSITION REPORTS TO E/CAR ATM COMMITTEE That the task to analyze the transmission of flight plan data and updated position reports on airborne flights to be used for ATM purposes be transferred to E/CAR ATM Committee.	E/CAR ATM Committee	Information to be received during 2007. Under review by the E/CAR ATM Committee.	Valid
CNS	CONCLUSION 19/21TRANSFER THE TASK RELATED TO OCEANIC SURVEILLANCE TO E/CAR WORKING GROUPThat the task related to oceanic surveillance be transferred to the E/CAR WG.	E/CAR WG	The E/CAR WG noted this Conclusion.	Completed
CNS	CONCLUSION 19/22PROVISIONOFAMHSTECHNOLOGY-RELATEDINFORMATIONThat ICAO provide each E/CAR State/Territory with AMHStechnology related information by 28 February 2005.	ICAO NACC	Two Seminars related to ATN-AMHS were held in 2006. The first one was held in Lima, Peru, in September and the second one was held in Santa Cruz, Bolivia in October. The technical information is being published in the websites of the ICAO NACC and SAM Regional Offices	Completed

2A-11

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS	2A-
CNS	CONCLUSION 19/23 PROVISION OF AVAILABLE INFORMATION OF DATA LINK TECHNOLOGY That the E/CAR CNS/ATM Committee: a) further investigate the related technical aspects of data link; b) present the findings to the 29 <sup>th</sup> E/CAR WG Meeting; and c) make a similar presentation to the 20 <sup>th</sup> E/CAR DCA Meeting.	E/CAR CNS/ATM Committee		Superseded by Conclusion 20/15	12
CNS	CONCLUSION 19/24E/CARACTIVITIESFORGNSSIMPLEMENTATIONThat the E/CAR CNS/ATM Committee:a)conduct a thorough discussion on the E/CAR activities for GNSS implementation; andb)return the findings to the E/CAR WG for appropriate action by 15 March 2005.	E/CAR CNS/ATM Committee		Superseded by Conclusion 20/15	
GEN	<ul> <li>CONCLUSION 19/25 AIR NAVIGATION DEFICIENCIES</li> <li>That the Directors of Civil Aviation of the E/CAR:</li> <li>a) commit to the resolution of their air navigation deficiencies;</li> <li>b) submit action plans for those deficiencies not corrected; and</li> <li>c) utilize the on-line CAR/SAM Air Navigation Deficiencies Database for submission of information.</li> </ul>	E/CAR States/ Territories		Valid	
AGA	<ul> <li>CONCLUSION 19/26 CARIBEAN REGIONAL CIVIL AVIATION ACCIDENT MASS CASUALTY INCIDENT RESPONSE PLAN (CAR CAAMCIRP)</li> <li>That,</li> <li>a) CDERA coordinate PAHO's continued participation as Rapporteur of the Caribbean MCI Task Force;</li> <li>b) the Caribbean MCI Task Force initial composition include Jamaica, Trinidad and Tobago, United States (US Coast Guard), CDERA, PAHO and ICAO; and</li> <li>c) CDERA, coordinate with the ICAO NACC Office the convening a meeting of the Caribbean MCI Task Force in Barbados in 2005 for the completion of the CAR CAAMCIRP based on the inclusion of the C/CAR States in the existing E/CAR MCI Plan.</li> </ul>	CDERA/PAHO's CDERA	Dealt with under Agenda Item 4 of this Meeting.	Superseded by Conclusion 20/08	

FIELD	CONCLUSION/DECISION	ACTION FOR	COMMENTS AND FOLLOW UP	STATUS
GEN	<ul> <li>CONCLUSION 19/27 NORTH AMERICAN, CENTRAL AMERICAN, AND CARIBBEAN DIRECTORS OF CIVIL AVIATION MEETING</li> <li>That the Directors of Civil Aviation of the Eastern Caribbean,</li> <li>a) support holding the NACC/DCA/2 Meeting as scheduled in Tegucigalpa, Honduras in the second half of 2005;</li> <li>b) provide the ICAO NACC Office with suggestions for the Agenda;</li> <li>c) consider the results of the E/CAR/WG/29 Meeting electronically;</li> <li>d) if necessary, call for a Meeting of the E/CAR/DCA the day prior to the NACC/DCA/2 Meeting; and</li> <li>e) as appropriate, coordinate joint documentation for the Meeting.</li> </ul>			Completed
HRS	<ul> <li>CONCLUSION 19/28 HUMAN RESOURCES AND TRAINING PLANNING</li> <li>That the States/Territories that do not have a human resources planning process at the different aeronautical services they provide, consider as an urgent matter the following measures: <ul> <li>a) designate and prepare personnel on human resources planning within the responsible units of the different aeronautical services:</li> <li>b) develop a plan on human resources aimed at covering the needs for the next five years, including a training programme for the civil aviation staff involved in the implementation and operation of the new CNS/ATM systems, safety oversight and civil aviation security; and</li> <li>c) develop and submit to the ICAO Regional Office by 31 March 2005 the form shown in the Appendix to this part of the report.</li> </ul> </li> </ul>	States/Territories	This requires an action by the ECAR/WG.	Valid

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# **APPENDIX B**

# REVIEW OF THE VALID CONCLUSIONS OF THE NACC/DCA/2 AND NACC/DCA/1 MEETINGS

AREA	CONCLUSION	ACTION FOR	REMARKS AND FOLLOW-UP	STATUS/ TARGET DATE	REQUIRED ACTION
ATM	<ul> <li>CONCLUSION 1/8 ATS QUALITY ASSURANCE PROGRAMME</li> <li>That the States/Territories/ATS Service Providers of the CAR Region: <ul> <li>a) based on the guidance material for ATS quality assurance programmes approved by the CAR/SAM</li> <li>Regional Planning and Implementation Group (GREPECAS), implement ATS quality assurance programmes at their ATS units not later than December</li> <li>2003, designating the individual responsible who will also be the focal point and coordinator of the aforementioned programmes;</li> <li>b) inform the ICAO NACC Regional Office on the designation; and</li> <li>c) participate actively at all events that seek to disseminate, provide training in, and implement ATS quality assurance programmes.</li> </ul> </li> </ul>	States / Territories	States/Territories should use the Regional Guidance Material on ECCAIRS taxonomies in order to harmonize their corresponding programmes on ATM Safety Management System.	Valid	Follow-up
ATM	CONCLUSION 1/10 NATIONAL RNAV/RNP IMPLEMENTATION PROGRAMMES FOR THE CAR REGION That civil aviation administrations in the Caribbean (CAR) Region develop, as soon as possible, national RNAV route and RNP implementation programmes that are consistent with the CAR/SAM regional RNAV route and RNP implementation programmes, allowing the study on the impact of the implementation of these routes and their RNP values on the airspace and air traffic services under their responsibility permitting the implementation of these elements in an integrated, harmonious and timely fashion in the CAR Region.	States / Territories	Continue the development of RNAV and RNP routes. Will be dealt with under Agenda Item 3.6 of this Meeting.	Valid.	Follow-up

AREA	CONCLUSION	ACTION FOR	<b>R</b> EMARKS AND FOLLOW-UP	STATUS/ TARGET DATE	REQUIRED ACTION
ATM	CONCLUSION 1/12 ENGLISH LANGUAGE IN ATC That the Directors of Civil Aviation of the CAR Region support the initiatives carried out within ICAO by the Proficiency Requirements in Common English Study Group (PRICE SG) in relation to the proposals for amendments that will be made to Annexes 1, 6, 10 and 11.	States / Territories	The Annexes were duly amended.	Completed.	Note
GEN	CONCLUSION 1/20 PRIORITY SOLUTION FOR AIR NAVIGATION DEFICIENCIES That States/Territories/International Organizations, with a view to resolving first and foremost their respective air navigation deficiencies, especially those that might have a negative effect on safety aspects presented in Appendix D, a) urgently develop and implement an Action Plan for each deficiency complying with the requirements established in the Air Navigation Plan FASID and the SARPs, specifying the corrective measures, the completion date, as well as assigning the necessary resources; and b) inform ICAO, through the NACC Office, on the Action Plan referred to in item a) above, no later than 31 December 2002, including any difficulties encountered.	States / Territories	Superseded by NACC/DCA/2 Conclusion 2/28	Superseded.	Take note
HRT	CONCLUSION 1/21 HUMAN RESOURCES PLANNING AND TRAINING That those States/Territories/International Organizations that do not have a human resources planning process for air navigation services, safety oversight and civil aviation security, consider, on an urgent basis, the need to take the following measures: a) appoint and train personnel in human resources planning within the units responsible for the different aeronautical services; b) develop a human resource plan for the next five years, containing a civil aviation personnel training programme including the implementation and operation of the new CNS/ATM Systems, safety oversight and civil aviation security;	States / Territories	Superseded by NACC/DCA/2 Conclusion 2/27.	Superseded	Take note

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX B TO THE REPORT ON AGENDA ITEM 2

AREA	CONCLUSION	ACTION FOR	<b>REMARKS AND FOLLOW-UP</b>	STATUS/ TARGET DATE	REQUIRED ACTION	
	<ul> <li>c) emphasize to the GREPECAS on the need to follow-up Decision 10/4 to analyze the "<i>impact of automation on human resources</i>" in accordance with the Guidance Manual for the Training of Human Resources on CNS/ATM Systems;</li> <li>d) consider the importance of attending activities sponsored by ICAO (courses, seminars, workshops, etc.) taking into account that such activities are aimed at complementing and updating civil aviation personnel training;</li> <li>e) request the ICAO NACC Regional Office to distribute the form, attached as the Appendix to this part of the Report, to be filled out by the Administrations in order to determine the need for human resources and training in the different aeronautical fields in the CAR States. This form should be sent to the NACC Office, <i>no later than 31 January 2003</i>; and</li> <li>f) use the information obtained in the aforementioned form by Aeronautical Administrations, GREPECAS and by the ICAO NACC Regional Office for coordination with Civil Aviation Training Centres (CATCs) of the CAR Region for human resources planning and training purposes.</li> </ul>					
HRT	CONCLUSION 1/22 TRAINING STANDARDIZATION – TRAINAIR METHODOLOGY IN THE CAR REGION That, for the development of human resources, States/Territories/International Organizations in the CAR Region, consider the following actions: a) take the necessary measures to standardize civil aviation training, in accordance with ICAO guidelines taking into consideration international co-operation; b) that those training centers who have not yet joined the TRAINAIR Programme, do so; and c) that in the spirit of international co-operation, development of bilateral/multilateral projects to facilitate co-operation and technical assistance for adequately developing human resource planning and training should be considered.	States / Territories	Superseded by NACC/DCA/2 Conclusion 2/27	Superseded	Take note	2B-3

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX B TO THE REPORT ON AGENDA ITEM 2

AREA	CONCLUSION	ACTION FOR	<b>REMARKS AND FOLLOW-UP</b>	STATUS/ TARGET DATE	REQUIRED ACTION	2B-4
AVSEC	CONCLUSION 1/28AVIATION SECURITYThat States and Territories:a)commit towards full implementation of themultilateral conventions on aviation security and theICAO Standards and Recommended Practices (SARPs)and Procedures for Air Navigation Services (PANS) aswell as ICAO Assembly Resolutions and CouncilDecisions relating to aviation security and safety;b)participate actively in implementation of the ICAOAviation Security Plan of Action, including the trainingand audit processes and necessary follow-up;c)endorse the GREPECAS Aviation SecurityCommittee establishment, draft Terms of Reference anddraft conclusions and decisions of its first meeting; andd)commit to active support and cooperation in regionalaviation security activities.	States/ Territories	Continuous Process a) A survey needs to be conducted in about 12 months to determine if contracting states in the region have ratified all the multilateral conventions on aviation security.	Valid	Follow-up	
GEN	CONCLUSION 2/1 SUPPORT FOR THE EXECUTION OF RECOMMENDATIONS / CONCLUSIONS OF GLOBAL, REGIONAL AND SUB-REGIONAL MEETINGS That NACC States/Territories/International Organizations, with a view to continuing the development of air navigation systems meeting civil aviation needs and increasing the efficiency and safety of air navigation: a) optimize the support and attention to the implementation of Recommendations/ Conclusions of the Global, Regional and Sub-regional Meetings regarding AGA, AIS/MAP, ATM, CNS, MET and MCI/SAR fields; b) consider the issues included in the Appendix to this part of the report as the main working guidelines; and c) establish the appropriate coordination and bilateral or multilateral cooperation agreements for the purposes expressed in the items above.	States/ Territories/ International Organizations	Optimized the support to the implementation of the Recommendations/Conclusions oriented towards the development of air navigation spheres, considering the Appendix as the main working guidelines.	Valid	Take note	
AIS	CONCLUSION 2/2 PROPOSAL FOR THE EXECUTION OF A WGS-84 SPECIAL IMPLEMENTATION PROJECT (SIP) FOR THE CAR REGION That the ICAO NACC Office submits to the ICAO Council a proposal for the development of a WGS-84 SIP in the CAR Region.	ICAO NACC Office	<ul> <li>-Since only one SIP is approved per matter in each region the current one was addressed to aeronautical charts-electronic data</li> <li>-A seminar will be carried out be to this respect in Dominican Republic in November 2006</li> </ul>	Valid	Take note	

AREA	CONCLUSION	ACTION FOR	<b>Remarks and Follow-up</b>	STATUS/ TARGET	<b>R</b> EQUIRED ACTION
OPS	CONCLUSION 2/3PANAMERICANAVIATION SAFETY TEAM (PAAST)	States/ Territories/	The next Meeting is scheduled in Miami,	Valid	Take note
	<ul><li>That States, Territories and International Organizations:</li><li>a) encourage safety personnel, air carrier, general</li></ul>	International Organizations	Fla. USA in February 2007).		
	aviation, and military pilots, airport operators, and air traffic controllers to actively participate in the PAAST				
	b) consider incorporating safety programmes, such			Valid	Take note
	controller licensing.				
AVSEC/	CONCLUSION 2/4 WHTI/GEASA ACTIVITIES	States/	GEASA studies the request suggested by	Valid	Take note
AIS	a) consider the GEASA group as an important	International/	support the development of the technical		
	means to provide support for regional technical	Organizations	cooperation project to improve the		
	cooperation; and		AIS/MAP systems.		
	b) participate in GEASA activities as deemed				
OPS	CONCLUSION 2/5 UNIFIED STRATEGY TO	States/			
	<b>RESOLVE SAFETY-RELATED DEFICIENCIES</b>	Territories/			
	That the Directors of Civil Aviation of States and	International/	Ongoing	Valid	Take note
	Territories as well as International Organizations from the	Organizations			
	CAR Region agree to:				
	implementation plan for the resolution of safety-related				
	deficiencies, and				
	b) provide, as requested, assistance to States outside				
	of the CAR Region.				
OPS	CONCLUSION 2/6 IASDEX PROGRAMME	States/			
	that States/Territories recognize the importance of safety data sharing initiatives such as the IASDEX programme	Territories	Ongoing	Valid	Take note
	and are encouraged to express interest to the FAA in		Ongoing	v and	Tuke note
	possible future participation in this specific initiative.				

AREA	CONCLUSION	ACTION FOR	<b>Remarks and Follow-up</b>	STATUS/ TARGET DATE	<b>R</b> EQUIRED ACTION	2B-6
OPS	CONCLUSION 2/7ENHANCEMENT OF THEAVIATION SAFETY CULTUREThe Directors from the NAM/CAR States, Territories andInternational Organizations, in agreement of the necessityand importance of a safety culture, resolved to:a)comply with ICAO safety requirements as elementsfor a safety culture, andb)commit to taking other appropriate measures for theenhancement of the aviation safety culture in theirrespective organizations.	States/ Territories/ International/ Organizations	Ongoing	Valid	Take note	
OPS	CONCLUSION 2/8COMPLIANCEWITHICAOLANGUAGEPROFICIENCYREQUIREMENTSThat States/Territories and International Organizations ofthe NAM/CAR Regions begin the preparatory work inorder to comply with ICAO language proficiencyrequirements by 5March 2008, preventing theoccurrence o ATS incidents and accidents.	States/ Territories/ International Organizations	Ongoing	Valid	Take note	
CNS/ ATM	CONCLUSION 2/9 COORDINATED DEVELOPMENT AND IMPLEMENTATION OF THE CNS/ATM SYSTEMS IN THE NAM/CAR REGIONS That aimed at continuing a coordinated development and implementation of the CNS/ATM systems in the NAM/CAR Regions, States/Territories/International Organizations should: a) follow-up the CNS/ATM Matrix presented in Appendix A to this part of the Report; b) develop planning implementation of these CNS systems taking into account, among other aspects, the Matrix referred in paragraph a) above; c) with the ICAO NACC Office support, adjust the mentioned CNS/ATM Matrix, taking into account the second amendment to the Global Air Navigation Plan for the CNS/ATM systems expected to be approved in 2006; and d) through the NACC regional/sub-regional meetings mechanism periodically update the information of the CNS/ATM Matrix on the status of development of the CNS/ATM systems in these Regions.	States/ Territories/ International/ Organizations	It is important to follow-up the actions of this conclusion, in order to contribute for a coordinated implementation of the CNS/ATM systems.	Valid	Follow-up	

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AREA	CONCLUSION	ACTION FOR	<b>Remarks and Follow-up</b>	STATUS/ TARGET DATE	REQUIRED ACTION
CNS/ ATM	CONCLUSION 2/10 APPLICATION OF NAM/CAR REGIONAL TECHNOLOGICAL SOLUTIONS FOR AERONAUTICAL SERVICES That States/Territories/International Organizations of the NAM/CAR Regions aimed at facilitating and obtaining major benefits in the implementation of the CNS/ATM systems and other aeronautical services: a) look for and implement regional technological solutions that facilitates the integration, harmonization and intra/inter regional cooperation; and b) consider the agreement of regional technical cooperation projects for applying solutions mentioned in paragraph a) above.	States/ Territories/ International/ Organizations	The E/CAR Working Group should contribute to the follow-up of this Conclusion.	Valid	Follow-up
CNS/ ATM	CONCLUSION 2/11INTERFACEANDOPERATIONALINTEGRATION OF ATMAUTOMATION SYSTEMS OF THE NAM/CARREGIONSThat the States/Territories/International Organizations:a)define the ATM automation requirements, inaccordance with their operational and technical needs;b)base on the Regional Strategy for theimplementation of ADS-B presented as Appendix C tothis part of the Report;c)examine other regional requirements for theintegration of ATM automation systems;d)establish bilateral or multilateral agreements forthe integration of ATM automation in accordance with ICAOguidelines;e)designate a point of contact to participate in thework for the integration of ATM automation systems; andf)coordinate their action plans with the ICAONACC Regional Office in order to ensure a regionalintegration of ATM automation systems, in an integral,harmonious, interoperable manner, coherent with theRegions.	States/ Territories/ International/ Organizations	The States/Territories should take note and follow-up this Conclusion.	Valid	Follow-up

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AREA	CONCLUSION	ACTION FOR	REMARKS AND FOLLOW-UP	STATUS/ TARGET DATE	REQUIRED ACTION	2B-8
CNS	CONCLUSION 2/12 DEVELOPMENT OF A MODERNIZATION AND IMPLEMENTATION PLAN OF D-ATIS EQUIPMENT IN THE INTERNATIONAL AIRPORTS OF THE CAR REGION That, taking into account the experiences of COCESNA in developing a new D-ATIS equipment, States, Territories of the CAR Region and COCESNA examine and consider adopting in the international airports an equipment modernization plan and implementation of ATIS services, in accordance with ATM requirements.	States/ Territories / COCESNA	States should adopt a modernization/implementation plan of ATIS equipment in accordance with the ATM requirements.	Valid	Take note	
CNS	CONCLUSION 2/13 SUPPORT OF STATES IN THE NAM/CAR REGIONS TO ICAO'S POSITION FOR THE ITU WRC-2007 That the Directors of Civil Aviation of the NAM/CAR Regions, if not already done, adopt appropriate measures to support ICAO's position for the ITU WRC-2007: a) designate a focal point or a contact person with the respective national authority of radio-frequency spectrum management, in order to incorporate ICAO's position which is presented as the appendix to State Letter Ref.: E 3/5-05/85, dated 12 August 2005, when developing the State's position for the ITU WRC-2007, as well as with ICAO for the coordination of matters related with the WRC-2007; b) participate in an active manner in the preparatory work for the WRC-2007 in the CITEL meetings of the Organization of American States (OAS); c) participate in an active manner, whenever possible, in meetings of ICAO working groups and other activities convened by ICAO regarding the position for the WRC-2007; and d) ensure that, to the extent possible, representatives from civil aviation administrations be included in the national delegations to the conference ensuring the support of ICAO's position for the ITU WRC-2007 in the civil aviation-related matters.	NAM/CAR DGCAs	Considering the short time left for the CMR-2007 Conference and its importance, the States that have not yet done so, should urgently adopt the actions related to this Conclusion. This issue will be dealt with under Agenda Item 3.4.	Valid	Follow-up	

AREA	CONCLUSION	ACTION FOR	<b>Remarks and Follow-up</b>	STATUS/ TARGET DATE	REQUIRED ACTION
ATM	CONCLUSION 2/14 IMPLEMENTATION OF PERFORMANCE-BASED NAVIGATION That States/Territories and International Organizations take into account the information included in Appendix E to this part of the report in their future implementation work of Performance-Based Navigation in their airspace.	States/ Territories/ International/ Organizations	Will be dealt with under Agenda Item 3.6. of this Meeting.	Valid	Follow-up
ATM	CONCLUSION 2/16 AGREEMENTS ON SEARCH AND RESCUE (SAR) OF THE CENTRAL AMERICA RCC AND ADJACENT RRCs That the ICAO NACC Office urge those States adjacent to the Central American FIR to subscribe SAR agreements with the Central American FIR.	ICAO NACC Office		Completed	Note
ATM	CONCLUSION 2/17 SUPPORT FOR THE ATM WORK IN THE NAM/CAR REGIONS That Civil Aviation Administrations of the NAM/CAR Regions continue supporting the work of the Working Groups for the regional development and implementation of the ATM elements applicable to the NAM/CAR Regions.	CAAs		Valid	Follow-up
ATM	CONCLUSION 2/18 IMPLEMENTATION OF AIR TRAFFIC FLOW MANAGEMENT (ATFM) IN THE CENTRAL AMERICAN FIR That, considering the important operational and financial benefits for the ATM community, derived from the implementation of an efficient and safe Air Traffic Flow Management (ATFM) system, the States in the Central American FIR and COCESNA: a) initiate, under the coordination of COCESNA, the actions regarding the implementation of a sub-regional ATFM system for the Central American FIR, considering to that end the guidelines of ICAO, as well as the tasks and implementation programme to be agreed upon in the CAR/SAM Regions; b) continue the coordination with States, ICAO NACC Regional Office and other International Organizations, air operators, other ATFM Units and related bodies within a cooperative framework, in order to establish an efficient, safe and highly beneficial ATFM system; and	States/ COCESNA		Valid	Follow-up

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AREA	CONCLUSION	ACTION FOR	<b>Remarks and Follow-up</b>	STATUS/ TARGET DATE	REQUIRED ACTION
	c) present to the NACC/DCA/3 Meeting, through COCESNA, a report on the status of the progress of this project.				
ATM	CONCLUSION 2/19 IMPLEMENTATION OF THE ATFM SYSTEM IN THE NAM/CAR REGIONS That the States/Territories/International Organizations initiate the corresponding activities to: a) apply the NAM/CAR joint strategy for ATFM development presented in Appendix H to this part of the Report through: i) the establishment of a CAR regional ATFM system; ii) the harmonized establishment of a NAM/CAR ATFM interregional system; and b) coordinate their implementation activities with the ICAO NACC Regional Office to achieve a regional, harmonious and interoperable ATFM implementation.	States/ Territories/ International/ Organizations	An ATFM seminar was held in Tegucigalpa, Honduras (27-31 March 2006) and a NAM/CAR ATM Regional Meeting, where the necessary aspects for ATFM implementation were discussed. On going	Valid	Follow-up
ATM	<ul> <li>CONCLUSION 2/20 IMPLEMENTATION OF A SAFETY MANAGEMENT SYSTEM</li> <li>That the States/Territories/International Organizations of the NAM/CAR Regions that have not yet done so:</li> <li>a) develop an action plan to implement by 10 November 2006 a safety management system through systemic and appropriate programmes;</li> <li>b) establish the acceptable levels and objectives with regard to safety, within airspaces and aerodromes under their jurisdiction; and</li> <li>c) participate in the activities carried out by ICAO in order to foster the implementation of a regional safety management system.</li> </ul>	States/ Territories/ International/ Organizations	ICAO is organizing training courses for 2007 with the required participation from the States/Territories/International Organizations. Will be dealt with under Agenda Item 7 of this Meeting.	Valid	Follow-up
ATM	CONCLUSION 2/21 IMPLEMENTATION OF PROGRAMMES FOR THE EVALUATION OF ATM PERFORMANCE That States/Territories of the CAR Region and COCESNA implement by <b>30 November 2006</b> an ATM performance assessment programme, in accordance with ICAO guidelines (Annex 11, Doc 4444 and Doc 9854.	CAR States / Territories COCESNA	ICAO will organize a course to assist with the implementation.	Valid	Follow-up

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX B TO THE REPORT ON AGENDA ITEM 2

				STATUS/	DECLIDED
AREA	CONCLUSION	<b>ACTION FOR</b>	<b>REMARKS AND FOLLOW-UP</b>	TARGET	REQUIRED
				DATE	ACTION
MET	CONCLUSION 2/22 COORDINATION OF	States/	Review	Valid	Follow-up
	AGREEMENTS BETWEEN CIVIL AVIATION	Territories/			-
	ADMINISTRATIONS AND MET AUTHORITIES OF	International/			
	CAR STATES / TERRITORIES / INTERNATIONAL	Organizations			
	ORGANIZATIONS				
	That, aimed at improving the coordination, cooperation				
	and provision of aeronautical MET services,				
	States/Territories/International Organizations of the CAR				
	Region, that have not yet done so, coordinate agreements				
	between civil aviation Administrations and meteorological				
	authorities:				
	a) clearly identifying their respective functions and				
	the coordination between them; and				
	b) that the agreement states the mechanism to				
	ensure the participation of MET personnel in meetings,				
	seminars and workshops organized by ICAO in				
	vivendi between ICAO and the WMO (Doc $7475$ )				
MET	CONCLUSION 2/23 CO-OPERATION FOR	States/	Review	Valid	Follow-up
	SIGMET INFORMATION ISSUANCE	Territories		v una	ronow up
	That, with the view of improving the issuance of				
	SIGMET information:				
	a) civil aviation administrations and meteorological				
	authorities of the States/Territories are urged to jointly				
	deal with information issues related with the SIGMET				
	issuance, through a Letter of Agreement among				
	organizations/agencies involved in the re-collection and				
	broadcast of SIGMET taking into account that the				
	procedures used should be reviewed and arranged in				
	accordance with the ICAO SARPs and guidance material;				
	and				
	b) annues whose ancrait my infolign of hear				
	be urged by IATA to provide timely and accurate special				
	nilot reports				
	phot reports.				

AREA	CONCLUSION	ACTION FOR	<b>R</b> EMARKS AND FOLLOW-UP	STATUS/ TARGET DATE	REQUIRED ACTION	2B-12
AIS/ MAP	CONCLUSION 2/24STUDYOFTHEAERONAUTICALINFORMATIONMANAGEMENT (AIM) CONCEPTThat States/Territories/International Organizations:a)initiate the corresponding studies for the planningand development of the AIM concept in the AIS/MAPservices of the NAM/CAR Regions and, to that end, beincluded as a task of the work programme of the existingworking groups, taking into account, as reference, the AirNavigation Global Plan for the CNS/ATM Systems andthe Recommendations of the 11 <sup>th</sup> Air NavigationConference, andb)take the necessary measures and initiate thecorresponding actions for the application of the AIMconcept in the respective AIS/MAP services of theNAM/CAR Regions.	States/ Territories/ International/ Organizations	A seminar including AIM concepts and the new standards of Annexes 4 and 15 will be carried out during the second half of 2006 in Dominican Republic, according to Conclusion 13/40 of GREPECAS/13 Meeting	-Valid -November 2006	-Take note	
AIS/ MAP	CONCLUSION 2/25 PAIGH/ICAO REGIONAL PROJECT FOR THE PRODUCTION OF AERONAUTICAL CHARTS That, taking into consideration the difficulties experienced in general in the CAR Region regarding the production of Aeronautical Charts required in Annex 4, and GEASA initiative to sponsor the preliminary studies to develop a regional cooperation project, CAR/SAM States/Territories/International Organizations: a) consider their integration in the production of aeronautical charts project, that is proposed within the ICAO and PAIGH technical cooperation frame; b) consider the regional Aeronautical Information Management (AIM) within the specifications of the project; and c) support the work of ICAO/PAIGH Aeronautical Charts Working Group, which functions under the GREPECAS mechanism, in order to develop a project under the Terms of Reference and Work Programme that are shown in Appendix M to this part of the report; and d) request support from the IFFAS.	States/ Territories/ International/ Organizations	<ul> <li>Taking into consideration Conclusion 13/46 and paragraphs 3.5.20; 3.5.21 and 3.5.22 of GREPECAS/13 Meeting, the ICAO D/TCB is preparing a project which will be submitted to States/Territories' consideration in June 2006.</li> <li>The corresponding coordination is being coordinated with ICAO TCB and with PAIGH.</li> <li>The ANC and the President of ICAO Council has given support to the project development in order that TCB fosters and assumes its execution.</li> </ul>	-Valid -The Project document will be circulated in June 2006	Take note and follow up	

AREA	CONCLUSION	ACTION FOR	<b>Remarks and Follow-up</b>	STATUS/ TARGET DATE	REQUIRED ACTION
AIS/ MAP	CONCLUSION 2/26 ADOPTION OF GUIDANCE MATERIAL FOR THE NOTAM CONTINGENCY PLAN That States and Territories of the NAM/CAR Regions and COCESNA consider the contents of the NOTAM Contingency Plan for Havana's FIR as guidance material for the establishment of operational agreements related to NOTAM contingencies.	States/ Territories/ International/ Organizations	<ul> <li>Delegations will inform on the actions taken by the relevant Administrations on this issue.</li> <li>Administrations are urged to implement these plans adopting the guidance material contained in Appendix AE of the GREPECAS/13 Meeting.</li> </ul>	-Valid	Take note and follow up
HRT	<ul> <li>CONCLUSION 2/27 HUMAN RESOURCES AND TRAINING PLANNING</li> <li>That those States/Territories/International Organizations that do not have a human resources planning process at the different aeronautical services they provide, consider as an urgent matter the need to take the following measures:</li> <li>a) designate and prepare personnel on human resources planning within the responsible units of the different aeronautical services;</li> <li>b) develop a plan on human resources aimed at covering the needs for the next 5 years, including a training programme for the civil aviation staff involved in the implementation and operation of the new CNS/ATM systems, safety oversight and civil aviation security, and establish 31 March 2006 as deadline to finalize the plan;</li> <li>c) submit to the ICAO NACC Regional Office by 30 January 2006, the form shown in the Appendix O to this part of the report, duly completed by the CAAs.</li> </ul>	States/ Territories/ International/ Organizations	<ul> <li>Delegations will inform on the actions taken on a) and b) in their respective Administrations.</li> <li>Regarding c), the NACC Office has not yet received the information requested.</li> </ul>	-Valid	Take actions
GEN	CONCLUSION 2/28 PRIORITIZE SOLUTION TO EXISTING AIR NAVIGATION DEFICIENCIES That States/Territories/International Organizations that have not yet done so, with the view to resolve air navigation deficiencies in the NAM/CAR Regions: a) use the GANDD database and provide information to keep the database updated; b) prepare and inform the ICAO NACC Office of their respective action plans for the solution of deficiencies, to be received before 30 December 2005; and c) prioritize and provide the necessary and available resources to resolve as soon as possible the deficiencies.	States/ Territories/ International/ Organizations	Will be dealt with under Agenda Item 3.5 of this Meeting.	Valid	Follow-up

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX B TO THE REPORT ON AGENDA ITEM 2

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AREA	CONCLUSION	ACTION FOR	<b>Remarks and Follow-up</b>	STATUS/ TARGET DATE	REQUIRED ACTION	2B-14
AVSEC	CONCLUSION 2/29 COMPLIANCE OF AVSEC PROGRAMMES The Directors of Civil Aviation agree to review and update national policies to ensure effective oversight of Annex 17, Standards 3.1.1, National Civil Aviation Security Programme, 3.4.4, Quality Control, 3.4.5, Survey, Inspection and Test, 3.1.7 National Training Programme, and 3.3.1 Aircraft Operators Security Programme.	States Territories CAR Region	The only way to determine if the States are implementing these SARPs is by conducting another survey in 12 months since ICAO and the AVSEC COMM is now giving emphasis on these shortcomings.	Valid	Follow-up	
GEN	CONCLUSION 2/30 ECONOMIC CONTRIBUTION OF CIVIL AVIATION That, the Directors of Civil Aviation of the North America, Central America and the Caribbean, recognizing the important impact of civil aviation on their economies, resolve to: a) use ICAO Circular 292, Economic Contribution of Civil Aviation, in support of efforts to define the contribution of civil aviation; and b) use the results in obtaining financing for important civil aviation projects.	NACC DGACs	Continuous.		Follow-up	
GEN	CONCLUSION 2/31 ACTIVITIES OF THE TECHNICAL CO-OPERATION PROJECTS IN THE NAM/CAR REGIONS That States/Territories and International Organizations of the NAM and CAR Regions: a) participate and contribute, if not already done so, to the budget of regional projects in their area of responsibility; and b) analyze the importance of using ICAO technical co-operation national projects as a governmental tool to expand and facilitate the achievement of management results.	States/ Territories/ International/ Organizations	Continuous.		Follow-up	

- END -

Agenda Item 3:

#### Air Navigation Matters

# 3.1 Review of the Summary of Discussions of the 30<sup>th</sup> E/CAR Working Group Meeting Report

3.1.1 Based on the Executive Summary of the Thirtieth Eastern Caribbean Working Group Meeting (E/CAR WG/30) held in Castries, St. Lucia, 7 to 11 August 2006, the Directors General of Civil Aviation of the Eastern Caribbean reviewed the results of the mentioned Meeting containing the most relevant matters addressed, as well as the Draft Conclusions, for their approval and/or consideration. All Draft Conclusions of the E/CAR Working Group were approved at this Meeting and are presented as "Conclusions" in **Appendix A** to this part of the Report. The principal items addressed by the Meeting are summarized below.

3.1.2 The Meeting was of the opinion that the E/CAR/WG continue developing their implementation work taking into consideration the progress accomplished, and that ICAO continue providing adequate assistance to the E/CAR/WG work to achieve successful implementation of the preparatory work for the ICC Cricket World Cup 2007.

### **General Matters**

### CNS/ATM Systems

3.1.2 The Meeting noted that the CNS/ATM programmes in which the E/CAR WG has been working were identified as:

- a) establishment of local CNS/ATM plans;
- b) establishment of a Regional CNS/ATM plan coordinated by a private entity;
- c) completion of Planimetric surveys and the change from conventional coordinates to the WGS-84 system;
- (d) design of RNAV non-precision approaches for all regional airports; and
- (e) establishment of a new digital network for voice and data point-to-point communications.

### **Specific Air Navigation Activities and Developments**

### **Aeronautical Information Services (AIS)**

3.1.3 The Meeting was informed of the lack of activity by the AIS Committee since its inception at the 24<sup>th</sup> E/CAR WG in San Juan, Puerto Rico. Additional stress on E/CAR AIS resources is the upcoming 2007 Cricket World Cup, being hosted by nine States/Territories in the Eastern Caribbean and neighbouring areas. It was agreed that the AIS Committee must define an action plan for complete implementation using ICAO guidelines in order to focus attention on finding solutions to problems, take immediate action to correct deficiencies and follow-up on implementation of WGS-84 within the E/CAR and the FIR boundary coordinates between Maiquetia and Piarco.

# Search and Rescue (SAR)

3.1.4 The Meeting recalled that SAR cooperation should be fostered by States/Territories for an effective SAR regional system. This cooperation should consider civil and military authorities and aeronautical and maritime agencies by combining efforts through multi-lateral agreements. The purpose is to ensure that the RCC can carry out coordination with all parties concerned regarding localization, assignment of equipment and personnel through a common communication network, thus providing for facilitated operational coordination between SAR units. It was agreed that States/Territories of the E/CAR continue working to achieve an effective regional SAR system through suitable agreements with neighbouring States.

# **Contingency Planning**

3.1.5 As follow up of GREPECAS Conclusion 13/68, the Meeting agreed to provide to the ICAO NACC Office the name of the point of contact in each State and Territory of the E/CAR, who will carry out coordination of contingency measures, preventing air navigation disruptions due to human or natural disasters, so as to avoid disruptions to civil aviation.

# Aeronautical Meteorology (MET)

3.1.6 The Meeting took note that the new technologies applicable to MET service will require better coordination between the ATS and meteorological authorities, and recalled the meteorological components supporting CNS/ATM systems are closely linked to the World Area Forecast System (WAFS), the International Airways Volcano Watch (IAVW) and the exchange of operational meteorological information (OPMET).

3.1.7 The Meeting recognized that the availability of MET data is a prominent issue in this Region. One factor is that the responsibility to provide aeronautical MET data does not rest with the Civil Aviation Authorities. The relationship between CAAs and the national meteorological services needs to be strengthened and the responsibilities assigned to each documented in agreements.

3.1.8 The Meeting noted that States/Territories should take a more active role in MET, and concurred that a stronger and more direct method of communication is required by ICAO to efficiently enforce remedy of this issue, especially in view of the upcoming ICC Cricket World Cup 2007 event.

3.1.9 With the important changes being made to meteorological procedures and recognizing the difficulties encountered with MET information exchange among the States/Territories of the Eastern Caribbean, the Directors General of the E/CAR, considering the limited participation of E/CAR MET personnel at ICAO Meetings, unanimously agreed that ICAO encourage with high priority the participation of MET authorities and formulated the following Conclusion:

# CONCLUSION 20/01 ENCOURAGE PARTICIPATION OF MET PERSONNEL IN ICAO MEETINGS

That ICAO take appropriate action to strongly urge States/Territories of the E/CAR of the critical need for meteorology experts to attend ICAO regional and subregional meetings.

3.1.10 IATA will prepare a similar letter and distribute it to the States involved.

## Air Traffic Management (ATM)

#### Airspace Organization and Management (AOM)

3.1.11 The Meeting recognized that States/Territories have achieved tremendous progress in implementing ATM in the E/CAR; notwithstanding, in spite of the efforts attained, there are still some inconsistencies to be resolved regarding the airspace organization and strategic management, such as:

- discontinuities and differences in classification and transition altitudes between adjacent airspaces;
- requirements to fly departure and arrival procedures;
- operation of aircraft at inefficient altitudes, speeds, and in unfavourable winds;
- less than optimum use of scarce resources such as airspace and aerodrome capacity;
- limited collaborative decision making between Civil Aviation Authorities, ATM providers, aerodrome authorities and aircraft operators;
- limited facilities for real-time information exchange between ATM providers, aerodromes and aircraft operators; and,
- insufficient flexibility to permit optimum management of weather-related disruptions to airline operations.

3.1.12 It was recognized that States/Territories should encourage the flexible use of global airspace through the optimization and equitable balance of its use by civil and military operators. Also, to the extent possible, airspace should be structured free from operational discontinuities, inconsistencies and differing rules and procedures, considering airspace classifications as defined in Annex 11.

#### Implementation of RNAV Routes and Required Navigation Performance (RNP)

3.1.13 The Meeting took note of the current RNAV/RNP implementation between city pairs for enroute, terminal and approach flight phases that has been carried out in accordance with the new ICAO provisions for performance-based navigation (PBN). Some airports which have implemented GNSS procedures in the Caribbean are:

AUA: Aruba	SDQ: Santo Domingo
NAS: Nassau	BGI: Barbados
STT: St. Thomas	GCM: Grand Cayman
STX: St. Croix	KIN: Kingston
SJU: San Juan	MBJ: Montego Bay
POS: Port of Spain	PLS: Providenciales
GDT: Grand Turk	PUJ: Punta Cana (Higuey)
FPO: Freeport	POP: Puerto Plata
TAB: Tobago	

## ICAO Global Air Navigation Plan (ANP) On-Line Database

3.1.14 The Meeting took note of the Global Air Navigation Plan (GANP) database, which is available on-line through the ICAO Geographic Information Service/GIS portal with the performance-based approach to measuring success with implementation and the planning process to carry out regional integration and transition to a global ATM system.

3.1.15 To endorse Conclusion 6 of the Fifth Meeting of the All Planning and Implementation Regional Groups (ALLPIRG/5), which supported the use of on-line GANP database tools for interactive and dynamic planning, the Meeting urged ICAO to provide more information on the use of electronic tools.

### ATM Safety Management

3.1.16 The Meeting recognized that ATS Quality Assurance Programmes have proven to be effective tools, which foster enhancements to ATM safety management through the establishment of several complementary programmes. Despite the fact that these implementations have been successful in reducing incidents, the Meeting considered necessary the systemic implementation of other aspects regarding safety assessments, safety culture and sharing incident investigation reports in order to attain evolution to an effective regional ATM safety management system.

3.1.17 It was considered that the ECCAIRS (European Co-ordination Centre for Aviation Incident Reporting Systems) adopted by ICAO is an effective tool to harmonize taxonomies and to facilitate the exchange of occurrence data between States/Territories and between States/Territories and ICAO. The Meeting took note that ECCAIRS software is available on the ICAO web page for States/Territories at no cost.

3.1.18 The Secretariat informed that several regional events have been scheduled in the near term to provide assistance in the implementation of harmonized ATM safety management programmes throughout the CAR Region.

# ATM Modernization Plan in Trinidad and Tobago

3.1.19 The Meeting took note of efforts carried out by the Trinidad and Tobago Civil Aviation Authority (TTCAA) to significantly upgrade its ATM/CNS systems and facilities, and in its commitment to enhance air navigation safety, has embarked on the establishment of modern state-of-the art ATM/CNS systems and facilities in order to meet the needs of airspace users within the Piarco FIR and its domestic airspace. The Meeting recognized that the overall ATM/CNS plan requires the fullest cooperation of all stakeholders to ensure maximum benefits for all users.

# **Aviation Security Activities and Developments**

3.1.20 The Meeting took note of developments with aviation security regarding the Airport Security Programme, National Civil Aviation Security Programme, National Quality Control Programme, Cargo Security Programme, Passenger Screening, Human Factors, and Aviation Security Point(s) of Contact (POC).

# **Review of the Terms of Reference and Work Programme**

3.1.21 The Meeting noted the updated information on the Terms of Reference and Work Programme of the E/CAR Working Group considering the new Global Plan Initiatives and related ICAO on-line planning tools associated with planning and implementation work.

3.1.22 The Meeting supported that ICAO take appropriate action to reorganize the E/CAR/WG work programme for future meetings by considering strategies, action plans and roadmaps, in order to avoid any unnecessary and duplicated work. Future implementation work should be reorganized keeping in mind the priority interests of the E/CAR and aimed at optimizing human resources, financial savings and communication methods between States using such tools as the Internet, video conferencing, teleconferencing, e-mail, telephone and facsimile. ICAO will provide information to CAAs of the E/CAR accordingly.

3.1.23 Those changes should include reviewing the methods of reporting completed work to ensure that progress will be measured against timelines and that performance objectives are being met which, in turn, ensures that resources are more appropriately directed and that all work supports the ICAO business plan.

3.1.24 The Meeting noted the election of Mr. Norman Cassell as the new Chairman of the E/CAR WG.

### **Other Business**

# Next Meeting Site

3.1.25 The Meeting reviewed the rotation programme and the historical list of hosts for E/CAR Working Group Meetings. The Meeting decided to continue with the previously agreed rotation schedule. The delegate from Trinidad and Tobago expressed his satisfaction with being the host of the next Working Group meeting informing that his State will organize the next meeting in 2007.

