



International Civil Aviation Organization
North American, Central American and Caribbean Office (NACC)
Thirty Third Eastern Caribbean Working Group Meeting
(E/CAR/WG/33)
(Christ Church, Barbados, 4 to 8 June 2012)

E/CAR/WG/33 — DP/06
14/06/12

Agenda Item 3: Air Navigation Matters
3.2 Follow-up to the implementation of the NAM/CAR RPBANIP in Eastern Caribbean

RPO 4: IMPROVE ATM SITUATIONAL AWARENESS; and
RPO 9: OPTIMIZATION AND MODERNIZATION OF COMMUNICATION INFRASTRUCTURE

Report of the CNS Committee

(Presented by the CNS Committee Rapporteur)

SUMMARY	
This paper presents an update of the work by the CNS Committee	
REFERENCES	
• E/CAR/NTG/3 Meeting, Christ Church, Barbados (5-6 June 2012) • NACC/WG/3 Meeting, Guatemala City, Guatemala, 9 to 13 May 2011 • Piarco FIR Policy Group (PIARCO/FIR/PG/1), Port of Spain, Trinidad and Tobago (20 January 2011) • E/CAR/WG/32 Meeting, Sint Maarten, Netherlands Antilles, 15 to 18 June 2010	
Strategic Objectives	This working paper is related to Strategic Objectives A and C.

1. Introduction

1.1 The CNS Committee comprised of members from Antigua and Barbuda, Barbados, France, Grenada, Montserrat, Saint Lucia, Trinidad and Tobago, the United States, ECCAA and IFATCA. Points of Contacts attached.

2. Discussion

2.1 **Appendix A** to this paper presents the CNS update and **Appendix B** the updated CNS Committee Point of Contact (PoCs).

3. Suggested action

4.1 The meeting is invited to:

- a) Take note of the information contained in this working paper; and
- b) Agree to any other actions as deemed appropriate.

E/CAR/WG CNS COMMITTEE REPORT (June 2012)
APPENDIX A

ID	TASK NAME	DELIVERABLE	RESPONSIBLE	REFERENCE	COMMENTS	STATUS
COMMUNICATION						
1	Improve VHF and HF/AMS coverage and mitigate deficiencies	Deficiencies Identification and Corresponding corrective action plan	States/ Territories coordinated by WG Trinidad and Tobago	References to CNS tables 2A and 2B -	1. Evaluation of the existing VHF and HF AMS coverage in the E/CAR Sub-region in accordance with operational requirements and considering users' reports: for ex. LHD reports 2. Identification of any deficiency or improvement and involved parties. 3. Development of action plan to implement improvement/solution In this respect, based on LHD report, improvement to HF AMS Coverage in Piarco FIR shall be evaluated and improvements of Piarco VHF AMS coverage are also expected to be informed.	To mitigate against congestion on the existing ACC and Approach frequencies, Trinidad and Tobago signed contracts to implement seven air/ground (VHF mobile) frequencies. In keeping with the TTCAA ATM modernization plan three new VHF frequencies; 126.5 MHz, 133.1 MHz and 124.0 MHz. The total replacement of the equipment for the existing 123.7 MHz and 125.4 MHz, one new frequency was added for Terminal Control (119.55MHz) and the other (119.0 MHz) for Piarco Terminal/Approach. The 123.7, 125.4, 133.1 and 126.5 are operated in 5-carrier offset and are installed at high sites Antigua, Barbados, Saint Lucia, Trinidad and Tobago. The 124.0 is operated in 2-carrier offset and is installed at high sites in Barbados and Trinidad. The 119.55 is operated in 2-carrier offset and is installed in Tobago and Trinidad. The circuits used are IPLCs and are not part of the E/CAR AFS Network due to delay settings for the carrier offset. Testing started in June 2012. Commissioning is expected in August 2012. Due to the problems identified at past ECWG meetings with the Piarco HF AMS service as a result of equipment obsolescence and lack of support from the vendor, in May 2011 Trinidad and Tobago formalized an agreement with ARINC for the provision of HF service in the Piarco Oceanic airspace.
2	Improve AFTN communications and ATS direct voice communications	Deficiencies Identification and corresponding corrective action plan	States/ Territories coordinated by WG	References to CNS tables 1A and 1C	1. Evaluation of the existing AFTN circuits in the E/CAR Sub-region in accordance to operational requirements. 2. Identification of any deficiency or improvement and involved parties.	CNS Tables 1A and 1C are met in the Eastern Caribbean and supported by the new E/CAR AFS Network (MPLS) which was fully operational (monitoring completed) in October 2011 and handover of documentation in February 2012.

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	and mitigate deficiencies		E/CAR/NTG		3. Development of action plan to implement improvement, solution In this respect, the need for AFTN Service for MET users have been identified for example: in Antigua, Barbados The improvements of these communications through the implementation of the MPLS Network should also be informed. Contingency or backup AFTN agreement involving Communication requirements are to be identified for example: Barbados-T&T, use of alternative AFTN application (as the one of the USA FAA), etc. The improvement of these communications and the impact on FPL distribution shall also be informed as part of the revision of the solutions to problems with lack/duplication of FPLs.	The AFTN is scheduled for replacement with AMHS in 3 rd quarter 2012. A new AISS with centralized flight planning capability will be implemented in 4 th quarter 2012. The AMHS workstations for MET will be fulfilled with the new implementation.
3	Replace E/CAR Telecommunication Network by E/CAR VSAT Network	E/CAR VSAT Telecommunication Network	E/CAR/NTG		E/CAR NTG shall report its advances in the replacement process as well as the immediate solution actions carried out in the current AFS Network and and short term activities with the MPLS network.	Refer to the report of the E/CAR/NTG/3 meeting. Conclusion E/CAR/WG/31/7 Replacement of the E/CAR AFS Network was superseded by Decision E/CAR/NTG/2/10 which was superseded by draft Decision E/CAR/NTG/3/01 based on good performance of the MPLS Network. The next activity will be the interconnection between the existing MEVA II Network and the E/CAR AFS Network In this regard the E/CAR/NTG/3 meeting proposed a teleconference between Sint Maarten, United States and the E/CAR rapporteur with the assistance of ICAO to discuss initial ideas for this interconnection. This teleconference will be held on 26 June hosted by ICAO The MEVA III RFI will include the requirement for interconnectivity between specific points of MEVA III and specific points of E/CAR.