3.1.26 The Meeting noted actions carried out by ICAO for the participation of St. Maarten and San Juan in future E/CAR/WG meetings.

# Licensing of Air Traffic Controllers in the OECS

3.1.27 The Meeting noted information provided by Eastern Caribbean Civil Aviation Authority (ECCAA) on the progress of licensing air traffic controllers in the States/Territories of the OECS and an interim method for conducting medical assessments by the temporary utilization of non-AME certified doctors to conduct medical assessments in accordance with the basic Class 3 medical requirements of Annex 1, where necessary, issuing a waiver in this regard for a period of one year only, to those States/Territories that require this facilitation.

3.1.28 In the meantime, in accordance with the Air Navigation (Overseas Territories) Order, and in conjunction with Air Safety Support International, the controllers in the British overseas territories of Anguilla and Montserrat are already licensed, albeit with temporary medical-certification exemptions.

### 3.2 E/CAR AIS Committee Report

3.2.1 In accordance with Conclusions 30/02, 30/03 and 30/04 of the E/CAR/WG/30 Meeting, the Rapporteur of the E/CAR AIS Committee presented the Action Plan Task List deemed essential to regularize Aeronautical Information Services activities in the E/CAR.

3.2.2 The 22 point action plan contains specific tasks and timelines to guide the work of the AIS Committee during the next 12 months and beyond looking to implement the global concepts of CNS/ATM systems and timely provision of crucial information in benefit of aviation safety and efficiency. The action plan contained in **Appendix B** to this part of the Report specifies the main activities grouped under three categories:

- 1) tasks associated with The ICC Cricket World Cup 2007 that must be accomplished by AIS in the Region;
- 2) outstanding tasks from the on-going work programme assigned to the AIS Committee; and
- 3) tasks geared towards the development of AIS in the Region.

3.2.3 Following the conclusions of the 30<sup>th</sup> E/CAR/WG, France presented a common method for the processing of the Repetitive Flight Plans (RPL) in the E/CAR to solve problems of missing flight plans on the control position due to the following causes:

- 1. Missing addresses;
- 2. Ineffective management of Repetitive Flight Plans (RPL);
- 3. Flight plans received but not forwarded to the controllers;
- 4. Flight plans sent after the actual departure time of the flight; and
- 5. Unserviceable AFTN link.

3.2.4 In order to satisfy the needs of the user and at the same time provide an adequate service, the Meeting agreed to the following:

# CONCLUSION 20/02 COMMON PROCEDURE FOR RPL MANAGEMENT IN THE E/CAR

That E/CAR States/Territories/International Organizations accepting the use of RPLs for traffic departing from aerodromes under its jurisdiction:

- a) implement a common procedure in order to ensure the appropriate dissemination of the RPL data;
- b) publish relevant procedures in the E/CAR AIPs based on the following principles:

- i. users shall transmit their list of RPLs to each departing aerodrome;
- ii. each departing aerodrome AIS office that is accepting the use of RPLs for departing traffic, transmit daily flight plan data to all concerned ATC facilities according to ICAO standards; and,
- c) the  $31^{st}$  E/CAR/WG follow-up on the present procedure.

3.2.5 IATA supported the implementation of those procedures and requested that the RPL procedures should consider changes or cancellation of flight plan data.

3.2.6 Regarding flight plans not complying with ICAO syntax, the aim is to fulfill ICAO standards. Each DCA should provide appropriate training to its AIS officer and implement "intelligent" tools (i.e input frames) so that the data introduced on the AFTN meets the correct ICAO format and facilitates the proper addressing of AFTN messages. To comply with this requirement the E/CAR DCAs agreed to the following Conclusion:

## CONCLUSION 20/03 IMPLEMENTATION OF "INTELLIGENT" AIS TOOLS

That the implementation of automated 'intelligent" tools be considered by States/Territories to facilitate the correct editing and addressing of AFTN messages in the E/CAR ATS facilities.

### 3.3 E/CAR ATM Committee Report

3.3.1 The E/CAR/WG deliberated on the impact that the match schedule of the ICC Cricket World Cup 2007 Tournament would have in the E/CAR. The Group noted that the official opening ceremony for International Cricket Council (ICC) Cricket World Cup 2007 is scheduled for 11 March 2007, in Jamaica and the Tournament's final match will take place in Barbados on 28 April 2007, with 29 April being a reserved/contingency day. Sixty-six (66) other matches (including warm-up matches) are being played in Jamaica, Guyana and 7 other States (Antigua and Barbuda, Barbados, Grenada, Saint Lucia, St. Kitts/Nevis, St. Vincent and the Grenadines, and Trinidad and Tobago) which are located within the Piarco FIR from 5 March 2007, up to and including the completion of the semi-finals on 26 April 2007.

3.3.2 The Meeting noted that there would be significant increases in aircraft movements within the FIR to/from the match venues over the period 1 March 2007 to 5 May 2007, and that there will be a need to work towards the implementation of ATFM measures to permit airspace users to conduct their flight operations with efficiency. The purpose of this initiative is expected to provide demand/capacity balancing in the airspace concerned and provide more fuel-efficient flight profiles. It will also afford greater operational flexibility to the air traffic control units that are responsible for the provision of ATC services in the Piarco FIR through the use of demand capacity balancing (DCB) concepts while at the same time fostering safety, orderliness and expedition.

3.3.3 The Rapporteur of the ATM Committee of the Eastern Caribbean Working Group (Trinidad and Tobago) presented a coordinated action plan and requirements for the implementation of Air Traffic Flow Management (ATFM) measures within the Piarco FIR inclusive of the Terminal Areas (TMAs) and Control Zones (CTRs) from 1 March 2007, to 5 May 2007, arising from the ICC Cricket World Cup 2007 (CWC 2007). Information on the tasks to be accomplished and a status report on developments are contained in the **Appendixes C, D, E and F** to this part of the Report.

3.3.4 The Meeting took note that the action plan includes establishment of a Team (E/CAR ATFM Group) led by the Rapporteur of the E/CAR ATM Committee with ATM Points of Contact (POCs) from the States/Territories concerned to progress the work.

3.3.5 Trinidad and Tobago advised that actions regarding training aspects for 15 air traffic controllers and implementation of two additional frequencies in the Piarco FIR are in progress.

3.3.6 The Meeting recognized the progress made during the last six months to solve the expected increase of air traffic operations and supported ATFM implementation beyond the first six months of 2007 through regulations, methodologies to determine airport acceptance rate, ATS capacity and teleconference procedures and enhancements of situational awareness tools and ATM services, to benefit airspace users and operators.

# 3.4 E/CAR CNS Committee Report

3.4.1 Following agreements of the E/CAR/WG/30 Meeting, Trinidad and Tobago, on behalf of the Rapporteur of the CNS Committee, presented an action plan toward improving Communications, Navigation and Surveillance (CNS) in the Eastern Caribbean.

3.4.2 The action plan includes replacement of the AFTN workstations with the Thales Intelligent AFTN Terminals (PC, printer and UPS), information on new NAVAIDs being installed (NDBs, DVOR/DME and Localizer/DME), and information regarding decommissioning NDBs.

3.4.3 The Meeting noted that discrete lines are being installed by France between Trinidad and Guadeloupe and between Trinidad and Martinique to permit remoting of radar data to Piarco ACC. Actions are underway for radar-data sharing between Barbados and Trinidad and Tobago. Antigua is working to repair and commission their radar and to obtain training for both controllers and technicians. Potential solutions for difficulties encountered with AFTN coordination between facilities and problems associated with the voice and data circuits on the Eastern Caribbean Digital Network were presented. Other difficulties encountered with AFTN coordination between facilities and problems associated with the voice and data AFS circuits on the Eastern Caribbean Digital Network were reported on.

3.4.4 The **Appendix G** to this part of the Report contains an action plan to improve CNS matters in the Eastern Caribbean with the following proposed solutions:

- Proposed solutions to resolve the AFTN problems;
- Immediate needs, user requirements and near term proposed solutions to problems associated with the AFS network;
- Automatic Message Handling System programmes and interconnection activities between the FAA and the E/CAR AFS digital network;
- Fault reporting and resolution procedures, link failures and proposed solutions;
- SBAS trials and solution with APV 1;
- Follow up on the developments of the E/CAR CNS systems, namely radar sharing/remoting and studies on the regional implementation of ADS-B and ADS-C to service the needs of the Oceanic Airspace East of 56° in the Piarco FIR; and
- Status of existing E/CAR digital network contract.

3.4.5 Trinidad and Tobago informed the Meeting that the transition of the AMHS gateway should be completed by the end of this month. Additionally, the proposal to implement ADS-C and ADS-B Mode S capability will require extensive coordination for complete implementation.

3.4.6 The Meeting noted that ICAO has published provisions and guidance material regarding ADS and that the regional strategy provides ADS-B guidance material for implementation in the NAM and CAR Regions for use in the near and medium term.

3.4.7 The Meeting concurred that the CNS Committee provided important actions regarding AMHS implementation, and also highlighted that it is important that States ensure compatibility throughout the AMHS implementation process.

3.4.8 Trinidad and Tobago reported on providing commercial power to airports within the E/CAR, indicating that some States have been experiencing power interruptions. The Meeting concurred that E/CAR States/Territories should provide backup generators for extended power outages to each navigation aid and agreed to the following Conclusion:

# CONCLUSION 20/04 PROVISION OF POWER ENERGY AND BACKUP GENERATORS TO EACH NAVIGATION AID

That States/Territories consider the provision of sufficient energy and backup generators for extended power outages, based upon the individual commercial demands of each navigation aid in the E/CAR.

# 3.5 Air Navigation Deficiencies

3.5.1 Using the information of the GREPECAS Air Navigation Deficiencies Database (GANDD) available at the NACC Office electronic address (<u>www.mexico.icao.int/bases</u>) for identification, assessment and reporting of air navigation deficiencies in the different fields of air navigation, the Meeting reviewed the status of the outstanding deficiencies of States/Territories of the E/CAR, as well as those deficiencies where action plans for their correction have been submitted and those deficiencies which have been corrected or eliminated.

3.5.2 In accordance with Article 28 of the Chicago Convention for providing safe, regular and efficient air navigation services, the Meeting recalled that the solution to air navigation deficiencies is the responsibility of Civil Aviation Authorities (CAAs). In this regard, the meeting noted that not all States/Territories have informed the ICAO NACC Regional Office of their respective action plans to correct the deficiencies in the air navigation fields, and recognized the requirement to update accordingly the related information on their list of deficiencies in the database. Within this context it must be noted that considerable concern has been repeatedly expressed by the Air Navigation Commission, the ICAO Council and GREPECAS on the many deficiencies and the time that they have persisted from the first report.

3.5.3 The Group took note of GREPECAS Decision 12/124, which urges States to eliminate urgent deficiencies by **31 December 2007**, subsequent to which the GREPECAS/15 Meeting will review the status of deficiency resolution to consider the application of last resort action after exhausting all the alternatives wherever applicable. The Secretariat offered support to States/Territories in the preparation and implementation of action plans to resolve deficiencies.

3.5.4 The Meeting noted information provided by the Secretariat on the last resort action for the elimination of urgent deficiencies. This effort will require ICAO assistance, through a special implementation project for resolving urgent deficiencies. It was also noted that, after all efforts to solve urgent deficiencies, the Council may elect to publish the existing deficiencies of individual Regions on the ICAO web site.

3.5.5 As a result of the upcoming ICC Cricket World Cup 2007 in the E/CAR, Trinidad and Tobago reported that it is currently receiving State funding to resolve air navigation deficiencies and discrepancies.

3.5.6 The Meeting was reminded that GREPECAS recommended taking full advantage of the GANDD by providing updated information for said database, using the username and password allocated to the person who was appointed point of contact by each Administration. In this regard, Mr. Gabriel Meneses (gmeneses@mexico.icao.int) was named as focal point in ICAO NACC Office to provide any required assistance.

# Proposal to Rectify Reported Deficiencies for Runway Strips and Runway End Safety Areas (RESA)

3.5.7 The United States presented a proposal to rectify reported deficiencies for runway strips and runway end safety areas (RESA) identifying two alternative means for international airports that are constrained by land and/or sea environments to achieve full or partial compliance with ANNEX 14, Volume I, Standards and Recommended Practices (SARPs).

3.5.8 The Meeting noted the benefit of this approach is that DGCA should be able to:

- 1) Understand the complexity of the remedial actions necessary to rectify existing deficiencies;
- 2) Prioritize deficiencies according to the level of effort needed for remedial action;
- 3) Implement a *comprehensive strategic action plan* to eliminate deficiencies; and
- 4) Submit corrective action plans for each deficiency to the ICAO NACC Regional Office.

3.5.9 **Appendix H** to this part of the Report explains both the positive accomplishments and the remaining unsolved conditions:

- Deficient RESAs
- Deficient runway strips
- Corrected RESAs and/or runway strips, and
- Corrected RESAs and/or runway strips not reported in 2003

3.5.10 In 2005, the Secretary of the Aerodromes Design Working Group (ADWG) under the ICAO Aerodromes Panel elevated *current recommended* RESA dimensional widths and lengths to the category of *standard*. Recognizing the extent of non-compliance with RESA SARPs and the greater difficulties imposed by the proposed safety enhancement, ICAO accepted the position that member State/Territories may use *alternative means* to achieve the safety benefits of RESA including a proven method to arrest overruns known as Engineered Materials Arresting Systems (EMAS).

3.5.11 The substantial costs associated with the installation of EMAS were recognized and; therefore, other alternative means of compliance are being explored. Another alternative means used by various member states is the application of declared distances to readjust the reported runway field lengths.

3.5.12 The Meeting noted how the reporting process used by ICAO to document deficiencies in GANDD can be used to categorize the various deficiencies. Grouping similar deficiencies into separate categories allows for prioritization of the categories according to the complexity of the remedial actions needed to achieve compliance. Collectively, the result of prioritization would be a written *Comprehensive Strategic Action Plan (CSAP)* for the States/Territories to develop individual CSAPs that:

- 1. Cover all recorded RESA and runway strip deficiencies from the ICAO NACC GANDD database;
- 2. Categorize the types of deficiencies as recorded by ICAO in figures 1 4 of Appendix H;
- 3. Prioritize the deficiencies according to the ability for correction;
- 4. Develop specific action plans for each deficient runway; and
- 5. Report the specific runway action plans to ICAO NACC Regional Office for entry into the GANDD database.

3.5.13 Taking into consideration the information provided, the Directors General of the E/CAR agreed the following:

# CONCLUSION 20/05 IMPLEMENTATION OF A COMPREHENSIVE STRATEGIC ACTION PLAN (CSAP) FOR RUNWAY END SAFETY AREAS (RESA) AND RUNWAY STRIPS

That States/Territories of the E/CAR develop CSAPs that:

a) address all RESA/runway strip deficiencies reported in GANDD by:

- categorizing the types of deficiencies recorded in GANDD

- prioritizing the categories according to the ability for correction;
- b) submit a comprehensive strategic action plan (CSAP) for each deficient runway into the GANDD posted in ICAO NACC Office web page; and,
- c) recommend to the GREPECAS AGA/AOP/SG alternative means to achieve compliance with RESA SARPs.

# Second Amendment of the Global Plan for CNS/ATM Systems (Doc 9750) and New Related ICAO Initiatives

3.6.1 The Secretariat made a comprehensive presentation on the Second Amendment of the *Global Air Navigation Plan for CNS/ATM Systems* (Doc 9750), which will be renamed as the Global Air Navigation Plan (Global Plan). It was noted that the Global Plan Initiatives (GPIs) contained in the revised Global Plan were developed by the Air Navigation Commission based on a roadmap which is aimed at bringing near and medium term benefits to the ATM community, taking advantage of the currently available aircraft capabilities and ATC infrastructure and technology.

#### **Results of the ALLPIRG/5 Meeting**

3.6.2 Under this Agenda Item the Meeting reviewed the results of the Fifth Meeting of the ALLPIRG/Advisory Group (ALLPIRG/5), and more specifically those conclusions which required action/support from States.

3.6.3 In respect to the Global Air Navigation Plan, the Meeting was apprised of the elements that the ALLPIRG requested the Secretariat to address when finalizing the revised Global Plan: a) the establishment of a mechanism to ensure integration of the Global Plan into the regional plans; b) the overall planning and implementation processes be kept as simple as possible; c) ICAO Headquarters ensure maximum transfer of knowledge; d) aircraft operations be integrated into relevant initiatives; e) the performance framework be finalized so that partners have a better understanding of how to meet performance objectives; and f) ensure safety is adequately addressed in the Global Plan Initiatives (GPIs). It was stressed that the status of implementation of GPIs should be reviewed at each PIRG meeting.

3.6.4 As follow-up of the ALLPIRG Conclusion 5/2 and the E/CAR/DCA Conclusion 30/1, the Meeting agreed that the E/CAR/WG adopt a performance-based approach for its work programme and take early steps to ensure that its work will fully support the business planning processes of ICAO and the directives of the ICAO Council.

3.6.5 The Meeting noted the need in the E/CAR States/Territories to restructure future activities based on performance objectives according to the new ICAO GPIs, and agreed that its future work should be justified and based on clearly established performance objectives supporting the ICAO Strategic Objectives.

3.6.6 Likewise, the preparation of an on-line searchable air navigation plan (ANP) database using the ICAO geographic information system (GIS) portal was welcomed as a means to improve the efficiency and provide conditions for electronic updates and timely provision of up-to-date Global ANP information for all users. The Meeting noted that ICAO would provide a series of workshops on the business case model developed for the implementation of CNS/ATM Systems.

3.6.7 For ease of reference, all conclusions from the ALLPIRG/5 related to action by States are included in **Appendix I** to this part of the Report. Taking into account the information provided in this Agenda Item, the Meeting agreed on the following conclusion:

## CONCLUSION 20/06 SUPPORT BY THE E/CAR DCA MEETING OF THE ACTIONS REQUIRED BY THE ALLPIRG/5 MEETING

That States/Territories of the E/CAR Region give full support to their follow-up actions in accordance with the conclusions of the ALLPIRG/5 Meeting and start reviewing their national air navigation plans, in coordination with the NACC Regional Office.

### Seamless ATM System

3.6.8 The Secretariat presented in WP/22 key ATM activities currently in progress in the CAR Region, which will eventually lead to a seamless ATM system, and performance objectives now being used to direct regional work. The Meeting noted that with the work underway to prepare for the ICC Cricket World Cup 2007 and the WATRS Plus redesign project to the north, we have the opportunity to move toward the near term view of seamless international operations and far term view of a seamless global ATM system.

3.6.9 Current activities underway include implementation of performance-based navigation (RNAV and RNP); demand and capacity balancing or air traffic flow management (ATFM); interfacing and integration of ATM Automation systems including ATS Inter-Facility Data Communications (AIDC) and radar-data sharing; improvements to the telecommunications networks; civil/military coordination regarding Special Use Airspace; and ATM contingency planning. Following a requirement of the ICAO Council, the NACC Regional Office is developing a regional catalogue of ATM contingency plans, including related Points of Contact to facilitate regional coordination.

3.6.10 The Meeting noted that implementation should meet the ATM community expectations on the performance of the system and measures that performance from several perspectives. These general expectations are relative to the effective operation of the ATM system and include *safety*, *security, environment, efficiency, cost-effectiveness, capacity, access and equity, flexibility, predictability, global interoperability and participation* by the entire ATM community.

3.6.11 During the last year, the NACC Office has carried out close coordination with the ICAO ANB to harmonize regional work processes with the global planning initiatives (GPIs) of the Global Plan and has worked with States/Territories/International Organizations in various regional meetings to align the work programmes into specific ATM performance objectives in support of the strategic objectives of ICAO. The goal is to focus attention on regional implementation activities and to ensure that resources are efficiently utilized and work is not duplicated. The new work process and methods should also ensure that performance objectives can be measured against timelines and facilitate reporting progress to the Air Navigation Commission and ICAO Counci.l

3.6.12 The Meeting agreed that performance objectives included in **Appendix J** to this part of the Report contribute to a seamless ATM system. Each performance objective describes benefits expected and their connection to ICAO strategic objectives, tasks designated in accordance with ICAO Doc 9854 together with regional work programme activities to be completed in the near and medium term, including a description of strategic tasks and their relationship with GPIs. By using these performance objectives as the basis for organizing work, the E/CAR States/Territories will ensure activities undertaken will be part of and harmonized with the larger NAT, NAM, CAR and SAM work programmes, leading to the goal of global ATM.
#### 3 - 14

3.6.13 To achieve further progress with performance objectives, States/Territories should develop or update their own implementation strategies or action plans to reflect their work programmes, timelines, individual parties responsible and work status so as to monitor progress and to report advances on those activities, as required. Information on activities, and a means to provide feedback on progress of work through an annual reporting process should be recorded to help Civil Aviation Administrations prioritize activities and identify needed support. It will also help in identifying annual needs and assistance in each ICAO Region.

3.6.14 The Meeting also noted that planning and implementation work should be reorganized keeping in mind the priority interests of the CAR Region aimed at optimizing human resources, financial savings, as well as use of communication means between States such as the Internet, video conferencing, teleconferencing, e-mail, telephone and facsimile, which should be encouraged during the intervening period.

#### Air Traffic Flow Management (ATFM) System in the CAR Region

3.6.15 The Meeting unanimously supported implementation of ATFM measures to contend with the ICC Cricket World Cup, which will begin March 2007, in the Eastern Caribbean. It was agreed that the ATM Committee continue working on an action plan to collect traffic forecasts, compare them with declared system capacity, and establish a plan to ensure optimum traffic flows through affected areas, as well as demand and capacity balancing procedures, including aerodrome and ATS capacity.

3.6.16 Additionally, it was considered that the States/Territories should review, through a CDM process, the airspace and aerodrome layout and management to allow flexibility and optimization of resources for the benefit of ATS users and providers as well as other tasks to develop in the short term such as:

- enhance civil/military coordination and cooperation aiming to achieve dynamic and flexible use of airspace;
- the development of an ATFM procedural manual for its common application, including specifications to determine aerodrome and ATS capacity;
- publication of available ATS and aerodrome capacity information according to ICAO guidelines;
- publication of national procedures in the AIP;
- establish improvements regarding surveillance and automated systems for flight data processing as well as the development and coordination of ATFM messages;
- improve human resource planning and required training aspects;
- improve the ATS route network; and
- encourage operational agreements between ATS users and providers for ATFM implementation, especially in those areas where flow problems already exist.

3.6.17 The United States presented a model of ATFM that will assist States in the NAM/CAR Regions in meeting ATFM performance objectives between the NAM and CAR Regions. The Meeting noted that with the approach of the ICC Cricket World Cup, the application of ATFM measures would help to ensure that safety of air operations is not compromised, an optimum flow of air traffic is maintained, delays are mitigated, and assistance is provided to ATC in complying with its objectives. Main aspects to implement ATFM between NAM and CAR are related to communications between Flow Management Units and determination of ATS sector and aerodrome capacity as depicted in **Appendix K** to this part of the Report.

3.6.18 The Meeting recognized Trinidad and Tobago for their cooperation and coordination efforts and noted the importance of the involved Regions to address restrictions in addition to deficiencies, and highlighted including the users during the development of the ATFM planning.

#### **Revisions to the West Atlantic Route System (WATRS Plus Project)**

3.6.19 The United States presented its project to review the West Atlantic Route System (WATRS) airspace, which will provide increased capacity, additional fixed routes, and flexibility through implementation of a more efficient lateral separation standard and redesign of the ATS Route Structure. The project, depicted in **Appendix L** to this part of the Report, has been designated the "WATRS Plus Airspace Redesign and Separation Reduction Initiative" (WATRS Plus).

3.6.20 It was noted that the benefits will extend to the next 10-15 years. Advance NOTAM information will be published on 21 December 2006. The Meeting unanimously expressed the desire to continue working with the FAA to achieve a seamless transition on the proposed routes in the new WATRS Plus route structure, bearing in mind implementation of a free flight concept in the future.

3.6.21 Additional work in progress is IATA assistance with data provision for preparation of simulations, a necessary component to the project. Considerable safety assessment activities will be conducted in conjunction with the redesign efforts and regulators were advised to plan and prepare for the influx of operators fulfilling RNP 10 requirements.

3.6.22 The Meeting congratulated the United States for their proactive efforts regarding this initiative that will provide tremendous value to the aviation community and significant cost benefits. Taking into account the information provided, the Meeting agreed to the following:

# CONCLUSION 20/07 SUPPORT TO WATRS PLUS PROJECT

That States/Territories/International Organizations of the E/CAR;

- a) take appropriate action to support implementation activities of the WATRS Plus project, included in Appendix L to this part of the Report; and,
- b) prepare to accommodate the number of operators acquiring RNP 10 approval, a requirement for operation in the proposed WATRS Plus project, including the provision of information to the operators and the coordination of approval status with the relevant State authorities.

#### Aerodrome Issues in the E/CAR

3.6.23 The Secretariat presented the critical elements of the most common deficiencies found in Aerodrome and Ground Aids, as follows:

#### **Critical Elements**

Critical Elements	1	2	3	4	5	6	7	8
Deficiencies								
The following are not mentioned in the Aviation Basic Law: Lack of								
attributions for publishing regulations relation to aerodrome	Х							
environmental control.								
Local regulations to comply with Annex 14 have not been developed.		X						
Lack of certification of aerodromes, safety and standards Unit.			Х					
Personnel responsible for aerodrome certification, safety and standards is not qualified and trained according to Appex 14				X				
Staff assigned to aerodrome certification and safety activities; does								
not have technical guidelines and regulations for their corresponding					Х			
duties and responsibilities.								
Staff assigned as AGA Inspector does not have the corresponding						x		
license.								
AGA personnel do not have all the necessary elements to perform an								
accurate assessment, follow up and oversight of safety standards by							X	
airport operators.								
The SMS Standards have been in force since 27 November 2005.								
However, they have not been fully and effectively implemented by								X
States and Territories.								

3.6.24 The Secretariat also provided information about Activities of the Latin American and Caribbean Airport Pavement Association (ALACPA); CARSAMPAF Committee Activities Information on Bird/Wildlife hazard database; Amendments 8 and 9 to Annex 14, Vol. I; Implementation of SMS in States and Territories; and the work carried out by ICAO working in close cooperation with the World Health Organization (WHO) to develop the "Global Influenza Preparedness Plan."

3.6.25 The Meeting was also reminded of the necessity to complete the questionnaire on the Status of Implementation of *Annex 14 Aerodromes Vol. I – Aerodrome Design and Operations*, specifications on Aerodrome Certification and Safety Management System, and its submission to the NACC Office no later than **15 December 2006.** The ICAO NACC Office extended the deadline and all E/CAR States/Territories were strongly urged to complete and submit the questionnaire. The information provided will be used for the preparation of a Working Paper that will be presented during the next session of the Assembly. The goal is to develop improvements to the future work programme with the follow-up to implementation requirements.

#### **Aeronautical Information Service**

3.6.26 Following GREPECAS/13 conclusions, previous E/CAR/DCAs and E/CAR WG meeting conclusions, the Secretariat presented Working Paper 12 on progress in the AIS/MAP field within the CAR Region. The Meeting agreed that the following task list related to the main AIS issues requires special attention by E/CAR States/Territories action plans.

#### LIST OF MAIN AIS ITEMS

- 1) Level of training and number of AIS staff;
- 2) Organization and efficiency of the AIS office;
- 3) Level of available documentation in the AIS office;

- 4) Degree of computerization;
- 5) Availability or access to the Internet;
- 6) Implementation status of a quality assurance programme; and
- 7) Organizational structure of the AIS.

### Establishment of the FIR Policy Group and CANAS

3.6.27 The Meeting was informed of the establishment of the E/CAR FIR Policy Group and the Caribbean Air Navigation Advisory Services (CANAS).

3.6.28 The FIR Policy Group and CANAS have been fully functional since January 2005, when the operation of the private contractor, Intercaribbean Aeronautical Communications Ltd. (IACL), was terminated. The groups have now matured and a relationship with ICAO is requested.

3.6.29 The FIR Policy Group was charged with the responsibility for the socio, technical and legal issues of the FIR to act on behalf of regional government. Also, a Trinidad and Tobago government owned private entity called Caribbean Air Navigation and Advisory Services (CANAS) was established to address economic affairs of the FIR.

3.6.30 The Meeting took note of the two entities established in the E/CAR and requested ICAO to take the necessary action to establish a relationship with the FIR Policy Group and CANAS aiming to facilitate cohesive decision-making methodology.

3.6.31 The Meeting recognized that the NACC Office is predominantly a technical office and that political and economic issues are beyond their purview. The NACC Office offered to coordinate support deemed outside of its purview through the ICAO Montreal Office. Trinidad and Tobago offered to provide more comprehensive information as well as Terms of Reference of the two organizations..

#### **Information Papers**

3.6.32 The United States presented the following Information Papers

# Status of Engineered Materials Arresting System Installations in the United States (IP/06)

(**Appendix M** to this part of the Report)

3.6.32.1 The FAA places a high priority on improving runway safety areas (RSA) at commercial service airports to meet current standards. Since many airports are constrained and construction of a full RSA is not possible, FAA, in partnership with industry representatives, developed an Engineering Materials Arresting System (EMAS) in the 1990s. EMAS consists of a lightweight concrete material that crushes under the weight of an aircraft's landing gear when it leaves the runway surface. In many situations, EMAS installations meet RSA standards even when standard RSA dimensions are not attainable. Through FAA's leadership, EMAS continues to be deployed at airports throughout the United States and has proven to successfully stop aircraft overruns on several occasions

#### Runway Safety Area Improvements in the United States (IP/07) (Appendix N to this part of the Report)

3.6.32.2 Since 2000, the FAA has been working with commercial service airports to improve RSAs to meet standards or as close as possible if full standards are not feasible. There are approximately 570 commercial service airports and 1,020 commercial service runways in the United States. The number of runways that substantially meet RSA standards has increased from 55% in 2000 to 70% today. FAA's goal is to have all possible improvements completed by 2015 when as many as 87 % of the runways will substantially meet RSA standards.

#### **Research Activities for Managing Wildlife Hazards to Aircraft**

3.6.32.3 The civil and military aviation communities widely recognize that the threat to human health and safety from aircraft collisions with wildlife (wildlife strikes) is increasing. Many populations of wildlife species commonly involved in strikes have increased markedly in the last few decades. It has been well documented that birds, deer, and other wildlife present significant hazards to aircraft. As air traffic has increased, so too have United States passenger enplanements, increasing from about 310 million in 1980 to 731 million in 2005 and commercial air traffic increased from about 17.8 million aircraft movements in 1980 to 29.9 million in 2005.

# Operational Approval for Required Navigation Performance 10 (RNP 10) for the West Atlantic Route System (WATRS) Plus Airspace Redesign and Separation Reduction Initiative (IP/09)

(Appendix O to this part of the Report)

3.6.32.4 The RNP 10 operational approval process is outlined to assist regulators and operators prepare for its introduction in the West Atlantic Route System.

#### Next Generation Air Transportation System (NGATS) (IP/13) (Appendix P to this part of the Report)

3.6.32.5 Operating and maintenance costs of the air traffic system are outpacing revenues and the air carrier industry is going through a period of dramatic change. New security requirements significantly impact costs and the ability to efficiently move people and cargo. In addition, growth in air transportation is provoking community concerns over aircraft noise, pollution, and congestion. Adapting our current air transportation paradigm will not be sufficient to meet these challenges. Instead, transformation of today's system is required to ensure a healthy, environmentally friendly, globally interoperable air transportation system for 2025. In 2002, the U.S. Congress established the Joint Planning and Development Office (JPDO) to define a national strategy for developing the Next Generation Air Transportation System (NGATS). The NGATS vision for 2025 enables the safe, efficient and reliable movement of large numbers of people and goods throughout the air transportation system in a way that is consistent with national security objectives. NGATS vision is founded upon an underlying set of principles and enabled by a series of key capabilities that will free the U.S of many current system constraints, support a wider range of operations, and deliver an overall system capacity up to 3 times current operating levels.

#### Plans for ADS-B and Communications Improvements in Gulf of Mexico Airspace

3.6.32.6 The United States plans to implement air traffic service improvements in United Statescontrolled Gulf of Mexico airspace in 2010. Air-ground communications improvements as well as planned benefits provided by automatic dependent surveillance broadcast (ADS-B) capabilities were outlined.

# Current Status of the Federal Aviation Administration Telecommunications Programmes

3.6.32.7 The MEVA II network is fully implemented, thus satisfying the commitments to the CAR/SAM Aeronautical Community. The Automatic Message Handling System (AMHS) prototype installed in Salt Lake City (SLC), Utah, has been operational since 2005 to support Asia Pacific connections and is planned to expand to Atlanta (ATL) Center to support facility and network diversification. This will ensure SLC and ATL Centers can backup one another. ATL will support AMHS service to Europe, South America and Caribbean regions in September 2007.

3.6.33 IATA presented information, contained in **Appendix Q** to this part of the Report, on the fuel crisis and the urgent need to implement fuel saving measures, highlighting areas were ATS Providers and State ATS Authorities could assist in driving fuel inefficiencies out of their systems, and assist airlines in their internal fuel efficiency strategies.

3.6.34 Due to airline concerns, IATA provided information contained in **Appendix R** to this part of the Report, about actions made by many States responding to ATS incident reports. IATA urged States/Territories to promptly investigate ATS incident reports and implement corrective measures to resolve them and prevent new occurrences.

#### APPENDIX A DRAFT CONCLUSIONS AND DECISIONS OF THE 30th E/CAR/WG

FIELD	DRAFT CONCLUSIONS	ACTION FOR	REMARKS/ FOLLOW-UP	ACTION BY DCAS
	CONCLUSION 30/01 IMPLEMENTATION OF WORK PROGRAMMES IN SUPPORT OF STRATEGIC PERFORMANCE OBJECTIVES			
ATM	<ul> <li>That in support of the evolution from a systems-based to a performance-based approach to planning and implementation of the air navigation infrastructure, States/Territories of the E/CAR develop and implement work programmes as depicted in Agenda Item 6, Appendix B, to this report, in support of the following performance objectives:</li> <li>i) Optimization of the ATS route structure</li> <li>ii) Improve demand and capacity balancing</li> <li>iii) Enhance civil/military coordination and cooperation</li> <li>iv) Align upper airspace classification</li> <li>v) Implement RNP approaches</li> </ul>			
AIS	CONCLUSION 30/02 ACTION PLAN TO IMPROVE AIS IN THE E/CAR That the AIS Committee develop and present to the DCAs an action plan specifying agreed solutions to improve AIS in the E/CAR in accordance with information contained in <b>Appendix A</b> to this part of the report and keeping in mind the ATM requirements relating to the 2007 Cricket World Cup.			

FIELD	DRAFT CONCLUSIONS	ACTION FOR	<b>REMARKS</b> /	ACTION
			FOLLOW-UP	BY DCAS
	CONCLUSION 30/03 AIS TECHNICAL VISITS			
	That in order to improve AIS technical expertise and harmonization in the E/CAR:			
AIS	<ul> <li>a) the TTCAA, on behalf of PIARCO AIS, extend an invitation by the first half of September 2006 to the E/CAR States/Territories to send two of their AIS staff on AIS technical visits to Piarco AIS and that receiving States/Territories reply within two months of receipt of the invitation;</li> </ul>			
	b) the E/CAR Civil Aviation Authorities support a two-day visit of their AIS staff to Piarco AIS in accordance with the adjusted tentative schedule and agenda contained in Appendix B: and			
	<ul> <li>c) the E/CAR States/Territories support the visit of the Piarco AIS Chief Technical Officer to their facilities for the purpose of identifying deficiencies in accordance with the list referred in Appendix C.</li> </ul>			
	CONCLUSION 30/04 MEETING OF THE AIS COMMITTEE			
	That in order to advance the AIS activities of the E/CAR:			
AIS	<ul> <li>a) the 2<sup>nd</sup> Meeting of the E/CAR AIS Committee be held in 2007 for the purpose of:</li> <li>defining the Integrated Automated AIS in the E/CAR;</li> <li>drafting the Implementation Plan of the Integrated Automated AIS in the E/CAR through Aeronautical Information Management using the AICM and AIXM models;</li> <li>resolving other E/CAR AIS deficiencies; and</li> <li>implementing the E/CAR AIS Quality Assurance Programme.</li> </ul>			
	b) that ICAO, in cooperation with France and the United States, support the Meeting with technical experts in AIS quality assurance programmes and Aeronautical Information Management implementation.			

FIELD	DRAFT CONCLUSIONS	ACTION FOR	REMARKS/ FOLLOW-UP	ACTION BY DCAS
AIS	CONCLUSION 30/05STATUS OF IMPLEMENTATION OF THE E/CAR AIS/MAP SYSTEMSThat in order to reflect the fulfilment of the AIS/MAP systems in the E/CAR, States/Territories present information in the format contained in Appendix D to this part of the report, and submit advances to the NACC Regional Office in this respect by 15 November 2006 and thereafter on a quarterly basis until complete.			DIDCAS
AIS	CONCLUSION 30/06HARMONIZATION OF THE WGS-84 BOUNDARY COORDINATES OF THE MAIQUETIA AND PIARCO FIRSThat Trinidad and Tobago and Venezuela:a)finalize the harmonization of bordering geographical coordinates of their respective FIRs by May 2007, andb)inform ICAO of the completion of this activity.			
SAR	<ul> <li>CONCLUSION 30/07 NATIONAL AND INTERNATIONAL SAR COOPERATION AGREEMENTS IN THE E/CAR</li> <li>That States/Territories of the E/CAR Area that have not yet done so:         <ul> <li>a) present an up-to-date report of their bilateral and/or multilateral SAR cooperation agreements with other States/Territories/International Organizations which allow the use of mechanisms and resources to improve the SAR regional system; and</li> <li>b) submit to the ICAO NACC Regional Office by 30 August 2007, a report on the progress attained in this regard.</li> </ul> </li> </ul>			

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EIEI D	DDAFT CONCLUSIONS	A CTION FOD	DEMADIZC/	ACTION
FIELD	DRAFT CONCLUSIONS	ACTION FOR	FOLLOW-UP	BY DCAS
MET	<ul> <li>CONCLUSION 30/08 PARTICIPATION OF MET PERSONNEL IN ICAO MEETINGS</li> <li>That, where applicable, Civil Aviation Administrations make the necessary coordination with national meteorological services to: <ul> <li>a) enable the participation of meteorology experts in ICAO meetings;</li> <li>b) assign a MET expert to be directly contacted by the AERMET Subgroup Secretariat and by the task forces' rapporteurs to carry out the required actions in their respective work programmes; and</li> <li>c) send the contact information of the MET expert assigned to the ICAO NACC Office as soon as possible and, in any event, not later than 15 March 2007.</li> </ul> </li> </ul>		FOLLOW-UP	
ATM	CONCLUSION 30/09 PARTICIPATION IN THE NAT/CAR ATS ROUTES WORKING GROUP MEETINGS That ICAO urge Cuba, Curacao, Dominican Republic, Haiti, Jamaica, Trinidad and Tobago, and Venezuela to participate in the NAT/CAR ATS Routes Working Group meetings for the implementation of the WATRS Plus project in CAR and NAT Regions.			
ATM	CONCLUSION 30/10ACTION PLAN TO ESTABLISH DEMAND AND CAPACITYBALANCING BALANCING MEASURES IN THE E/CARThat the ATM Committee develop and present to the DCAs an action plan specifying agreed solutions to establish demand and capacity balancing in the E/CAR in accordance with information contained in Appendix F to this part of the report, keeping in mind the requirements relating to the 2007 Cricket World Cup.			

FIELD	DRAFT CONCLUSIONS	ACTION FOR	REMARKS/	ACTION
GEN	<ul> <li>CONCLUSION 30/11 PARTICIPATION IN THE IMPLEMENTATION OF DEMAND AND CAPACITY BALANCING MEASURES IN THE E/CAR FOR THE CRICKET WORLD CUP 2007.</li> <li>That,</li> <li>a) States and Territories of the Eastern Caribbean provide the name and related information of the point of contact who will participate in the implementation of demand and capacity balancing measures in the E/CAR; and</li> <li>b) ICAO take action to send invitation letters to Curacao, Dominican Republic, Guyana, Haiti, Jamaica, Suriname, Trinidad and Tobago, United States and Venezuela for their participation in the implementation of demand and capacity balancing measures for the Cricket World Cup to be held during March and April, 2007.</li> </ul>		FOLLOW-UP	BY DCAS
ATM	CONCLUSION 30/12 ATFM OPERATIONAL LETTERS OF AGREEMENT That E/CAR States/Territories that have not done so, encourage the ATS providers to include demand capacity balancing measures in their operational letters of agreement by 30 November 2006.			

FIELD	DRAFT CONCLUSIONS	ACTION FOR	REMARKS/ FOLLOW-UP	ACTION BY DCAS
	CONCLUSION 30/13 BEGIN TRIALS ON THE USE OF ICAO ELECTRONIC GLOBAL AIR NAVIGATION PLANNING TOOLS			
	That States/Territories of the E/CAR:			
GEN	a) utilize the on-line electronic planning tools provided on the ICAO web page as the common planning and implementation mechanism, ensuring proper coordination of regional and global integration;			
	b) review, on a regular basis, the progress achieved and challenges identified in the implementation process; and			
	c) provide feedback to the Secretariat on possible improvements.			

FIELD		DRAFT CONCLUSIONS	ACTION FOR	REMARKS/ FOLLOW-UP	ACTION BY DCAS
	CONCLUSI	DN 30/14 REGIONAL ATM SAFETY MANAGEMENT SYSTEM			
	That	the States/Territories of the E/CAR:			
ATM	a) take the necessary actions for the implementation of an ATM safety system which ensures air navigation service providers the implementation of a Safety Management System in accordance with the new ICAO Annex 11 guidelines;				
	b)	b) establish the acceptable levels and objectives with regard to safety within the airspace and aerodromes of their jurisdiction;			
	c) consider the use of ECCAIRS (European Coordination Centre for Aviation Incident Reporting Systems) as a means for classification of incident and accident taxonomies;				
	<ul> <li>take appropriate actions so as to provide funds for the promotion and enhancement of the ATM safety culture in their respective organizations in accordance with ICAO Doc 9859 guidelines;</li> </ul>				
	e) foster analysis and cooperation meetings among their related SMS/QAP specialists in order to share experiences for the effective implementation of ATM safety management programmes; and				
	f)	participate in the activities carried out by ICAO in order to facilitate the implementation of a regional ATM safety management system.			

FIELD	DRAFT CONCLUSIONS	ACTION FOR	REMARKS/	ACTION
	CONCLUSION 30/15 ACTION PLAN TO IMPROVE CNS IN THE E/CAR		FOLLOW-UP	BY DCAS
CNS	That the CNS Committee develop and present to the DCAs an action plan specifying agreed solutions to improve CNS in the E/CAR in accordance with information contained in Appendix M to this part of the report, keeping in mind the requirements of ATM and AIS fields relating to the 2007 Cricket World Cup.			
	CONCLUSION 30/16 RECRUITMENT OF AVSEC PROFESSIONALS		States should survey for	
AVSEC	That the States/Territories:		capable individuals who qualified with the ICAO	
	a) review the ICAO prerequisites and forward this information to AVSEC qualified individuals in their administrations; and		AVSEC employment requirements to be used as ICAO experts to States	
	b) encourage qualified individuals to apply to ICAO to assist States with the enhancement of their AVSEC Programmes.		20110 caperis to Duttos	
	CONCLUSION 30/17 AVIATION SECURITY POINT OF CONTACT (POC) NETWORK			
AVSEC	That the States/Territories:			
A VOLC	a) review the criteria information and designate the appropriate authority to receive imminent threats to civil air transport operations through this Network; and			
	b) as soon as practical sign up with ICAO using the appropriate form for the Aviation Security Point of Contact (POC) Network.			

FIELD	DRAFT CONCLUSIONS	ACTION FOR	REMARKS/ FOLLOW-UP	ACTION BY DCAS
	CONCLUSION 30/18 REORGANIZATION OF THE ATM TERMS OF REFERENCE AND WORK PROGRAMME OF THE E/CAR/WG			
лтм	That ICAO:			
	<ul> <li>a) review and integrate the ATM tasks of the E/CAR Working Group considering the performance objectives, as indicated in Appendix B to this part of the Report, taking into account the new Global Plan Initiatives (GPI); and</li> <li>b) reorganize, in an homogeneous manner, future activities of the E/CAR Working Group in accordance with the future annual work programme of the ICAO NACC Regional Office.</li> </ul>			
	CONCLUSION 30/19 PARTICIPATION OF ST. MAARTEN AND SAN JUAN PERSONNEL IN E/CAR MEETINGS			
GEN	That ICAO carry out appropriate actions to contact the administrations of the Netherlands Antilles and United States and inform them of the importance of participation of personnel of St. Maarten and San Juan in E/CAR WG meetings to resolve issues affecting their respective facilities.			

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# APPENDIX B AIS ACTION PLAN TASK LIST FOR E/CAR STATES' AIS

# **Revision** (1)

Task No	TASK	DEADLINE	RESPONSIBILITY	REMARKS
1	Invitation to E/CAR States to send their AIS Staff on a 2-day visit to Piarco AIS	15-Sep-06	Trinidad and Tobago Civil Aviation Authority AIS (TTCAA AIS)	Invitations to be sent via email and fax and estimated costing (hotel, etc) also to be done and issued later (about end of September).
2 CWC	Issue of general AIC relating to World Cup 2007	15-Sep-06	Barbados, Martinique and Piarco AIS Units	Each responsible state will issue an AIC requiring that all ACFT operators intending to operate into the Piarco FIR and the TMAs and CTRs within it during March and April should send particular information to AIS Units of Piarco, Martinique and Barbados. This information may include airline name, aircraft type, date of flight, departure AD/ time, destination AD/time, estimated parking time at destination.
3 CWC	Collection of information as stated in AIC and issue to Trinidad and Tobago POC	15-Nov-06	Piarco AIS Unit	
4	Reply to invitation	30-Nov-06	All E/CAR States CAA's	Reply needed so that Piarco AIS staff can be in readiness to receive visits.
5	Submit to ICAO completed form re: status of implementation of E/CAR AIS MAP Systems	30-Nov-06	All E/CAR States CAA's	To be sent thereafter on a quarterly basis. (Form is found as Appendix to Working Paper 06 - (30th ECWG Meeting).
6	Visit of Barbados AIS Staff to Piarco AIS	31-Dec-06	Barbados CAA	Visit expected by Piarco at end of September.
7	Production of WAC for E/CAR	31-Dec-06	All E/CAR States CAA's	This maybe accomplished through use of the former survey contractor who has indicated possession of all needed info to complete this task.

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Task No	TASK	DEADLINE	RESPONSIBILITY	REMARKS	ω
8	Correction of existing AIP Coordinates which are not clearly WGS 84 compliant	31-Dec-06	Venezuela CAA AIS TTCAA AIS	Piarco will request confirmation of all dubious points from E/CAR states.	B-2
9 CWC	Familiarization of AIS Staff	01-Jan-07	All E/CAR States	Each state will ensure that their AIS staff are familiar with the basic ATFM strategies developed for use during the world cup.	YENTIET
10 CWC 11 CWC	Refresher training of AIS Staff Issue of NOTAM or AIP SUP relating to activity including any ATS flight status restrictions- IFR/VFR and advanced FPL notification via AFTN email, website posting, fax etc.	31-Jan-07 31-Jan-07	All E/CAR States Barbados, Martinique and Piarco AIS Units	Each State's AIS Administrator will ensure that their AIS staff are refreshed on basic flight planning, NOTAM and other ATS message issue. Coordination required between the AIS units of Piarco, Barbados and French Antilles with their respective ATS units.	APPENDIX B TO THE F
12 CWC	Equipment Availability and Accessibility	28-Feb-07	All E/CAR States	Each State's AIS Administrator will ensure that AFTN Terminals, Telephones, Telefaxes, Internet/email are accessible to AIS Staff and are in good working order.	REPORT ON
13 <b>CWC</b>	Contingency Planning			Each State's AIS Administrator will work on contingency arrangements with neighbouring AIS Units. Example in the event that AFTN at State A malfunctions then State B will transmit ATS Messages on their behalf etc.	ATION OF THE AGENDA ITEN
14 <b>CWC</b>	Human resource availability			Each State's AIS administrator will ensure that AIS staffing is adequate including possible extra staff for the Mar-Apr period.	LASTEKN 13
15 CWC	Issue of Trigger NOTAM (if AIRAC SUP was issued as at 11) above) to herald start of ATFM from Mar 3rd to May 5th	01-Mar-07	Barbados, Martinique and Piarco AIS Units		CARIBBEAN
16	Harmonization of ENR boundary Coordinates between Piarco and Maiquetia	31-May-07	TTCAA AIS and Venezuela AIS	Venezuela has indicated that their WGS 84 Survey will be complete by Dec 06. At that time they have requested a bilateral meeting to discuss the points in question.	

Task No	TASK	DEADLINE	RESPONSIBILITY	REMARKS
17	Visit of TTCAA AIS Chief to E/CAR AIS Units to identify deficiencies	30-Jun-07	TTCAA and E/CAR States AIS	The list of areas to be examined are attached to the report of the 30th ECWG Meeting.
18	Visit of E/CAR States AIS Staff to Piarco AIS Unit	30-Jul-07	E/CAR States CAA AIS. TTCAA AIS	Visits are in accordance with the schedule as well as the topics for consideration attached to the Report of the 30th ECWG Meeting.
19	2nd Meeting of the E/CAR AIS Committee	31-Dec-07	E/CAR AIS Committee Members	Meeting to be held for the purpose of discussing the issues included in draft conclusion 30/05 in the report of the 30 ECWG Meeting.
20	Meeting with Technical Experts in Quality Assurance and AIM	31-Dec-07	France CAA, US FAA, ICAO, E/CAR AIS Committee	Preferably to be held during the E/CAR AIS Committee Meeting.
21	Implementation of E/CAR AIS Quality Assurance	31-Dec-08	All E/CAR States CAA's	Some States have started this implementation.
22	Establishment of a Strategy for E/CAR AIS MAP Automation	31-Dec-08	E/CAR AIS Committee	The meeting with Technical experts in AIM is expected to yield ideas for this strategy.

# **APPENDIX C**

# **CRICKET WORLD CUP 2007 ATFM TASKS**

No	TASK	<b>DEADLINE DATE</b>	PERSON RESPONSIBLE	REMARKS
1.	Provide Point of Contact (POC) to Trinidad and Tobago POC	By 2006 August 18	All E/CAR States and Territories	Through ICAO NACC Office invitations were sent to Dominican Republic, Haiti, Jamaica, Netherlands Antilles, IATA, IFALPA and IFATCA for their participation in E/CAR ATFM activity during the ICC CWC 2007. POCs have been provided and are involved in the activities. POCs are yet to be obtained from Netherlands Antilles and IFALPA. Guyana and United States POCs are participating. Suriname and Venezuela are yet to inform on participation and their POCs.
2.	Issue general AIC relating to Cricket World Cup 2007	2006 September 15	Barbados AIS Martinique AIS Piarco AIS	Coordination carried out between Barbados, France, and Trinidad and Tobago. AIC was issued simultaneously on 2006 September 16.
3.	Coordinate with U.S. FAA Command Center, regarding telephone conferencing communications facility	On-going	Trinidad and Tobago POC	Coordination has been completed with the US FAA Command Center for the use of their telephone conferencing communication for ATFM activities prior to and during CWC 2007.
4.	Copy all information relating to Cricket World Cup 2007 to ATS Points of Contact in Dominican Republic, Guyana, Haiti, Jamaica, Netherlands Antilles (Curacao & Sint Maarten), Suriname, USA (Miami Center & San Juan CERAP) and Venezuela	On-going	Trinidad and Tobago POC	Trinidad and Tobago POC carries out this action on an ongoing basis.
5.	Obtain projected spectator attendance at all E/CAR cricket venues	2006 September 30	All E/CAR States and Territories	Projected Spectator attendance obtained by Trinidad and Tobago POC from ICC CWC 2007 Inc. through Cliff Hamilton Visitor Experience Manager, Event Management Department.
6.	Obtain, for purposes of traffic analysis:			
6.a.	Air traffic statistics for 2004, 2005, 2006 (Jan-Apr)	2006 September 30	All E/CAR States and Territories	To be sent to Trinidad and Tobago POC
6.b.	Assess TMA en-route capacity (all TMAs)	2006 September 30	All E/CAR States and territories	To be sent to Trinidad and Tobago POC
6.c.	Assess Airport capacity (including apron capacity)	2006 September 30	All E/CAR States and Territories	To be sent to Trinidad and Tobago POC
7.	Forecast Estimates on weather conditions (historical weather patterns)	2006 September 30	All E/CAR States and Territories	To be sent to Trinidad and Tobago POC
8.	Obtain projected air traffic movements (scheduled and non- scheduled traffic, including charter flights, extra sections, general aviation (corporate and business operations), overflights and helicopter operations)	2006 September 30	All E/CAR States and Territories	To be sent to Trinidad and Tobago POC
9.	Obtain information relating to aerodrome and ATS hours of	2006 September 30	All E/CAR States and	To be sent to Trinidad and Tobago POC

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thus far. Web postings and Notice
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# APPENDIX D PIARCO INTERNATIONAL NOTAM OFFICE



Tele: 1 868 669-4128 FAX: 1868 669-1716 AFTN : TTPPYNYX TRINIDAD & TOBAGO CIVIL AVIATION AUTHORITY P.O. BOX 2163 NATIONAL MAIL CENTRE, PIARCO REPUBLIC OF TRINIDAD AND TOBAGO AIC

06/06

15<sup>th</sup> SEP 2006

Email: ttcaa@tstt.net.tt

# PIARCO FIR (TTZP)

# **IMPLEMENTATION OF AIR TRAFFIC FLOW MANAGEMENT**

# AIR TRAFFIC FLOW MANAGEMENT

# 1. Introduction

- 1.1 Air Traffic Flow Management (ATFM) is a service established with the objective of contributing to safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority. Arising from ICC Cricket World Cup 2007 in the Caribbean, and with anticipation that there will be a significant increase in aircraft movements within the FIR to/from match venue countries it is imperative that measures are implemented to enable ATC to efficiently handle the air traffic during the period.
- 1.2 The implementation of ATFM in the Piarco FIR will permit airspace users to conduct their flight operations with efficiency and reduced delays. The ATFM Service will increase airspace capacity, provide more fuel-efficient flight profiles, and afford greater operational flexibility to the air traffic control units that are responsible for the provision of ATC services in the Piarco FIR through Demand Capacity Balancing.

# 2. Purpose

2.1 This AIC serves as Notice of Intent to implement ATFM Procedures to facilitate the flow of air traffic and reduce delays in the Piarco FIR, including the TMAs and CTRs from 01 March 2007 to 05 May 2007.

# 3. Area of Application

3.1 ATFM shall be applied in Piarco UTA/CTA and in the TMAs and CTRs.

# 4. Operations within the Piarco FIR

- 4.1 Starting 01 March 2007, only aircraft with an approved and coordinated Estimated Time of Departure (ETD) and/or FPL Boundary Estimate (EST) arrived at through the process of Collaborative Decision Making will be allowed to operate in the Piarco FIR inclusive of all TMAs and CTRs, with the following exceptions:
  - State aircraft and humanitarian flights will be allowed to operate in the airspace with prior coordination. Prior coordination means the filing of a flight plan indicating the special flight circumstance in Item 18 of the FPL. **EXAMPLE RMK**/STATE or **RMK**/HUMANITARIAN flight.

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# **APPENDIX D**

4.2 ATFM will be implemented in the Piarco FIR in accordance with ICAO regional agreements. In this connection, <u>ALL OPERATORS</u> (Airline Operating Agencies, Business/Corporate Aircraft Operators, Private Aircraft Operators, and other General Aviation Aircraft) are required to furnish their Flight Schedule/s for all operations for the period 2007 January 01 to 2007 May 31 to the Piarco AIS Office with all details in the format below <u>BY 2006 NOVEMBER 15.</u>

#### PIARCO AIS POINT OF CONTACT

# Randy Gomez: Tel: + 868-669-4128 Fax: + 868-669-1716 E-mail: <u>rgomez@caa.gov.tt</u> AFTN: TTPPYOYX

AIRCRAFT CALLSIGN	AIRCRAFT TYPE	POINT OF Origin / Departure	DATE OF FLIGHT AND ETD	DEST	ETA	FIR EET OR TMA EET	FULL ROUTE	Flight Level Requested

4.3 It should be noted that for the duration of the Cricket World Cup 2007 Tournament in the Caribbean (01 March 2007 to 05 May 2007) Operators may be required to file FPLs at a much earlier time than that which is normally required. Operators are urged to begin coordination with the appropriate State authority as soon as possible to ensure that their FPL requirements are submitted as per AIC notification. Additional information is available on website listed below:

#### Trinidad and Tobago: www.caa.gov.tt

- 4.4 For questions involving the Flight Planning process, or for ATC related questions or additional information, the following contacts may be used:
  - Trinidad and Tobago Civil Aviation Authority

Leslie Payne	Ph. (868)-669-8789/4806	Fax: (868)-669-0635	
Samuel Lampkin	Ph. (868)-669-4806/0635	Fax: (868)-669-0635	<pre>samlampk@tstt.net.tt</pre>

Further Information will be published via AIC and/or NOTAM.

#### 5. Reference Documents

ICAO: Doc. 7030 – Regional Supplementary Procedures ICAO: Doc. 9750 – Global Air Navigation Plan for CNS/ATM Systems - 2<sup>nd</sup> Amendment ICAO: Doc. 9426 – Air Traffic Services Planning Manual ICAO: Doc. 9854 – Global ATM Operational Concept ICAO: Doc. 4444 – PANS/ATM ICAO: Annex 11 – Air Traffic Services UNDP/ICAO: Regional Project RLA/98/003

# **APPENDIX E** 2006-11-22 - UPDATE Cricket World Cup 2007 ATFM Tasks

No	TASK	<b>DEADLINE DATE</b>	PERSON RESPONSIBLE	REMARKS	STATUS
1.	Provide Point of Contact (POC) to Trinidad and Tobago POC	By 2006 August 18	All E/CAR States and Territories	Through ICAO NACC Office invitations sent to Dominican Republic, Haiti, Jamaica, Netherlands Antilles, IATA, IFALPA and IFATCA for their participation in E/CAR ATFM activity during the ICC CWC 2007. POCs have been provided and are involved in the activities. POCs are yet to be obtained from Netherlands Antilles and IFALPA. Guyana and United States POCs are participating. Suriname and Venezuela are yet to inform on participation and their POCs.	Ongoing
2.	Issue general AIC relating to Cricket World Cup 2007	2006 September 15	Barbados AIS Martinique AIS Piarco AIS	Coordination carried out between Barbados, France, and Trinidad and Tobago. AIC was issued simultaneously on 2006 September 15.	Completed
3.	Coordinate with U.S. FAA Command Center, regarding telephone conferencing communications facility	On-going	Trinidad and Tobago POC	Coordination has been completed with the US FAA Command Center for the use of their telephone conferencing communication for ATFM activities prior to and during CWC 2007.	Permanent
4.	Copy all information relating to Cricket World Cup 2007 to ATS Points of Contact in Dominican Republic, Guyana, Haiti, Jamaica, Netherlands Antilles (Curacao & Sint Maarten), Suriname, USA (Miami Center & San Juan CERAP) and Venezuela	On-going	Trinidad and Tobago POC	Trinidad and Tobago POC carries out this action on an ongoing basis.	Permanent
5.	Obtain projected spectator attendance at all E/CAR cricket venues	2006 September 30	All E/CAR States and Territories	Received Info on spectator attendance from: 1) Antigua and Barbuda – 53,000; 2) Barbados - 56,000; 3) Grenada – 30,000; 4) Saint Lucia – 30,000; 5) Trinidad & Tobago – 6,000. Additionally, ICC CWC 2007 Inc. Information received through Cliff Hamilton, Visitor Experience Manager, Event Management Department	Ongoing
6.	Obtain, for purposes of traffic analysis:				
6.a.	Air traffic statistics for 2004, 2005, 2006 (Jan-Apr)	2006 September 30	All E/CAR States and Territories	Received Info on airport aircraft movement from: 1) Antigua & Barbuda - V.C. Bird - 2004, 2005, 2006. 2) Barbados - Adams -2004, 2005, 2006. 3) Grenada -Point Salines - 2004, 2005, 2006. 4) France -Guadeloupe - 2004, 2005, ????. Martinique - 2004, 2005, ????. 5) Trinidad and Tobago - 2004, 2005, 2006. Info yet to be received from: 1) Saint Lucia - ????, ????. 2) St. Kitts/Nevis - ????, ????,????. 3) St. Vincent & the Grenadines -????, ????, ????. Info to be sent to Trinidad and Tobago POC	Ongoing
6.b.	Assess TMA en-route capacity (all TMAs)	2006 September 30	All E/CAR States and territories	Info received from France – Guadeloupe and Martinique, and Trinidad and Tobago. Other States and Territories are yet to send Info to Trinidad and Tobago POC.	Ongoing
6.c.	Assess Airport capacity (including apron capacity)	2006 September 30	All E/CAR States and Territories	Received Info on airport capacity including apron capacity from: 1) Barbados – 22 S + double Park Turboprop, C Jets & Piston a/c. 2) Trinidad and Tobago – Piarco – 30 + Lt. aircraft Parking. ~ Crown Point – 7 + Lt. a/c Parking. Other States	Ongoing

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				and Territories yet to send Info to Trinidad and Tobago POC are: 1) Antigua & Barbuda - ??. 2) Grenada - ??. 3) France – Guadeloupe - ??. ~ Martinique - ??. 4) Saint Lucia - ??. 5) St. Kitts/ Nevis - ??. 6) St. Vincent & the Grenadines - ??.	
7.	Forecast Estimates on weather conditions (historical weather patterns)	2006 September 30	All E/CAR States and Territories	Trinidad and Tobago POC is coordinating with MET Services within the E/CAR (Barbados, France, and Trinidad and Tobago) and MET in Guyana. Info to be sent to Trinidad and Tobago POC.	Ongoing
8.	Obtain projected air traffic movements (scheduled and non- scheduled traffic, including charter flights, extra sections, general aviation (corporate and business operations), overflights and helicopter operations )	2006 September 30	All E/CAR States and Territories	Info to be sent to Trinidad and Tobago POC. However, Trinidad and Tobago will carry out additional analysis.	Ongoing
9.	Obtain information relating to aerodrome and ATS hours of operation and any conditionalities attached	2006 September 30	All E/CAR States and Territories	To be sent to Trinidad and Tobago POC	Ongoing
10.	E/CAR ATM Committee Meeting	2006 October	All Parties concerned	Proposed Date 2007 January and to be held in Trinidad and Tobago	Planning. Set for
11.	Issue NOTAM relating to the activity regarding required advance FPL notification	2006 October 18	Piarco NOF	Coordination between Piarco NOF and Trinidad and Tobago POC for issuance.	Issuance in 2007 January
12.	Disseminate between POCs corresponding information via web postings, e-mail, facsimile to coordinate demand and capacity balancing procedures among FMPs and FMU	2006 October 25	Trinidad and Tobago POC	Ongoing with all concerned parties via e-mail and facsimile thus far. Web postings and Notice Boards being considered.	Permanent
13.	Plan and execute first E/CAR TELECON	By end of 1 <sup>st</sup> week of 2006 November	Trinidad and Tobago POC	First TELECON between all parties concerned successfully took place on 2006 November 08.	Permanent
14.	WP to the E/CAR DCAs Meeting (St. Kitts/Nevis – 2006 December)	2006 November 22	Trinidad and Tobago POC	Trinidad and Tobago presented a WP on the Proposed E/CAR ATFM activities for ICC CWC 2007 at GREPECAS ATM/CNS/SG/5, Lima, Peru, 13 to 17 November 2006.	Completed
				Additionally, the Rapporteur of the E/CAR ATM Committee will prepare and complete a WP for submission to ICAO NACC Office.	Completed
15.	Conclude and sign revised ATS Operational Letters of Agreement	2006 December 01	All E/CAR States and Territories	This process is ongoing among the States and Territories concerned.	Ongoing
16.	Correct all AIS flight planning deficiencies	2007 January 31	All E/CAR States and Territories	This process is ongoing among the States and Territories concerned.	Ongoing
17.	Establish a Flow Management Unit (FMU)	By 2007 January 31	Trinidad and Tobago	Preparatory work is in progress for location at Piarco ACC.	Ongoing
18.	Establish Flow Management Positions (FMPs)	By 2007 January 31	All E/CAR States and Territories	In progress	Ongoing
19.	Ensure standardization and harmonization of operating procedures among FMPs and the FMU	By 2007 January 31	Trinidad and Tobago POC	In Progress	Ongoing
20.	Complete demand and capacity balancing procedures among FMPs and the FMU	End of November	Trinidad and Tobago POC	Coordinated Development of E/CAR Procedures with all parties concerned	Ongoing
21.	Trigger NOTAM regarding requirements of FPL notification, and demand and capacity balancing procedures (IFR/VFR)	2007 February	Piarco NOF	Coordination between Piarco NOF and Trinidad and Tobago POC	Ongoing
22.	Ensure availability of adequate human resources (ATC and AIS)	2007 March 01	All E/CAR States and Territories	Requires CAA's action to ensure appropriate staffing term as required	Ongoing
23.	Implementation of ATFM Measures/Operations within the Piarco FIR	2007 March 01	All E/CAR States and Territories	To be instituted in a coordinated manner by all States and Territories concerned.	Set for q2007 March 01

# APPENDIX F Status of Action Re- ATFM Tasks applicable to

# STATES / TERRITORIES OF THE E/CAR AND THOSE ADJACENT TO THE WEST AND SOUTH

STATES/TEDDISODIES												ATM	TASE	KS										
STATES/TERRITORIES		2	3	4	5	<b>6.</b> a	6.b	<b>6.</b> c	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Anguilla						N	N	N	N	N	N				N							N		
Antigua & Barbuda					Y	Y	O/G	O/G	Y	O/G	Y				Y		Y			O/G		Ν		O/G
Barbados		Y			Y	Y	O/G	Y	Y	O/G	Y				Y		N			O/G		N		O/G
Br. Virgin Isles						Y	Ν	Y	Ν	Ν	Ν				N					· · · · · · · · · · · · · · · · · · ·		Ν		
Dominica	Ν								Ν	N	Ν				N			Y				N		
French Antilles	Y	Y				Y	O/G	O/G	O/G	O/G	Y				Y		Y			Y		O/G		O/G
Grenada					Y	Y	N	Ν	Y	O/G	O/G				Y		Ν			O/G		Ν		O/G
Montserrat	Y								N	N	Ν				N				·			Ν		
St. Kitts/Nevis	Y				N	N	N	Ν	N	N	Ν				Y					N		Ν		Ν
St. Lucia					Y	N	N	Ν	O/G	O/G	Ν				N					N		Ν		Ν
St. Vincent & the Grenadines					N	N	N	Ν	N	N	Ν				Y		N			O/G		Ν		Ν
Trinidad & Tobago	Y	Y	Y	Y	Y	Y	O/G	Y	Y	O/G	Y	RES	DLA	O/G	Y	Y	O/G		O/G	O/G	O/G	O/G	KIV	O/G
USA	Y														Y		O/G		Y	Y		Y		Y
<b>Γ</b> ΥΤΟΛ Ε/CAD <b>Ο</b> ΤΑΤΕς	1	2	3	1	5	6.0	6 h	6.0	7	8	0	10	11	12	13	1/	15	16	17	18	10	20	21	22
LAIKA E/CAK SIAIES	1	4	3	-+	3	0.a	0.0	0.0	/	0	9	10	11	12	15	14	15	10	17	10	19	20	21	
Dominican Republic	Y																							
Guyana	Y														Y									
Haiti	Y																							
Jamaica	Y														Ν									
<b>Netherlands Antilles</b>	Ν																							
Suriname																								
Venezuela	N																							
N Not Completed RES						ŀ	Resch	edule	d				Yet	to be	Con	firm	ed	<b>KIV</b> Keep in View						
Y Completed						LA Delayed O/G Ongoing									Not Applicable									

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX F TO THE REPORT ON AGENDA ITEM 3

# APPENDIX G

#### SPECIFIC AIR NAVIGATION ACTIVITIES AND DEVELOPMENTS -COMMUNICATIONS, NAVIGATION AND SURVEILLANCE

(Presented by Rapporteur of the CNS Committee ECWG)

#### SUMMARY

This Working Paper advises the 20<sup>th</sup> E/CAR/DCA of activities planned for the Eastern Caribbean toward improving CNS in the sub-region

#### References

- Report of the Fifth Meeting of the ATM/CNS Subgroup (ATM/CNS/SG/5)
- Summary of Discussions and Conclusion 30<sup>th</sup> Eastern Caribbean Working Group Meeting, Saint Lucia, 2006
- Draft Report Third MEVA/REDDIG II Coordination Meeting
- ALLPIRG/5 Conclusion 5/16

#### 1. Introduction

1.1 The CNS Committee of the 30<sup>th</sup> E/CAR WG Meeting took place in Castries, Saint Lucia, 7-11 August 2006 with participants from 13 States/Territories; Anguilla, Antigua and Barbuda, Barbados, Grenada, France, Montserrat, Saint Lucia, Saint Kitts/Nevis, Trinidad and Tobago and the United States of America.

1.2 The Committee analyzed the following Items, which were listed under Agenda Item 4.5 (Specific Air Navigation Activities and Developments – CNS):

- Proposed solutions to resolve the AFTN problems,
- Immediate and near term proposed solutions to problems on the AFS network,
- Automatic Message Handling System programs and interconnection activities between the FAA and the E/CAR AFS digital network,
- Fault reporting and resolution procedures, link failures and proposed solutions,
- Follow up on the developments of the E/CAR CNS systems, namely RADAR sharing/remoting and studies on the regional implementation of ADS-C and ADS-B systems, and
- Status of existing E/CAR digital network contract.

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# 2. Excerpts of discussion of the CNS Committee on the listed Items

#### 2.1 **Proposed solutions to resolve the AFTN problems.**

2.1.1 The Committee considered the status of the AFTN workstations at Eastern Caribbean States and a solution was proposed to resolve the deficiency in the reliability of the hardware and software of the AFTN workstations.

2.1.2 Trinidad and Tobago replaced its old AFTN in October 2004 with a Thales AFTN/AMHS gateway. To ensure compatibility and commonality of equipment, which would show cost savings in spares and training, the TTCAA proposed to replace the Eastern Caribbean AFTN workstations currently operating on DSA software with the Thales Intelligent AFTN Terminals (IAT). The replacement would comprise PC, Printer and UPS. A test IAT workstation was set up in Dominica on May 12, 2006 and the AIS personnel there received training from the TTCAA on the operational use of the IAT.

2.1.3 In discussion with the AIS Committee and following up on WP/19 of E/CAR/WG/30 presented by France, the matter of ATS message templates was examined. The IAT does not currently have the ICAO type format of templates for ATS messages that the AIS personnel are familiar with. The templates currently consist of fields within parenthesis in an AFTN type format. The lack of familiar templates and validity checks created numerous invalid flight plans being received by other States. This resulted in fewer invalid messages being sent. The Committee agreed that the ICAO type templates with validity checks should be provided. At a meeting held in Dominica with France and attended by Trinidad and Tobago in September 2006 this matter was discussed and Dominica's AIS operators were urged to exercise caution in formatting ATS messages and to follow the ICAO approved procedure.

2.1.4 After several communications, a meeting was held with Thales on 21-22 November 2006 to resolve the templates and validity checks. The following solutions were proposed:

- Solution 1 Install the Flight Plan Management System in the Trinidad and Tobago AFTN/AMHS switch and equip the Eastern Caribbean States with workstations loaded with the ANAIS software. The ANAIS software already contains the required templates and the FPL package will ensure validity checks. This would have been the ideal solution but it requires a safe and reliable TCP/IP infrastructure. The E/CAR AFS network in its present configuration does not support TCP/IP.
- Solution 2 Internet self-briefing, which can be done from any PC via WAN infrastructure over Internet connection. This solution required extensive upgrade of the current AIS infrastructure with significant cost impacts.
- Solution 3 Install the Flight Plan Management System in the Trinidad and Tobago AFTN/AMHS switch and equip the Eastern Caribbean States with workstations loaded with the IAT software upgraded with the required ATS message templates. This is the most cost economical solution that fulfills the user requirements of templates and validity checks.

2.1.5 The tentative schedule is to replace the Eastern Caribbean AFTN workstations with the IAT workstations by February 2007. States will receive training on the operation of the new AFTN terminal by the Trinidad and Tobago Civil Aviation Authority. The replacement will be carried out in three phases:

- In the first phase the workstations, printers and UPSs will be replaced with the Thales IAT software and new computers similar to that tested in Dominica as reported at the 30 ECWG,
- The second phase will be to install a Flight Plan Management (FPL) Module in Trinidad and Tobago AFTN/AMHS switch. This FPL module will allow States to send all flight plans to Trinidad and Tobago for validation and subsequent automatic onward transmission if the message is validated. If the message is invalid it will go into an invalid queue at the Trinidad and Tobago AIS office for manual correction and then sent on. The operation of the ATS messages will be similar to that of the NOTAM package. The result will be that no recipient State will receive an invalid flight plan from a sender State. This second phase is anticipated to be March 2007, and
- The third phase will be introduction on the IAT terminals of the ICAO format templates for all ATS messages as it relates to flight planning. These templates will allow user-friendly insertion of flight plan information in the format that is familiar to the ATS users. This phase is anticipated to be May 2007.

2.1.6 *Transition from AFTN to AMHS/ATN* - At the Second Meeting of the ATN Task Force (ATN/TF/2) of the CNS Committee of the ATM/CNS/SG (Lima, Peru, 11-12, November 2006) with participants from Argentina, Haiti, Jamaica, United States of America, COCESNA and SITA information was presented on actions carried out on tasks relating to the development of the regional strategy for the implementation of ATN.

2.1.7 At ATN/TF/2 meeting, Argentina informed that its AMHS system has been installed at all its national airports with a total of 164 stations. The FAA also advised of its implementation of AMHS in Salt Lake City.

2.1.8 In October 2004 Trinidad and Tobago implemented an AFTN with AMHS gateway composed of a Message Transfer Agent (MTA), Message Store (MS) and a Directory Server (DS). The AMHS gateway is compatible with the ATN and can be connected to an existing ATN network via a suitable router. Trinidad and Tobago proposes to develop and coordinate a test plan for test trials in conjunction with Argentina and the FAA. Test trials with Argentina would be achieved through the REDDIG VSAT Piarco node and with the FAA Atlanta via the public internet or a dedicated Ethernet connection through San Juan.

2.1.9 The proposed plan for the Eastern Caribbean region is to maintain the AFTN on the Eastern Caribbean States/Territories with Trinidad and Tobago as the AMHS/ATN gateway to the global aviation community. This reduces cost to the States/Territories and still allows the E/CAR States/Territories to benefit from the ATN technology.

2.1.10 The CNS Committee recommends that Trinidad and Tobago become a member of the ATM/CNS/SG CNS Committee's ATN Task Force.

#### 2.2 Immediate and near term proposed solutions to problems on the AFS network.

2.2.1 Information Paper 07 of 30th E/CAR/WG Meeting advised of problems on the E/CAR digital network regarding voice and data AFS circuits. The quarterly reports compiled and distributed by the TTCAA detail the faults and resolution and also provides statistics of the failures. The Committee agreed that the E/CAR sub-region needs an end-to-end solution from a single provider/point of contact. This ties responsibility for resolution of failures to a single point of contact, which results in increasing efficiency, reliability and availability of the network. Three options were proposed:

- a) To replace the existing E/CAR Digital network with a full VSAT solution. To this end the TTCAA has signed a contract to be completed by December 31, 2006 to conduct the following:
  - A VSAT survey of the existing VHF high sites with reference to the VHF frequencies coverage areas,
  - A study of alternative and/or additional sites to provide the most optimum coverage for the existing and new VHF frequencies,
  - Provide a digital coverage map of each frequency at the recommended high site,
  - Propose the most economical and effective means of transporting the VHF information from the high site to the VSAT antenna at the operator site, and
  - A survey of the existing Control Towers and AIS operator sites on the Eastern Caribbean islands and French Territories to determine the best location for the VSAT antenna to serve VHF, point-to-point voice, AFTN circuits and RADAR data.
- b) To have a combination VSAT and ground lines network.
- c) To have a full ground line network similar to what currently exists but with pertinent changes. This solution proposes retaining the TSTT backbone and tributary links from Cable & Wireless (C&W) but replaces all the end user and interface equipment. In this arrangement each State would be responsible for their first line maintenance with follow up support provided by the TTCAA. Each State would receive the appropriate training and compliment of spares required to support first line maintenance for both software and hardware as it relates to the AFTN. There would be no TSTT sub-contractor as currently exists with Sigma. In this regard TTCAA would perform the network management aspect.

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2.2.2 Each State was previously requested to provide to the TTCAA via email their user requirements to formulate a Request for Proposal (RFP) for the options presented above. After all the responses are received the TTCAA proposes to host a Special Meeting of the E/CAR CNS Committee tentatively set for January 2007 to review the requirements as a team and justify each request and then to discuss the options proposed. The subsequent draft RFP would be circulated via e-mail for finalization before an RFP for the network is issued. To carry out an intelligent comparison on the options the draft RFP must be clearly written and must solicit solutions from the three options. The finalized RFP with recommendation/s on the selected option solution from the options presented would be forwarded to the DCAs for action.

2.2.3 **The availability of a network suitable of transporting the AMHS/ATN** - Conclusion CNS/5/4 of ATM/CNS/SG/5 states the adoption of IP version 6 as the protocol for AMHS interface. It is to be noted that the existing E/CAR AFS network does not support IP version 6. Therefore, in order to benefit from the AMHS/ATN technology the E/CAR Region needs to have a safe, reliable and modern network to support these new protocols.

2.2.4 ALLPIRG/5 Conclusion 5/16 discourages the proliferation of VSAT networks and urges States to work towards integrated regional/interregional digital communication networks with a single centralized operational control and preferably based on Internet Protocol (IP).

2.2.5 Based on ICAO's vision for VSAT networks the E/CAR sub-region has the following options if it chooses a VSAT solution for the sub-region:

- E/CAR to become part of REDDIG. Trinidad and Tobago has a REDDIG node which became operational in October 2006,
- E/CAR to become part of MEVA II. MEVA II be expanded to serve the E/CAR subregion, and
- Set up an independent VSAT network designed and delivered with full interconnectivity to MEVA II and REDDIG.

2.2.6 The CNS Committee recommends that this matter of network type be taken to the Special CNS Committee Meeting tentatively set for January 2007 in Trinidad and Tobago for discussion.

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

2.3.1 The CNS Committee agreed that the existing E/CAR AFS network did not fulfill the requirements to transport AMHS/ATN protocol IP version 6 and the replacement/upgrade of the network would resolve this deficiency.

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2.3.2 The Trinidad and Tobago Civil Aviation Authority and United States Federal Aviation Administration have begun a project to reconfigure the Aeronautical Fixed Telecommunications Network (AFTN) between the two countries. The first phase of the process will remove the X.25 protocol Packet Assembler Disassembler (PAD) that is interfaced to the Thales AFTN Switch. Once this PAD is removed the switch in Trinidad and Tobago will communicate with the FAA NADIN Network through the legacy telecommunications connectivity. The second phase of the process will consist of a change from X.25 protocol to Transmission Control Protocol/Internet Protocol (TCP/IP) and will terminate at the new US FAA NADIN MSN which is also multi-protocol capable. This phase is in the engineering and planning stage, and the telecommunications path has not been determined at this time. The first phase with the planned removal of the TSTT AMHS pad in Piarco will remove a single point of failure and the AFTN will connect directly to the FAA via X.25 port on the AFTN switch in the immediate future. This activity is tentatively set for the last quarter of 2006.

# 2.4. Fault reporting and resolution procedures, link failures and proposed solutions.

2.4.1 Fault reporting and resolution procedures agreed at the E/CAR/WG/29 have been implemented:

- Fault Report Form are generated by States and sent to Trinidad and Tobago AIS fax number as the primary contact,
- The AIS supervisor then conveys this information to the T&E on-call technician, who then responds by reporting the problem to TSTT and notifying the initiator of acknowledgement of the report,
- A reasonable estimate for acknowledgement of a report by the TTCAA was given as three (3) hours,
- Quarterly statistics have been compiled and circulated via email by the TTCAA to States based on the reports received. Statistics from July 2005 to September 2006 have been forwarded to States, and
- A list of contacts with reference to fault reporting procedures including operational and technical contacts where applicable was circulated to States based on information received from States. States are reminded to keep this list current.

# 2.5 Follow up on the developments of the E/CAR CNS systems, namely RADAR sharing/remoting and studies on the regional implementation of ADS-C and ADS-B systems.

2.5.1 *Automatic Dependent Surveillance – Broadcast (ADS-B)* - ADS-B technology has been identified as one of the surveillance solution that can meet the needs of pilots and air traffic controllers by providing essential information. ADS-B transmits relevant flight information from the aircraft thereby improving situational awareness of the pilot and the air traffic controller.

2.5.2 GREPECAS Conclusion 13/87 for *ADS-B trials Program in the CAR/SAM Regions*, urged Aeronautical Administrations to collaborate with airspace users to establish and implement ADS-B trial programs in order to improve the knowledge on ADS-B and evaluate benefits for air traffic management in the CAR/SAM Regions.

- 2.5.3 Trinidad and Tobago having participated in the ATM/CNS/SG/5 held in Lima, Peru on 2006 November 13-17, offers the following information:
  - The Federal Aviation Administration (FAA) via IP/04 provided information on the FAA Program Plan for the deployment of ADS-B technology across the U.S. National Airspace System,
  - SITA presented a Service model that was jointly developed by the Australian Air Navigation Service Provider and presented the results of the Indonesian ADS-B trail,
  - Cuba and Argentina also stated that they were conducting test trials of ADS-B, and
  - A task force was set up comprising Brazil, Colombia, Cuba, France, Trinidad and Tobago, USA and COCESNA to develop an implementation plan for the near and medium term ADS applications in the CAR/SAM Regions including target dates.

2.5.4 The Eastern Caribbean Region has started information gathering towards the implementation of ADS-B in the airspace West of 56° in the Piarco FIR and has requested from the FAA, SITA, Cuba and Argentina their procedures and results of their test trial data to date. SITA was invited to meet with Trinidad and Tobago to share their experience in ADS. This information in conjunction with the information gathered from the ATM/CNS/SG ADS-B Task Force will assist the E/CAR Region in formulating a plan of action.

2.5.5 The CNS Committee invites all interested States to participate in the visit of SITA, and will be notified as soon as the date is finalized.

2.5.6 ADS-C – The CNS Committee agrees that the preferred, maybe the only option, to service the needs of the Oceanic Airspace East of 56° in the Piarco FIR may be the implementation of ADS-C. The CNS Committee recommends that a plan of action to implement this service be developed for consideration.

2.5.7 **RADAR Remoting** - Trinidad and Tobago is in the process of evaluating tenders for the provision of an ATM system inclusive of RADAR remoting. This exercise is anticipated to conclude in first quarter 2007 at which time a contract will be awarded. Trinidad and Tobago has also submitted Draft Letters of Agreements to Barbados and France for the support of the RADAR remoting project. The LOA with Barbados is nearing conclusion with signed copies having been sent to the Barbados Administration.

# 2.6 Status of existing E/CAR digital network contract.

2.6.1 At a meeting held on 23 November 2006 between the network service provider, TSTT and the TTCAA the following items were discussed:

• The Settlement and Release Agreement signed between TSTT and TTCAA on 22 May 2006 amounted to full and final settlement of all claims relating to the IACL Contract up to December 31, 2005. This settlement transferred ownership of all equipment (A3/A7, AFTN, AFTN interface, Voice) to TTCAA,

- TTCAA is responsible for the upgrade/replacement of the AFTN workstations on the Eastern Caribbean States,
- A maintenance agreement will be drafted and agreed upon between the TTCAA and TSTT for the maintenance of the A3/A7, AFTN interface and voice equipment,
- A maintenance agreement will be drafted and agreed upon between the Cable & Wireless and TSTT for the maintenance of the A3/A7 and voice equipment,
- A maintenance agreement will be drafted and agreed upon between Sigma Communications and TSTT for the maintenance of the AFTN interface equipment,
- All agreements between TSTT and subcontractors will be made available to the TTCAA for comments prior to final acceptance and signature,
- TTCAA will continue to pay for the backup telephone lines,
- The maintenance agreements will include financial penalties for down time of circuits. Details are to be mutually agreed upon,
- TTCAA will pay for all link charges and equipment upgrades from January 2006, and
- The new negotiated agreement should be for a period no longer than 24 months in light of new network developments being investigated by the CNS Committee.

#### 3 Other business

3.1 The Air Navigation Plan identifies several key CNS matters that need to be addressed within the E/CAR sub-region with proposed timeframes, in addition to the items presented above, namely:

- GNSS,
- The scheduled deactivation of NDBs,
- The provision of support structure for CNS/ATM,
- Resolution of outstanding deficiencies,
- Development and integration of the ATM Automated System, and
- Consideration on the support of communications for the migration to the BUFR-coded OPMET format

# 3.1.1 Global Navigation Satellite System (GNSS)

3.1.1.1 The Second Meeting of the GNSS Task Force of the ATM/CNS/SG (Lima, Peru, 11-12 November 2006) with participants from Brazil, Chile, Cuba, United States of America and COCESNA reviewed the tests and trial results for GNSS implementation and discussed the coordination of technical-operational studies alternatives for the Regional SBAS implementation.

3.1.1.2 GNSS implementation must take into account the concept at global level and not to focus on every one of its elements separately. Based on the analysis of the trials it was agreed that SBAS solution with APV 1 Performance for the CAR/SAM region is technically feasible.

3.1.1.3 Conclusion CNS/5/7 of the ATM/CNS/SG/5, invites all States to subscribe to the Project: RLA/03/902 – SACCSA, in order to get full advantage from this GNSS project. The CNS Committee recommends that Trinidad and Tobago subscribe to this project.

# 3.1.2 The scheduled deactivation of NDBs

3.1.2.1 Conclusion CNS/5/11 of ATM/CNS/SG/5 on the progressive deactivation of NDB stations urged States to analyze the service provided by each NDB station, its function, procedural existence with other aids such as VOR/DME, GNSS-RNAV as well as the aircraft capacity/development that operate in serviced airspace and inform the ICAO Regional Offices (NACC in case of the E/CAR) regarding their prospective plan before 30 November 2007. It is recommendation that the CNS Committee of the E/CAR/WG coordinate the action plan for this activity in the E/CAR.

# 3.1.3 The provision of support structure for CNS/ATM

3.1.3.1 One of the problems encountered at Eastern Caribbean States/Territories is the unreliability of the commercial power being supplied to airports. Fluctuations and disruptions in power adversely impacts on the operational reliability of the air navigation services provided by ATS at the various States/Territories as it relates to AFTN and voice communication.

3.1.3.2 While a UPS may be provided to support the end user equipment, if commercial power is interrupted for over two hours, the UPS, depending on the capacity, may become depleted at which time the equipment is no longer powered and becomes unserviceable.

3.1.3.3 Trinidad and Tobago as the provider of the AFS network urge States to ensure the supply of a reliable and conditioned commercial power source to the AFS network equipment.

# 3.1.4 Resolution of outstanding deficiencies

3.1.4.1 The CNS Committee informs on the resolution of the following deficiencies with the implementation of a REDDIG VSAT node in Trinidad and Tobago. The Piarco node became operational in October 2006, providing connectivity:

- CNS 3 C AFTN circuits- Caracas/Port of Spain,
- CNS 2 C AFTN circuits- Georgetown/Port of Spain,
- CNS 4 C ATS Speech circuit Piarco ACC/Georgetown ACC,

- CNS 5 C ATS Speech circuit Piarco ACC/Maiquetia ACC, and
- CNS 52 C ATS speech circuit Piarco ACC/Paramaribo ACC.

3.1.4.2 Trinidad and Tobago procured through ICAO Procurement Section in Montreal one redundant HF AMS system with SELCAL to meet the responsibilities of the Piarco FIR for HF Communications, from Thales Systems Canada (TSC) on September 30, 2002. The complete system was to have been delivered and commissioned in eighteen (18) months with a then projected date in the first quarter of 2004.

3.1.4.3 Deficiencies relating to the tendered technical specifications were identified and the equipment was not accepted until the deficiencies were rectified. In October 2005, a Supplementary SAT was conducted and the TTCAA signed the SAT certificate and accepted the equipment. The TTCAA was advised to record the performance of the HF AMS and forward these records to ICAO for analysis.

3.1.4.4 Some shortcomings with reception of aircraft at various flight levels within the Piarco FIR were noted to ICAO. After discussions the supplier agreed to replace the receive antenna with a more powerful and sensitive antenna. The antenna is in Trinidad and Tobago and installation is anticipated to be completed by January 31, 2007. Until the HF AMS matter is fully resolved to satisfaction, there will continue to exist with New York Aeronautical Radio Inc. Communications Centre (ARINC), an arrangement for the supplementary relay and delivery of ATC clearances.

#### 3.1.5 Development and integration of the ATM Automated System

3.1.5.1 The Rapporteur of the ATM Task Force presented at the ATM/CNS/SG/5 the report of the first ATM automation Task Force Meeting held in Mexico City, 29-31 August 2006 and attended by 6 participants representing 4 States/Territories/International Organisations of the CAR and SAM Regions.

3.1.5.2 Draft Conclusions 1/1 – Establishment of agreements for AIDC implementation between ATS units – That States/Territories/International Organizations, taking into account the technical feasibility studies and operational benefits; carry out coordination to establish bilateral or multilateral agreements for AIDC implementation between adjacent ATS units.

- 3.1.5.3 Draft Conclusion 1/2 Establishment of an action plan to improve ATM situational awareness.
- 3.1.5.4 This matter for the benefit of the Region is recommended to be handled by both the CNS and ATM Committees and develop a plan of action to address these needs.

#### 3.1.6 Consideration on the support of communications to the migration to the BUFRcoded OPMET format

3.1.6.1 The plan for the migration from the traditional alphanumeric format to a coded format based on bit-oriented tables (BUFR – *Binary Universal Form for the Representation of Meteorological data*) for the transmission of OPMET meteorological information was approved at the 14<sup>th</sup> Congress of the World Met Organization (WMO) held in Geneva, Switzerland on 5-23 May 2003.

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3.1.6.2 The transition from alphanumeric to bit-oriented codes in order to improve the efficiency of the aeronautical meteorology service is contemplated in two phases:

- Parallel use of alphanumeric codes and codes based on bit-oriented tables in OPMET messages starting in 2007, and
- The exclusive use of codes based on bit-oriented tables by 2015.

3.1.6.3 It is to be noted that the AFTN system as it is will not support BUFR code. Available information show that Japan, Thailand, USA have basic AMHS that does not support BUFR code. The AMHS of Argentina and Spain supports BUFR code. It is also to be noted that the Interface Control Document (ICD) between AMHS and MET systems are still being drafted.

3.1.6.4 The CNS Committee recommends that Trinidad and Tobago obtain information from the supplier of their AFTN/AMHS to determine if it can handle BUFR code and including what would be necessary to accomplish this if it is not so equipped. The Committee recommends that a plan of action be developed in conjunction with the MET office for transition to BUFR code.

#### 4. Suggested action

- 4.1 The Meeting is invited to:
  - Note the information presented in this Working Paper; and
  - Analyze, suggest and recommend any other action/s that the meeting may consider convenient in order to contribute to the improved implementation of the E/CAR CNS initiatives as appropriate.
# **APPENDIX H**

# Table A1 - Runway Strips and Runway End Safety Area (RESA) 2004 Task Force Report

Reporte de 2004 de Grupo de Tarea de Franjas de Pista y Areas de Seguridad de Extremo de Pista (RESA)

# OCTOBER 2004 REPORTED DEFICIENCIES AND CORRECTIONS

INFORMATION: INFORMACION: Working Paper (WP) #03 Appendices A - D, 4th MEETING OF THE GREPECAS AGA/AOP/SG, Mexico City, Mexico; 15 – 19 Nov., 2004

CAR REGION				SAM REGION			
COUNTRY PAIS	AIRPORT / CITY AEROPUERTO /	DEFICIENCY & CORRECTIONS DEFICIENCIAS Y CORRECCIONES		COUNTRY PAIS	AIRPORT / CITY AEROPUERTO /	DEFICIE CORREC DEFICIEN CORREC	NCY & TIONS ICIAS Y CIONES
	CIUDAD	RESA 22 CASES/ CASOS	RWY STRIP 43 CASES/ CASOS		CIUDAD	RESA 7 CASES/ CASOS	RWY STRIP 12 CASES/ CASOS
Column Columna #1	Column Columna #2	Column Columna #3	Column Columna #4	Column Columna #5	Column Columna #6	Column Columna #7	Column Columna #8
ANTIGUA & BARBUDA				BOLIVIA			
BAHAMAS	ST. JOHNS V.C.	1	1	COLOMBIA	LA PAZ	1	1
BARBADOS	BRIDGETOWN		1		RIO NEGRO SAN ANDRES	2	3
BELIZE	BELIZE CITV	1	2		SANTE FE DE BOGOTA	3	3
		1	2				

# OCTOBER 2004 REPORTED DEFICIENCIES AND CORRECTIONS

**INFORMATION:** 

INFORMACION: Working Paper (WP) #03 Appendices A - D, 4th MEETING OF THE GREPECAS AGA/AOP/SG, Mexico City, Mexico; 15 – 19 Nov., 2004

CAR REGION				SAM REGIO	DN		
CAYMAN ISLANDS							
	GRAND CAYMAN	1	1	ECUADOR			
COSTA RICA					GUAYAQUIL		1
	ALAJUELA/SAN JOSE	2		PARAGUAY			
CUBA					ASUNCION		1
	HAVANA		1 ??? S G / 3 WP#3	PERU			
	SANTIAGO DE CUBA	1 ??? SG/3 WP#3			LIMA-CALLAO	1	1
	VARADERO		1 1				
DOMINICAN REPUBLIC							
	SANTO DOMINGO		1				
GUATEMALA							
	GUATEMALA	1	2				
GRENADA							
	ST. GEORGES		1 ??? SG/3 W P # 3				

# OCTOBER 2004 REPORTED DEFICIENCIES AND CORRECTIONS

**INFORMATION:** 

INFORMACION: Working Paper (WP) #03 Appendices A - D, 4th MEETING OF THE GREPECAS AGA/AOP/SG, Mexico City, Mexico; 15 – 19 Nov., 2004

CAR REGION			SAM REGIO	N		
HONDURAS						
	TEGUCIGALPA	1	3			
	SAN PEDRO SULA	1	2			
JAMAICA						
	KINGSTON	1	2			
	MONTEGO BAY	1	3			
MEXICO						
	CANCUN	1	1			
	GUADALAJARA	1				
	MONTERREY	1				
NETHER-LANDS ANTILLES						
	BONAIRE/KRALEN DIJK		1			
	CURACAO/WILLE MSTAD		1			
	ST. MAARTEN/ PHILIPSBURG	1-??? SG/3 WP#3				
NICARAGUA						
	MANAGUA		1			
SAINT KITTS & NEVIS						
	BASSETERRE	1	2			
SAINT LUCIA						
	CASTRIES	1	2			
	VIEUX FORT	1	2			

# OCTOBER 2004 REPORTED DEFICIENCIES AND CORRECTIONS

INFORMATION:

INFORMACION: Working Paper (WP) #03 Appendices A - D, 4th MEETING OF THE GREPECAS AGA/AOP/SG, Mexico City, Mexico; 15 – 19 Nov., 2004

CAR REGION			SAM REGIO	N		
ST. VINCENT & THE GRENADINES						
	KINGSTOWN	2-??? SG/3 WP#3	2-??? SG/3 WP#3			
	MUSTIQUE		2			
TRINIDAD & TOBAGO						
	PORT OF SPAIN		1-??? SG/3 WP#3			
UNITED STATES						
	SAN JUAN	1	2			

NOTE #1: The symbol ??? with a number (for example, 2 ???) indicates that the item was reported as a deficiency in 2003 WP#3 but not reported in 2004 as a correction or deficiency.

NOTA #1: El simbolo ??? con un numero (por ejemplo, 2 ???) indica que el articulo fue reportado como una deficia en 2003 WP#3 pero no esta reportado en 2004 como una correccion o deficiencia.

NOTE #2: The color *GREEN* indicates corrective action.

NOTA #2: El color VERDE indica accion correctiva.

NOTE #3: The color *YELLOW* indicates corrective action of an item not reported in 2003.

NOTA #3: El color *AMARILLO* indica accion correctiva de un articulo que no fue reportado en 2003.

SAM REGION						
<b>Outstanding Deficiencies By Primary Factors</b>						
RESA & FREQUENCY RUNWAY STRIP & FREQUENCY						
1 NO RESA AT BOTH ENDS (U)	1	INSUFFICIENT WIDTH (B)				
2 NO RESA AT ONE END (U)	2	NON-FRANGIBLE OBJECT (A)				
2 NOT GRADED (U)	1	DEPRESSIONS (B)				
1 V-SHAPED CHANNEL IN RESA (U)	1	OBJECT – TERRAIN (B)				
	2	NOT GRADED (B)				
	1	INSUFFICIENT WIDTH & OBJECT (B)				
	1	OBJECTS - VEGETATION (B)				
Priority for action: U = urgent, A=high, B=medium						

	CAR REGION							
	Outstanding Deficiencies By Primary Factors							
	<b>RESA &amp; FREQUENCY</b>		<b>RUNWAY STRIP &amp; FREQUENCY</b>					
8	NO RESA AT BOTH ENDS (U)	1	NO STRIP AT ONE END (U)					
3	NO RESA AT ONE END (U)	2	INSUFFICIENT LENGTH & WIDTH AT BOTH ENDS (U)					
1	INSUFFICIENT LENGTH & WIDTH (U)	1	INSUFFICIENT LENGTH AT BOTH ENDS (U)					
1	NOT GRADED (U)	5	INSUFFICIENT LENGTH (U)					
1	NOT GRADED & VEGETATION AT ONE END (U)	2	INSUFFICIENT WIDTH AT BOTH ENDS (U)					
		7	INSUFFICIENT WIDTH & OBJECTS (A)					
		4	INSUFFICIENT WIDTH (U) (A)					
		1	GRADED STRIP HAS WATER PONDS (U)					
		4	NON-FRANGIBLE OBJECTS (U) (A)					
		3	OBJECTS - VEGETATION (A)					
Priori	Priority for action: U = urgent, A=high, B=medium							

Figure 1

# CAR REGION - RESA DEFICIENCIES BY CATEGORY (10/2004)







TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX H TO THE REPORT ON AGENDA ITEM 3



COMPARISION of RESA DEFICIENCIES FOR CAR (///) & SAM (\\\) REGIONS (10/2004)

Figure 5



#### Figure 6

# COMPARISON OF RWY STRIP DEFICIENCIES FOR CAR (///) & SAM (\\\) REGIONS (10/2004)



TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX H TO THE REPORT ON AGENDA ITEM 3

APPENDIX I



International Civil Aviation Organization	Organisation de l'aviation civile internationale	Organización de Aviación Civil Internacional	Международная организация гражданской авиации	منظمة الطيران المدني الدولي	国 际 民 用 航 空 组 织
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Tel.: +1 (514) 954-8219 ext. 8190

Ref.: M 7/1 – 06/62

18 August 2006

Subject: Follow-up to the fifth meeting of the ALLPIRG/Advisory Group

Action Required: As suggested in the fourth paragraph of this letter

Sir/Madam,

I have the honour to refer to the fifth meeting of the ALLPIRG/Advisory Group (ALLPIRG/5) which was held, under the chairmanship of the President of the Council, at ICAO Headquarters in Montreal from 23 to 24 March 2006 and was attended by 100 participants, including 51 observers. The meeting, while focussing its attention on interregional issues, developed eighteen conclusions covering a wide range of issues.

The Council of ICAO, on 13 June 2006, taking into account the comments of the Air Navigation Commission, considered the report of the fifth meeting of the ALLPIRG/Advisory Group. In confirming the role of ICAO in the follow-up to the conclusions, the Council called upon the planning and implementation regional groups (PIRGs), States and other CNS/ATM partners from the ALLPIRG membership to initiate follow-up action on the conclusions adopted by the meeting.

The attachment, which serves as an action plan, indicates follow-up tasks to be initiated on the conclusions of the ALLPIRG/5 Meeting and the assigned responsibilities. As a part of the followup, each PIRG will consider the outcome of the meeting and consequently establish sub-tasks associated with each follow-up action. Wherever follow-up is required by the ICAO Secretariat, the tasks have been included in the ICAO Business Plan and the responsibilities are allocated to the concerned Bureau/Section within the ICAO Secretariat for their attainment.

In light of the above, I invite States to include in their action plan the follow-up measures associated with the conclusions of the ALLPIRG/5 Meeting, as detailed in the attachment hereto. In particular, I wish to draw your attention to the following nine conclusions, all of which require specific action by States:

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#### TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX I TO THE REPORT ON AGENDA ITEM 3

- 3I- 2
- 5/2 Implementation of Global Plan Initiatives
- 5/4 Application of the business case model for CNS/ATM systems implementation
- 5/5 ICAO Global air navigation plan (ANP) database and geographic information system (GIS) portal
- 5/7 Environmental benefits of CNS/ATM systems
- 5/8 Globally coordinated air traffic services (ATS) routes
- 5/9 Terminal area (TMA) structure and area navigation
- 5/11 Air traffic management (ATM) safety management
- 5/13 Implementation of performance-based navigation concept
- 5/16 Implementation of very small aperture terminals (VSATs)

For more details regarding the meeting, its conclusions, Council working papers and follow-up, please refer to the report material which is available on the ICAO website at www.icao.int.

Accept, Sir/Madam, the assurances of my highest consideration.

Taïeb Qhérif

Taïeb Chérif Secretary General

**Enclosure:** 

Follow-up on conclusions developed by the ALLPIRG/5 Meeting

### **APPENDIX I**

# PROPOSED FOLLOW-UP ON CONCLUSIONS DEVELOPED BY THE ALLPIRG/5 MEETING

ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	To be initiated by			
Conclusion 5.2 — Implementation of Global Plan Initiatives (GPIs)						
That, recognizing that the evolution continues from a systems- based to a performance-based approach to planning and implementation of the air navigation infrastructure, the regional planning groups:	Increases efficiency (Strategic objective D) Relates to all GPIs					
a) note that the Global Plan is a significant component in the development of regional and national plans and that, together with the global ATM operational concept, provide an effective architecture for achieving a harmonized and seamless Global ATM system;		Note that the Global Plan is a significant component in the development of regional and national plans	All			
b) identify GPIs that most closely align with the well established implementation plans of their respective regions;		Identify GPIs that most closely align with the implementation plans of their respective regions	ICAO Regional Offices, PIRGs, States, and international organizations			
c) select GPIs that would be most effective in achieving the objectives of the region while ensuring continuation of the work already accomplished;		Select GPIs that would be most effective in achieving the objectives of the region	ICAO Regional Offices, PIRGs, States, and international organizations			
d) implement GPIs that take into account the Initiatives across regions, to align work programmes and to develop national and regional plans that facilitate achieving a Global ATM system;		Implement GPIs in the development of national and regional plans	ICAO Regional Offices, PIRGs, States, and international organizations			
e) utilize the planning tools as the common planning and implementation mechanism, thereby ensuring proper coordination and global integration; and		Utilize the planning tools as the common planning and implementation mechanism	ICAO Regional Offices, PIRGs, States, and international organizations			
f) review, at each PIRG meeting as a part of its regular agenda, the progress achieved and challenges identified in the implementation of GPIs using a common template.		Review, at each PIRG meeting as a part of its regular agenda, the progress achieved and challenges identified in the implementation of GPIs	ICAO Regional offices and PIRGs			

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	Relationshin with		
ALLPIRG/5 Conclusions	Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	To be initiated by
Conclusion 5/4 — Application of the business case model for CNS	ATM Systems implementation		
That PIRGs, States and airspace users:	Increases efficiency (Strategic objective D) Relates to all GPIs		
a) note that business cases for the implementation of CNS/ATM Systems leading to a global ATM system is a key element in the development of regional, subregional and national plans;		Note that business cases for the implementation of CNS/ATM Systems is a key element in the development of regional, subregional and national plans	All
b) consider the application of the model for the development of business cases in the formulation of national and subregional plans with a view to facilitating the achievement of a global ATM system; and		Apply the model for the development of business cases in the formulation of national and subregional plans	ICAO Regional Offices, PIRGs, States, and international organizations
c) establish, with ICAO's assistance and within the limits of the programme budget, a network of experts on cost-effectiveness, cost-benefit analyses and business cases for the implementation of CNS/ATM Systems in order to share expertise and to provide assistance to the Regional Offices.		Establish a network of experts on cost-effectiveness, cost-benefit analyses and business cases for the implementation of CNS/ATM Systems	ICAO Headquarters
Conclusion 5/5 — ICAO Global air navigation plan (ANP) databa	ase and geographic information syst	em (GIS) portal	
Recognizing that access to an ICAO Global ANP database and associated planning services through an web-based ICAO GIS portal would constitute an invaluable tool in supporting, integrating and monitoring the planning and implementation of harmonized regional, interregional and global air navigation infrastructures, the regional planning groups:	Increases efficiency (Strategic objective D) Relates to all GPIs	Note the superson mode in the	
with Recommendation 1/14 of AN-Conf/11 and the ICAO Global ANP database;		development of ICAO Global ANP database	ALL
b) note the ongoing efforts by the Secretariat in harmonizing formats of all the ANP tables together with the inclusion of temporal information in the tables that would assist the regional planning groups in monitoring and analysing the implementation progress;		Harmonize formats of all the ANP tables	ICAO Headquarters
c) note the intent to expand the ANP tables to include Global Plan Initiatives (GPIs), as appropriate; and		Include GPIs in the ANP tables	ICAO Headquarters

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX I TO THE REPORT ON AGENDA ITEM 3

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	Relationship with		
ALLPIRG/5 Conclusions	Strategic Objective &	Follow-up task	To be initiated by
	Global Plan Initiatives (GPIs)		
d) utilize, through the ICAO GIS portal, the ICAO Global ANP database and associated planning services so as to ensure the currency, coordination and implementation of regional air navigation planning and to contribute to the further development of air navigation plans as the framework for the efficient implementation of new air navigation systems and services at the national, regional, interregional and global levels.		Utilize the ICAO Global ANP database and associated planning service	ICAO Regional Offices, PIRGs, States, and international organizations
Conclusion 5/7 — Environmental benefits of CNS/ATM Systems			
That PIRGs and States:	Minimizes environmental impact (Strategic objective C)		
a) use the Committee on Aviation Environmental Protection (CAEP) provided CO2 conversion factor in the analysis of environmental benefits of implementing CNS/ATM Systems;		Use the CAEP provided CO2 conversion factor in the analysis of environmental benefits of implementing CNS/ATM Systems	ICAO Regional Offices, PIRGs and States
b) prioritize the implementation of voluntary, operationally- based improvements in their air traffic management systems, with emphasis on fuel savings, emissions reductions and noise benefits, and also to mitigate costs to the industry;		Prioritize the implementation of voluntary, operationally-based improvements in their air traffic management systems	ICAO Regional Offices, PIRGs and States
c) provide feedback to ICAO on studies conducted on the environmental benefits of implementing CNS/ATM Systems; and		Provide feedback to ICAO on studies conducted on the environmental benefits of implementing CNS/ATM Systems	ICAO Regional Offices, PIRGs and States
d) share air traffic data to improve future CAEP assessments, in line with State letter AN 1/17-03/86.		Share traffic data with CAEP	ICAO Regional Offices, PIRGs, States and international organizations
Conclusion 5/8 — Globally coordinated air traffic services (ATS)	routes		
That PIRGs:	Increases efficiency (Strategic objective D) Relates to GPI 7		
a) establish a global consolidated, prioritized list of routes and terminal area (TMA) improvements in close coordination with airspace users; and		Establish a global consolidated, prioritized list of routes and terminal area (TMA) improvements	ICAO Headquarters, ICAO Regional Offices and PIRGs
b) work with neighbouring PIRGs/States/air navigation service providers (ANSPs) to accelerate international route improvements.		Work with neighbouring PIRGs/States/ANSPs to accelerate international route improvements	ICAO Regional Offices, PIRGs and States

		1				
ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	To be initiated by			
Conclusion 5/9 — Terminal area (TMA) structure and area navigation						
That States:	Increases efficiency (Strategic objective D) Relates to GPI 5					
a) employ area navigation in all TMAs, including appropriate arrival and departure procedures, to improve efficiency and reduce emissions in the vicinity of airports; and that, in special cases where there are particularly challenging obstacles and where air traffic density is very high and additional approach paths are possible, the more precise and contained required navigation performance (RNP) procedures be employed; and		Employ area navigation in all TMAs, including appropriate arrival and departure procedures	ICAO Regional Offices, PIRGs and States			
b) review operations, procedures and training of controllers to ensure the optimum management of air traffic services.		Review operations, procedures and training of controllers to ensure the optimum management of air traffic services	ICAO Regional Offices, PIRGs and States			
Conclusion 5/11 — Air traffic management (ATM) safety management	ement					
That ICAO:	Increases safety (Strategic objective A)					
a) urge States to give priority to the establishment and effective operation of their ATM safety management and safety regulatory functions;		Give priority to the establishment and effective operation of their ATM safety management and safety regulatory functions	States			
b) support the development of sufficient expertise levels in the industry through formal training in ATM safety issues and, by cooperation through regional bodies, promote collective means to optimize the effectiveness of training provision; and		Develop formal training in ATM safety issues	ICAO Regional Offices, PIRGs, States, and international organizations			
c) develop further measures to enable the implementation of a "just-culture" reporting environment to facilitate the reporting of ATM occurrences.		Implement a "just-culture" reporting environment to facilitate the reporting of ATM occurrences	ICAO Regional Offices, PIRGs and States			
Conclusion 5/13 — Implementation of performance-based naviga	tion concept					
That, to increase awareness and understanding of the performance- based navigation concept and its elements:	Increases efficiency (Strategic Objective D) Relates to GPI 5					
a) ICAO organize workshops and training activities; and		Organize workshops and training activities	ICAO Headquarters			

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ALLPIRG/5 Conclusions	Relationship with Strategic Objective & Global Plan Initiatives (GPIs)	Follow-up task	To be initiated by		
b) where area navigation (RNAV) or required navigation performance (RNP) implementations are required, these will be implemented by PIRGs and States according to the performance- based navigation concept.		Implement performance-based navigation concept	ICAO Regional Offices, PIRGs, States, and international organizations		
Conclusion 5/16 — Implementation of very small aperture terminals (VSATs)					
That PIRGs: a) discourage the proliferation of VSAT networks where one/some of the existing ones can be expanded to serve the new	Increases efficiency (Strategic Objective D) Relates to GPI 22	Discourage the proliferation of VSAT	ICAO Regional Offices,		
areas of interest;		networks	PIRGs and States		
b) work towards integrated regional/interregional digital communication networks with a single (centralized) operational control and preferably based on the Internet Protocol (IP); and		Work towards integrated regional/interregional digital communication networks	ICAO Regional Offices, PIRGs, States, and international organizations		
c) give due consideration to managed network services (e.g. a virtual private network (VPN)), subject to availability and cost-effectiveness.		Give due consideration to managed network services	ICAO Regional Offices, PIRGs, States, and international organizations		

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#### **APPENDIX J**

#### SEAMLESS ATM SYSTEM

#### **REGIONAL PLANNING PROCESS**

The regional planning process should be conducted in accordance with the global plan initiatives (GPIs) of the Global Plan (Doc 9750) and the ICAO vision for an integrated ATM system, harmonized and interoperable, as established in the Global ATM Operational Concept (Doc 9854).

The objective is to achieve the maximum level of inter-operability and harmonization among sub-systems for a seamless and interoperable regional ATM system for all users during all phases of flight, complying with agreed levels of safety, providing optimum economic operations, to be environmentally sustainable and to fulfil national aviation security requirements.

The planning should be developed based on clearly defined performance objectives. The planning horizon should be focused on the strategies of development, activities or main tasks for two periods – that of less than 5 years (short-term) and 6 to 10 years (medium-term). Some already identified tasks to be analyzed beyond this period may be included if they conform to ICAO ATM requirements.

#### ATM PERFORMANCE OBJECTIVES

The performance objectives for regional ATM work programmes should be developed using an approach that best reflects the necessary activities needed to support regional ATM system implementation.

During its life cycle, the performance objectives may change in a dynamic manner depending on the ATM system's evolution; therefore, these should be coordinated with and available to all interested parties within the ATM Community in order to achieve timely communication throughout the implementation process. The establishment of collaborative decision making processes (CDM) ensures that all stakeholders are involved in and concur with the requirements, tasks and timelines.

The following sections describe aspects pertaining to the performance objectives and required changes, and how these changes foster harmonized improvements throughout the regional ATM system.

#### Benefits

The ATM implementation strategies should provide a group of common benefits for all stakeholders and be achieved through the operational and technical activities planned in each performance objective. These benefits should be in accordance with the ICAO strategic objectives.

#### Identification of work

Each strategy or set of activities should be identified with associated components of the ATM system when describing the tasks. According to the Doc 9854, the designators for ATM components are as follows:

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— Airspace organization and management
— Demand and capacity balancing
— Aerodrome operations
— Traffic synchronization
— Conflict management
— Airspace user operations
— ATM service delivery management

Each ATM system component pertains to tasks and activities related to phases of air operations (en-route, terminal and airport), capacity management, airspace management including its flexible use and aeronautical information management.

The infrastructure includes the ground technical systems and capacity required to support operations such as communications, navigation and surveillance, data processing, inter-operability of systems, information management system and spectrum management, including both civil and military systems.

The following diagram shows the ATM components in relation to the phases of flight:



#### Work Programmes

ATM evolution requires a clearly defined progressive strategy including tasks and activities which best represent the national and regional planning processes in accordance with the global planning framework. The goal is to obtain a harmonized regional implementation evolving toward a seamless global ATM system.

For this reason, it is necessary to develop short and medium term work programmes, focusing on the necessary changes to the system in which a clear work commitment will be carried out by the parties involved.

The regional work programmes should define additional tasks and activities, maintaining a direct relation with ATM system components such as airspace organization, civil-military coordination, human factors, aeronautical regulations, operational safety systems management and environmental protection, among others.

The referenced framework for regional activities should also include the coordination of activities with military authorities who play an important role in helping to ensure that the best use is made of the available airspace resources by all airspace users while still safeguarding national security.

The following principles should be considered when developing work programmes:

- The work should be organized using project management techniques and performance-based objectives in alignment with the strategic objectives of ICAO. The work programmes should be in accordance with the progress, characteristics and regional implementation needs.
- All activities involved in accomplishing the performance objectives should be designed following strategies, concepts, action plans and roadmaps which can be shared among States to align the regional work with the fundamental objective of achieving interoperability and seamlessness to the highest level.
- The planning of activities should include optimizing human resources, as well as encouraging dynamic use of electronic communication between States such as the Internet, videoconferences, teleconferences, e-mail, telephone and facsimile. Additionally, it should be ensured that resources will be efficiently used, avoiding any duplication or unnecessary work.
- The new work process and methods should ensure that performance objectives can be measured against timelines and the regional progress achieved can be easily reported to the Air Navigation Commission and to the ICAO Council.

#### Status

The status is mainly focused on monitoring the progress of the implementation activity as it progresses toward a specific completion date. The status of the activity is defined as follows:

■Valid the feasibility and benefits of an activity has been confirmed, work has been initiated but the activity itself has not been finalized.

■Completed	implementation of the activity has been finalized by the involved parties.
■Tentative	the feasibility and benefits of an activity is being investigated or developed.

A tentative status indicates a potential activity; normally this activity will not be included in the regional planning documents unless it is an ICAO defined requirement.

#### **Relationship between Performance Objectives and Global Plan Initiatives**

The 23 GPIs provide a global strategic framework and are designed to contribute to achieving the regional performance objectives and to support the logical progression of regional implementation work programmes.

Each performance objective should be referenced to the pertinent GPIs. The goal is to ensure that the evolutionary work process will be integrated into the global planning framework

#### NATIONAL ACTION PLANS

States should develop their own national action plans reflecting the specific activities or tasks along with the expected benefits to be obtained and the date by which each should be completed according to its own needs and based on the regionally-agreed performance objectives.

The activities should include the necessary detailed actions to successfully achieve the national performance objectives, relating these activities with the short and medium term regionally-agreed performance objectives.

National plans should identify the individual parties responsible for achieving the objectives as well as a means for monitoring and eventually reporting progress on the actions to ICAO. The responsibilities and time-tables should be clearly defined so that the involved parties are aware of their commitments throughout the planning process.

Additionally, national action plans should include adequate means to provide information on implementation progress achieved such as through a periodic reporting process. This facilitates senior management levels' efforts to prioritize the actions and resources required. The same information provided to ICAO will allow feedback and assistance to be provided specific for each Region as they work to achieve a Global ATM system.

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#### ATM PERFORMANCE OBJECTIVES

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OPTIMIZE THE ATS ROUTE STRUCTURE IN BOTH TERMINAL AND EN-ROUTE AIRSPACE					
	Benefits				
Environment Efficiency	<ul> <li>reductions in fuel consumption;</li> <li>ability of aircraft to conduct flight more closely to preferred trajectories;</li> <li>increase in airspace capacity;</li> <li>facilitate utilization of advanced technologies (e.g., FMS based arrivals) and ATC decision support tools (e.g., metering and sequencing), thereby increasing efficiency.</li> </ul>				
	Strategy				
	Short term (2010) Medium term (2011 - 20015)				
TASK	DESCRIPTION	START- END	STATUS		
AOM	<ul> <li><i>En-route airspace</i></li> <li>analyze the en-route ATS route structure and implement all identifiable improvements;</li> <li>implement all remaining regional requirements (e.g. RNP 10 routes); and</li> <li>finalize implementation of WGS-84</li> <li>monitor implementation progress</li> <li>develop a strategy and work programme to design and implement a trunk route network, connecting major city pairs in the upper airspace and for transit to/from aerodromes, on the basis of PBN and, in particular, RNAV/5, taking into account interregional harmonization;         <i>In terminal airspace</i></li> <li>develop a regional strategy and work programme for implementation of optimized standard instrument departures (SIDs), standard instrument arrivals (STARs), instrument flight procedures, holding, approach and associated procedures, on the basis of PBN and, in particular RNAV/1 and 2; and</li> </ul>	2005-2008			
References	GPI/5: performance-based navigation, GPI/7: dynamic and flexib GPI/8: collaborative airspace design and management, GPI/10: management, GPI/11: RNP and RNAV SIDs and STARs and G procedures.	le ATS route r terminal area GPI/12: FMS-t	nanagement, design and based arrival		

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IMPLEMENT RNP APPROACHES				
Benefits				
Efficiency Safety	<ul><li>Improvements in capacity and efficiency at aerodromes.</li><li>Improvements in safety at aerodromes.</li></ul>			
	<i>Strategy</i> (2008-2015)			
TASK	DESCRIPTION	START- END	STATUS	
AOM	<ul> <li>development of a regional strategy and work programme for implementation of RNP approaches at aerodromes where aircraft weighing 5700 kg or more are operated, on the basis of the transition plan as follows:</li> <li>Stage 1 – Evaluate existing procedures, determine compatibility of use with RNAV overlay routes</li> <li>Stage 2 – Carry out cost benefit analysis and safety assessments of RNAV procedures</li> <li>Stage 3 – Use existing radar vectoring patterns as the basis for RNAV departure and arrival tracks</li> <li>Stage 4 – Evaluation and simulation of procedures</li> <li>Stage 5 – Design stand-alone RNAV procedures</li> <li>Stage 7 – Publish new procedures and introduce into new service, meet AIRAC dates</li> <li>Stage 8 – Operational review</li> <li>Stage 9 – Removal of conventional procedures</li> </ul>			
References	GPI/5: performance-based navigation, GPI/7: dynamic and flexible GPI/8: collaborative airspace design and management, GPI/10: management, GPI/11: RNP and RNAV SIDs and STARs and C procedures.	le ATS route n terminal area GPI/12: FMS-b	nanagement, design and based arrival	

	ENHANCE CIVIL/MILITARY COORDINATION AND CO-O	PERATION		
	Benefits			
Efficiency	• increase airspace capacity;			
<ul> <li>allow a more efficient ATS route structure</li> <li>ensure safe and efficient action in the event of unlawful interference;</li> <li>make available military restricted airspace more hours of the day so that aircraft can fly on their preferred trajectories; and</li> <li>improve search and rescue services.</li> </ul>				
Strategy (2008-2012)				
TASK	DESCRIPTION	START- END	STATUS	
AOM	<ul> <li>develop guidance material on civil/military coordination and cooperation to be used by States/Territories to develop national policies, procedures and rules;</li> <li>establish civil/military coordination bodies;</li> <li>arrange for permanent liaison and close cooperation between civil ATS units and appropriate air defense units;</li> <li>conduct a regional review of special use airspace;</li> <li>develop a regional strategy and work programme for implementation of flexible use of airspace in a phased approach beginning with more dynamic sharing of restricted airspace while working towards full integration of civil and military aviation activities by 2012; and</li> <li>monitor implementation progress</li> </ul>			
References	GPI/1: flexible use of airspace.			

ALIGN UPPER AIRSPACE CLASSIFICATION			
	Benefits		
Efficiency Continuity	<ul> <li>Efficiency</li> <li>better utilization of data link communication;</li> <li>optimize use of flight plan data processing systems;</li> <li>enhance airspace management coordination, message exchange capabilities and utilization of flexible and dynamic airspace management techniques;</li> <li>harmonization of interregional coordination processes;</li> <li>improvement of airspace interoperability and seamlessness; and</li> </ul>		
	Strategy (Trace 1: 2008)	•	
(Target: 2008) START. STATUS			
TASK	DESCRIPTION	END	~
AOM	<ul> <li>Develop a regional implementation strategy and work programme for the implementation of ICAO Annex 11 airspace Class A above FL 195.</li> <li>identify key stakeholders, ATCOs, pilots, and relevant international organisations for coordination and cooperation on changes for new airspace organization, using a CDM process;</li> <li>develop new national airspace organization in accordance with ICAO provisions, as needed;</li> <li>Coordinate changes for regional and national documents;</li> <li>Doc 8733, CAR/SAM ANP;</li> <li>AIP; and,</li> <li>ATS letters of agreement</li> <li>carry out improvements in ground systems to support new airspace organization configurations, as necessary;</li> <li>publish national regulatory material for implementation of new rules and procedures to reflect airspace organizational changes;</li> <li>train ATCOs and pilots in new procedures, including all civil and military airspace users, as required;</li> </ul>		
References	GPI/4: align upper airspace classification.		

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IMPROVE DEMAND AND CAPACITY BALANCING				
	Benefits			
Environment	<ul> <li>reduction in weather- and traffic-induced holding, leading to reduce missions;</li> </ul>	iced fuel cons	umption and	
Efficiency	<ul> <li>improved and smoother traffic flows;</li> <li>improved predictability;</li> <li>improved management of excess demand for service in ATC sector</li> </ul>	s and aerodron	nes;	
Sofotz	<ul> <li>Improved operational efficiency;</li> <li>enhanced airport capacity;</li> <li>enhanced airspace capacity; and</li> </ul>			
Salety	• improved safety management.			
	Strategy Near term (2008)			
TASK	DESCRIPTION	START- END	STATUS	
DCB	<ul> <li>identify key stakeholders (ATC service providers and users, military authorities, airport authorities, aircraft operators and relevant international organisations) for purposes of coordination and cooperation, using a CDM process;</li> <li>identify and analyse traffic flow problems and develop methods for improving efficiencies on a gradual basis, as needed, through enhancements in current:         <ul> <li>airspace organization and management (AOM) and ATS routes structure (unidirectional routes) and SID and STARS,</li> <li>communication, navigation and surveillance systems,</li> <li>aerodrome capacity,</li> <li>ATS capacity,</li> <li>training for pilots and Controllers; and</li> <li>ATS letters of agreement;</li> </ul> </li> <li>define common traffic displays,</li> <ul> <li>communications (teleconferences, web), and</li> <li>daily teleconference/messages methodology advisories;</li> <li>develop methods to establish demand/capacity forecasting;</li> <li>develop a regional strategy and work programme for harmonized implementation of ATFM service; and,</li> </ul> </ul>			

# Twentieth meeting of Directors of Civil Aviation of the Eastern Caribbean Appendix J to the Report on Agenda Item 3 $\,$

	Medium term (2010)
	<ul> <li>develop a regional strategy for the implementation of flexible use of airspace (FUA); <ul> <li>assess use of airspace management processes;</li> <li>improve current national airspace management to adjust dynamic changes in tactical stage to traffic flows;</li> <li>introduce improvements in ground support systems and associated procedures for the extension of FUA with dynamic airspace management processes;</li> <li>implement dynamic ATC sectorization in order to provide the best balance between demand and capacity to respond in real-time to changing situations in traffic flows, and to accommodate in short-term the preferred routes of users;</li> <li>define common electronic information and minimum databases required for decision support and alerting systems for interoperable situational awareness between Centralized ATFM units;</li> <li>develop regional procedures for efficient and optimum use of aerodrome and runway capacity;</li> <li>develop a regional ATFM procedural manual to manage demand/capacity balancing;</li> <li>develop a regional strategy and framework for the implementation of a Centralized ATFM unit;</li> <li>develop operational agreements between Centralized ATFM units for interregional demand/capacity balancing; and,</li> </ul></li></ul>
References	GPI/1: flexible use of airspace; GPI/6: air traffic flow management; GPI/7: dynamic and flexible ATS route management; GPI/9: Situational awareness; GPI/13: aerodrome design and management; GPI/14: runway operations; and GPI/16: decision support and alerting systems.

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IMPROVE ATM SITUATIONAL AWARENESS			
	Benefits		
Efficiency       • enhanced traffic surveillance;         • enhanced collaboration between flight crew and the ATM system;         • improved collaborative decision-making through sharing electronic aeronautical data information;         • reduced of workload for both pilots and controllers;         • improved operational efficiency;         • enhanced airspace capacity;         • improved implementation on a cost-effective basis;         • improved available electronic terrain and obstacle data in the cockpit;         • reduced of the number of controlled flight into terrain related accidents; and			
	Strategy Near term (2010)		
TASK	DESCRIPTION	START- END	STATUS
SDM	<ul> <li>identify parties concerned</li> <li>identify the automation level required according to the ATM service provided in airspace and international aerodromes, assessing         <ul> <li>operational architecture design,</li> <li>characteristics and attributes for interoperability,</li> <li>data bases and software, and</li> <li>technical requirements;</li> </ul> </li> <li>improve ATS interfacility communication</li> <li>implement flight plan data processing system and electronic transmission tools</li> <li>implement radar data sharing programs where benefits can be obtained</li> <li>develop situational awareness training programmes for pilots and controllers</li> <li>implement ATM surveillance systems for situational traffic information and associated procedures</li> <li>implement automated radar handovers, where able;</li> <li>implement ground and air electronic warnings, as needed             <ul> <li>Conflict prediction</li> <li>Terrain proximity</li> <li>MSAW</li> <li>DAIW</li> <li>Surveillance system for surface movement</li> </ul> </li> </ul>		

# Twentieth meeting of Directors of Civil Aviation of the Eastern Caribbean Appendix J to the Report on Agenda Item $3\,$

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Medium term (2015)							
	<ul> <li>implement additional/advanced automation support tools to increase sharing of aeronautical information         <ul> <li>ETMS or similar</li> <li>MET information</li> <li>AIS/NOTAM dissemination</li> <li>Surveillance tools to identify airspace sector constraints</li> <li>A-SMGC in specific aerodromes, as required</li> </ul> </li> <li>implement teleconferences with ATM stakeholders</li> <li>monitor implementation progress</li> </ul>						
References	GPI/1: flexible use of airspace; GPI/6: air traffic flow management; and GPI/7: dynamic and flexible ATS route management; GPI/9: Situational awareness; GPI/13: aerodrome design and management; GPI/14: runway operations; and GPI/16: decision support and alerting systems; GPI/17: implementation of data link applications; GPI/18: aeronautical Information; GPI/19: meteorological systems.						

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# **APPENDIX K**

# AERODROME ACCEPTANCE RATE

(Presented by the United States of America)

#### SUMMARY

In support of ATFM for Cricket World Cup activities, this Working Paper presents for the Meeting's consideration a model for computing the aerodrome acceptance rate.

The development of an effective ATFM system depends, in part, on the establishment of numerical arrival values for aerodrome capacity. Establishing these values assists traffic managers by identifying optimum throughput rates and by providing a basis for traffic management initiatives designed to ensure a safe and efficient flow of traffic.

This Working Paper presents a model for determining aerodrome acceptance rate that is based on the experience the FAA has gained in this area.

It includes a list of key definitions and provides the steps necessary to compute an aerodrome acceptance rate.

#### **References:**

- Report of the Twelfth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/12).
- Report of the ATFM Task Forces/1 and 2.
- Working Paper, ATFM, Agenda Item 7 of E/CAR/DCA/20

### 1. Introduction

1.1 In support of ATFM for Cricket World Cup activities, this Working Paper presents for the Meeting's consideration a model for computing the aerodrome acceptance rate. Establishing these values assists traffic managers by identifying optimum aerodrome throughput rates and by providing a basis for traffic management initiatives designed to ensure a safe and efficient flow of traffic. Based on the experience the FAA has gained in this area, this Working Paper presents a model for determining aerodrome acceptance rate. It includes a list of key definitions and provides the steps necessary to compute an aerodrome acceptance rate.

#### 2. Definitions

2.1 Aerodrome acceptance rate (AAR) - The number of arrival aircraft that an aerodrome -in conjunction with weather conditions, terminal airspace, ramp space, parking space, and facilities -- can accept per hour. 2.2 Aerodrome runway configuration - Each aerodrome configuration which handles 3 percent or more of the annual operations.

2.3 Potential AAR - The theoretical acceptance rate at the runway threshold – before taking other factors into consideration.

2.4 Actual AAR - The Potential AAR at the runway threshold adjusted for other factors. These factors include:

- a) Weather conditions
- b) Runway conditions
- c) Taxiway layout
- d) Ramp space
- e) Terminal facilities

#### 3. Discussion: Steps for computing the AAR

3.1 For any runway configuration, the Potential AAR minus the adjustment factors equals the Actual AAR. Thus,

POTENTIAL AAR minus <u>ADJUSTMENT FACTORS</u>

equals <u>ACTUAL AAR</u>

3.2 It is suggested that the Actual AAR value be calculated for each aerodrome runway configuration for the following weather conditions:

- a) Visual Meteorological Conditions (VMC) weather allows vectoring for visual approaches.
- b) Marginal VMC weather does not allow vectoring for visual approaches, but visual approaches on final are possible.
- c) Instrument Meteorological Conditions (IMC) neither visual approaches nor visual separation on final are possible.
- 3.3 To calculate the Potential AAR:
  - a) Determine the average ground speed crossing the runway threshold and the spacing interval required between successive arrivals.
  - b) Divide the ground speed by the spacing interval to determine the Potential AAR.
- 3.4 Formula method for calculating the Potential AAR:
  - a) Divide the ground speed at the runway threshold in knots by the spacing interval at the runway threshold in nautical miles.
  - b) When the quotient is a fraction, round <u>down</u> to the next whole number.

c) Example 1: The typical arrival aircraft crosses the runway threshold at 130 knots. The required spacing interval at the runway threshold is 5 nautical miles (NM).

 $\frac{130 \text{ knots}}{5 \text{ NM}} = 26$ 

In this example, the Potential AAR equals 26 arrivals per hour.

d) Example 2: The typical arrival aircraft crosses the runway threshold at 120 knots. The required spacing interval at the runway threshold is 7 NM.

 $\frac{120 \text{ knots}}{7 \text{ NM}} = 17.14 \text{ (round } \frac{down}{to} \text{ to } 17\text{)}$ 

In this example, the Potential AAR equals 17 arrivals per hour.

3.5

A table method has also been developed for computing the Potential AAR.

	Nauti	ical m	iles be	tween	aircra	ft at t	he Ru	nway	Thres	sholć
	3	3.5	4	45	5	6	7	8	9	10
	Potential AAR									
Ground Speed at the Runway Threshold										
140 knots	46	40	35	31	28	23	20	17	15	14
130 knots	43	37	32	23	26	21	18	16	:4	13
120 knots	40	34	30	25	24	20	17	15	:3	12
110 knots	36	31	27	24	22	13	15	13	12	11

3.6 After calculating the value of the Potential AAR, it must be adjusted for factors unique to the aerodrome. Adjustment factors include:

- a) Intersecting arrival and departure runways
- b) Lateral distance between arrival runways
- c) Dual-use runways; i.e., runways that are used for both arrivals and departures
- d) Land and hold short operations
- e) Availability of high speed taxiways
- f) Procedural limitations such as noise abatement procedures and missed approach procedures
- g) Taxiway layouts
- h) Meteorological conditions
- 3.7 Here is an example of the Actual AARs for an aerodrome:

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RUNWAY CONFIGURATION	AAR for VMC	AAR for MARGINAL VMC	AAR for IMC
RWY 13	24	21	19
RWY 31	23	20	17

- a) Example: The <u>Potential</u> AAR at an aerodrome for Runway (RWY) 13 is 28. However, when adjusted for the taxiway layout and ramp limitations, the <u>Actual</u> AAR for VMC conditions is 24 arrivals per hour.
- b) Example: When the RWY 13 Actual AAR is adjusted for Marginal VMC conditions, the value is reduced to 21 arrivals per hour.
- c) Example: When the RWY 13 Actual AAR is reduced for IMC conditions, the value is further reduced to 19 arrivals per hour.

#### 4. Conclusion

4.1 Based on this information, the Meeting is invited to:

- a) Note the information presented in this paper and the presentation included as **Attachment** to this working paper.
- b) Provide information and questions or input to Joe Hof via email at joe.hof@faa.gov Phone number: (703) 925 3113.

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### ATTACHMENT




























FEDERAL AVIATION ADMINISTRATION . AIR TRAFFIC ORGANIZATION







## INTERNATIONAL PLANNING TELEPHONE CONFERENCE

(Presented by the United States of America)

#### SUMMARY

In support of Cricket World Cup activities, this Working Paper presents for the Meeting's consideration a model for conducting Air Traffic Flow Management (ATFM) telephone conferences.

The development of an effective ATFM system depends, in part, on the establishment of regular communications between Flow Management Units. Establishing regluar conference calls assists traffic managers by exchanging pertinent ATFM information and helps ensure a safe and efficient flow of traffic.

This Working Paper presents a model for conducting ATFM telephone conferences that is based on the experience the FAA has gained in this area.

It includes a key definition, provides a list of steps necessary to prepare for the telephone conference, provides a format for the conference, and lists actions to be taken alter each conference call.

## REFERENCES

- Report of the Twelfth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/12).
- Report of the ATFM Task Forces/1 and 2.
- Working Paper, ATFM, Agenda Item 7 of E/CAR/DCA/20

## 1. Introduction

1.1 In support of Cricket World Cup activities, this Working Paper presents for the Meeting's consideration a model for conducting Air Traffic Flow Management (ATFM) telephone conferences. Establishing regular conference calls between Flow Management Units assists traffic managers by exchanging pertinent ATFM information and helps ensure a safe and efficient flow of traffic. This Working Paper presents a model for conducting ATFM telephone conferences that is based on the experience the FAA has gained in this area. It includes a key definition, provides a list of steps necessary to prepare for the telephone conference, provides a format for the conference, and lists actions to be taken alter each conference call.

## 2. Definition

2.1 ATFM operations planning telephone conference - OPS TELCON.

3.	Discussion: Steps to prepare for the OPS TELCON
3.1 least:	Step 1: Review current and forecast weather information. The review should include at
	<ul><li>a) METAR/TAF for select airports.</li><li>1) www.aviationweather.gov/metars/</li></ul>
	<ul><li>b) Prognosis chart information for the region.</li><li>1) www.aviationweather.gov/products/swh/</li></ul>
	<ul> <li>c) Satellite images.</li> <li>1) <u>www.aviationweather.gov/sat/intl/</u></li> </ul>
	<ul><li>d) SIGMET information for the region.</li><li>1) www.aviationweather.gov/sigmets/intl/</li></ul>
	<ul> <li>e) Volcanic ash information for the region.</li> <li>1) www.aviationweather.gov/data/airmets/airmets_ASH.gif</li> </ul>
3.2	Step 2: Review the operational factors related to applicable terminal environments.
	<ul> <li>a) The purpose of this review is to identify operational issues and constraints in select terminal areas. Items to review include, but are not limited to: <ol> <li>Aerodrome acceptance rate (AAR)</li> <li>Projected demand at select aerodromes</li> <li>Taxiway and ramp constraints, such as construction projects</li> <li>NAVAID and equipment outages</li> </ol> </li> </ul>
3.3	Step 3: Review the operational factors related to applicable enroute environment.
	<ul> <li>a) The purpose of this review is to identify operational issues and constraints that impact ACC operations. Items to review include, but are not limited to:</li> <li>1) Sector capacity</li> <li>2) Projected sector demand</li> <li>3) NAVAID and equipment outages</li> </ul>
3.4	Step 4: Review the major traffic flows and demand for the day.
	<ul> <li>a) OPS TELCON participants will need to be prepared to discuss the traffic management initiatives that are expected for the day. Examples include, but are not limited to: <ol> <li>Miles-in-trail to select aerodromes</li> <li>Outlook for possible airborne holding</li> </ol> </li> </ul>

3) Outlook for possible ground stops or ground delay programs

#### 4. Discussion: OPS TELCON format

- 4.1 Part 1: Welcome and introductions.
  - a) The conference host will welcome the participants to the OPS TELCON and facilitate introductions.

4.2 Part 2: Review of the common weather products being used for the planning period, and of any significant weather and atmospheric conditions. This review will include at least the following items:

- a) Thunderstorm activity
- b) Turbulence forecast and known reports
- c) Volcanic ash clouds

4.3 Part 3: Discussion of terminal issues and initiatives. The discussion will cover at least the following topics:

- a) Aerodrome acceptance rate (AAR) for select aerodromes
- b) Aerodrome constraints such as construction projects and equipment outages
- c) Anticipated traffic management initiatives to manage the terminal demand

4.4 Part 4: Discussion of enroute issues and initiatives. The discussion will cover at least the following topics:

- a) Enroute sector constraints
- b) NAVAID, equipment, and frequency outages
- c) Anticipated traffic management initiatives to manage the enroute demand
- 4.5 Part 5: Discussion of additions to the plan and tactical updates.
- 4.6 Part 6: Stakeholder input, questions, and comments.
- 4.7 Part 7: Concluding comments by the OPS TELCON host.

## 5. Discussion: Follow up actions at the conclusion of the OPS TELCON

5.1 At the conclusion of the OPS TELCON, supervisors at the FAA's Air Traffic Control System Command Center will compile the information discussed during the telephone conference and prepare and transmit an advisory to international and domestic stakeholders.

a) The advisory will cover a 24-hour period beginning with the hour following the OPS TELCON.

#### 6. Conclusion

a) Take note of the information in this paper;

b) Provide information and questions or input to Joe Hof via email at joe.hof@faa.gov

Phone: 703 925 3113

## SECTOR CAPACITY

(Presented by the United States of America)

## SUMMARY

In support of ATFM for Cricket World Cup activities, this Working Paper presents for the Meeting's consideration a model for computing sector capacity.

The development of an effective ATFM system depends, in part, on the establishment of numerical values for sector capacity. Establishing these values assists traffic managers by identifying optimum sector throughput rates and by providing a basis for traffic management initiatives designed to ensure a safe and efficient flow of traffic.

This Working Paper presents a model for determining sector capacity that is based on the experience the FAA has gained in this area.

It includes a list of key definitions and provides the steps necessary to compute sector capacity.

## **References:**

- Report of the Twelfth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/12).
- Report of the ATFM Task Forces/1 and 2.
- Working Paper, ATFM, Agenda Item 7 of E/CAR/DCA/20

## 1. Introduction

1.1 In support of ATFM for Cricket World Cup activities, this Working Paper presents for the Meeting's consideration a model for computing sector capacity. Establishing these values assists traffic managers by identifying optimum sector throughput rates and by providing a basis for traffic management initiatives designed to ensure a safe and efficient flow of traffic. Based on the experience the FAA has gained in this area, this Working Paper presents a model for determining sector capacity. It includes a key definition, lists the factors that affect sector capacity, and provides the steps necessary to compute sector capacity.

## 2. Definition

2.1 Sector capacity - The optimum number of flights in a given sector, for a specified period of time that can be managed safely and efficiently.

## **3. Discussion:** Factors that affect sector capacity

3.1 The following factors can all have an impact on sector capacity.

- a) Airway structure in the sector.
- b) Airspace volume of the sector.
  - 1) Vertically
  - 2) Horizontally
- c) Complexity of operations in the sector.
  - 2) Number of adjoining sectors
  - 3) Amount of climbing/descending traffic
  - 4) Terrain
  - 5) Military operations
  - 6) Special use airspace

#### 4. Discussion: Steps for determining sector capacity

- 4.1 For each 15-minute time period:
  - a) Determine the average time a flight spends in a sector.
  - b) In most cases, this will be measured from 7am to 7pm, Monday through Friday.
  - c) Example:

20 flights are observed in the sector in 15 minutes

Add the flights individual sector times together

120 minutes

Divide 120 minutes by the 20 flights to obtain the average

 $\frac{120 \text{ minutes}}{20 \text{ flights}} = 6 \text{ minutes / flight}$ 

The quotient is the average sector flight time, in minutes

6 minutes

- 4.2 Next, multiply the average sector flight time by 60 seconds.
  - a) Example:

(6 minutes / flight) X (60 seconds) = 360 seconds / flight

The product is the average sector flight time, in seconds

- 4.3 Next, divide the average sector flight time, in seconds, by 36 seconds.
  - a) 36 seconds is a value established for use in the United States by human factor experts.

- It represents the average time a controller interacts with a flight while it is in the b) sector.
- c) Example:

The average sector flight time from above is 360 seconds per flight

Divide 360 seconds per flight by 36 seconds (the time a controller interacts with a flight)

360 seconds per flight = 10 flights 36 seconds

The quotient, 10, is the optimum sector capacity value for the 15 minute period.

- 4.4 Next, adjust the optimum sector capacity value for operational factors.
  - a) The value may be adjusted up or down, as appropriate, after taking into account the factors that affect the sector.
  - b) The factors include, but are not limited to:
    - 1) Airway structure in the sector
    - 2) Airspace volume of the sector -- vertically and horizontally
    - 3) Complexity of operations in the sector
    - 4) Number of adjoining sectors
    - 5) Amount of climbing and descending traffic
    - 6) Terrain
    - 7) Military operations and special use airspace
  - c) Apply local, professional judgment and adjust the optimum sector capacity value up, or down, as necessary.

4.5 The optimum sector capacity adjusted for operational considerations is the sector capacity value.

> OPTIMUM SECTOR CAPACITY VALUE plus/minus +/-ADJUSTMENT FACTORS SECTOR CAPACITY VALUE equals

4.6 A table method has also been developed for computing the Optimum Sector Capacity Value.

# TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX K TO THE REPORT ON AGENDA ITEM 3

## 3K-20

Average Sector Flight Time (in minutes)	Optimum Sector Capacity Value (aircraft count)		
3 minutes	5 aircraft		
4	7		
5	8		
6	10		
7	12		
8	13		
9	15		
10	17		
11	18		
12 minutes or more	18		

## 5. Conclusion

- a) Take note of the information in this paper and the presentation included in the Appendix to this working paper;
- Provide information and questions or input to Joe Hof via email at joe.hof@faa.gov
   Phone: 703 925 3113

## ATTACHMENT





















Determini Table metho Optimum S	ng Sector Capacity od for determining the ector Capacity Value	
Average Sector Flight Time (in minutes)	Optimum Sector Capacity Value (aircraft count)	
3 minutes	5 aircraft	- 1
4	7	- HE PLANT BURK
5	8	-1+
6	10	
7	12	
8	13	年
9	15	and contraction in the
10	17	
11	18	-
12 minutes or more	18	



#### APPENDIX L

## WEST ATLANTIC ROUTE SYSTEM (WATRS)-PLUS AIRSPACE REDESIGN AND SEPARATION REDUCTION INITIATIVE

(Presented by the United States of America)

#### SUMMARY

The United States has begun to coordinate plans and requirements to implement an airspace redesign and lateral separation reduction in the West Atlantic Route System, including the Miami Oceanic airspace and the San Juan Flight Information Region (FIR) airspace (now identified as WATRS-Plus airspace). This initiative can enhance airspace capacity, air traffic control (ATC) flexibility and aircraft operating efficiency. This paper provides details on tasks to be accomplished, a draft airspace redesign chart and discussion of operational requirements under development.

#### 1. Introduction

1.1 The West Atlantic Route System (WATRS) was redesigned in 1995 to provide more efficient operations. This revision eliminated many restrictive routing requirements, and prepared the airspace for the introduction of Reduced Vertical Separation Minima. We now see the opportunity to further enhance WATRS operations by implementing a reduced lateral separation minimum and redesigning the route system to increase both capacity and operating efficiency. Improvements to aircraft navigation and ground ATC capability, including the use of the Ocean21 automation system at New York Center, enable us to pursue this opportunity. We have designated this effort as the "WATRS-Plus<sup>1</sup> Airspace Redesign and Separation Reduction Initiative" (WATRS-Plus airspace is depicted in **Attachment 1**).

1.2 To progress international coordination, the Federal Aviation Administration (FAA) is working with the International Civil Aviation Organization (ICAO) North American, Central American, and Caribbean (NACC) Regional Office and with the ICAO European and North Atlantic (EUR/NAT) Office to provide inputs to the appropriate North Atlantic (NAT), Caribbean (CAR), and South America (SAM) working groups and to revise the appropriate ICAO documents. In addition, the NACC and the FAA convened a NAT/CAR ATS Routes Group meeting in September 2006 to continue work on this initiative and have coordinated to establish a Routes Working Group for this project.

1.3 The initial meeting of the NAT/CAR ATS Routes Working Group was held on 19-21 September 2006 in Miami, Florida. The meeting was attended by technical and operational representatives from four CAR States, the International Air Transport Association (IATA), five major operators, the U.S. Air Transport Association, the National Business Aviation Association, IFATCA and the U.S. Department of Defense. The group reviewed basic program plans and requirements, reviewed and re-worked a draft airspace redesign chart and conducted discussions to harmonize the redesign plan with adjoining ATS route structures.

<sup>&</sup>lt;sup>1</sup> WATRS-Plus refers to the designated route system and surrounding FAA-controlled airspace.

1.3.1 During the meeting, the group reviewed project progress to date, provided inputs concerning supporting tasks and events, discussed operator and aircraft Required Navigation Performance 10 (RNP 10) requirements, developed airspace redesign chart <u>draft</u> 060921 (see **Attachment 2**) and identified ATS provider/airspace operator issues to be addressed. The group reached the following basic agreements:

- a) The United States will submit a WATRS-Plus Action Plan to ICAO/NACC after internal coordination and will continue work on the project through coordination with affected States, Air Traffic Service Providers (ATSP), and airspace operators;
- b) ICAO/NACC will conduct international coordination as needed; and
- c) information dissemination including an action plan with timelines is vital to success of the WATRS-Plus project.

Note: Draft redesign chart 060921 will require further coordination. For example, route "Q" will probably not be anchored at BETIR as is shown on the current draft.

1.3.2 In addition, the United States took the action to coordinate with ATSPs that were unable to attend the Miami meeting. This action and others are documented in the list of tasks and action items included in the meeting report.

1.3.3 Working papers from the meeting are posted on the NACC Office Website (<u>www.icao.int/nacc</u>) under "Meetings". Presentations given at the meeting can be found at: <u>www.faa.gov/ats/ato/natcar\_wg.htm</u>

## 2. Program Overview

2.1 The United States announced the WATRS-Plus Airspace Redesign and Separation Reduction Initiative at the Twelfth Meeting/Workshop of ATM Authorities and Planners in the CAR/SAM Regions (AP/ATM/12) in Lima, Peru, at the North Atlantic Implementation Management Group (NAT/IMG) in May 2006, and in June 2006 at the North Atlantic System Planning Group (NAT/SPG) in Paris. The initiative is led by the United States (FAA Oceanic Separation Reduction Working Group - OSRWG), which is chaired by FAA's Oceanic Standards office.

- 2.2 The project has the following major objectives:
  - a) reduce lateral separation from 90 nm to 50 nm for aircraft/operators approved for RNP 10 or better;
  - b) have WATRS-Plus operators obtain operational approval for RNP 10 or better from the appropriate State authority;
  - c) redesign WATRS-Plus airspace to enable more efficient operations and enhance enroute efficiency/capacity; and
  - d) harmonize WATRS-Plus transition to/from the Caribbean and North Atlantic Regions' airspace and/or route structures.

2.3 **Target Implementation Date**. The United States plans to announce the target implementation date later this year after a final review of all technical and operational factors affecting the implementation schedule. In consideration of various implementation issues, the United States is now considering an implementation date in June 2008.

2.4 **United States - FAA Center Participation**. The following FAA centers are participating in the project: New York, San Juan, Miami, Jacksonville and Washington Centers.

2.5 **ICAO and International Group Coordination**. As noted above, in coordination with the ICAO NACC and EUR/NAT offices, the United States will provide inputs and updates and will obtain feedback from the appropriate ICAO groups.

2.6 **Industry Coordination**. As the project progresses, the United States will continue to coordinate with the appropriate national and international industry groups and operators.

2.7 **Key Tasks**. The following are key tasks that the United States has identified to date to continue the project to implementation:

- a) Establish a concept of operations (see draft WATRS-Plus Concept of Operations at **Attachment 3**);
- b) assess United States rulemaking requirements;
- c) publish and coordinate aircraft/operator authorization requirements/documents for use by United States and international operators as well as State aviation authorities;
- d) conduct airspace analysis, redesign, and ATC simulations;
- e) address impacts to ATC automation and make modifications as needed;
- f) conduct operator information and education programs as needed;
- g) coordinate program requirements and issues with adjoining ATSPs, other State regulators, and ICAO;
- h) conduct safety analysis to support document revisions and implementation decisionmaking;
- i) revise appropriate ICAO and FAA documents;
- j) educate FAA Flight Standards Field Offices and inspectors;
- k) complete necessary FAA ATC Center actions; and
- 1) track and assess operator/aircraft fleet readiness for reduced lateral separation to be applied.

## **3.** Concept of Operations

3.1 A draft "WATRS-Plus Concept of Operations" is posted at Appendix C. This draft was reviewed at the ATS Routes Working Group in Miami. The draft proposes vertical and horizontal boundaries of WATRS-Plus Airspace, operational policies for transition airspace and application of lateral separation standards, operator/aircraft requirements for RNP 10 and timeframes for implementation target dates.

3.2 The draft document states that RNP 10 will be the <u>minimum</u> operator/aircraft navigation requirement for 50 nm lateral separation to be applied. An FAA survey of equipage for aircraft operating in WATRS airspace has indicated that a significant majority of the aircraft will meet RNP 10 technical requirements without modification.

- 3.2.1 The following are the basic operator and aircraft requirements for RNP 10:
  - a) Operators/aircraft must meet the authorization criteria published in ICAO Doc 9613 (Manual on RNP), Appendix E or FAA Order 8400.12A (RNP 10 Operational Approval) (as amended);
  - b) aircraft must be equipped with two operational Long-Range Navigation Systems (LRNS) meeting RNP 10 standards; and
  - c) there is a 6.2-hour time limit between position updates for aircraft on which the Inertial Navigation System (INS) or Inertial Reference Unit (IRU) serve as the only LRNS, unless an extended time limit has been approved. (Extended RNP 10 time limits of 10 hours & greater have been approved for many IRU systems. The RNP 10 time limit should only be an issue in WATRS-Plus airspace for INS-only equipped aircraft on westbound flights entering the airspace from Europe, Africa and the Mid-East).

3.2.2 Aircraft that do not have RNP 10 approval or better can file a Flight Plan in WATRS-Plus airspace at any altitude; however, the FAA anticipates that aircraft approved for RNP 10 may be more likely to obtain their preferred route and altitude. The FAA is conducting an investigation, including traffic simulation, with the purpose of establishing appropriate measures to accommodate non-RNP 10 approved aircraft.

## 4. Significant Near-Term Actions

- 4.1 The following are United States priority efforts for the remainder of this year:
  - a) Coordinate the initial version of the Action Plan for implementation;
  - b) Continue to coordinate the Concept of Operations document;
  - c) Perform studies and simulations to validate policies and procedures to accommodate a small percentage of non-RNP 10 aircraft; and

d) Finalize and announce target implementation date and basic operator/aircraft requirements for implementation of the airspace redesign, reduced lateral separation and RNP 10. An advance copy of the U.S. NOTAM to be published on 21 December 2006 is contained in **Attachment 4**.

## 5. Actions Suggested:

#### 5.1 The meeting is invited to:

- a) review the information in this paper and provide comment on plans and issues related to the WATRS-Plus airspace redesign and separation reduction; and
- b) identify any issues that may delay the new target implementation date of June 2008.

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# ATTACHMENT 1

# WATRS-PLUS AIRSPACE BOUNDARY CHART



## **ATTACHMENT 2**

## AIRSPACE REDESIGN CHART DRAFT 060921



# ATTACHMENT 3

## FAA Draft WATRS-Plus Concept of Operations

## 1. Vertical and horizontal boundaries of airspace

a. <u>Horizontal Boundary.</u> The coordinates defining the horizontal boundary of WATRS airspace are published in ICAO Doc 7030, NAT and CAR Supplementary Procedures and on the WATRS-Plus Webpage (www.faa.gov/ats/ato/xxxx.htm). "Plus" refers to airspace in Miami Oceanic, New York Oceanic and the San Juan FIR through which fixed ATS routes transit to WATRS. A chart depicting the WATRS-Plus boundaries is published on the WATRS-Plus Webpage.

b. <u>Vertical Boundary.</u> WATRS-Plus airspace extends from the floor of controlled airspace to FL \_\_\_\_\_TBD.

## 2. Transition airspace

a. Transition airspace is defined as airspace adjoining WATRS-Plus airspace where 50 nm lateral separation may be applied between aircraft approved to RNP 10 or better that are in transit to or from WATRS-Plus airspace.

b. The following areas are considered transition airspace: TBD

## **3.** Lateral separation standard(s) to be applied

a. <u>50 nm Lateral Separation.</u>

(1) <u>WATRS-Plus Airspace</u>. 50 nm lateral separation will be applied between aircraft pairs approved for RNP 10 or better regardless of their altitude in WATRS-Plus airspace.

(2) <u>Transition airspace</u>. 50 nm lateral separation may be applied between aircraft approved to RNP 10 or better that are in transit to or from WATRS-Plus airspace.

b. <u>90 nm Lateral Separation.</u> 90 nm lateral separation will be applied whenever one or both aircraft in a pair are <u>not</u> authorized RNP 10.

c. <u>Operator Filing Requirement.</u> Operator/aircraft that are approved RNP 10 (or better) that file an <u>oceanic route</u> that falls within WATRS-Plus airspace boundaries must file a flight plan equipment suffix that shows that capacity. Operators must file the flight plan equipment suffix on their (ICAO) flight plan that correctly indicates their approved navigation capability.

# 4. Provisions for accommodating aircraft <u>not</u> meeting RNP 10 or better

a. Aircraft that do not have RNP 10 approval or better can file in WATRS-Plus airspace at any altitude; however, the FAA anticipates that aircraft approved for RNP 10 may be more likely to obtain their preferred route and altitude. The FAA is conducting investigations, including traffic simulation, with the purpose to establish appropriate measures to accommodate non-RNP 10 approved aircraft.

# 5. Aircraft Population RNP 10 Authorization Objective

a. <u>Implementation Objective:</u> <u>Percentage of Flights Authorized RNP 10 or better.</u> The WATRS-Plus Task Force will progress its work [CAN'T SAY THIS. HOW ABOUT "WORK TOWARD THE OBJECTIVE?] with the objective of having approximately <u>85% of flights</u> in WATRS-Plus airspace approved for RNP 10 or better by one month prior to the project implementation date.

b. <u>RNP 10 or Better Compliance To the Maximum Extent Possible.</u> The WATRS Plus Task Force will advocate that <u>all operators/aircraft</u> that fly in WATRS-Plus airspace obtain RNP 10 or better approval.

# 6. Concept for use of Ocean21 in New York Oceanic Airspace

Ocean21 will provide the New York Oceanic air traffic controller with a set of automated tools to assist in assuring that the correct separation is applied between aircraft with a mix of navigation capabilities (i.e., RNP 10 or better, non-RNP 10). Automated tools will include automated conflict prediction and reporting (CPAR), graphic dynamic situation display to the controller, and interactive electronic flight strips, aircraft labels and aircraft position symbols.

# 7. Concept for use of fixed tracks or routes

Fixed tracks will be planned based on a 50 nm lateral separation minima. ["MINIMA" is plural – should probably use "minimum" here, or delete the "a" in front of "50 nm".]

# 8. Concept for transfer of control to adjoining FIR's

a. <u>Transfer of Flights into non-U.S. Controlled NAT MNPS Airspace.</u> New York Center will provide currently established (60 nm) lateral separation minima when transferring aircraft transiting to non-US controlled NAT MNPS airspace.

b. <u>Transfer to Other Oceanic FIRs.</u> Aircraft transiting FAA-controlled airspace to other Oceanic FIRs will be transferred with the applicable separation standard per regional documentation.

c. <u>Transition airspace.</u> TBD

## 9. Flight Plan Equipment Suffix Requirements

<u>ICAO Flight Plans.</u> To inform ATC and to key Ocean21 automation that they have RNP 10 or better authorization and are eligible for 50 nm separation, operators <u>must</u> annotate item 10 (Communication, Navigation and Approach Equipment) of the ICAO Flight Plan with the appropriate equipment suffix.

Note 1: In the ICAO Flight Plan, letter "R" currently indicates that the aircraft will maintain the appropriate RNP type for the entire flight through airspace where the RNP type is applied.

Note 2: The ICAO Flight Plan Study Group is reviewing flight plan policies including aircraft equipment suffixes. The WATRS-Plus Task Force will maintain contact with the appropriate FAA and ICAO organizations to track pertinent ICAO flight plan change developments.

## **10.** Aircraft/operator authorization requirements (equipage, RNP 10 authorization documents)

a. For 50 nm lateral separation to be applied, operators will be required to obtain RNP 10 or better approval from the appropriate State authority.

b. <u>Guidance to be used</u>, ICAO Document 9613, FAA Order 8400.12 (as amended) and FAA Order 8400.33 will be used as guidance for States and operators.

Note: ICAO Doc 9613 is in the process of being incorporated into the ICAO Performance-Based Navigation Manual.

## **11. Target Dates:**

a. <u>Implementation Decision Date:</u> calendar date, 3 months prior to target implementation date.

b. <u>Operator/aircraft RNP 10 or better Approval Date:</u> AIRAC [WRITE OUT ACRONYM FOR FIRST USE] date, 1 month prior to target implementation date.

c. <u>Target Implementation Date:</u> AIRAC date, when the new 50 nm lateral separation standard and airspace redesign will be applied. Currently planned for June 2008.

# ATTACHMENT 4

# ADVANCE COPY (22 Nov 06)

# (Notice to be published in 21 Dec 06 edition of Domestic/International Notices To Airmen (<u>http://www.faa.gov/NTAP/index.htm</u>)).

# WATRS PLUS AIRSPACE REDESIGN & SEPARATION REDUCTION INITIATIVE

# TARGET IMPLEMENTATION DATE: 5 June 2008

**Introduction.** On 5 June 2008, the FAA is planning on introducing a redesigned route structure and a reduced lateral separation standard in WATRS Plus Airspace. WATRS Plus Airspace is depicted on the attached chart. It includes the West Atlantic Route System (WATRS), Miami Oceanic airspace in the Atlantic and the San Juan FIR.

**Background.** In 1998, lateral separation was reduced to 50 nm in conjunction with the introduction of Required Navigation Performance 10 (RNP 10) for aircraft operating on the North Pacific Track System. Since that time, application of 50 nm lateral separation and RNP 10 has been expanded throughout the Pacific Flight Information Regions (FIR). The WATRS Plus initiative will apply the experience gained in the Pacific.

FAA studies show that approximately 90% of flights in WATRS Plus airspace are conducted by aircraft that already meet RNP 10 or better requirements. To obtain RNP 10 or better authority, operators must apply to the responsible State authority. Applicable documents are discussed below.

**Project Objectives.** The objectives of the WATRS Plus project are to:

- Reduce lateral separation from the existing 90 nm standard to 50 nm between aircraft authorized Required Navigation Performance 10 (RNP 10) or better.
- Have a significant percentage of WATRS Plus operators obtain RNP 10 (or better) authority from the appropriate State authority.
- Accommodate operation of the small percentage of flights projected not to meet RNP 10 or better. See the discussion below.
- Redesign the WATRS Plus route structure to make approximately 40% more routes available to enhance operator access to time/fuel efficient routes and altitudes and to enhance enroute capacity.
- Harmonize the WATRS Plus route structure with that in the Caribbean and North Atlantic regions

**Operator Action By 5 May 2008.** To the maximum extent possible, operators flying oceanic routes in WATRS Plus Airspace between flight level (FL) 290-410, where competition for routes and altitudes is greatest, should obtain RNP 10 or better authority **by 5 May 2008**. To enhance operational flexibility, the FAA also recommends that operators flying oceanic routes above or below those FL's obtain RNP 10 or better authority.

Having operators RNP 10-ready one month in advance of the implementation date will help the transition to the new route structure and separation standard on 5 June 2008. The FAA will track the authorization status of operator/aircraft combinations that operate in WATRS Plus airspace to confirm that the fleet will be RNP 10-ready on time.

## Accommodation of Aircraft Not Authorized RNP 10 Or Better (Non-RNP 10 Aircraft).

Aircraft that <u>are</u> authorized RNP 10 or better will have a better opportunity of obtaining their preferred altitude and route because the 50 nm lateral separation standard will be applied to those aircraft. Non-RNP 10 aircraft will be separated laterally from all other aircraft by 90 nm.

The following basic operating policies will apply:

1. Non-RNP 10 operators/aircraft will be able to file any route at any altitude in WATRS Plus airspace. They will be cleared to operate on their preferred routes and altitudes as traffic permits.

2. Non-RNP 10 aircraft will retain the option of climbing to operate at altitudes above those where traffic is most dense (i.e., at/above FL 410). To minimize the chance of conflict with aircraft on adjacent routes, Non-RNP 10 aircraft should plan on completing their climb to or descent from higher FL's within radar coverage.

3. All aircraft can enhance their opportunity to be cleared on their preferred route and altitude if they operate at non-peak hours, approximately 0100 to 1100 UTC.

4. 50 nm lateral separation will be applied at any altitude in WATRS Plus Airspace when aircraft are authorized RNP 10 or better.

## **RNP 10 Criteria For Operators and Aircraft**

Criteria for aircraft and operator RNP 10 authorization is contained in FAA Order 8400.12A (*RNP 10 Operational Approval*) (as amended) and in Appendix E of ICAO Document 9613 (*Manual on RNP*). (FAA Order 8400.12A is being revised to eliminate dated information on manual Letters of Authorization for General Aviation operators). Both of these documents are currently available on the Pacific CNS Website (<u>www.faa.gov/ats/ato/cns.htm</u>) and will be posted on the WATRS Plus Webpage. See below.

RNP 10 criteria includes:

1. A requirement for two operational Long-Range Navigation Systems (LRNS) meeting RNP 10 standards.

2. Unless approved otherwise, an RNP-10 time limit of 6.2 hours between position updates for aircraft on which Inertial Navigation Systems (INS) or Inertial Reference Units (IRU) provide the only source of long range navigation.

Note: extended RNP-10 time limits of 10 hours and greater are already approved for many IRU systems.

Time limit may be an issue for INS only equipped aircraft on westbound flights entering WATRS Plus airspace from Europe, Africa and the Mid-East.

# **Policy/Procedures Information For Operators and Regulators.**

1. By 31 December 06, information on policies and procedures related to the introduction of 50 nm lateral separation and RNP 10 or better will be posted on a "WATRS Plus Webpage". The WATRS Plus Webpage will be linked to the existing Oceanic/International Operations Standards Group Homepage at: <u>www.faa.gov/ats/ato/130.htm</u>

2. It is recommended that regulators and operators review the briefing entitled "Operational Approval For RNP 10" posted on the WATRS Plus Webpage. This briefing provides details on RNP 10 aircraft and operator requirements.

3. By 31 January 07, an information package on RNP 10 authorization policies and procedures will also be posted on the WATRS Plus Webpage. In addition, the FAA will work with ICAO regional offices to disseminate the package to appropriate State authorities and industry.

4. As the project progresses, the FAA will coordinate with ICAO, other authorities and industry to take additional measures to disseminate information, as necessary.

**ICAO Coordination.** The FAA is coordinating this project with the ICAO working groups in the North Atlantic and Caribbean regions. The FAA is working with the ICAO North American, Central American and Caribbean (NACC) Office in Mexico City and the European and North Atlantic Office in Paris to progress the work, revise the necessary documents and inform operators and regulatory authorities of program requirements.

**Industry Coordination.** As the project progresses, the FAA will coordinate with and inform U.S. and international industry groups on a regular basis. The project leads listed below will ensure that industry groups are informed of program requirements and progress.

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**<u>Contacts.</u>** If there are questions, please contact one of the following:

Dale Livingston	ATO Separation Standards Analysis Group	+1 609-485- 4163	Dale.Livingston@faa.gov
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	Separation Standards Program Support)	3692	

AJE-3, 11/22/06

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## APPENDIX M

# STATUS OF ENGINEERED MATERIALS ARRESTING SYSTEM INSTALLATIONS IN THE UNITED STATES

(Presented by the United States of America)

## SUMMARY

The United States Federal Aviation Administration (FAA) places a high priority on improving runway safety areas (RSA) at commercial service airports to meet current standards. Since many airports are constrained and construction of a full RSA is not possible, FAA, in partnership with industry representatives developed an Engineering Materials Arresting System (EMAS) in the 1990's. EMAS consists of a lightweight concrete material that crushes under the weight of an aircraft's landing gear when it leaves the runway surface. In many situations, EMAS installations meet RSA standards even when standard RSA dimensions are not attainable. Through FAA's leadership, EMAS continues to be deployed at airports throughout the US and it has proven to successfully stop aircraft overruns on several occasions.

### 1. Introduction

1.1 The Federal Aviation Administration (FAA) requires that commercial airports, regulated under Part 139 safety rules, have a standard Runway Safety Area (RSA) where possible. At most commercial airports the standard RSA is 500 feet wide and extends 1000 feet beyond each end of the runway. The FAA has this requirement in the event that an aircraft overruns, undershoots, or veers off the side of the runway. The most dangerous of these incidents are overruns, but since many airports were built before the 1000-foot extension was adopted some 20 years ago, the area beyond the end of the runway is where many airports cannot achieve the full standard RSA. This is due to obstacles such as bodies of water, highways, railroads and populated areas or severe drop-off of terrain.

1.2 The FAA has a high-priority program to enhance safety by upgrading the RSAs at commercial airports and provide federal funding to support those upgrades. However, it still may not be practical for some airports to achieve the standard RSA.

3M-2

1.3 The FAA, knowing that it would be difficult to achieve a standard RSA at every airport, began conducting research in the 1990s to determine how to ensure maximum safety at airports where the full RSA cannot be obtained. Working in concert with the University of Dayton, the Port Authority of New York and New Jersey, and the Engineered Arresting Systems Corporation (ESCO) of Ashton, PA, a new technology emerged to provide an added measure of safety. This technology, EMAS, uses a lightweight, crushable concrete material with closely controlled strength and density placed at the end of a runway to stop or greatly slow an aircraft that overruns the runway. When an aircraft rolls into an EMAS arrestor bed, the tires of the aircraft sink into the light concrete and the aircraft is decelerated by having to roll through the material.

## 2. Discussion

2.1 The EMAS technology provides safety benefits in cases where land is not available or where it would be very expensive for the airport sponsor to buy the land off the end of the runway.

2.2 The EMAS technology also provides an added measure of safety at airports where it is not possible to have the standard 1,000-foot overrun. This technology is now in place at 16 airports with installation under contract at four additional airports.

2.3 An EMAS that meets all FAA requirements for a standard RSA only needs to extend 600 feet from the end of the runway. However, an EMAS arrestor bed can still be installed to help slow or stop an aircraft that overruns the runway, even if less than 600 feet of land is available

2.4 Presently, the EMAS system using crushable concrete is the only system that meets the FAA standard.

2.5 To date, there have been three incidents where the technology has worked successfully to keep aircraft from overrunning the runway and in several cases has prevented injury to passengers and damage to the aircraft.

- May 1999: A Saab 340 commuter aircraft overran the runway at JFK
- May 2003: Gemini Cargo MD-11 was safely decelerated at JFK
- January 2005: A Boeing 747 overran the runway at JFK
- July 2006: Mystere Falcon 900 airplane ran off the runway at the Greenville Downtown Airport, South Carolina
2.6

2.7

Airport	Location	# of Systems	Installation Date
JFK International	Jamaica, NY	1	1996
Minneapolis St. Paul	Minneapolis, MN	1	1999
Little Rock	Little Rock, AR	2	2000/2003
Rochester International	Rochester, NY	1	2001
Burbank	Burbank, CA	1	2002
Baton Rouge Metropolitan	Baton Rouge, LA	1	2002
Greater Binghamton	Binghamton, NY	2	2002
Greenville Downtown	Greenville, SC	1	2003
Barnstable Municipal	Hyannis, MA	1	2003
Roanoke Regional	Roanoke, VA	1	2004
Fort Lauderdale International	Fort Lauderdale, FL	2	2004
Dutchess County	Poughkeepsie, NY	1	2004
LaGuardia	Flushing, NY	2	2005
Boston Logan	Boston, MA	2	2005/2006
Laredo International	Laredo, TX	1	2006
San Diego	San Diego, CA	1	2006

Currently, EMAS is installed at 21 runway ends at 16 airports in the United State.

Seven additional EMAS systems are currently under contract at four additional airports.

Location	Number of Systems	<b>Expected Installation Date</b>
San Diego, CA	1	Fall 2006
Charleston, WV	1	Fall 2006
Laredo, TX	1	May/June 2006
Cordova, AK	1	Summer April 2007
Teterboro, NJ	1	Oct. 2006
Chicago Midway	1	Oct. 2006
Chicago Midway	3	2007

2.8 EMAS has also been installed internationally in Jiuzhai-Huanglong (JZH), Sichuan Province, PRC and is planned for Madrid-Barajas International Airport, Spain

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#### 3N-1

#### APPENDIX N

#### RUNWAY SAFETY AREA IMPROVEMENTS IN THE UNITED STATES

(Presented by the United States of America)

#### SUMMARY

The United States Government, through the Federal Aviation Administration (FAA), places a high priority on improving runway safety areas (RSA) at commercial service airports to meet current standards. Since 2000, the FAA is working with commercial service airports to improve RSAs to meet standards or as much possible if full standards are not feasible. There are approximately 570 commercial service airports and 1020 commercial service runways in the United States. The number of runways that substantially meet RSA standards has increased from 55% in 2000 to 70% today. FAA's goal is to have all possible improvements completed by 2015 when as many as 87 % of the runways will substantially meet RSA standards.

#### 1. Introduction

1.1 A runway safety area is defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. RSA standard dimensions have increased over time. The predecessor to today's standard extended only 200 feet from the ends of the runway. Today, a standard RSA can be as large as 500 feet wide and extending 1,000 feet beyond each runway end. The standard dimensions have increased historically to accommodate larger and faster aircraft, and to address higher safety expectations of aviation users.

1.2 New standards that are applied to existing airports create a problem. Many runways do not meet current standards because they were constructed to an earlier standard. The problem is compounded by the fact that the airports are increasingly constrained by nearby land development and other natural features. The FAA recognized a growing gap with respect to RSA standards by the late 1980's. Although the 1990's saw progress towards closing this gap, there was little oversight or specific federal goals for making RSA improvements. In 2000, the FAA established an RSA improvement program with the goal of making all significant and practicable improvements at runways used by commercial service aircraft.

1.3 There are approximately 570 airports and 1,020 runways that are used by commercial service aircraft. Runways substantially meeting RSA standards increased from approximately 46% in 1990 to 70% in 2006. Just as important, the potential for RSA improvements has also increased dramatically. In 1996, 36% were non-standard runways that were determined to be not practicable to improve. According to FAA findings in 2006, only 17 non-standard runways will in fact not be improved because improvements are not practicable.

#### 2. Discussion.

2.1. FAA Advisory Circular (AC) 150/5300-13, *Airport Design*, prescribes RSA design standards. This document guides the basic layout for all airports in the U.S. that are certificated in accordance with 14 CFR Part 139 or that are subject to assurances from Airport Improvement Program (AIP) grant funding. The standard dimensions of the RSA depend upon the aircraft and the approach procedure visibility minimums associated with the runway. Generally smaller and slower aircraft require smaller RSA dimensions. RSA dimensions range from 120 feet wide by 240 feet beyond the end of the runway to 500 feet wide by 1,000 feet beyond the end of the runway. Except under special conditions, the RSA standard dimensions for runways used by aircraft with approach speeds of 121 knots or more (approach category C) are 500 feet wide and 1,000 feet long. This is the RSA standard dimension for most, but not all, runways used by commercial service carriers (See Figure 1).

Figure 1. Runway Safety Area Dimensions



2.2 Runway safety area standards cannot be modified like other dimensional standards contained in AC 150/5300-13. Instead, the regional airports division manager is required to make a practicability determination of the best alternative for improving any RSA that does not meet standards. The practicability determination then becomes the requirement for compliance with 14 CFR Part 139. FAA Order 5100.8, *Runway Safety Area Program*, contains procedures for making RSA practicability determinations. This order encourages incremental improvements, even when full RSA standards are not possible. The objective is to make continual improvements as they become practicable and to never loose focus on the overall goal to improve each RSA to meet standards.

2.3 It is not always possible to improve RSAs to meet full dimensional standards. Construction costs can be exceedingly high when the airport is constrained by nearby natural features or urban development. Environmental constraints can also hamper RSA expansion proposals. Order 5200.8 identifies acceptable alternatives to constructing or expanding the RSA. These alternatives include:

- a. Shortening or relocating the runway,
- b. Use of declared distances,
- c. Use of Engineered Materials Arresting System (EMAS) when a standard RSA is not possible.

3N-2

2.4 Projects that result in shorter runways or use declared distances could have a negative impact on airport operations. Aircraft might be required to operate at a reduced weight on a shorter runway. FAA policy does not allow reducing runway length or the use of declared distances if there would be an operational impact on the aircraft currently using the airport.

2.5 FAA Order 5100.9, *Financial Feasibility and Equivalency of Runway Safety Area Improvements and Engineered Material Arresting Systems*, was issued in 2004 to provide additional guidance for making practicability determinations. This order establishes a maximum feasible RSA improvement cost above which improvements may not be practicable. It also encourages the use of EMAS as an acceptable and desirable alternative when the full RSA is not practicable. In fact, it establishes EMAS as an equivalent alternative to a standard RSA in terms of safety enhancement. It also requires a life cycle cost comparison with any alternative that results in a standard-sized RSA. The maximum feasible cost of Order 5100.9 is based on the cost of adding EMAS beds on either end of an existing, sub-standard RSA. In other words, an EMAS installation on both ends of an existing RSA is financially feasible by definition, regardless of the actual cost to install the EMAS at any particular location.

2.6 Change 8 to AC 150/5300-13 allows the use of EMAS as an alternative way to meet RSA standards. An RSA can meet current FAA design standards if:

- a. An EMAS bed conforming to the requirements of AC 150/5220-22, *Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns*, is capable of stopping the design or critical aircraft that leaves the end of the runway traveling at 70 knots,
- b. The RSA extends at least 600 feet beyond the end of the runway, and
- c. The approach end of the runway provides vertical guidance (visual or electronic) for landing aircraft (See Figure 2).

2.7 Order 5100.9 has had a profound affect on RSA improvement plans and the overall FAA goal. Preliminary planning was re-scoped for many improvement projects to comply with the new requirements. There has been a significant reduction in the number determinations that the RSA cannot be improved. Finally, projected costs for completing all practicable improvements have continued to climb because of the maximum feasible cost policy.



Figure 2. Standard EMAS: An alternative means of providing a standard runway safety area

#### 3N-4

2.8 FAA's goal for all RSA improvements is to complete all practicable improvements to enhance runway safety. This means that not all runways will have a standard runway safety area when the improvements are done. For example, in FY-2006, only 9 of 38 runway improvements will meet standards when all practicable improvements are complete. RSA improvements can involve:

- a. Constructing or expanding the RSA,
- b. Modifying or relocating the runway,
- c. Installing EMAS,
- d. Implementing declared distances, or
- e. Any combination of the above.

2.9 Another way an RSA can be "improved" to meet standards is when the design aircraft or approach visibilities change and the resulting standard dimensions decrease. For example, if the design aircraft for a runway with lower than 3/4-mile visibility changes from C-II to B-II, then the corresponding RSA length off the end of the runway decreases from 1,000 feet to 600 feet. In FY-2006, two priority runways are reported to have reduced the standard RSA dimensions.

2.10 There are about 213 remaining runways where the FAA has placed a priority for completing all practicable improvements. Accordingly, a long-term completion and financial plan has been developed to complete the improvements for these runways as expeditiously as possible. The current plan is to complete these improvements by 2015. Airport Improvement Program (AIP) grant investments to support these improvements are estimated to be about \$1 billion USD.

2.11 Not all runways can be improved to meet current RSA standards because of costs and other constraints. In fact, 17 runways nationally will not be improved at all. The reasons for this determination include:

- a. The private airport sponsor is not eligible for AIP grants and does not support RSA improvements.
- b. The airport is scheduled to close in the near future.
- c. The RSA is already within 90% of the standard dimensions and the region has determined that further improvements are not warranted.
- d. Environmental constraints, and
- e. The maximum feasible cost to improve the RSA has already been applied to improvements although more improvements might be possible with more funding.

2.12 The FAA, in cooperation with airport sponsors, has completed all practicable RSA improvements for 245 commercial service runways since 2000. The number of runways with an RSA complying with 100% of the standard increased from 30% in 2000 to 50% in 2006. RSAs substantially meeting standards, defined as dimensions that are within 90% of the standard have increased from 55% in 2000 to 70% in 2006.

2.13 The plan also reveals that 42 RSA improvements will not be completed until after 2010. FAA was hoping that all improvements would be complete by 2010. However, RSA improvements are often large and complex projects that may take several years to complete because of multiple critical factors:

- a. Funding. The level of AIP funding to support the improvements at some airports and in some regions is much higher than normal and the schedule has been extended out to spread the costs over several years.
- b. Alternatives Analysis and Environmental Review. Many improvement projects are complicated and require a careful review of various alternatives for their impact on airport operations and the surrounding community. Environmental review and in some cases an Environmental Impact Statement (EIS) is anticipated before final approval. This process can take several years depending upon how far along the airport sponsor is in the project planning and formulation process.
- c. Project Management Resources. For some airports, planned RSA improvements involve several runways, each with major improvement needs. It is impossible for them to manage several RSA improvement projects while simultaneously working other needed capital improvements at the airport.

#### 3. Conclusion

3.1 FAA is undertaking an ambitious program for RSA improvements for priority runways at all commercial service airports. The program requires clear standards, goals and policies to define the problem and to provide guidance for implementing solutions. This program will require long-term diligence but will result in a runway system with a significantly improved margin of safety for the aircraft they serve.

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#### 30-1

#### APPENDIX O

#### **OPERATIONAL APPROVAL FOR REQUIRED NAVIGATION PERFORMANCE 10 (RNP 10)**

#### West Atlantic Route System (WATRS) Plus Airspace Redesign and Separation Reduction Initiative

#### (Presented by the United States of America) SUMMARY

One of the major objectives of the WATRS Plus Airspace Redesign and Separation Reduction Initiative is for a significant majority of operators/aircraft operating in WATRS Plus airspace to obtain operational approval for RNP 10. This IP contains a briefing outlining the RNP 10 operational approval process. The briefing was given by an FAA Flight Standards representative on 19 September 2006 at the NAT/CAR ATS Routes Working Group in Miami, Florida.

#### 1. Introduction

1.1 The United States is developing and coordinating the WATRS Plus Airspace Redesign and Separation Reduction Initiative. WATRS Plus airspace includes WATRS airspace, Miami oceanic airspace in the Atlantic and San Juan FIR airspace. The major objectives of this initiative are to:

a) Reduce lateral separation from 90 nm to 50 nm for aircraft/operators approved for RNP 10 or better;

- b) Have WATRS-Plus operators obtain operational approval for RNP 10 or better from the appropriate State authority;
- c) Redesign WATRS-Plus airspace to enable more efficient operations and enhance enroute efficiency/capacity; and
- d) Harmonize WATRS-Plus transition to/from Caribbean and North Atlantic Regions' airspace and/or route structures.

#### 2. Discussion

2.1 The attached briefing provides information in support of objective b) above. It outlines the RNP 10 operational approval process, identifies ICAO and FAA policy documents and provides related websites and contacts. An FAA Flight Standards representative gave the briefing on 19 September 2006 in Miami, Florida at the NAT/CAR ATS Routes Working Group meeting.

2.2 The presentation is available at the following website address: www.faa.gov/ats/ato/natcar\_wg.htm

#### 3. Conclusion

3.1 The Meeting is invited to note the information in this paper.

#### **APPENDIX P**

# NEXT GENERATION AIR TRANSPORTATION SYSTEM (NGATS)

#### (Presented by the United States of America)

#### SUMMARY

Today's U.S. air transportation system<sup>1</sup> is under stress. The demands on air transportation are outpacing our ability to increase system capacity. Operating and maintenance costs of the air traffic system are outpacing revenues and the air carrier industry is going through a period of dramatic change. Security requirements established in the wake of the September 11 attacks significantly impact costs and the ability to efficiently move people and cargo. In addition, growth in air transportation is provoking community concerns over aircraft noise, pollution, and congestion. Adapting our current air transportation paradigm will not be sufficient to meet these challenges. Instead, transformation of today's system is required to ensure a healthy, environmentally friendly, globally interoperable air transportation system for 2025. In 2002, the U.S. Congress established the Joint Planning and Development Office (JPDO) to define a national strategy for developing the Next Generation Air Transportation System (NGATS). The NGATS vision for 2025 enables the safe, efficient and reliable movement of large numbers of people and goods throughout the air transportation system in a way that is consistent with national security objectives. Our NGATS vision is founded upon an underlying set of principles and enabled by a series of key capabilities that will free the U.S of many current system constraints, support a wider range of operations, and deliver an overall system capacity up to 3 times current operating levels.

#### 1. Introduction

1.1 The JPDO is a public-private partnership directed by Congress to transform the national air transportation system to meet the needs of the year 2025 while providing near-term benefits. NGATS will address critical safety and economic needs while fully integrating national defense and homeland security improvements into this future system. Along with the private sector, the FAA, NASA, the Departments of Commerce, Defense, Homeland Security, Transportation, and the White House Office of Science and Technology Policy are working together to design and build the Next Generation Air Transportation System. Overseeing the work of the JPDO is a Senior Policy Committee chaired by the Secretary of Transportation and comprised of senior representatives from each partner agency, including the FAA Administrator.

<sup>&</sup>lt;sup>1</sup> The current air transportation system is a complex array of systems and services used by an ever broadening collection of stakeholders. The term "the air transportation system" means all activities and components related to the safe passage of people and goods by air. This includes related federal lines of business, as well as private industry, state, and local activities.

#### 3P-2

#### 2. NGATS Principles

2.1 NGATS is about the customers – the users of the air transportation system. It fosters a shift in the historical focus of air transportation from a system constrained by physical/technical infrastructure and the ability of the service providers, to a system focused on and responsive to the "user." The concept is multi-dimensional in scope—incorporating technological innovation, but also addressing the critical aspects of change and innovation in organization, culture, and policy. Safety in the NGATS is approached in a prognostic fashion, establishing a new safety culture that assesses risk in a predictive environment, instead of the existing reactive context. The system will enable integrated management of environmental performance to foster continued growth of aircraft operations in an expected future where the environmental impacts of aviation are increasingly scrutinized. International harmonization accommodates both the demands of U.S. users to operate globally without unnecessary constraint, and similarly, to embrace the needs of non-U.S. users to operate in the United States.

#### 3. NGATS Capabilities

3.1 We have defined several key capabilities that denote the major characteristics of the NGATS that are currently missing from today's system. As a "total system" concept, there are multiple dependencies among these capabilities. These key NGATS capabilities include: Network-Enabled Information Access; Performance-Based Services; Weather Assimilated into Decision Making; Broad-Area Precision Navigation; Aircraft Trajectory-Based Operations; Equivalent Visual Operations; and Super Density Operations.

#### 3.2 *Network-Enabled Information Access*

3.2.1 Making information available, securable and usable in real time according to defined "communities of interest" is central to the NGATS vision. Information will be used to distribute decision-making appropriately during normal operations, abnormal events, and system- wide crises -- improving the speed, efficiency, and quality of decisions. Aircraft will become mobile "nodes" integral to this information network, not only using and providing information, but also routing messages or information being sent from another aircraft or a ground source.

3.2.2 In the NGATS context, data encompasses all relevant information forms—flight plan information; pilot, passenger and cargo data; aircraft telemetry; surveillance information; weather data, etc. Information might be in the form of records, databases (pilots licenses, aircraft maintenance records, etc), voice communications, images, etc. Information will be both "pushed" to known users and available to be "pulled" by other users including clients not previously identified as needing that data. Data providers will ensure appropriate information protection as necessary to address national defense, security, and privacy concerns.

3.2.3 Real-time access will enable system operators and users to exploit risk-management practices to enhance safety. The capability provides a "cooperative surveillance" model for civil aircraft operations, where aircraft will be constantly transmitting aircraft status (including position) and flight path intent. This information will be used together with a separate sensor-based non-cooperative surveillance system as part of an integrated federal surveillance approach for national security purposes.

#### 3.3 **Performance-Based Services**

3.3.1 Today's system is based on "binary access" (where users meet all of the requirements for access or are denied admission), one level of service (first come, first served), and a regulatory structure largely built around specific equipment types. Performance Based Services will enable a definition of service tiers and allow the government to move from equipment-based regulations to performance-based regulations. Multiple service levels will allow service to a wider range of users and better tailor services to individual needs. As an example, the busiest airspace will have the highest air traffic service level -- thus requiring the highest level of user avionics performance. Implementation of performance-based services will enable a more cost-effective service tiers will allow the service provider to create service guarantees for given performance levels so that users can determine appropriate investments to meet their needs.

#### 3.4 Weather Assimilated Into Decision Making

3.4.1 Leveraging the benefits of *Network-Enabled Information Access*, NGATS will provide a "common" weather "picture" to support decision-making. Thousands of global weather observations - from ground, airborne, and space-based sources - will be used to determine real-time weather status and to feed multiple weather forecast models. Information will be fused into a single, constantly updated, national (eventually global) weather database. Differences between forecasts and actual conditions will be measured and analyzed. Analysis tools will examine how well information was used in past decision-making and use this knowledge to improve future performance, making more airspace available for NGATS use. NGATS will move from weather data dissemination of text and graphical products to ingestion of raw weather information into NGATS decision algorithms and processes - bypassing the need for human interpretation.

#### 3.5 Layered, Adaptive Security

3.5.1 Far from the "add-on" dimension of our current security system, layered, adaptive security will integrate security functions into NGATS in a manner that increases security while moving more people/goods and requiring proportionally fewer resources to do it. Building on *Network-Enabled Information Access* and *Performance-Based Services*, security will exist in "layers of defense" designed to detect threats early. Risk assessments will begin before each flight, so that people and goods are appropriately screened as they move from the "air portal" curb to the aircraft, or as they work to support airport and aircraft operations. As technology matures, screening will be unobtrusive and increasingly transparent to the individual. Security changes will be assessed in terms of impacts to and effects from other aspects of the system, such as safety, to ensure they are implemented in a complementary, synergistic way.

#### 3P-4

#### 3.6 Broad-Area Precision Navigation

3.6.1 Broad-Area Precision Navigation will provide navigation services where and when needed to enable reliable aircraft operations in nearly all conditions<sup>2</sup>. Today's U.S. navigation infrastructure includes over 5,000 FAA operated ground-based navigation aids to support both en-route navigation and precision approaches to airports. The airspace structure and approach/departure procedures are constrained by this navigation infrastructure. When this localized-service model is replaced by a broad-area service, "instrument" landings will be possible at any "air portal" or location within the coverage area. NGATS Broad-Area Precision Navigation (at different required levels of performance) will likely include a next generation of GPS satellites with non-terrestrial navigation augmentation for CAT-I approaches and hybrid GNSS/inertial avionics for CAT II/III approaches. NGATS may also take advantage of other GNSS systems and broad-area navigation services such as enhanced LORAN. Elimination of multiple legacy systems will reduce FAA infrastructure costs and reduce user costs associated with maintaining proficiency over multiple navigation systems.

#### 3.7 *Aircraft Trajectory-Based Operations*

3.7.1 To accommodate the projected doubling or tripling of system demand by 2025, today's flight planning and air traffic paradigms must be transformed to a system that manages operations based on aircraft trajectories, regularly adjusts the airspace structure to best meet user and security/defense needs, and relies on automation for trajectory analysis and separation assurance. This capability builds on the Network-Enabled Information Access, Performance-Based Services, Weather Assimilated into Decision Making, and Broad-Area Precision Navigation capabilities. The design must not only improve system efficiency but also meet goals for security, safety and environmental compatibility. NGATS will use 4D trajectories (time-based paths from block-to-block, including ground segments) as the basis for planning and executing system operations. The planned trajectories will be exchanged among system participants, with automation continuously analyzing trajectories in a framework that accounts for operational uncertainties, to develop constantly updated trajectory plans that keep aircraft safely separated. The airspace structure will be matched dynamically (both daily and within the operational day) using a framework that seeks to allocate/configure airspace as a resource to meet demand from user operations, while meeting safety requirements, environmental requirements, etc. This airspace framework will consolidate today's disparate mechanisms for segregating and managing airspace into a single mechanism for implementing Temporary Flight Restrictions, Special Use Airspace, and other requirements. The airspace framework will seek to both provide the maximum available airspace to all users while meeting national security needs for airspace restrictions.

#### 3.8 Equivalent Visual Operations

3.8.1 *Network-Enabled Information Access*, certain aspects of *Performance-Based Services*, and *Broad-Area Precision Navigation* will provide aircraft with the critical information needed to navigate without visual references and maintain safe distances from other aircraft during non-visual conditions. We expect that the Equivalent Visual Operations capability will be operational in the midterm, with controllers delegating responsibility to aircraft to "maintain separation" when the aircraft is in the airport area. The ability to conduct Equivalent Visual Operations at all "air portals," combined with appropriately capable landside services (including security) will permit more airports to reliably serve their community or region, whether for commercial service, business aviation, air taxi services, air cargo, or general aviation. The ability to conduct Equivalent Visual Operations at busier airports will also

<sup>&</sup>lt;sup>2</sup> direct weather hazards to aircraft, such as severe thunderstorms, will effect operations at certain times.

provide greater, more predictable operating levels (equivalent to those experienced under visual operations) and lead to improved performance of the commercial service network.

#### 3.9 Super Density Operations

3.9.1 Key to the complete success of NGATS is our ability to match land and airside throughputs of an airport in order to meet future demand. The realization of the previously described capabilities will enable peak throughput performance at the busiest airports while protecting the environment of the surrounding communities. Airport taxiway and runway configuration requirements will be specified to enable high capacity traffic operations on the airport surface. Arrival and departure spacing will be reduced, as a result of enhanced surveillance and navigation performance and the development and integration of tools to detect and avoid wake vortices. Capacity will be increased with closely-spaced and converging approaches at distances closer than currently allowed and through simultaneous operations on a single runway. The airport "landside" (including security systems) will be sized to match the passenger and cargo flow to the airside throughput.

#### 4. NGATS Products

4.1 The JPDO is currently developing technical documentation to bring the 2025 NGATS Operational Vision into much greater definition. The NGATS Concept of Operations (CONOPS) is a document that provides a basic operational description of how the Next Generation Air Transportation System will function. The first CONOPS draft focuses on what is called "block to block," referring to all segments of a flight, from the time an aircraft departs until it arrives at its destination. A future version of the CONOPS, called "Curb to curb," will include operations that take place before and after a flight. Also, the additional topics of environment and airports will be included in future versions. The first CONOPS draft has been released for review by the aviation stakeholder community. Completion of this document is expected in 2007. However, this document is iterative and will continue to evolve. To view a copy, please go to the JPDO website at http://www.jpdo.aero and click on "Tech Hangar".

4.2 The NGATS CONOPS is being developed concurrently with the NGATS Enterprise Architecture (EA). The NGATS EA represents the actual plan for how the Next Generation Air Transportation System will be developed, much like a set of blueprints. This includes the systems that will be needed, the timing for their development, and how they will work together. The Next Generation Air Transportation System EA is a recognized tool for re-engineering business practices and the underlying technology that supports them. Full approval of this document is also expected in 2007.

4.3 The NGATS Operational Improvements (OI) Roadmap is a document that shows how current and near-term transformational activities such as Automatic Dependent Surveillance-Broadcast (ADS-B), cooperative surveillance and satellite navigation will be aligned with the planned future system. The Next Generation Air Transportation OI Roadmap is divided into distinct but interrelated operational improvements, and breaks down the evolution path of the Next Generation Air Transportation System into seven 4-year segments. The Next Generation Air Transportation OI Roadmap was originally released in the spring of 2006, but it is a "living document" and subject to future revisions. This document can also be accessed through the "Tech Hangar" website.

#### 3P-6

#### 5. Early Opportunities

5.1 In its FY 2007 budget request, the U.S. government proposed targeted investments to accelerate the development of key Next Generation Air Transportation System projects, such as ADS-B which will replace ground-based radar systems and revolutionize air navigation and surveillance and System Wide Information Management (SWIM), which will help make a network-enabled air traffic system possible, improving safety, efficiency, and security.

#### 6. Conclusion

6.1 The strategy for NGATS is to define, as best we can, what the future system will look like, knowing full well that it is highly unlikely that the concept presented here will emerge exactly as the NGATS of 2025; rather, this vision of the future allows us to define a target direction and continue to develop the scope and depth of the elements of the future system. In the development of NGATS, we are also taking a global perspective. We are fully aware that we cannot build a harmonized system without partnerships with our domestic stakeholders and international counterparts. We invite all interested States to learn more about NGATS and how this process can assist other States in the development of their future air transportation systems.

6.2 Please contact Ms. Carey Fagan, Director, JPDO Global Harmonization Integrated Product Team (<u>carey.fagan@faa.gov</u>, phone: 202-385-8965), for more information. Additional information on this initiative can be found on the JPDO website at <u>http://www.jpdo.aero</u>.

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#### 3Q-1

#### APPENDIX Q

#### THE FUEL CRISIS AND THE URGENT NEED TO IMPLEMENT FUEL SAVING MEASURES

(Presented by IATA)

#### SUMMARY

In spite of international passenger and cargo traffic growth exceeding expectations, the extraordinarily high level of oil prices threatens the industry with yet another year of airline losses. In addition, the high cost of fuel has spotlighted the existing inefficiencies in the air traffic services infrastructure. This paper highlights areas were ATS Providers and State ATS Authorities could assist in driving fuel inefficiencies out of their systems, and assist airlines in their internal fuel efficiency strategies.

#### 1. Introduction

1.1 In spite of the rising numbers of flights and passengers, the air transport industry continues to struggle with costs. The multiple crises of previous years - 11 September 2001, the war in Afghanistan, the war in Iraq, the war on terrorism, and SARS - combined to place our industry in an extremely vulnerable position. The rising price of crude oil has now become an even greater threat.

1.2 The airlines' 2005 fuel bill was US\$92 billion, **a staggering US\$48 billion more than 2003**. Without doubt, the price of fuel is the biggest crisis facing the airspace user today.

#### 1.3 It appears that the **oil market forward curves are at historic highs and <u>are here to stay</u>. Oil reached <b>USD\$70.85 in late-August 2005 – a record price!**

1.4 In an industry that typically takes 15 to 20 years before new technologies can translate into system-wide efficiency gains, it is unlikely that switching to an alternative form of energy will be an option in the foreseeable future. Coupled with the lack of control over price, this means that the only hope of winning the battle to reduce energy costs is to achieve even greater operational efficiency.

#### 2. Discussion

2.1 Fuel efficiency is a pervasive concept touching almost every aspect of the industry from aircraft design and construction through aviation regulatory requirements to airline operation and air navigation service provision. The cost of fuel, as a percentage of overall operating costs, has risen from around 10-12% in 2002, to around 20-25% now. Airlines are undertaking a number of fuel mitigation activities – both to reduce the amount of fuel burned – and to mitigate the cost of fuel as a "bottom line" item.

2.2 For those airlines with cash reserves or appropriate credit, there had been a temporary solution of fuel hedging - but increasingly, airlines are unable to muster the cash necessary to enter into long term hedging arrangements – particularly when those contracts may be at \$60+ per barrel. Many airlines have implemented fuel surcharges – however, market forces make such surcharges unpopular, and can actually dissuade passengers from flying. The key to mitigating the effect of fuel price is to increase operating efficiency – across the entire system.

#### 3Q-2

2.3 The fuel efficiency of air transport operations is influenced by many factors, not all of which are under the airlines direct control. Many areas, such as route structure, air traffic control and airport capacity and layout are beyond airlines' control - but **directly** impact their fuel consumption.

2.4 In 2004, IATA launched a Fuel Action Campaign, aimed at reviewing every aspect of air transport operations. The campaign was structured in four parts:

- a. Identification of fuel conservation best practices in air transport operations supported by an assistance program to put these practices into place;
- b. Enhancement of the current commercial fuel activities;
- c. Identification and remediation of ATM infrastructure deficiencies; and
- d. Identification and remediation of ATS effectiveness issues engaging the ANS providers in a "Save One Minute" campaign.

2.5 In March 2005 – and again in July 2006 - IATA wrote to every one of the 188 Air Traffic Service providers in the world with an urgent plea to review specific areas that could bring fuel savings to airlines and asked for feedback on actions that could be considered by States. Regrettably, the response from ANSPs has been less than satisfactory, with only around 60 responses (only 4 from the CAR/SAM Region) from 188 States.

2.6 The core of the IATA's request to States on fuel conservation measures hinges in the following areas:

- a. Airspace and air route design;
- b. ATC techniques that take advantage of aircraft navigation capabilities rather than vectoring or assigned speed restrictions;
- c. Review of Noise Abatement Procedures;
- d. Closer coordination and cooperation with military authorities to facilitate transit of military restricted airspace;
- e. Reviewing opportunities that would allow aircraft to operate closer to preferred flight levels; and
- f. Discussing fuel conservation with local airlines and seek their assistance in better understanding fuel conversation target areas.

2.7 IATA also suggested that a "Fuel Champion" be appointed in each ANSP – not as an additional position, but as an add-on function that is focused on delivering fuel conservation benefits.

2.8 While airlines and air traffic service providers invest in safety with their safety management systems and departments that are devoted to the safety culture of the workforce, many airlines have a similar investment in fuel efficiency as well and employ a full time Fuel Programme Manager who is responsible for monitoring the airline's fuel use as well as ensuring that procedures and practices are in place for maximising fuel efficiency. If Civil Aviation Authorities were to have a policy or programme that reviews system efficiency and a department responsible for maintaining and promoting the efficiency of the air traffic system, significant efficiency gains could be realised in the air traffic system.

- 2.10 The following are examples of States being involved;
  - 1. Chile: Improving the arrival and departures procedures at several airports at several airports and direct routes. Operational savings \$1.85M and 18,480 minutes.
  - 2. Ecuador: Development of RNAV/RNP procedures for Quito Airport. Upgrading ARFF at Manta Airport permitting airlines to use as the primary alternate for Guayaquil and Quito, eliminating the need to use further alternates. Airlines savings \$1.85M
  - 3. Colombia: Working on opening a corridor over Palenquero airspace, saving 5 minutes of flight time. Implementation of 4 domestic RNAV routes and development of RNAV procedures for BOG and MDE. Savings \$9.8M
  - 4. Panama: ATC authorizes "Direct" within Panama FIR. Developing RNAV/RNP procedures in cooperation with IATA.
  - 5. Guyana: GNSS RNAV approaches for Cheddi Jagan Int'l Airport.
  - 6. Mexico City: Redesign of the Mexico City TMA. More efficient approach and departure procedures.

### 3. Action by the Meeting

3.1 Considering the critical nature of the fuel crisis, the meeting is asked to urgently consider areas in their respective airspace and ATS operations where fuel efficiencies can be gained. No matter how small they are, if implemented quickly, these changes can have a significant effect on airline fuel consumption. Specifically, States are requested to:

- a. **Identify** with IATA and local airlines actions that would provide fuel efficiency;
- b. Establish and promulgate a program to implement fuel efficiency measures; and
- c. **Nominate** a Fuel Champion who would liaise with IATA, airlines and other ANSPs to ensure all possible fuel conservation strategies are evaluated and if safe and cost effective, implemented.

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#### **APPENDIX R**

#### ATS INCIDENT REPORTING

(Presented by IATA)

#### SUMMARY

IATA provides ATS incident reports to the ICAO NACC Regional Office. Airlines are concerned about the lack of action by many States to respond to these. IATA urges the prompt investigation of these ATS incident reports by the States and the implementation of corrective measures to resolve them and prevent new ones.

**References**:

• ICAO Annex 15

#### 1. Introduction

1.1 ICAO reports that "lack of full and open reporting continues to pose a considerable barrier to further safety progress in many areas." IATA and airlines are doing their part by providing timely ATS incident reports to the States and ICAO. However, airlines are concerned about the lack of action by many States in responding to these ATS incident reports and implementing corrective measures to resolve them and prevent new ones.

1.2 The commercial fatal accident rate in the region is about 3.4 % for every million takeoffs. The forecasts predict 6% increase in traffic in LATAM/CAR over the next several years. The corresponding increase in the number of accidents would be unacceptable! We must all work together to prevent it.

#### 2. Discussion

2.1 IATA provides ATS Incidents reports received by the airlines to the ICAO NACC Regional Office. A copy is also always provided to the corresponding ICAO CAR/SAM Regional office.

2.2 In the Latin America and Caribbean region, a total of 85 reports from 14 airlines have been received by IATA between January and September of 2006. These were incorporated into the IATA ATS incident database and have been submitted to the ATS authorities, seeking investigation and corrective action. The majority of the ATS incidents dealt with communication deficiencies, lack of coordination with other ACCs and the improper application of separation procedures. The approach and landing phase and CFIT continue to be the most critical segments of flight operations in this regard. **Attachment 1** contains a summary of the January – September 2006. **Attachment 2** shows the accident rates in the region vs. other regions. 2.3 Of those reports, only 19 responses have been received by IATA. That constitutes a 16.5% response rate, which is absolutely unacceptable in a modern and effective safety system.

2.4 These reports provide the basic input for an effective safety management system. From there, a rigorous and formalized approach to identifying hazards, assessing the related risk, and defining and prioritizing the best ways to intervene must be undertaken. And all these actions need to be measured in a continuous loop.

2.5 The future of aviation safety hinges on the sharing of this type of information. This information has to flow in both directions: from airlines/operators to States/regulators and vice versa. Only this way can a meaningful "safety culture" be achieved.

#### 3. Conclusion

- Civil Aviation Authorities are requested to establish the highest priority for addressing and resolving the problems reported by this mechanism and assist ICAO in coordination and implementation of solutions. So far this year, only 16.5% of the reported incidents have been by investigated and communicated by the DGACs.
- States, with the assistance of ICAO and IATA, must establish an effective safety management system that utilizes the input from these reports.
- ICAO, the States and IATA should work together to reduce ATS incidents throughout the region.

#### 4. Action requested

The Meeting is invited to:

- a) ensure that States use appropriate mechanism to review the Air Safety Report.
- b) ensure that States implement corrective action measures.
- c) ensure that States disseminate appropriate details to ICAO, IATA and the airlines/operators.













### Twentieth meeting of Directors of Civil Aviation of the Eastern Caribbean Appendix R to the Report on Agenda Item 3 $\,$









#### Agenda Item 4: Mass Casualty Incidents (MCI)

4.1 The Meeting began discussion on this agenda item with a review of the progress in the Eastern Caribbean Regional Civil Aviation Accident Mass Casualty Incident Response Plan (ECAAMCIRP), which consisted mainly of the following achievements:

- A database was developed with available resources in the Eastern Caribbean area;
- A mass casualty focal point including contact information was identified for each State/Territory;
- Methodology for establishment of a regional focal mechanism was submitted as a proposal; and
- A proposal for a regional response activating system was submitted.

4.2 The Directors identified that they had not received a progress report from the Central Caribbean MCI/SAR Task Force. The Meeting was informed that despite several communications sent by ICAO to the Caribbean Disaster Emergency Response Agency (CDERA) and PanAmerican Health Organization (PAHO) requesting submission of progress achieved on the existing draft of the Eastern Caribbean States Civil Aviation Accident Mass Casualty Incident Response Plan (E/CAR CAAMCIRP, none had been received prior to the Meeting. The Secretariat informed the Meeting that CDERA had sent an e-mail containing a draft of the ECAAMCIRP, (included in the **Appendix** to this part of the Report) to the Meeting in Miami that was similar to the one presented at the 18<sup>th</sup> E/CAR DCA Meeting. The Meeting agreed that this version had been previously presented.

4.3 After the Meeting agreed to adjust the agenda to accommodate attendance by the representative from CDERA, neither the representative nor notification of his inability to attend the Meeting was received. The Meeting considered it a lack of respect that neither the Rapporteur of the Working Group nor a representative from CDERA or PAHO attended the Meeting.

4.4 The Meeting recalled that the terms of reference of the Search and Rescue Committee allow coordination of SAR matters within the Piarco FIR that are of mutual interest to the parties involved. Some tasks are to promote close cooperation and coordination between civilian and military authorities and organizations for the provision of effective SAR services, and to improve cooperation among aeronautical, maritime and land SAR communities for the provision of effective SAR services.

4.5 The United States informed of an Emergency Response Plan to natural disasters, which includes participation of the U.S. Coast Guard who is in agreement with ECAAMCIRP objectives.

4.6 In light of the need to harmonize the response plans for mass casualties, the Meeting found it appropriate for the ECAR SAR Committee to lead coordination and finalize the ECAAMCIRP. The Meeting concurred that the United States should become a member of the SAR Committee and ICAO will continue as an advisor to the ECAR SAR Committee.

4.7 Finally, due to the lack of participation from CDERA and PAHO in meetings convened by ICAO, the Meeting requests to remove MCI from future E/CAR meeting agendas. Considering the above-mentioned, the Meeting agreed to the following Conclusion:

#### CONCLUSION 20/08 EASTERN CARIBBEAN STATES CIVIL AVIATION ACCIDENT MASS CASUALTY INCIDENT RESPONSE PLAN (E/CAR CAAMCIRP)

#### That,

- b) ECAR/WG review and finalize the draft Eastern Caribbean States Civil Aviation Accident Mass Casualty Incident Response Plan (E/CAR CAAMCIRP), included in the Appendix to this part of the Report;
- a) The SAR Rapporteur carry out coordination with the United States to convene a meeting of the Eastern Caribbean SAR Committee in Trinidad and Tobago during 2007, so as to coordinate the completion of the E/CAR CAAMCIRP based on the existing draft, and provide any comments to the **31th ECAR/WG**;
- c) ICAO remove MCI aspects from the agenda of future convened meetings of the ECAR.

### **APPENDIX**

## EASTERN CARIBBEAN STATES CIVIL AVIATION ACCIDENT

# MASS CASUALTY INCIDENT RESPONSE PLAN (E/CAR CAAMCIRP)



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Ser	Amendment	Details of	Approved	Date of
	Number	Amendment	By	Effect

#### **DEFINITIONS & ABBREVIATIONS**

**Aircraft Accident:** An occurrence associated with the operation of an aircraft: That takes place between the time the first person boards the aircraft with the intention of flight and the last person has disembarked, In which a person suffers death or serious injury, causes substantial damage to the aircraft.

**Aircraft Incident:** An occurrence, other than an accident, associated with the operation of an aircraft that affects or could affect the safety of operations.

**Mass Casualty Incident:** Any event resulting in a number of victims large enough to disrupt the normal course of emergency and health care services.

**Stabilization:** The medical measures used to restore basic physiologic equilibrium to a patient, to facilitate future definitive care, in order to ensure survival.

**Triage:** The sorting of casualties according to the nature and severity or their injuries.

**Command Post:** The location at the scene where command, coordination, control and communication for the activities are centralized.

Abbreviation	Meaning
AMP	Advance Medical Post
ATC	Air Traffic Control
CAA	Civil Aviation Authority
CDERA	Caribbean Disaster Emergency Response Agency
Coord	Coordination
CP	Command Post
DCA	Director of Civil Aviation
Demob	Demobilization
E/CAR	Eastern Caribbean
E/CAR	Eastern Caribbean
E/CAR	Eastern Caribbean Civil Aviation Accident Mass Casualty
CAAMCIRP	Incident Response Plan
EOC	Emergency Operation Centre
ICAO	International Civil Aviation Organization
MCI	Mass Casualty Incident
MCM	Mass Casualty Management
Med	Medical
MOH	Ministry of Health
NDO	National Disaster Organization
PAHO	Pan American Health Organization

RCC	Rescue Coordination Centre
SAR	Search and Rescue
SITREP SOP VIP	Situation Report Standard Operating Procedures Very Important Persons

#### SCENARIO:

Accidents and incidents involving aircraft have the potential and do occur occasionally in the Eastern Caribbean states. Commercial air traffic is commonplace today with its associated risks.

**Risk:** Commercial planes that traffic the Eastern Caribbean flight routes have the capacity to carry as much as four hundred (400) passengers. These figures as potential victims may increase in the event of a land-crash in a densely populated area of a country. Accidents in E/CAR states may prove complex as they can occur over land or sea, as well as in territorial or international waters thus affecting operational responses. Many island airports are near to the sea and many flight sectors are over water. Accidents can occur with or without early warning and at any location.

**Capabilities:** In many E/CAR states national response capabilities are limited. The emergency medical response capability in many individual E/CAR states may be insufficient to effectively manage mass casualties resulting from aircraft accidents. Inter agency and inter-country cooperation would be crucial in order to effect response and to save lives. A framework for collective preparedness and response in support of an affected state is therefore highly desirable. That framework is provided in this E/CAR CAAMCIRP. Prevention arrangements are addressed elsewhere.

#### THE PLAN

References:

Agreement Establishing the Caribbean Disaster Emergency Response Agency (July 1991). Caribbean Regional Coordination Plan: CDERA. Record of Proceedings of the 11<sup>th</sup>-17<sup>th</sup> E/CAR DCA Meeting. Record of Proceedings of the 1-3<sup>rd</sup> E/CAR SAR Committee Meeting. Record of Proceedings of the 1<sup>st</sup> E/CAR MCI Task Force Meeting. Agreement between CDERA and the PAHO, 1992. National Disaster Plans. National Search and Rescue Plans.

#### 1. GENERAL:

Eastern Caribbean (E/CAR) states are exposed to risk of aviation accidents which can result in mass casualties. National capabilities of individual states may be inadequate to manage some incidents. This E/CAR Civil Aviation Accident Mass Casualty Incident Response Plan (E/CAR CAAMCIRP) provides a framework for collective preparedness and response in support of an Affected State.

#### 2. OBJECTIVE:

To provide coordinated support for the medical management of mass casualties arising from aviation accidents.

#### 3. EXECUTION:

#### **General Outline:**

At every moment in time each servicable aircraft comes under the jurisdiction of some civil aviation authority and when in traffic it comes under the control of an Air Traffic Control Unit. Should circumstances develop with the potential of causing or actually resulting in mass casualties it is contemplated that the following system for medical management of mass casualties will be implemented in support of those national authorities exercising responsibility for emergency medical management of victims in particular and those exercising

#### TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX TO THE REPORT ON AGENDA ITEM 4

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responsibility for management of the incident generally. The system is effected through a chain that starts with an alerting process, continues with activation, mobilization and deployment if and as needed, search and rescue of victims, emergency care and treatment in the field and transfer of victims to appropriate health facilities prepared to receive them. It ends when the victims have received all emergency care needed to stabilize them.

Phases:

Alerting	Air Traffic Control Unit; Civil Aviation; NDO	
	CDERAPAHO	
Activation of the E/CAR	CDERA>Appropriate National Disaster	
CAAMCIRP	Organizations	
Mobilization & Deployment	Affected State: Local First Response agencies	
	Supporting States:As requested.(Coord.CDERA)	
Search & Rescue	Affected State: First Response/SAR assets -	
	Coord by CAA; NDO/SAR Agencies	
	External Support: Additional assets as	
	requested. Coord by RCC & CDERA	
Field Management	Incident Command: As pre-determined by	
	Affected State	
Site Safety:	Affected state	
Patient Care:	Local Health & First Responder Agencies;	
	additional assets as requested under	
	supervision of MOH of Affected State.	
	External Assets: All to operate under authority	
	of appropriate National offices of Affected	
	State.	
Coordination	In Affected State: CAA&NDO	
	External Support: RCC; CDERA; PAHO	
Demob & Redeployment	Affected State: As determined and agreed to by	
	National Authorities.	
	Supporting States and Agencies: As agreed by	
	parties concerned. Coord. By RCC, CDERA, PAHO	

Each local state or district will have to respond initially with its own resources to the incident. It may be necessary to maintain this response for prolonged periods until support requested from other states arrives. Therefore it is highly desirable that each state develop in coordination with the NDO its own mass casualty management plan that is integrated either directly into the National Disaster Plan or as a component of health sector disaster plans.

This plan is designed to support a medical chain that relies on the existence of a local MCM system or at least a National Disaster Plan. The existence of the following is important:

- 1. An efficient Accident and Emergency department
- 2. A basic radio communication network
- 3. Coordinating mechanisms/procedures among all sectors involved
- 4. Skilled multi-sectoral rescue teams

#### Details:

#### Alert & Warning Process:

The Alerting process is implemented to give early warning and to have placed on standby those resources that have been pre-determined or that are anticipated, will be needed for future operations.

When an alarm is raised the Alert and notification TO EFFECT THIS PLAN will be issued through the ATC or CAA of the affected state to its NDO and the RCC. Without prejudice to SOPs for activating local resources the NDO shall alert and notify the RCC & CDERA.

RCC & CDERA shall coordinate alert and notification to: Appropriate neighboring states; appropriate Regional and International partners – including SAR; Maritime; Health as needed.

Notification should provide the following minimum information:

1. Who is calling (name and agency, post/title of caller, and telephone number).

- 2. Nature/type of incident.
- 3. Location of the incident.
- 4. Estimated number of casualties.
- 5. The degree of alert

The Alert stages: As follows:

- 1. <u>Green Alert</u>. Responding agencies/states must organize themselves to make a response while awaiting confirmation of the incident and/or required response.
- <u>Amber Alert</u>. Requires assets of responding agencies/states be on 1 Hour Notice To Move.
- 3. <u>*Red Alert*</u>. Requires responding agencies to deploy to incident site. This may be preceded by the previous stages or it may be declared from the outset.

#### Activation:

Following the alert and notification process the decision to activate the

plan and the required level of response would be made by CDERA in consultation with the Affected State and the RCC.

The plan shall be activated by CDERA issuing an appropriate notification which shall include words to the effect "MCI Response Plan is activated" and which shall indicate the level of response anticipated.

The level of response will be determined based on demands in the Affected State and may expand or contract over time.

Level 1 response: Only Affected State assets required.

*Level 11 response:* Limited specific assistance required or call out of closest neighboring states for a defined limited response.

*Level 111 response*: Call out of all states and possible request for additional support from other regions and international agencies anticipated.

#### Field Organization & Management:

Field organization encompasses all procedures used to arrange the disaster area in order to facilitate medical management of victims.

Scene assessment, scene safety, field layout, Incident Command shall be as provided for under plans/SOPs of the Affected State.

All external assets shall operate under authority of appropriate national offices of the Affected State. Primary coordinating authorities – CAA & NDO.

#### Search & Rescue:

As provided for under national SAR policies and procedures of the Affected State. First Response/SAR assets - Coord by CAA & NDO.

Requested support as per ECAR/SAR arrangements.

Coordination of external support by RCC and CDERA.

Procedures for Hand–off of rescued/recovered victims-to be determined. SAR assets to hand–off to Med assets operating under authority of MOH of Affected State.

### Patient Care:

MOH of the Affected State would be responsible for medical management and emergency care and treatment of victims. The nature and scope of such management and care is intended to save life and to stabilize victims.

Patient care would be provided both on-site and at health care facilities.

It is anticipated that under the MCI system rescued/recovered victims will be triaged, treated and transferred to an appropriate health care facility.

Transfer to health care facilities shall be based on the system of triage. Transfer may be effected by land, sea or air and may be effected to a health facility in the Affected State, or to an appropriate facility in another state. This arrangement should be effected through an agreed Memorandum of Understanding ahead of time.

Transferring authorities are to communicate and ensure reception of transferred victim is agreed to and coordinated with the receiving facility. Receiving facilities are to be prepared to receive and manage expected victim(s).

Transferring facilities are to provide all relevant information for emergency care and treatment of the transferred victim.

Without prejudice to the rights of the victim transfers to health facilities outside of the Affected State may be effected based on medical grounds or at the request of an appropriate authority. Arrangements to be as agreed/determined by interested parties.

External Med assets providing med care in the Affected State are to do so under authority of the MOH (or equivalent) of the Affected State.

**Coordination**:

**Overall Coordination:** CDERA; in collaboration with CAA & NDO of

Affected State and RCC.

**Requests for assistance under the plan**: By Affected State (Oral requests to be put into writing as soon possible). The formulation of MOUs is encouraged as far as possible

**Mobilization of requested external resources & assets:** CDERA, PAHO & RCC.

**Deployment of mobilized assets/resources to affected state:** On order of CDERA, RCC as appropriate.

**SAR:** Under coord of authorities of Affected State; CAA & NDO.

**Scene Safety**: All. Overall Coord by Affected State.

Scene Assessment & Incident Command: Affected State.

**SITREPS:** To be issued by CDERA.

**Demob of External Assets:** When no longer in demand, as negotiated or upon realization of condition(s) agreed to. Affected State to provide all relevant advice and information to all parties concerned. Demob of assets of Affected State as provided for under national plans.

**Deactivation:** To be issued by CDERA-following consultation with Affected State. Implemented by issue of notification to effect "MCI Response Plan DEACTIVATED". To be issued when it is anticipated that assets/resources of the Affected State will be adequate to ensure all victims have been accounted for, transferred to an appropriate health care facility and been in receipt of emergency care and treatment to stabilize them.

**Debriefing:** In Affected State: as arranged by national authorities.

In Supporting States: As arranged by Supporting State.

*Final Report:* Prepared by CDERA in collaboration with Affected State and all supporting parties. Dissemination/Publication as arranged by CDERA in consultation with Affected State.
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# 4. ADMIN & LOGISTICS:

## Plan:

**Repository:** CDERA to be repository of authoritative original (inclusive of any amendments).

**Dissemination:** CDERA to make available to ICAO, PAHO, RCC and CAA, NDO & MOH of each E/CAR state, e-copy. Each CAA, NDO and MOH to disseminate as appropriate and maintain hard copies.

*Exercises/Testing:* To be determined by agreement. It is anticipated this will be undertaken at least once biannually. As far as possible this E/CAR MCIRP is to be integrated into Regional exercises.

Amendments & Updates: To be determined by agreement.

**Incident Reports:** Prepared by CDERA in collaboration with Affected State and all supporting parties. Dissemination/Publication as arranged by CDERA in consultation with Affected State.

**Cost Recovery:** Without prejudice to the rights of the Affected State and other interested parties it is understood and agreed in principle that all external support duly requested by Affected States and provided by Supporting States under this plan are done on the basis that cost may be recovered by the providing state at prevailing market rates. Parties may negotiate waivers, mechanisms and all other matters attendant hereto.

**Dispute Resolution:** Mechanisms for dispute resolution to be determined as may be agreed to by parties concerned.

# **5. COMMUNICATIONS:**

Details Annexed.

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#### 6. AUTHORITY:

#### **Effective Date:**

This plan comes into effect on the ......day of ......2004.

#### Authority:

This plan was developed under authority articulated in the documents referenced and is duly authorized and authenticated by the signatories hereto.

Signed:.....

\*\*\*\*\*\*

Title, Agency

Authenticated:.....

J. COLLYMORE

Coordinator, CDERA

#### Revised as of December 2006

# List of Annexes:

**A. MCI Standard Operating Procedures:** Procedure 001 – Field Organization; Procedure 002 – On-site Emergency Care and Treatment; Procedure 003 –Hospital Organization; Procedure 004 - Medical Management.

- B. List of Health Disaster Coordinators.
- C. Key Health Resources.
- D. Civil Aviation Resources.
- E. Disaster Management Resources.

18<sup>th</sup> E/CAR DCA – WP/\* 21/11/03 <u>ANNEX A TO</u> <u>E/CAR CAAMCIRP</u> <u>DATED 2003- -</u>

# STANDARD OPERATING PROCEDURES

Procedure 001 – Field organization procedure.

Agencies Responsible – NDO, First Response Agencies

Objective - To facilitate the medical management of victims in a safe and secure environment.

Steps:

## Permanent

- 1. Must ensure that the necessary communication equipment is available.
- 2. Must train officers in mass casualty management and incident command.
- 3. Keep updated maps showing population, routes etc. (for use in the CP).
- 4. Keep and verify monthly an updated communication network directory of all response agencies i.e. a complete and current list of inter agency contact and communication data.
- 5. Keep and test an alert procedure for all agencies expected to respond.
- 6. Keep a quantity of road traffic control kit and equipment.

#### During

- 1. On arrival at the incident site the first responders team would conduct an initial assessment and report immediately to the local command center, identifying and confirming the following:
  - 1. Precise location of incident
  - 2. Access routes
  - 3. Details of aircraft

A -1

- 4. Estimated of number of casualties
- 5. Any additional potential risk and exposed population
- 6. Proposed Location of the on-site CP
- 2. The team should then identify/establish the following field areas:
  - 1. The work areas i.e. impact zone (strictly restricted area), secondary area (restricted area) and tertiary area (buffer zone);
  - 2. A command post with (radio) communication, at the external boundary of the impact zone. It should be sited to facilitate on-site overall command, coordination and control. Where appropriate it may be close to the AMP (if established) and the evacuation area.
  - 3. An AMP with an Evacuation area,
  - 4. A VIP/media area, and
  - 5. Access routes.
- 3. Set up either a basic or a standard AMP (a minimum of approx. 85 sq. yards) within walking distance (50-100 meters) of the impact zone: in a safe area; with direct access to evacuation routes; at a short distance from the CP; and in a clear radio communication zone.
- 4. Must implement safety measures to protect victims, responders and exposed populations.
- 5. Must implement crowd and traffic control measures.
- 6. Must establish congestion free ingress and egress roads i.e. traffic detour, for the emergency vehicles.
- 7. Identify rendezvous point or staging area to prevent obstruction of the access route and confusion/jam at the accident scene.

# After

8. Debriefing and Report(s) to NDO.

END OF PROCEDURE

# Procedure 002 – On-site Emergency Care and Treatment.

#### Agencies Responsible – MOH & health services

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Objective – To reduce loss of life by providing prompt and effective triage and field stabilization of victims, allowing them to tolerate delayed transfer to appropriate health care facilities.

# Steps

## Permanent

- 1. Train staff in MCM, trauma and triage.
- 2. Establish and maintain specifically trained medical teams (medical mobile response teams).
- 3. Establish and maintain an emergency medical service or a patient care transport service.
- 4. Establish and maintain mobile response kit (medical supplies and equipment).

## During

- 1. Dispatch to site expeditiously medical response team with mobile response kit, triage tags, medical record forms and AMP supplies.
- 2. Dispatch to site emergency medical service or a patient care transport service.
- 3. Establish the internal organization of AMP.
- 4. Conduct medical triage to determine level of care utilizing color code triage tag (red, yellow, green and black).
- 5. Provide field stabilization care to patients (intubations, tracheotomy, chest drainage, drug treatment of shock, analgesia, fluid replacement, faciotomy, fracture immobilization and dressing).
- 6. Organize patient transfer to adapted health care facility ensuring that the health care facility is correctly informed and ready to receive the patient.
- 7. Conduct evacuation triage prioritizing victims for transfer to ready-toreceive health care facility.
- 8. Maintain direct communication (by radio/phone) between the local responding health care facility and AMP via the CP.
- 9. Ensure adequate supplies and equipment are available.

- 10. Register and keep record, including names, destination and status of all patients passing through the AMP.
- 11. Ensure that all casualties have received attention before the operation is terminated.

# After

- 16. Report to CP.
- 17. Report to MOH details of on-site patient care delivered.
- 18. Debriefing.

# END OF PROCEDURE

# Attachments

Directory of medical mobile response team. Mobile response kit (medical equipment and supplies). Medical records forms. Triage tags.

Procedure 003 – Organization of hospitals.

Responsible Agency – **Hospitals**.

# Objective – To prepare for the medical management of MCI victims through effective mobilization and management of available resources.

Steps

# Permanent

- 1. Maintain updated hospital MCM procedures which form part of the hospital emergencies/contingency plan or the National MCM plan.
- 2. Ensure adequate staff is trained in MCM.
- 3. Establish and maintain a mobile team comprised of persons capable of effecting emergency care and treatment/emergency medicine.
- 4. Establish and maintain a contingency plan for blood donation.

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- 5. Establish and maintain arrangements including MOUs for the availability of adequate human resource (doctors and nurses) and facilities (operating rooms, ambulances, laboratory etc.) including arrangements with private sector facilities as appropriate.
- 6. Establish a two-way communication system to provide a link between the hospital and the other responding entities.

# During

- 7. Activate the hospital MCM procedures or emergency/contingency plan.
- 8. Activate hospital EOC or CP with communication network.
- 9. Dispatch mobile team if within appropriate radius of the scene.
- 10. Reinforce key departments: Accident and Emergency, Surgery, Operating theatre(s), ICU. Activate off-duty Staff. Cancel routine Consultation sand admit only real emergencies
- 11. Determine/estimate hospital capacity (beds, human resources services and equipment) to deliver care at that point in time. Discharge all patients that may be discharged without compromising their health status.
- 12. Make beds available to accommodate victims.
- 13. Establish a reception area where hospital triage would be conducted with direct access from the ambulance off loading area and easy access to key care sectors of the hospital.
- 14. Provide medical care to the casualties that arrive.
- 15. Inform the field CP when it cannot receive more "red" patients.
- 16. Maintain constant communication between the hospital EOC/CP, the field CP and the AMP.
- 17. Keep record of all victims seen/admitted to the hospital.

#### After

- 18. Report to Incident Commander.
- 19. Report to MOH (patient care delivered).
- 20. Debriefing.

#### END OF PROCEDURE

#### Attachments

Medical record forms Communication network Hospital MCM procedures Memoranda of Understanding

Procedure 004 – Medical Management of MCI.

Agencies Responsible – **MOH of E/CAR states**.

Objective – To provide medical care to victims both on-site and at appropriate health facilities.

Steps -

# Permanent

- 1. Train staff in MCM and keep updated information on trained personnel.
- 2. Keep updated MCM procedures and health facilities emergencies/contingency plan.
- 3. Establish mobile response team.
- 4. Keep updated directory of medical personnel (mobile response team).
- 5. Keep supply of emergency medical supplies available.

# During

- 6. Activate MCI and health facility disaster response plans.
- 7. Be in contact with health facility and AMP.
- 8. Provide control and dispatch of casualties to appropriate external hospitals by land, sea or air.
- 9. Maintain an accurate list of casualties including those sent to external destinations for treatment.
- 10. If additional resources (manpower and equipment) are needed assist in obtaining and sending them to requesting/responding unit.
- 11. Ensure that all casualties have received medical attention before confirming termination of the operation.

# After

- 12. Debriefing.
- 13. Written report from AMP and responding health facilities.

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14. Prepare final report and submit to all relevant authorities.

#### END OF PROCEDURE

#### Attachments

List of personnel trained in MCM.

MCM procedures .

Health facilities emergencies/contingency plan(s).

Directory of mobile response team.

List of health facilities key and essential personnel and contacts.

List of emergency medical supplies.

# ANNEX B TO

E/CAR CAAMCIRP

# DATED 2003-12-XX

E/Car Country	Health Disaster Coordinators	Address	Phone	Email
Antigua and Barbuda	Dr. Carlos Mulraine Chief Medical Officer	Ministry of Health Cecil Charles Building Cross Street, St. John's	T (268) 462-5522 /2675 F (268) 462-5003	<u>healthandsocial 2001@hotmail.co</u> <u>m</u>
Barbados	Dr. Elizabeth Ferdinand Senior Medical Officer Of Health	Ministry of Health Jemmotts Lane St. Michael	T (246) 427-8326/ 5080 F (246) 427-3741	south@sunbeach.net
Dominica	Dr. David Johnson Acting Director, Primary Health Care Services	Ministry of Health 33 Fields Lane, P.O. Box 2149 Roseau	T (767) 448-2401 Ext. 3462 / 3464 F (767) 448-6086	
Grenada	Ms. Christine Louise Disaster Health Officer	NaDMA Fort Frederic	T (473) 440-8391	chrislewchr@yahoo.com
Guadeloupe	Mr. Jean Hamlet Deputy Major	Hotel De Ville Boite Postale 374 97054 St. Martin, Cedex	T (590 590) 875 004 F (590 590) 878 853	
Martinique	To be appointed			
St. Kitts and Nevis	Mr. Andrew Skerrit Health Planner	Ministry Of Health St. Kitts and Nevis	T (869) 469-6978 F (869) 465-1316	andyskerritt@yahoo.com
St. Lucia	Dr. Stephen Kind Chief Medical Officer	Ministry of Health, Human Services, Family Affairs & Gender Relations Chausse Rd., Castries	T (758) 452-2827 F (758) 452-5655	health@candw.lc

## LIST OF HEALTH DISASTER COORDINATORS

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St. Vincent and the Grenadines	Dr. Simone Keizer Senior Register	Kingstown General Hospital Kingstown	T (784) 456-1955 F (784) 457-1014	<u>mosimi@caribsurf.com</u>
Trinidad and	Dr. Rohit Doon	Ministry of Health	T (868) 625-0110	rdoon@tstt.net.tt
Tobago	Principal Medical Officer	Independence Square	F (868) 628-9523	_
	Environmental Health	Port of Spain		

# ANNEX C TO

# E/CAR CAAMCIRP

# DATED 2003-12-XX

Country	Main Hospitals	Capabilitie	s	Emergency Contacts					
		Beds	Burn Unit	Pediatrics	Gynecolo gist	Obstetrici an	Surgery	A&E	
Antigua and Barbuda	Holberton Hospital Hospital Rd. P.O. Box 2797, St. Johns						у		All Depts. Tel: (268) 462-0251-3
	Adelin Medical Centre P.O. Box 1123 Fort Road St. John's								Tel: (268) 462-0866-7
	<b>Fiennes Institute</b> Queen Elizabeth High Way								Tel: (268) 462-0419
	<b>Mental Hospital</b> Skerritts								Tel: (268) 462-0617
Barbados	Queen Elizabeth Hospital Lower Collymore Rock, St. Michael	600		У	у	у	у	У	Tel: (246) 436-6450
	<b>Bayview Hospital Ltd.</b> St. Paul's Ave. Bayville, St. Michael						у		Tel: (246) 436-5446 Fax: (246) 429-3081
	Psychiatric Hospital								
Dominica	<b>Princess Margaret Hospital</b> Goodwill, Roseau	247					У		Tel: (767) 448-2231
	<b>Portsmouth Hospital,</b> Portsmouth								Tel: (767) 445-5237
	Marigot Hospital, Marigot								Tel: (767) 445-7091
	Grand Bay Hospital								Tel: (767) 446-3706
			1						

#### List of Health Resources

# 18<sup>th</sup> E/CAR DCA – WP/\* 21/11/03

Grenada	Grenada General Hospital, St George's		у	У	у	У		Tel: 440-2051
	Mount Gay Hospital, St George's, psychiatric hospital							
	St Augustine's Medical Services, St Paul's, St George's	120						Tel: (473) 440-6173
	Princess Alice Hospital, Mirabeau, St Andrew's							Tel: (473) 442-7251
	Princess Royal Hospital, Carriacou							
Guadeloupe	Centre Hospitalier Universitaire de Pointe-à- Pitre/Abymes	990	y	у	у	y	у	Hôpital - Pointe-à-Pitre // Tél : 0590.89.10.10 - SAMU // Tél : 0590.89.11.00 - Médecin de garde : // Tél : 0590.90.13.13
	Centre Hospitalier Basse Terre							
	Centre Hospitalier Monteran							
Martinique	Centre Hospitalier Du Lorrain							
martinique	Centre Hospitalier Universitaire de Fort-De- France							
	L'hopital Pierre Zobda- Quitman	690						
	L'hopital Clarac	29						
	L'hopital Victor Fouche Ex- Hopital De Redoute	146						
	Le Centre Emma Ventura	436						
<u> </u>								

Country					
St. Kitts and Nevis					
St. Lucia					
St. Vincent and the Grenadines					
Tuinide d					
and Tobago					

#### ANNEX D TO

# E/CAR CAAMCIRP

#### **DATED 2003-12-XX**

#### **Civil Aviation Contacts**

Country	Main Airnorts	Key Persons	* 470	** САА
Antigue and	WC Dind Aimont	Operationa Directory	Fugene Themes (068) 560 0200	Uprold Wilson (068) 460 2401
Antigua anu Derbude	PO Der 1051 Coolider	Lashua Lamaa +1.068.460.7002	Eugene montas (208) 502-0502	Email: and decounter an
Barbuda	PO Box 1051, Coolidge	Joshua James +1 208 400-7903	Email: vcbia@candw.ag	Email: <u>decs.dca(<i>a</i>/candw.ag</u>
	1 (208) 402-0358	Security Manager:		
	F (268) 462-0642, 562-3042	Peter Abraham +1 268 460-4670		
	vcbia@cand.ag	Superintendent: Errol George		
Barbados	Grantley Adams Bridgetown Airport,		Reynold Allman (246) 428-7377	Ezra A. Archer (246) 428-0930
	Seawell, Christ Church		Email : civilav@sunbeach.net	Email : civilav@sunbeach.net
	T (246) 428-7101			<u></u>
	F (246) 420-7069			
	adamsair@sunheach net			
Dominica	Canefield Airport, Roseau		Don Corriette (767 449 2020	
	T (767) 449-1199		Email: <u>dcorriette@hotmail.com</u>	
	F (767) 449-2020		metoffice@cwdom.dm	
	Melville Hall Airport, Melville Hall,		Jean Williams (767 449 2020	Herald Wilson (268) 462 3401
	Roseau		Email: metoffice@cwdom.dm	Email: oecs.dca@candw.ag
	T (767) 445-7100/1, 445-7109		····	·····
	F (767) 445-7405			
Grenada	Grenada Airport, PO Box 385	Managing Director: Philippe Baril	Simon Lewis (473) 444 4148	Herald Wilson (268) 462 3401
	St George's	Operations Director: Sydney	Email: <u>lewisgaa@caribsurf.com</u>	Email: <u>Oecs.dca@candw.ag</u>
	T (473) 444-4150, 444-4555, 444-4101	Charles		
	F (473) 444-4838	Security Manager: Agustine Belfon		
	gaa@caribsurf.com			
<u> </u>				
Guadeloupe	Point-a-Pitre Le Raizet International	Managing Director:	Daniel Picandet (596 596) 48 21	Jean-Marc Sansovini (596 596) 55
	Airport,	Alain Bievre (590 590) 211 453	01	60 10
	Guadeloupe Pole Caraibes Airport, Morne	o 211 426		Email: <u>drac-ag-dir@wanadoo.fr</u>
	Mamiel,	Operations Director:		Jean-marc.sansovini@aviation-
	97139 Les Abymes	Claude Pineau 21 14 15		civile.gouv.fr
	T (590 590) 21 14 32	Security Manager:		
	F (590 590) 21 14 28	Fred Jacquin +590 93 73 71		
	contact@aeroport.gp	•		
	www.aeroport.gp			

	Grande Case, Aeroport L'Esperance Saint Martin Airport, 97150 St Martin T (590 590) 87.53.03 F (590 590) 87.09.77			
Martinique	Lamentin Airport Aéroport Int'l De Fort de France, BP 279, 97285 Le Lamentin Cedex 2 T (596 596) 42.16.00 F (596 596) 42.18.77 <u>ccim@cgit.com</u> / <u>cyrille@martinique.cci.fr</u>		Roger Treutenaere (596 596) 42 24 90 Email: <u>roger.treutenaere@aviation-</u> <u>civile.gouv.fr</u>	Jean-Marc Sansovini (596 596) 55 60 10 Email: <u>drac-ag-dir@wanadoo.fr</u> Jean-marc.sansovini@aviation- civile.gouv.fr
Country	Main Airports	Key Persons	* ATC	** CAA
St. Kitts and Nevis	Golden Rock PO Box 186, Basseterre T (869) 465-8472, 465-8972, 465-1699 F (869) 465-9122, 465-8124		Bernard Rawlins (St. Kitts) (869) 465 2750 /2749 / 466-5598 Email: <u>skbmetof@caribsurf.com</u>	Herald Wilson (268) 462 3401 Email: <u>Oecs.dca@candw.ag</u>
	Nevis-Newcastle Airport Ministry of Communications, Charlestown, Nevis T (869) 469-9040	Managing Director: Carlisle Powell	Brian Dyer (Nevis) (869) 469 8460 / 8463 / 9040 Email: nevistwr@caribsurf.com	
<b>a</b> : <b>a i</b>				
St. Lucia	Hewanorra International Airport Vieux-Fort Airport, PO Box 373, Vieux Fort T (758) 454-6355 F (758) 454-6900	Managing Director: Peter Jean +1 758 456-0339 Operations Director: Teddy Matthews +1 758 454-6355 Security Manager: Frances Nelson +1 758 452-2893 Deputy Chief: Paul Charlery Inspector: Kennedy Francis	Errol Cherubin (758) 454-6355 / 454-6343, F 454-5146 Email: amscaspa@caribsurf.com	Herald Wilson (268) 462 3401 Email: <u>Oecs.dca@candw.ag</u>
	Vigie Airport PO Box 651, Castries Apia T (758) 452-1156 F (758) 452-1180			
St. Vincent and the Grenadines	E T Joshua Airport, Arnos Vale T (784) 458-4011 F (784) 457-2152		Corsel Robertson (784) 458 4011 Email : etjoshua@caribsurf.com	Herald Wilson (268) 462 3401 Email: <u>Oecs.dca@candw.ag</u>

Trinidad	Piarco Port of Spain Airport,	Operations Director: Trevor	Leslie Payne (868) 669 0635 /	Ramesh Lutchmedial (868) 669
and Tobago	Airports Authority of Trinidad & Tobago,	Benjamin +1 868 669-8047 Ext	4806	4302
_	Caroni North Bank Road, Piarco	101	Email: <u>civilav@tstt.net.tt</u>	Email: dgca@caa.gov.tt
	T (868) 669-8047/9	Security Manager: Dennis John +1	_	ttcaa@tstt.net.tt;
	F (868) 669-0228	868 669-8047 Ext 227		civilav@cablenett.net
	www.caribinfo.com/aatt/piarco.html			_
	Crown Point Airport			
	Tobago Airport, Administration Office,			
	Crown Point			
	T (868) 639-8547			
	F (868) 639-8146			

\* Air Traffic Control \*\* Civil Aviation Authority

# ANNEX E TO

# E/CAR CAAMCIRP

# DATED 2003-12-XX

Disaster	Management	Contacts
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E/CAR Country	NDC	Other Key Staff	Address	Phone
Antigua and Barbuda	1. Mrs. Patricia Julian Director/Coordinator	<ol> <li>Mr. Philmore Mullin Deputy director <u>filaman43@hotmail.</u> <u>com</u></li> </ol>	National Office Of Disaster Services (NODS) P.O.B.1399 American Rd St. John's nods@candw.ag	W (268) 461 4747; 460 7075; 562 2144 F 462-4742/5003
Barbados	<ol> <li>Ms. Judy R. Thomas Director jthomas@barbados.gov. bb</li> </ol>	<ol> <li>Mr. Clive Lorde Deputy Director <u>cliveeclorde@yahoo.</u> <u>com</u></li> </ol>	Central Emergency Relief Org. (CERO) Bnb Building Cnr. James And Lucas Streets St. Michael <u>cero@caribsurf.com</u>	W (246) 427-8513; 436 6624/9945 F 429-4055
Dominica	1. Mr. Cecil Shillingford j73cs@yahoo.com		Office Of Disaster Management Government Headquarters, Post Office Building, Bay Front <u>mincomwh@cwdom.dm</u>	W (767) 448-7777 F 448-2883
Grenada	1. Mr. Sylvan McIntyre	2. Ms. Ann-Denise Ashton Technical Officer <u>anndenise@caribsurf</u> .com	National Emergency Relief Organization (NERO) Mt. Wheldale Upper Lucas Street St.George's <u>nero@caribsurf.com</u>	W (473) 440-8390 / 0838 F 440-6674

E/CAR Country	NDC	Other Key Staff	Address	Phone
Guadeloupe	<ol> <li>Ms. Annick Belfort Directeur de la Protection Civil</li> </ol>		Préfecture de la Guadeloupe Rue Lardenoy 97109 Basseterre prefecture.region.guadeloupe@wana doo.fr	W (590 590) 993- 940 F 993-949
Martinique	1. Mr. Launay Lt. Col. Subregional Coordinator		Chef de Bureau Préfectoraux Protection De La Martinique 97292 Fort De France Cedex <u>emz-martinique@interieur.gouv.fr</u>	W (596 596) 393 930; 393 914 F 716 326; 714 029
St. Kitts and Nevis	1. Mr Carl Herbert	2. Mr. Goldwyn Caines Deputy	National Emergency Management Agency (NEMA) Tayolar's Basseterre <u>nemaskb@caribsurf.com</u>	W (869) 466-5100; 465 2688 F 466-5310
St. Lucia	1. Ms. Dawn French Director	2. Ms. Maria Mombelli Secretary <u>mmombelli@hotmail</u> .com	National Emergency Management Office (NEMO) Red Cross Building Vigie Po Box 1517. Castries <u>eoc@candw.lc</u> <u>slunemo@yahoo.com</u>	W (758) 452- 3802/2611 F 453-2152
St. Vincent and the Grenadines	1. Mr. Howie Prince	2. Ms. Polette Lavia Secretary	National Emergency Management Office (NEMO) Prime Minister's Office Kingstown hprince@caribsurf.com	W (784) 457-1456 F 457-1691

# 18<sup>th</sup> E/CAR DCA – WP/\* 21/11/03

E/CAR	NDC	Other Key Staff	Address	Phone
Country				
Trinidad	1. L/Col Dave L. Williams		National Emergency Management	W (868) 623-1943
and Tobago	Director	2. Ms Nicole Marie	Agency (NEMA)	F 625-8926
		Johnson	NBS Radio 610 Bldg.,17 Abercromby	C 628-5040
			St.	
			Port-Of-Spain	
			nematt@wow.net	

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#### Agenda Item 5: Safety Oversight Developments

5.1 The Secretariat presented WP/08 with a Summary Report on the implementation and progress of the comprehensive safety oversight audits in the ICAO contracting States. A clear trend of increasing deficiencies of the eight critical elements was reported when Annexes 10, 11, 13, and 14, all safety sensitive, were added for compliance by the States. The lack of processes and procedures for the implementation of the regulation related to the compliance of associated annexes and the void that created these deficiencies, are a consequence of the time respective national legal systems require to approve legislation that supports the regulation pertinent to the application of the aggregated annexes, and the absence of qualified personnel to apply them. **Appendixes A and B** to this part of the Report describe some of the factors that are contributing to increasing deficiencies.

5.2 The Director of Civil Aviation of Barbados, Mr. Anthony Archer, and the Director of Civil Aviation of Trinidad and Tobago, Mr. Ramesh Lutchmedial, commented that the lack of resources, ICAO guidelines and personnel, will make it extremely difficult for States to comply with the comprehensive audits that are scheduled for 2007, and requested the technical guidance of ICAO to develop processes, procedures and regulations, in order to be prepared for the upcoming audits.

5.3 The Meeting was informed through WP/09, related to the Convention on International Civil Aviation and its Annexes and The Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety, how to meet safety requirements to reduce the rate of fatal accidents so as to maintain public confidence in the air transportation system. **Appendix C** to this part of the Report summarizes the declarations and responsibilities contracted in the Conference by the Directors General of Civil Aviation. The Meeting expressed no comments on W/P 09.

5.4 The Meeting congratulated the United States Federal Aviation Administration (FAA) for developing a model regulatory document of aviation using ICAO standards, which consists of civil aviation law, regulations and implementation of standards for flight operation and aircraft airworthiness and guidance material.

5.5 This document is a most-needed tool to be used as a guide for contracting States to implement their own laws and regulations, or to adopt regulations already in use. The ICAO standards are constructed in a general sense and lack the degree of detail and comprehensiveness to be applied as stand alone civil aviation documents. The Meeting considered that the document provides a cross-reference between FARs and JARs and will be able to withstand the ICAO audit and meet the needs of national regulations.

5.6 The Meeting was informed that ICAO and the FAA understand the need for safety management systems (SMS) that provide a practical tool for systemic risk management for commercial operators and approved maintenance organizations.

5.7 The Meeting took note that the FAA and ICAO recognized the need not only for a systems-oriented approach to safety that has been practiced before, but also for a managerial approach on the part of both government and industry. The FAA also intends to apply the SMS approach to its own safety risk management and safety assurance activities.

5.8 The Meeting took note that the FAA Safety Management System standard, as outlined in the Advisory Circular, is organized around four pillars: policy, safety risk management, safety assurance and safety promotion. Of the four pillars, safety risk management and safety assurance provide the functional core of the SMS.

5.9 The United States presented IP/10 informing the Meeting oF the FAA repair station assessment tool (RSAT) as part of the risk management process to be used by the principal inspector of maintenance to evaluate facilities and approved repair stations. This information paper is included as **Appendix D** to this part of the Report. The United States also presented IP/11 on the procedure to control the rapid growth of operators and the management of aging aircraft fleets, IP/17 on the Third Border Initiative (TBI) applied in aviation in the Caribbean, and IP/21 on Conflict of Interests: A Threat to Effective Safety Oversight, where it was reported that the FAA found during IASA inspections, that most States' safety oversight inspectors work for the companies they oversee, which creates a conflict of interest and is prejudicial to the safety oversight of the Authorities.

5.10 IATA presented IP/15 with information on the IOSA audit implementation.

5.11 The Meeting noted the presentation made by Mr. Rosemond James on behalf of RASOS (IP/24) and congratulated RASOS for the achievement made as a regional Caribbean Aviation Safety Oversight System (CASOS) group consolidating the States and Civil Aviation Authorities of Barbados, Belize, Guyana, Haiti, Jamaica, OECS, (Anguilla, Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Lucia, St. Kitts, and Nevis, St, Vincent and the Grenadines), Suriname and Trinidad and Tobago, as Member States of the Caribbean Community; and of the progress made in safety oversight, certification and personnel qualification, according to the ICAO strategies for regional safety groups.

# APPENDIX A

#### ICAO UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME UNDER THE COMPREHENSIVE SYSTEMS APPROACH STATUS OF IMPLEMENTATION

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Audits of Contracting States conducted under the comprehensive systems approach as of 30 April 2006				
No.	State	Audit Dates	Status of the safety oversight audit report	Timelines
1.	Belgium	7 to 16 February 2006	Interim report under production.	On target
2.	Canada	12 to 22 April 2005	Final report published on 24 February 2006.	Completed
3.	Costa Rica	10 to 23 January 2006	Interim report sent to the State for comments and submission of the corrective action plan.	On target
4.	Czech Republic	6 to 15 December 2005	Interim report sent to the State for comments and submission of the corrective action plan.	On target
5.	Egypt	14 to 23 November 2005	Arabic version of the interim report sent to the State for comments and submission of the corrective action plan.	On target
6.	Fiji	17 to 26 January 2006	Interim report sent to the State for comments and submission of the corrective action plan.	On target
7.	Gambia	20 to 29 September 2005	Preparation of draft final report.	On target
8.	Germany	11 to 27 May 2005	Final report published on 28 April 2006.	Completed
9.	Kuwait	27 Nov. to 6 Dec. 2005	Arabic version of the interim report sent to the State for comments and submission of the corrective action plan.	Delayed
10.	Luxembourg	21 February to 2 March 2006	Interim report under production.	On target
11.	Malaysia	28 June to 7 July 2005	Final report published on 24 March 2006.	Completed
12.	New Zealand	14 to 23 March 2006	Interim report under production.	On target
13.	Panama	18 to 27 October 2005	Spanish interim report sent to the State for comments and submission of the corrective action plan.	On target
14.	Senegal	10 to 21 April 2006	Interim report under production.	On target
15.	Solomon Islands	28 March to 6 April 2006	Interim report under production.	On target
16.	Thailand	28 June to 7 July 2005	Final report sent to the State for comments.	On target
17.	Vanuatu	30 Jan. to 7 Feb. 2006	Interim report under production.	On target

Audits of Contracting States to be conducted under the comprehensive systems approach between May and December 2006			
No.	State	Audit Dates	
1.	Benin	19 to 28 September 2006	
2.	Bhutan	26 September to 5 October 2006	
3.	Botswana	9 to 18 May 2006	
4.	Bulgaria	30 May to 8 June 2006	
5.	Cameroon	3 to 12 July 2006	
6.	Democratic Republic of the Congo	5 to 14 September 2006	
7.	El Salvador	6 to 15 June 2006	
8.	Ethiopia	5 to 14 December 2006	
9.	Ghana	20 to 28 November 2006	
10.	Greece	16 to 25 May 2006	
11.	India	10 to 19 October 2006	
12.	Italy	16 to 25 May 2006	
13.	Jordan	6 to 14 November 2006	
14.	Lebanon	24 October to 2 November 2006	
15.	Liberia	15 to 19 May 2006	
16.	Namibia	25 April to 4 May 2006	
17.	Nigeria	7 to 16 November 2006	
18.	Norway	2 to 11 May 2006	
19.	Russian Federation	19 September to 4 October 2006	
20.	Sierra Leone	8 to 12 May 2006	
21.	Sudan	21 to 30 November 2006	
22.	Тодо	20 to 29 June 2006	

Audits of/visits to international organizations as of 30 April 2006			
No.	International organization	Dates	
1.	European Organisation for the Safety of Air Navigation (EUROCONTROL)	Visited in conjunction with the audit of Germany from 11 to 27 May 2005	
2.	European Aviation Safety Authority (EASA)	Audited from 29 November to 2 December 2005; Preparation of draft final report in progress.	
3.	Central American Corporation for Air Navigation Services (COCESNA), including Central American Aviation Safety Agency (ACSA) and Central American Air Navigation Services Agency (ACNA)	<b>Visited in conjunction with the audit of Costa Rica</b> from 10 to 23 January 2006	
4.	Agency for Air Navigation Safety in Africa and Madagascar (The) (ASECNA)	Visited in conjunction with the audit of Senegal from 10 to 21 April 2006	
5.	Interstate Aviation Committee (IAC) (MAK)	Will be visited in conjunction with the audit of the Russian Federation from 19 Sept. to 4 Oct. 2006	

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Audits deferred by States as of 30 April 2006				
No.	State	Reason for deferral	Status	
1.	Armenia	Changes in the aviation law and regulations.	Scheduled to be audited from 5 to 14 June 2007	
2.	Bulgaria	Changes in the aviation law and regulations.	Scheduled to be audited from 30 May to 8 June 2006	
3.	Cape Verde	Preparation for approval of ETOPs operations.	Has not been scheduled.	
4.	Israel	Conversion of the Civil Aviation Administration to an Authority and related implications.	Scheduled to be audited from 22 to 31 January 2007	
5.	Trinidad and Tobago	Preparation for FAA's IASA.	Scheduled to be audited from 27 February to 8 March 2007.	

0.	Venue	Dates	Number of participants
•	Headquarters, Montreal	6 to 15 December 2004	15
2.	Headquarters, Montreal	22 February - 3 March 2005	22
3.	ICAO European and North Atlantic Office, Paris, France	14 to 22 March 2005	22
4.	ICAO Asia and Pacific Office, Bangkok, Thailand	14 to 23 June 2005	22
5.	Federal Aviation Administration (FAA), Washington D.C. *	19 to 27 July 2005	23
6.	ICAO Western and Central African Office, Dakar, Senegal	6 to 15 September 2005	24
7.	ICAO South American Office, Lima, Peru	4 to 13 October 2005	25
8.	Department of Civil Aviation of Brazil, Rio de Janeiro *	28 March to 6 April 2006	24
		Total:	177

SOA Seminar/Workshops conducted as of 30 April 2006				
No.	Venue	Dates	Number of participants	
1.	ICAO Asia and Pacific Office, Bangkok, Thailand	17 to 19 January 2005	115	
2.	ICAO Eastern and Southern African Office, Nairobi, Kenya	26 to 28 January 2005	47	
3.	ICAO Middle East Office, Cairo, Egypt	31 January to 2 February 2005	69	
4.	ICAO Western and Central African Office, Dakar, Senegal	7 to 9 February 2005	56	
5.	ICAO North American, Central American and Caribbean Office, Mexico	9 to 11 March 2005	50	
6.	ICAO South American Office, Lima, Peru	14 to 16 March 2005	27	
7.	ICAO European and North Atlantic Office, Paris, France	9 to 11 March 2005	73	
		Total:	437	

#### **APPENDIX B**

#### **GRAPHICS OF AUDITS CONDUCTED UNDER BOTH SYSTEMS**





5B-2



# DIRECTORS GENERAL OF CIVIL AVIATION CONFERENCE OA GLOBAL STRATEGY FOR AVIATION SAFETY

#### Montréal, 20 to 22 March 2006

#### DECLARATION

*Whereas* the Convention on International Civil Aviation and its Annexes provide the essential framework required to meet the safety needs of a global aviation system;

*Whereas* the Directors General of Civil Aviation have a collective responsibility for international civil aviation safety;

*Recognizing* that the safety framework must be fully utilized by all stakeholders and continuously evolve to ensure its sustained effectiveness and efficiency in the changing regulatory, economic and technical environment of the 21st century;

*Recalling* that transparency and sharing of safety information are fundamental tenets of a safe air transportation system;

*Recalling* that recognition as valid of certificates and licences of other States is governed by Article 33 of the Convention and applicable Standards;

*Recalling* the role of ICAO in the settlement of disputes;

*Recognizing* that mutual trust between States as well as public confidence in the safety of air transportation is contingent upon access to adequate safety information;

*Recognizing* that safety is a shared responsibility, and advancements in global safety can only be possible through the leadership of ICAO, and a cooperative, collaborative and coordinated effort among all stakeholders; and

*Recognizing* that further improvements in aviation safety within and among States require a cooperative and proactive approach in which safety risks are identified and managed;

The Directors General of Civil Aviation:

- 1. *Commit* to reinforce the global aviation safety framework by:
- a) sharing as soon as possible appropriate safety-related information among States, all other aviation stakeholders and the public, including the disclosure of information on the results of their safety oversight audit as soon as possible and, in any case, not later than 23 March 2008;
- b) exercising safety oversight of their operators in full compliance with applicable SARPs, assuring themselves that foreign operators flying in their territory receive adequate oversight from their own State and taking appropriate action when necessary to preserve safety;

- c) expeditiously implementing safety management systems across the aviation industry to complement the existing regulatory framework;
- d) developing sustainable safety solutions, including the formation or strengthening of regional and sub-regional safety oversight organizations and initiatives; and
- e) promoting a just culture;

The Conference:

2. *Calls upon* States to base the recognition as valid of certificates and licences of other States exclusively on safety considerations and not for the purpose of gaining economic advantage;

3. *Calls upon* States, ICAO, industry, and donor organizations to direct resources towards the establishment of sustainable safety oversight solutions;

4 *Calls upon* States, ICAO and industry to support the coordinated implementation of safety management systems;

- 5. *Calls upon* ICAO to:
- a) develop and actively support information exchange mechanisms that allow for an unrestricted flow of safety information between all aviation stakeholders;
- b) develop by June 2006 a strategy to communicate safety information effectively to the public;
- c) develop a mechanism under Article 21 of the Convention to make available aircraft registration and operator information;
- d) develop guidelines and procedures to verify the conditions for recognition as valid of certificates and licences, in keeping with Article 33 of the Convention; and
- e) study the development of a new Annex on safety oversight, safety assessment and safety management;

6. *Calls upon* States to demonstrate the political will to address aviation safety shortcomings, this includes the establishment, where necessary, of an autonomous Civil Aviation Authority which is empowered and adequately funded to provide effective safety oversight; and

7. *Calls upon* States and industry to closely coordinate with ICAO their safety initiatives to ensure optimum benefits to global aviation safety and to reduce duplication in effort.

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# DIRECTORS GENERAL OF CIVIL AVIATION CONFERENCE ON A GLOBAL STRATEGY FOR AVIATION SAFETY

Montréal, 20 to 22 March 2006

#### CONCLUSIONS AND RECOMMENDATIONS

#### Theme 1: The Status of Aviation Safety Today

#### 1. CONCLUSIONS

- 1.1 The Conference agreed on the following conclusions:
  - a) Aviation safety

Even though air transport is a very safe mode of transportation, there is a need to achieve a further reduction in the number of accidents and especially fatal accidents to maintain the public confidence in the safety of the global air transport system;

- b) *Safety oversight* 
  - the first cycle of the ICAO Universal Safety Oversight Audit Programme (USOAP) has demonstrated that most of the ICAO Contracting States have made progress in improving their safety oversight capability. However, several States still do not have the capacity to exercise properly their safety oversight responsibilities and it is not certain that some of them will ever have the human and financial resources and the volume of activity necessary to support an independent safety oversight system. It is therefore necessary to promote approaches such as a Safety Oversight Regional Organization that are allowing States to share the resources necessary for discharging their individual safety oversight obligations; and
  - 2) the fact that a small number of States have not yet submitted their action plan or information on the status of implementation of their action plan is a source of concern. These States should cooperate fully with ICAO and take the requisite action.
- c) Initiatives by States and industry
  - 1) it is encouraging to see the numerous initiatives taken by States and the industry to improve aviation safety. The conference noted with interest the initiatives presented such as the various regional safety groups (CAST, PAAST, JSSI, ASET, NARAST, SARAST and SEARAST) and the various industry activities such as the IOSA programme of IATA, the IS-BAO of IBAC, and including the

programme developed by the Republic of Korea to assist in the monitoring of compliance with SARPs. The conference also noted that the safety data collected by such initiatives can be very useful to States when developing or performing their safety oversight activities or developing safety activities;

- 2) while initiatives by States or the industry to improve aviation safety are useful, and effective, their full potential is not always realized due to a lack of prioritization, to the duplication of effort and to shortfalls in communication. There is a risk that lessons learnt and solutions found in different locations that involve knowledge, procedures and techniques may not be shared in a way that can provide benefits to all. In that context, the conference welcomes the development of the Global Aviation Safety Roadmap by the industry at the request of ICAO which will provide that basis for development by ICAO of a global framework for the coordination of safety policies and initiatives;
- where further initiatives result in additional regulation proposed regulations should be subjected to risk assessment and cost-benefit analysis to establish their full validity;
- ICAO should analyse recommendations of the various regional safety groups and asses whether some aspects could be incorporated in ICAO SARPs and guidance material; and
- 5) the conference also reaffirmed the central role of ICAO in securing the necessary coordination of efforts across the whole spectrum of involvement of States and industry.

#### 2. **RECOMMENDATIONS**

- 2.1 The Conference agreed on the following recommendations:
  - a) Aviation safety

Further improvement of aviation safety and the reduction of the number of accidents, fatal accidents and fatalities should continue to be an objective of the highest priority for ICAO, which will require a comprehensive and proactive approach coordinated among ICAO, States, industry and service providers;

b) *Safety oversight* 

Proper safety oversight by States is one of the basic tenets of aviation safety. In view of the continuing difficulties faced by several States and the resulting need for assistance, ICAO, States, industry, and donor organizations should direct resources towards the establishment of sustainable safety oversight solutions; and

c) Initiatives by States and industry

ICAO, in collaboration with all States and other stakeholders, should continue the development of an integrated approach to safety initiatives based on the Global Aviation Safety Roadmap which would provide a global framework for the

coordination of safety policies and initiatives.

#### THEME 2: IMPROVING AVIATION SAFETY

#### **Topic 2.1** Transparency and sharing of safety information

#### 1. CONCLUSIONS

- 1.1 The Conference agreed on the following conclusions:
  - a) State and industry access to information and assistance
    - transparency is a cornerstone of aviation safety. All Contracting States and concerned stakeholders should cooperate to secure access to the information that is necessary to manage safety properly. Further improvements in aviation safety require an increased sharing of safety information among Contracting States, ICAO and all civil aviation stakeholders;
    - 2) sharing of information among Contracting States is essential to maintain mutual trust; and
    - 3) the implementation of a transparency policy by a State, with regards to its level of safety oversight, is a clear signal that the State acknowledges any weakness that may exist and should be an incentive for other States and donors to provide assistance.
  - b) Public access to information
    - 1) the public should be able to access, without delay, the information necessary to make an informed decision about the safety of air transportation including safety oversight audit information. However, some States will need time to update their systems to be in a position to make audit information available to the public; and
    - 2) ICAO should adopt a strategy to communicate safety information effectively to the public based upon the Universal Safety Oversight Audit Programme (USOAP) reports. The system should be designed to avoid potential abuse of the information.
  - c) Implementation of Article 21 to the Convention

Each Contracting State should have access to reliable and timely information on registration, ownership and control of aircraft normally used in international navigation; and

- d) Transparency and sharing of airworthiness information
  - 1) the implementation of a centralized database that would facilitate the timely sharing of airworthiness information concerning aircraft conducting scheduled

and unscheduled international operations would be a means to improve safety; and

2) communication and sharing of airworthiness information between the States of Design and Registry is essential to flight safety.

#### 2. **RECOMMENDATIONS**

- 2.1 The Conference agreed on the following recommendations:
  - a) State and industry access to information and assistance
    - 1) The results of the audits conducted under the comprehensive systems approach should continue to be shared openly among Contracting States;
    - 2) the Council should facilitate the implementation of "just culture" reporting systems in Contracting States to promote the sharing of accident and incident and all other safety-related information. The "just culture" should create an environment in which the reporting and sharing of information is encouraged and facilitated;
    - 3) States should be fully transparent to enable other States and donors to provide more rapid and effective assistance to resolve safety oversight deficiencies; and
    - 4) the Council should consider the preparation of an annual report on aviation infrastructure and required improvements to assist donors in allocating the support needed by Contracting States.
  - b) *Public access to information* 
    - 1) States are urged to give consent to ICAO to publish the results of their initial safety oversight audits or audits follow-up as soon as possible, following the format presented in DGCA/06-IP/39. States may also allow ICAO to publish the final safety oversight audit reports derived from the initial audit cycle;
    - States sharing their ICAO safety oversight information should have the opportunity to provide their own comments, relative to progress made since the conduct of its audit, in the section of the ICAO websites dedicated to the audit information;
    - 3) the Council, in May/June 2006, should develop an ongoing process to allow the release of relevant information to the public on safety oversight audits conducted under the comprehensive systems approach;
    - 4) pending the development of the process, as proposed in paragraph 3) above, States should authorize ICAO to publish the relevant information to the public on safety oversight audits conducted under the comprehensive systems approach. The release of such information would be agreed and entered into through a separate consent form;

- 5) the Council should develop a system to assess USOAP findings against the safety oversight system critical elements with a view to evaluating the safety oversight capability of individual Contracting States and report to the Assembly in 2007; and
- 6) Contracting States should give their consent to the publication of relevant information as soon as possible and, in any case, not later than 23 March 2008. ICAO would then issue a press release providing the names of the States that have not authorized release of the results of their audits and place this information on the public website. A progress report should be made to Council during each Session and to the Assembly in 2007.
- c) Implementation of Article 21 to the Convention

The Council should ensure that Contracting States have access to reliable and timely information on registration, ownership and control of aircraft habitually used in international navigation. Contracting States should cooperate with ICAO in providing the required information, under guidelines and procedures to be developed; and

- d) Transparency and sharing of airworthiness information
  - 1) the Council should study the possibility of establishing an expanded database application that would allow Contracting States to voluntarily share airworthiness information related to aircraft habitually involved in international operations; and
  - 2) States of Design and Registry should conclude an airworthiness agreement as laid down in the *Airworthiness Manual* (Doc 9760) as a means to promote the exchange of continuing airworthiness information between the States.

#### Topic 2.2Management of aviation safety

#### 1. CONCLUSIONS

- 1.1 The Conference agreed to the following conclusions:
  - a) Safety management systems
    - 1) civil aviation organizations, including civil aviation administrations, are under pressure to discharge their mandate in the face of ever-diminishing resources, thus facing efficiency issues;
    - 2) SMS presents the international civil organizations with a data driven approach to the prioritization of resources towards safety concerns that hold the greatest risk potential, and towards activities likely to produce the biggest return on resources invested;
- 3) experience suggest that benefits of SMS include:
  - reduced incident and accident rates;
  - greater operating efficiencies such as fewer returns to gate and flight cancellations;
  - improved employee morale as a result of being empowered and seeing results through the SMS;
  - reductions in insurance rates;
  - tangible savings for operators as a result of knowing the operational risks and preventing incidents, resulted in substantial savings; and
  - less regulatory involvement due to the operators management of their own day-to-day activities. The regulator oversees the effectiveness of the systems.
- 4) the full potential of SMS will only be realized when the concept is adopted on a global basis by all Contracting States and, through States, by as many aviation organizations as possible. In order for this global implementation to take place, States need to be fully aware and informed about the SMS concept and the means and tools for its implementation; and
- 5) consideration should be given to the development of additional guidance material as well as to organizing seminars and workshops to assist States and operators to implement SMS. In order to facilitate this, advantage should be taken of experience existing within States and international organizations with expertise in the development and implementation of SMS.
- b) Study the development of a new Annex to the Convention on safety processes

Consideration should be given to complement the set of Annexes to the Chicago Convention with a specific Annex on appropriate provisions on safety oversight, safety assessment and safety management; and

c) Modernization of Annex 6, Part II

the conference confirmed the need to modernize Annex 6 — Operation of Aircraft, Part II — International General Aviation — Aeroplanes.

#### 2. **RECOMMENDATIONS**

- 2.1 The Conference agreed on the following recommendations:
  - a) Safety management systems
    - 1) States should implement safety management systems across all safety-related disciplines;

- 3) States should engage in an exchange of information to progress in the implementation of SMS through the provision of expert advice, tools and other means;
- 4) States should commit to the earliest possible implementation of SMS on a global basis, based on the related provisions adopted by Council; and
- 5) the ICAO Council should continue work towards the development of training, guidance material and other enabling tools to help Contracting States expedite the implementation of SMS.
- b) Study the development of a new Annex to the Convention on safety processes

ICAO should study further harmonization of safety management requirements, and consider the development of a new Annex dedicated to safety processes, including appropriate provisions on safety oversight, safety assessment and safety management

c) ICAO should continue its effort to modernize Annex 6, Part II.

#### Topic 2.3 Unified strategy to resolve safety-related deficiencies

#### 1. CONCLUSIONS

- 1.1 The Conference agreed to the following conclusions:
  - a) Assistance to States
    - despite the audits and follow-up missions conducted by Universal Safety Oversight Audit Programme (USOAP) a significant number of States have not been able to implement their corrective action plans and fulfil their safety oversight obligations;
    - 2) The ICAO Unified Strategy Programme (USP) is valuable for coordinating assistance to Contracting States and establishing regional safety oversight initiatives; it could help ensure that optimum assistance is provided;
    - 3) special emphasis is placed on the importance of having autonomous civil aviation administrations, the absence of which is a serious obstacle to implementing safety oversight in certain States;
    - regional partnerships and the regional safety oversight organizations or initiatives represent good vehicles for enabling States to fulfil their safety oversight obligations and, with the support of various stakeholders, would achieve longterm sustainable results;

- 5) IFFAS as a funding mechanism (not an implementation tool) and other international donor funding should coordinate for optimum results; and
- 6) there is a need for ICAO to improve the effectiveness of its technical assistance tools and to increase involvement of its Regional Offices so as to provide a more effective technical support and training of national experts.
- b) Information Exchange
  - 1) sharing of critical safety information among Contracting States performing safety oversight functions enhances standardization, improves implementation of safety measures, and reduces duplication of efforts; and
  - 2) the Flight Safety Information Exchange (FSIX) which was launched by Organization as a portal website is a practical means to facilitate the sharing of safety-related information among member States as well as the industry.

#### 2. **RECOMMENDATIONS**

- 2.1 The Conference agreed to the following recommendations:
  - a) Assistance to States
    - 1) contracting States are encouraged to promote further development of regional and sub-regional organizations in support of the strengthening of States' safety oversight capabilities;
    - in order to fulfil their obligations under the Chicago Convention, Contracting States are encouraged to better cooperate both bilaterally and at the regional level to make appropriate arrangements to perform their safety oversight obligations when they do not individually possess adequate human, technical and financial resources;
    - 3) Contracting States in need of assistance should coordinate with the Unified Strategy Programme Unit to validate that their action plans are likely to achieve desired results, and to identify the most appropriate assistance mechanisms. Assistance can be channelled through various options to include the Technical Cooperation Programme;
    - ICAO and States should improve the effectiveness and coordination of technical assistance tools and funding mechanisms for the correction of safety-related deficiencies, including the International Financial Facility for Aviation Safety (IFFAS);
    - 5) ICAO should increase the involvement of its Regional Offices so as to provide a more effective technical support for Contracting States and promote further development of regional and sub-regional organizations that conduct safety oversight;

- 6) ICAO should adapt its working methods to allow full involvement of regional organizations that conduct safety oversight and technical work and request the Secretary General, in accordance with clause 7 of Resolution A35-7, to continue to foster coordination and cooperation between USOAP and audit programmes of other organizations related to aviation safety;
- 7) Contracting States should demonstrate the political will to address aviation safety shortcomings; this includes the establishment, where necessary and as soon as possible, of an autonomous Civil Aviation Authority which is empowered and adequately funded to provide effective safety oversight; and
- 8) States and other stakeholders as well as financial institutions and donors that are in a position to do so, make financial contributions and/or contributions in kind to support States in need of assistance to rectify their safety oversight deficiencies through the Unified Strategy Programme.
- b) Information Exchange (FSIX)

Contracting States and associated industry and professional organizations are encouraged to provide guidance material and relevant safety-related information to the international civil aviation community through the ICAO Flight Safety Information Exchange (FSIX) website.

#### Topic 2.4 Mutual recognition

#### 1. CONCLUSIONS

- 1.1 The Conference agreed to the following conclusions:
  - a) Verification

Before recognizing certificates and licences of other States as valid, there is a need for verification that the conditions for such recognition are met, i.e. that these documents were issued under requirements at least equal to the applicable ICAO Standards;

- b) Recognition and surveillance of foreign aircraft
  - 1) it is incumbent upon a State to ensure safety in the airspace within its territory, including the operation of aircraft of foreign operators;
  - harmonized processes for recognition of certificates and licences as valid, as well as a uniform approach to the surveillance of foreign aircraft operations are desirable. To this end, ICAO should develop guidelines and procedures as necessary; and
  - 3) flags of convenience, illegal operations and criminal activities endanger civil aviation safety.

#### c) *Safety clause*

- 1) the inclusion of a safety clause in bilateral agreements, for which models are available, is advisable; and
- 2) ongoing dialogue, as well as surveillance of foreign air operators, would be required to maintain the validity of such agreements.

#### 2. **RECOMMENDATIONS**

- 2.1 The Conference agreed to the following recommendations:
  - a) Verification

States should verify that the requirements under which other States issue or render valid certificates and licenses are at least equal to applicable Standards before recognizing the documents as valid.

- b) Recognition and surveillance of foreign aircraft
  - 1) ICAO should develop guidelines and procedures as necessary to assist States in securing the highest practicable degree of uniformity in the recognition of certificates and licences as valid and in the surveillance of foreign aircraft operations in their territory;
  - 2) States should establish operating rules, in accordance with the Convention and on a non-discriminatory basis, governing the admission and surveillance of foreign air operators within their territories;
  - 3) States should implement and strengthen their surveillance of foreign aircraft operations within their territory and take appropriate action when necessary to preserve safety; and
  - 4) States should eliminate flags of convenience and prevent illegal operations as well as the possible export of such activities from one State or group of States to another, and exchange safety information to this end.
- c) Safety clause
  - 1) States should include a safety clause in their bilateral air service agreements, based on the model safety clause developed by ICAO; and
  - 2) Unilateral activities by States or parties on the banning of operations should normally be preceded by a consultative process between the States and parties involved.

#### Topic 2.5Enhancing safety oversight

#### 1. CONCLUSIONS

- 1.1 The Conference agreed to the following conclusions:
  - a) USOAP
    - 1) full cooperation by States is required for optimum functioning of USOAP. To this end, acceptance of on-site audits as scheduled by ICAO is essential; and
    - an additional mechanism to rapidly resolve significant safety concerns identified under USOAP should be developed to require States to address these concerns in a timely manner agreed by the Secretariat and the Generic Memorandum of Understanding (MOU) amended accordingly.
  - b) Unified strategy

The unified strategy to resolve safety-related deficiencies requires an ongoing effort by all stakeholders to ensure effective and sustainable safety oversight solutions and full compliance with safety-related provisions; and

c) Direct assistance

Interim measures are required to ensure that every Contracting State has a fair opportunity to operate international airlines. An active role is envisaged for ICAO to identify States where immediate action is required to initiate safety oversight enhancements and consult with the States concerned to implement an immediate interim solution for their air operators. A pool of international safety inspectors and other safety oversight experts could be established to this end. Generous cooperation by States and other stakeholders in a position to do so would be required. A scheme for ICAO to manage direct assistance to States and air operators could be developed accordingly.

#### 2. **RECOMMENDATIONS**

- 2.1 The Conference agreed to the following recommendations:
  - a) USOAP
    - 1) States should fully cooperate with USOAP, including acceptance of on-site audits as scheduled by ICAO; and
    - 2) ICAO should develop an additional mechanism to rapidly resolve significant safety concerns identified under USOAP and amend the Generic Memorandum of Understanding (MOU) accordingly.

- b) Unified strategy and direct assistance
  - 1) ICAO should consider the feasibility of a scheme, to be approved by the next Session of the Assembly, for ICAO to manage direct assistance to States having inadequate safety oversight capability and to air operators of such States, based on a pool of international safety inspectors and other safety oversight experts made available by States and other stakeholders. Such a scheme should take into account issues raised in DGCA/06-WP/28 as well as possible legal and financial difficulties; and
  - 2) ICAO should consider the allocation of funds for the unified strategy programme and direct safety oversight assistance within the Programme Budget for the triennium 2008-2009-2010.

#### THEME 3: BEYOND THE CURRENT FRAMEWORK

#### Topic 3.1Safety framework for the 21st century

#### 1. CONCLUSIONS

- 1.1 The Conference agreed to the following conclusions:
  - a) economic liberalization has become one of the defining features of modern-day aviation and it is having a major impact on the aviation industry. There is a need to ensure that the safety framework continues to meet the requirement for the safe and orderly development of international civil aviation;
  - b) there is a need to clarify the concept of the operator and the relationship with the State responsible for its safety oversight;
  - c) the content, nature and structure of the Annexes to the Chicago Convention should be reviewed to ensure that ICAO Standards focus on safety objectives, while giving more flexibility to Contracting States in deciding the means of implementation;
  - d) there is a need for a higher level of coordination in technical cooperation activities to reduce duplications in effort and benefit as many States as possible;
  - e) there is a need to mobilize the resources of financial institutions and donors to help improve civil aviation safety; and
  - f) flags of convenience exist in civil aviation today and should not be tolerated.

#### 2. **RECOMMENDATIONS**

- 2.1 The Conference agreed to the following recommendations:
  - a) the Council should consider amplification to the definition of "State of the Operator" and "operator" by further specifying the necessary correspondence between the

"principal place of business" and the location where "operational control" is exercised as a means to identify the State responsible for safety oversight;

- b) Contracting States should fulfil their obligation under Article 83 to register agreements in accordance with the *Rules for Registration with ICAO of Aeronautical Agreements and Arrangements* (Doc. 6685);
- c) ICAO should develop guidance material to be used by States to implement coherent economic and technical policies by their civil aviation authorities;
- d) ICAO should consider improvements in the process of developing and adopting Standards and Recommended Practice by:
  - 1) assessing systematically their impact on the industry and other interested parties;
  - 2) making more systematic use of recommendations published by accident investigation bodies; and
  - 3) developing criteria for determining which Standards are of critical importance for ensuring global safety and for which notifying differences would be acceptable only exceptionally and which Standards are of a detailed technical nature should be changed into Recommended Practices or removed from ICAO Annexes and turned into guidance material.
- e) all stakeholders engaged in devising and financing projects aimed at increasing aviation safety in low income countries, should strengthen their cooperation and exchange information and experience to avoid duplication of effort;
- f) the Council should study the issue of flags of convenience taking into account the experience gained by other international Organizations ; and
- g) ICAO should redouble its efforts to address the future evolution of safety oversight taking into account the globalization of international civil aviation.

Editorial Note.— The recommendation on the study to establish an Annex on safety processes in WP/46 has been consolidated with a similar recommendation contained in WP/42 appearing under Recommendation 2.1 b), Development of a Safety Annex to the Convention, under topic 2.2.

5C-16

Twentieth Meeting of Directors of Civil Aviation of the Eastern Caribbean Appendix C to the Report on Agenda Item 5



# DIRECTORS GENERAL OF CIVIL AVIATION CONFERENCE ON A GLOBAL STRATEGY FOR AVIATION SAFETY

Montréal, 20 to 22 March 2006

## CONCLUSIONS AND RECOMMENDATIONS

**Theme 2:** IMPROVING AVIATION SAFETY

- Topic 2.1: Transparency and sharing of safety information
- Topic 2.2: Management of aviation safety

Theme 3: BEYOND THE CURRENT FRAMEWORK Topic 3.1: Safety framework for the 21st century

## **CORRIGENDUM NO. 1**

#### Theme 2: IMPROVING AVIATION SAFETY Topic 2.1: Transparency and sharing of safety information

1.

Add a new conclusion 3) at subparagraph 1.1 b) to read:

"3) The conference recognizes that the process being developed by ICAO to provide safety information to the public is appropriate.

2. Consequently, *delete* the word "and" at the end of subparagraph 1.1 b) 1) and *add* the word "and" at the end of subparagraph 1.1 b) 2).

3. *Amend* subparagraph 2.1) b) 5) to read as follows:

"5) the Council should develop a system to assess for assessment and classification of USOAP findings against the safety oversight system critical elements with a view to evaluating the safety oversight capability of individual Contracting States, without categorizing or classifying States, and report to the Assembly in 2007; and"

#### **Topic 2.2: Management of aviation safety**

4. In the recommendation at subparagraph 2.1 b), *add* the following editorial note:

"Editorial Note.— The recommendation above is identical to Recommendation 2.1 h), under Topic 3.1."

### Theme 3: BEYOND THE CURRENT FRAMEWORK Topic 3.1: Safety framework for the 21st century

5. *Add* a new recommendation to paragraph 2.1 to read:

"h) ICAO should study further harmonization of safety management requirements, and consider the development of a new Annex dedicated to safety processes, including appropriate provisions on safety oversight, safety assessment and safety management."

6. Consequently, *delete* the word "and" at the end of subparagraph 2.1 f) and *add* the word "and" at the end of subparagraph 2.1 g).

7. *Replace* the editorial note below the recommendations at paragraph 2.1 with:

*"Editorial Note.— The recommendation above is identical to Recommendation 2.1 b), under Topic 2.2."* 

#### 5D-1

#### **APPENDIX D**

#### **REPAIR STATION ASSESSMENT TOOL (RSAT)**

(Presented by the United States of America)

#### **INFORMATION PAPER**

#### SUMMARY

Within the FAA's SMS system resides four pillars which are Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. Of these four, risk management and safety assurance provide the functional core of the FAA's SMS. Risk management is the ability to identify hazards, analyze and assess risk, and then design and implement controls of those hazards and risks. In order to accomplish these three steps of risk management in the realm of repair stations, the FAA's SMS uses an instrument called the Repair Station Assessment Tool (RSAT). The RSAT will provide an overall assessment of the repair station, identify potential risk areas, and target resources for use in the areas of highest risk. Recommended action by the meeting is proposed in paragraph 4.

#### 1. Introduction

1.1 As previously mentioned in DGCA-43/DP/XX, "United States Approach to Safety Management System (SMS) Implementation" the purpose and intent of risk management is to find the hazard, analyze and assess the risk, and then create and allocate controls and resources to mitigate them. In order to implement risk management, we need a process that the FAA calls the "Risk Management Process" (RMP). The RMP has 6 steps which are:

- Hazard Identification "What's wrong?"
- Risk Analysis "What could happen and why?"
- Risk Assessment "How likely is it to happen and how bad would it be?"
- Decision-making "What's to be done about it?"
- Implementation "Who will do what, when, and how"
- Validation "Did it work?"

1.2 In order to create, amend, expand, or even conclude a RMP we need an instrument or an aid to help identify areas of concern, if any, and the criticality of that area of concern, if any. This would then allow us to target our resources against the area of concern, if necessary. This is the purpose of the Repair Station Assessment Tool (RSAT). That is, it enables us to assess a repair station and then begin the RMP for issues of high concern.

#### 2.0 Discussion

2.1 The RSAT is part of the FAA's Enhanced Repair Station and Air Carrier Outsourcing Oversight System. The RSAT is to be used for both evaluation assessments and surveillance planning. This tool will assist Principal Inspectors (PI) in identifying the areas of concern and the criticality of that concern, and allow us to target resources in the areas of highest risk

2.2 The first part of the RSAT is the data generated from the Baseline Repair Station Surveillance Program. This program includes 15 specific surveillance activities or inspections which constitute a complete facility inspection. Some examples of these activities are training, personnel records, tools and equipment, and technical data.

2.3 The second part merges the baseline surveillance program with other data collected by the FAA such as regulatory violations, incidents, accidents and other FAA information.

2.4 Finally, the principal inspector applies his knowledge of the repair stations design, configuration, operating environment, and his own personal experience to complete the RSAT.

2.5 The RSAT is completed at the beginning of the year to develop and plan the initial surveillance program. In addition it can be used throughout the year to determine if changes or modifications to the work program are necessary.

2.6 In order to complete the RSAT, again you take into account previous surveillance results and other information to complete the tool. The **Appendix** to this paper contains an "RSAT SAMPLE TOOL" and the letters below correspond with the letters/arrows on the sample tool.

- a) This tool is comprised of 15 elements that constitute a complete facility inspection. This Column lists the numerical activity code for each of the 15 elements.
- b) Short description of each of the 15 elements.
- c) Number of element inspections required for the Fiscal Year (FY). One inspection is required for each repair station as determined by Repair Station Baseline Program.
- d) Each of the elements is assessed using the "Element Assessment Word Pictures" (shown on the next page by arrow i). When assessing each element, consider the Repair Station Data Package (Refer to Para.2.3) and issues identified through that review. Then the PI incorporates the knowledge of the repair station and system design which includes operating environment, configuration, and design of the repair station. It should be noted that the following three elements may not be applicable to all certificate holders: Work away from station, Contract Maintenance, and Air Carrier requirements. As such, a Not Applicable (N/A) is entered for these items in the element assessment column.
- e) As a result of the assessment in d) above, the PI may elect to modify the surveillance plan by adding additional inspections. Note: additional inspections should be planned for elements of concern (those with an element word picture score of seven (7) or below).
- f) The number for "Total Surveillance" is obtained by adding the "Number of Inspections Required" (substep c above) and "Add Surveillance" (substep e above). This represents the total number of surveillance activities for each of the 15 elements.

- g) For issues of high concern, a Risk Management Worksheet (RMW) can be created. If an RMW is to be created, the PI will write "Yes" in this column and follow the "Risk Management Process Work Instructions." The RMW is not covered in this paper.
- h) The final step involves the PI assigning an overall assessment of the repair station by utilizing the "Overall Assessment Word Pictures" (shown by arrow j). When assessing the repair station, consider the Repair Station Data Package (Refer to Para 2.3), the individual element assessments and system design including operating environment, configuration, and design of the repair station.

#### 3. Conclusion

3.1 The RSAT will not only assist the PI but other assigned inspectors, supervisors, and managers in identifying areas of concern and then target resources in the areas of the highest risk. This tool can also be used to compare one repair station to another or to a group of repair stations. The RSAT provides a standardized, system safety approach to repair station surveillance.

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5D-4

## **APPENDIX**

#### **RSAT SAMPLE TOOL**



#### **Element Assessment Word Picture**

i

j

Score Score	Word Picture
1 to 2	It appears that the certificate holder is not meeting the requirements of this element. Documentation and controls seem to be missing.
3 to 5	It appears that the certificate holder is meeting the requirements for this element and is adequate, appropriate, and maintained. Documentation and controls seem to be deficient.
6 to 7	It appears that the certificate holder is meeting the requirements for this element and is adequate, appropriate, and maintained. An adequate control system seems to be in place but some discrepancies were noted and corrected.
8 to 9	It appears that the certificate holder is meeting the requirements for this element and are adequate, appropriate, maintained, documented, and controlled. No deficiencies were observed.
10	It appears that the certificate holder is meeting the requirements for this element and seems to be well above the minimum industry standards.
N/A	This element is not applicable to this repair station. (Option only applicable with elements with *)

#### **Overall Assessment Word Pictures**

V Score	Word Picture
1 to 2	There appears to be little or no evidence of a credible process being in place and/or facilities seem to be inadequate.
3 to 5	It appears that the processes and facilities are adequate, appropriate, and maintained. Documentation and controls seem to be deficient.
6 to 7	It appears that the processes and facilities are adequate, appropriate, and well maintained. An adequate control system seems to be in place but some discrepancies were noted and corrected.
8 to 9	It appears that the processes and facilities are adequate, appropriate, well maintained, documented, and controlled. No deficiencies were observed.
10	It appears that the processes and facilities are well above the minimum industry standards.

<u>6 - 1</u>

## Agenda Item 6:Aviation Security (AVSEC) Developments

## Review of the Global and Regional AVSEC Developments and Activities

6.1 The Meeting took note that on 30 November 2005, the Council adopted Amendment 11 to Annex 17 prescribing 10 April 2006, as the date on which it would become effective and 1 July 2006, as the applicability date. Amendment 11 covers the applicability of Annex 17: reinforcement of national civil aviation security control programme provisions; In-Flight Security Officers (IFSOs); general aviation and aerial work; one-stop security concept for passengers and baggage; risk assessment concept; security for all-cargo operations; and definitions.

6.2 The Meeting took note that the Security Manual of Safeguarding Civil Aviation against Acts of Unlawful Interference (Doc 8973) which offers guidance to States relating to the interpretation and implementation of the Standards and Recommended Practices contained in Annex 17 was in the process of being reviewed.

6.3 The Meeting took note that the Security and Facilitation Branch has been restructured into two branches, Specification and Guidance Material (SGM) and Coordinated Assistance and Development Section (CAD). The new CAD Section has similar management responsibilities to the former AVSEC Section:

- a) the Aviation Security Coordinated Assistance Programme;
- b) future implications for aviation security; and
- c) management of the Aviation Security Training Programme

6.4 The Meeting noted that the programme is intended to permit contracting States to:

- a) remedy air aviation security deficiencies revealed during the course of the ICAO aviation security audits conducted under the Universal Aviation Security Audit Programme;
- b) establish a sound aviation security infrastructure in accordance with ICAO Annex 17 and all relevant ICAO aviation security guidance material; and
- c) assist States to address emerging aviation security challenges.

6.5 The programme was launched in April 2006 and was coordinated with other regional aviation bodies and UN agencies that are involved in combating acts of unlawful interference.

6.6 The Meeting took note that ICAO established a network of 16 designated Aviation Security Training Centres (ASTC) around the world, three of which are in the CAR/SAM Regions. It was noted that ICAO publishes an annual aviation security training programme incorporating courses in the various disciplines of the aviation security field which are conducted at the ASTCs. Also, the proposed 2007 Regional ASTCs schedule was provided to the Meeting. 6 - 2

6.7 The Meeting took note that the CAD, who was responsible for the development of all Aviation Security Training Packages (ASTP), provided all members of the ASTC network a list of new aviation security training packages developed during 2006, including airport and aircraft security design, screener certification and national quality control.

6.8 The Meeting took note that ICAO pursued the objective to facilitate and strengthen border clearance and security measures in airports and to reduce landside congestion, with a three-part strategy: standardization of passports, visas and other travel documents; improvement of inspection processes with the use of modern technology; and tackling of related security problems. The priority of the programme included updating of Standards and Recommended Practices in Annex 9- Facilitation; development and implementation of specification for machine readable travel documents (MRTDs) including identity confirmation with biometrics; modernization of border control processes; security and facilitation of the international supply chain; and contingency measures to address health emergencies of international concern.

6.9 The Meeting noted that ICAO hosted the Second Symposium and Workshop on ICAO-Standard MRTD, Biometrics and Security Exhibition on 6-8 September 2006, in Montreal, Canada, which was coordinated by Facilitation Specialist Mauricio Siciliano (email: msiciliano@icao.int) and provided chair relevant documents and websites.

6.10 The Meeting agreed that they would support an initiative by the NACC Regional Office to establish a National Facilitation Point of Contact List for the NAM/CAR/SAM Regions and decided on the following Conclusion:

## CONCLUSION 20/09 FACILITATION POINTS OF CONTACT

That each E/CAR State/Territory identify to the ICAO NACC Regional Office their National Facilitation Point of Contact in the Format included in **Appendix A** to this part of the Report by **31 January 2007**.

6.11 The Meeting took note of the information regarding the ICAO Universal Security Audit Programme (USAP) for 2006, and an audit activity report detailing the audits and follow-up visits for 2006-2010, was provided to the Meeting.

6.12 The Meeting took note that due to the administrative integration of the Universal Safety Oversight Audit Programme (USOAP) and the USAP, a new Safety and Security Audits (SSA) Branch has been created under the Office of the Secretary General effective from 1 August 2006.

6.13 Likewise, note was taken that the new SSA Branch is comprised of three Sections: the existing Safety Oversight Audit (SOA) and Aviation Security Audit (ASA) Sections and a new Section entitled Audit Coordination and Reporting Section (ACR).

6.14 The Meeting took note that the Organization of American States (OAS) Counter Inter-American Committee against Terrorism (CICTE) continued to provide fellowships for national aviation security officials in the Region wishing to attend the ICAO sponsored training events such as the Hold Baggage Screening Seminar/Meeting on 28 November 2005, at Monterrey, Mexico.

6.15 The Meeting took note that States had encountered difficulties in funding AVSEC/COMM members and national AVSEC officials to attend annual meetings; therefore, the ICAO

NACC Office had approached OAS/CICTE to support this very important event to ensure attendance by the Regional AVSEC experts.

6.16 The Meeting took note that Transport Canada and ICAO initiated the Phase II proposal called "Counter Terrorism Capacity Building Programme" which entailed 50 aviation security (AVSEC) workshops, 13 courses and 2 seminars in the CAR/SAM Regions from 2007-2010, targeted for the Civil Aviation Authorities and may include airports, air operators and airport policing authorities. The AVSEC topics addressed were Airport Security Programme, National Civil Aviation Security Programme, National Quality Control Programme, Passenger Screening, Cargo Security Programme and Human Factors. The Meeting adopted the following Conclusion in support of this programme:

# CONCLUSION 20/10 PHASE II ICAO/CANADA AWARENESS TRAINING PROGRAMME

That the E/CAR States/Territories support the Phase II ICAO/Canada Awareness Training Programme in hosting workshops, courses, and seminars and having their AVSEC specialists participate in these events.

6.17 The Meeting took note that the 5<sup>th</sup> AVSEC COMMMeeting was held in Buenos Aires, Argentina, in conjunction with the 10th Annual LACAC Group of AVSEC Experts on 8-13 May 2006. The AVSEC/COMM meeting discussed the Hold Baggage Screening (HBS) Final Report findings and Action Plan, Quality Control Programme, Cargo Security Programme, AVSEC Instructor/Consultant Directory, National Civil Aviation Security Training Programme, Passenger Screening Programme, Passenger Screening Seminar and Regional Mechanism for sharing threat information. It was noted that one Ad Hoc Group was established to review the Final Hold Baggage Screening Report and two Task Forces were established to develop guidance for Cargo Security and Passenger/Cabin Baggage Screening Programmes, and that a third Task Force was established to work on the Annex 9 (Facilitation) provisions. The Meeting noted that AVSEC/COMM/5 approved the establishment of a Passenger/Cabin Baggage Screening Seminar/Meeting to assist States with current screening procedures and technologies. Jamaica volunteered to host the Seminar in February 2007, in Ocho Rios, Jamaica, followed by a Task Force Meeting to analyze the data.

6.18 The Meeting took note that the Cayman Islands is contemplating hosting the AVSEC/COMM/6 in May 2007.

6.19 The Meeting took note that the AVSEC/COMM Secretariat was currently conducting an AVSEC Survey to validate past conclusions related to the implementation of Annex 17 Standards and Recommended Practices, as per electronic State Letter EMX804 dated 17 August 2006. The following Conclusion was adopted:

#### CONCLUSION 20/11 IMPLEMENTATION STATUS OF AVSEC/COMM CONCLUSIONS

That all E/CAR States/Territories complete the AVSEC survey included in **Appendix B** to this part of the Report to validate the implementation status of past GREPECAS AVSEC/COMM Conclusions related to the implementation of Annex 17 SARPs by **31 January 2007**.

6.20 The Meeting took note that the ICAO Technical Cooperation Bureau hosted an Aviation Security and Facilitation Seminar in Santo Domingo, Dominican Republic on 27-30 June 2006, and

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coordinated with the ICAO Security and Facilitation Branch (S&F) and the ICAO NACC Office. It was noted that the topics were Annex 17, Amendment 11, Annex 9, Quality Control, Biometrically Enhanced Passport (ePassport), Hold Baggage Screening, Changes in the S&F Branch, Machine Readable Travel Documents, USAP Programme, AVSEC/COMM Initiatives, Air Cargo Security, Border Control & Clearance, Threats to Civil Aviation, Passenger/Baggage Screening and Human Factors.

6.21 The Meeting noted that the ICAO Council met during a special session on 14 August 2006, regarding the planned terrorist plot against civil aircraft over the North Atlantic and discussed security measures in effect in order to counter the threat.

6.22 Note was taken that the ICAO Council recommended that the terrorist plot against civil aircraft posed a major threat against air transport operations and therefore the issue was given the highest priority on the agenda of the Eighteenth Meeting of the Aviation Security Panel which was held in Montreal 11-15 September 2006.

6.23 The Meeting took note that the U.S. Transportation Security Administration (TSA) provided briefing on the threat to civil aviation regarding liquid explosives.

6.24 The Meeting noted WP/23 presented by IATA on AVSEC (passenger and cabin baggage screening at major international airports).

6.25 IATA made comments in support of Amendment 11 to Annex 17 for the training of screening personnel, screening procedures, equipment and checkpoint layout, security and facilitation balance, and the screening of liquid, gel and aerosols (L/G/A).

6.26 Capt. Rory Lewes, IFALPA delegate, addressed the situation of flight crew screening and the difficulties encountered by flight crews during the process.

6.27 The Meeting noted the presentation from the U.S. TSA on unlawful interference with international aviation and its facilities, and acknowledged the well documented presentation.

## APPENDIX A

CAR, NAM and SAM Regions / Regiones CAR, NAM y SAM National FAL Points of Contact / Puntos de Contacto Nacionales para FAL						
State Estado	OFFICER RESPONSIBLE FOR FAL OFICIAL RESPONSABLE DEL ÁREA FAL	Address Dirección	E-mail Address Correo Electrónico	TL / FAX		
Antigua and Barbuda						
Argonting	Alejandro Daniel Naranjo Asesor Director Nacional	Dirección Nacional Av. Antártida Argentina 1355 Capital Federal Buenos Aires, Argentina	lpuente@migraciones.gov.ar anaranjo@migraciones.gov.ar	Tel+54 1 4317 0388 / 4317 0252 Fax+54 1 4317 0388		
	Daniel Andrés Moreno Comisario Inspector, Jefe del Centro Documentario PFA	Ingeniero Huergo 651, Planta Baja Buenos Aires, Argentina	dpto_ident_pers@policiafederal.gov.ar div_docycet@policiafederal.gov.ar daniel_moreno@fibertel.com.ar	Tel+ 54 1 011 4346 7055 / 4346 5700 int. 3580, 3409		
Aruba						
Bahamas						
Barbados						
Belize						
Bolivia	Shirley Mackay Flores Inspectora de Facilitación Dirección de Transporte Aéreo	Dirección GeneraL de Aeronáutica CiviL Dirección GeneraL de Aeronáutica CiviL Ay. MariscaL Santa Cruz W 1278, Edif. Palacio de Comunicaciories 4to. Piso La Paz Bolivia	smackay@dac.tv.	Tel. + 591 22115515 Fax. +591 2 2115515 +I 591 22119323		
Brasil	Fernando N. Cerdeira Asesor FAL	ANAC Agencia Nacional de Aviacao Civil	cerdeira@anac.gov.br	Tel+552 138 247013		
Canada						
Chile						
Colombia	Maria Cecilia Salazar Cruz	Aeropuerto ELDORADO Dirección de Seguridad y Supervisión Aeroportuaria	mariacecilia.salazarcruz@aerocivil.gov TeL: (571 co Fax: (571			

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CAR, NAM and SAM Regions / Regiones CAR, NAM y SAM National FAL Points of Contact / Puntos de Contacto Nacionales para FAL						
State Estado	OFFICER RESPONSIBLE FOR FAL OFICIAL RESPONSABLE DEL ÁREA FAL	Address Dirección	E-MAIL ADDRESS CORREO ELECTRÓNICO	TL / FAX		
	Nubia Constanza Ramírez	Aeropuerto ELDORADO Piso 4 Oficina Asesora de Planeación (OAP)	nubia.ramirez@aerocivil.gov.co	Tel: (571) 2663769 Fax: (571) 2663767		
Costa Rica						
Cuba						
Dominica (Not an ICAO Contracting State)						
Ecuador						
El Salvador						
France (French Antilles)						
Grenada						
Guatemala						
Guyana						
Haiti						
Honduras						
Jamaica						
Mexico	Ing. Fernando Thompson Director General de Comunicaciones e Informática	S.R.E.	fthompson@sre.gob.mx	Tel: 5255 5062-3042 / 3015		
Netherlands Antilles						
Nicaragua						
Panamá						

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX A TO THE REPORT ON AGENDA ITEM 6

CAR, NAM and SAM Regions / Regiones CAR, NAM y SAM National FAL Points of Contact / Puntos de Contacto Nacionales para FAL						
State Estado	OFFICER RESPONSIBLE FOR FAL Address E-mail Address   OFICIAL RESPONSABLE DEL ÁREA DIRECCIÓN CORREO ELECTRÓNICO   FAL DIRECCIÓN CORREO ELECTRÓNICO		TL / FAX			
	Raúl A. Montiel Gastó Director de Pasaportes y Servicios Consulares	Ministerio de Relaciones Exteriores 14 de mayo y Palma, Piso 13 Asunción, Paraguay	rgasto@mre.gov.py raulmontiel@hotmail.com	Tel/Fax: 595 21 494 600		
Paraguay	Rolando Agustín Goiburú Director Pasaportes y Visas	Ministerio de Relaciones Exteriores Palma esquina 14 de mayo Asunción, Paraguay	rgoiburu@mre.gov.py	Tel+ 595 21 445 939 Fax+ 595 21 445 939		
	Raquel Güastella Gerente de Facilitación y Gestión Aeroportuaria DINAC	Ministerio de Defensa Nacional Mral. López esq. 22 de septiembre Asunción, Paraguay	fal@dinac.gov.py	Tel+ 595 21 210764 Fax+ 595 21 713365		
Perú						
República Dominicana Dominican Republic	Giovanni Romero Sub-director de Migración	Migración República Dominicana	gromero_migracion@hotmail.com	Tel+ 809 508 2555 ext. 295 Fax+ 809 508 6565		
Saint Kitts and Nevis						
Saint Lucia						
Saint Vincent and the Grenadines						
Suriname						
Trinidad and Tobago						
United Kingdom (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Montserrat and Turks and Caicos)						
United States						
Uruguay	Alf. (TP) Dr. Roberto Perdomo Protti Coordinador General del Comité Nacional de Facilitación	Dirección Transporte Aéreo Comercial Av. Wilson Ferreira Aldunate 5519 Uruguay	rperdomo@adinet.com.uy dtacuru@adinet.com.uy	Tel. (598-2) 6040408 ext.4041 Fax. (598-2) 6040424		

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX A TO THE REPORT ON AGENDA ITEM 6

CAR, NAM and SAM Regions / Regiones CAR, NAM y SAM National FAL Points of Contact / Puntos de Contacto Nacionales para FAL					
STATE ESTADO STATE OFICIAL RESPONSIBLE FOR FAL OFICIAL RESPONSABLE DEL ÁREA FAL		SPONSIBLE FOR FAL Address E-mail Address   PONSABLE DEL ÁREA Dirección Correo Electrónico   FAL Dirección Correo Electrónico		TL / FAX	
Venezuela	Amador Duarte Jefe Grupo Facilitación	Torre Británica de Seguros, Piso 3, Altamira Sur Av. José Félix Sosa Chacao, Caracas	a.duarte@inac.gov.ve	Tel + 58 212 277 4561 Fax+ 58 212 277 4507	

TWENTIETH MEETING OF DIRECTORS OF CIVIL AVIATION OF THE EASTERN CARIBBEAN APPENDIX A TO THE REPORT ON AGENDA ITEM 6

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#### **APPENDIX B**

#### STATUS OF VALID AVSEC GREPECAS CONCLUSIONS

State	/Territory:						
1.	Has your State/Teather Marking of Plate Conclusion 12/109	rritory ratified the astic Explosives fo <b>) refers</b> )	• Montreal Protoco or the Purpose of 1	ol (24 Februar) Detection (1 N	y 1988) and Conve March 1991)? ( <b>GRE</b>	ntion on <b>PECAS</b>	
	YES		NO				
2.	Has your State/Ten latest provisions of Part I, and the corre	ritory updated yo the 7th Edition of esponding Docs 8	ur operator aviation f Annex 17 and Ar 973 and 9811? (GI	on security pro nendment 27 to <b>REPECAS Co</b>	ogrammes to incorpo the 8th Edition of onclusion 12/111 ref	orate the Annex 6 f <b>ers</b> )	
	YES		NO				
3.	Has your State/T programme (NCAS <i>Manual for Safegu</i> Conclusion 13/8 it	Cerritory impleme SP) to incorporate <i>arding Civil Avid</i> (cem a) refers)	ented and update the latest provision ation Against Acts	d your nation ons of Annex 1 of Unlawful 1	nal civil aviation 7, and Doc 8973 – Interference? ( <b>GRE</b>	security Security PECAS	
	YES		NO				
4.	Has your State/Ter NCASP? ( <b>GREPE</b>	Has your State/Territory identified to ICAO your needs for assistance to review and approve your NCASP? (GREPECAS Conclusion 13/8 item b) refers)					
	YES		NO				
5.	Has your State/Tere ensure the effecting Conclusion 13/9 it	rritory implement veness of its na <b>em a) refers</b> )	ed and updated yo ational civil aviat	our national qui ion security	ality control progra programme? (GRE	amme to CPECAS	
	YES		NO				
6.	Has your State/Ten national quality con	rritory identified t ntrol programme?	to ICAO the need (GREPECAS Co	for assistance nclusion 13/9	to revise and appro item b) refers)	ove your	
	YES		NO				
7.	Has your State/Te ensure the implement intended for carriag <b>Conclusion 13/10</b>	rritory implement entation of securit ge on aircraft to sa <b>item a) refers)</b>	ed and updated yo y measures to pro- feguard against ac	our national ca tect cargo, bag ts of unlawful	argo security progra gage, mail, and othe interference? (GRE	amme to er goods EPECAS	
	YES		NO				
8.	Has your State/Ter cargo programme?	rritory identified t (GREPECAS Co	to ICAO the need onclusion 13/10 ite	for assistance em b) refers)	to implement their	national	
	YES		NO				

#### Agenda Item 7:Other Business

7.1 The Secretariat presented IP/03 informing the Meeting of the tentative Schedule for 2007 of the ICAO NACC Office meetings, seminars, courses and workshops.

7.2 The FAA presented IP/12 on the Advanced Technologies and Oceanic Procedures (ATOP) System.

#### Site of the Twenty-First E/CAR DCA Meeting

7.3 The Meeting was informed that according to the E/CAR DCA Conclusion 14/9, the next meeting of the E/CAR DCAs will be held in the British Virgin Islands during December 2007. The Representative of the Eastern Caribbean Civil Aviation Authority informed the Meeting that they would support the British Virgin Islands in hosting the meeting.