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4	Evaluation of required communication infrastructure to satisfy the navigation requirements based on PBN -	Analysis of communication infrastructure	States/ Territories coordinated by WG E/CAR/NTG		For the development of this task, operational PBN requirements need to be defined. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.	Awaiting this information from the ATM Committee in conjunction with the CAR PBN Cooperative project.
5	.Adoption of “equipment modernisation/D ATIS Service implementation plan for intl airports” compliance to ATM requirements	DATIS Modernization and Implementation Plan	States/ Territories coordinated by WG		E/CAR States are invited to inform on the implementation of ATIS (DATIS) Services, also the identification of this ATM requirements for defined airports shall be determined.	Trinidad and Tobago – 3 rd quarter 2012 Information outstanding from other States
6	Elaborate Air-ground datalink Plan based on CAR/SAM Act. Plan and Datalink implementation programme	Initial Transition Plan for ATN Air-ground applications	GREPECAS CNS/ATM/S G (ATN TF)	References to CNS table 1Bc /Appendix AW and AX of Agenda 3 of GREPECAS/13	E/CAR States are invited to take note of this work to be developed by GREPECAS. Also E/CAR States shall review the results of the ATN Ground-Ground and Air-ground Application seminar held on Dominican republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html	
7	Elaborate ATN AIDC Implementation Plan	Initial Transition Plan for ATN ground-ground Applications (AIDC)	GREPECAS CNS/ATM/S G (ATN TF)		E/CAR States are invited to take note of this work to be developed by GREPECAS.	
8	Update the ATN Routers Regional Plan	CNS Table 1Ba Updated proposal	GREPECAS CNS/ATM/S G (ATN TF)	References to CNS table 1Ba	E/CAR States are invited to take note of this work to be developed by GREPECAS.	
9	Preliminary review of ATN Routers Regional Plan	Comments to current version of CNS Table 1Ba	States/ Territories coordinated by WG	References to CNS table 1Ba	E/CAR States shall review and comment the initial version of the ATN Routers Regional Plan. Information available on: http://www.mexico.icao.int/CNS.html	Completed

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			E/CAR/NTG			
10	Evaluation of AMHS CAAS addresses proposal	Comments to AMHS CAAS addresses proposal	States/ Territories coordinated by WG E/CAR/NTG	CAR AMHS CAAS Addresses Proposal -	E/CAR States shall review and comment the CAR AMHS CAAS Addresses Proposal. Information available on: http://www.mexico.icao.int/CNS.html	Evaluation completed. Implementation 3rd quarter 2012-Valid
11	Technical evaluation of communications and interfaces for AIDC implementation over the AFTN	Technical recommendations for AIDC implementation over the AFTN	States/ Territories coordinated by WG		For the development of this task, operational AIDC requirements need to be defined including the corresponding ATS units involved. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.	Valid
12	Perform activities for the implementation of the ATN and its applications according to the CAR/SAM Regional strategy for the implementation of the ATN and its applications. (Appendix BA of Agenda 3 of GREPECAS/13 Report).: i) ACT PLAN COM: 12. Perform AMHS operation trials	Trial results	USA, Trinidad & Tobago E/CAR/NTG		Involved parties shall inform of relevant activities on the planning or results of these trials.	Valid – AMHS to be installed in 3 rd quarter 2012
13	ii) ACT PLAN COM: 13. Evaluation of	Trial results	States/ Territories coordinated		Evaluation of AMHS – ATN ground-ground application shall be conducted by E/CAR/NTG Group. The E/CAR/WG	Completed The new E/CAR AFS Network (MPLS) can expand to accommodate ATN applications.

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	regional networks to support ATN Applications		by WG E/CAR/NTG		shall determine, based on operational requirements, the priority and gradual implementation of the ATN supporting network.	
14	iii) ACT PLAN COM: 14. Update of Regional Plan for ATN ground-ground applications	Updates to Regional Plan for ATN ground-ground applications	States/ Territories coordinated by WG E/CAR/NTG	References to CNS table 1Bb	E/CAR/WG members shall provide any update to current Regional Plan for ATN ground-ground applications (CNS Table 1Bb). Information available on: http://www.mexico.icao.int/CNS.html	Valid
15	iv) ACT PLAN COM: 15. Review of CAR/SAM Regional Program for the implementation of the air – ground data links	Comments to this Regional Program	States/ Territories coordinated by WG	Reference: CAR/SAM Regional Program for the implementation of the air – ground data links -	E/CAR/WG members shall provide comments and observations to current CAR/SAM Regional Program for the implementation of the air – ground data links. Information available on: http://www.mexico.icao.int/CNS.html	Valid
16	v) A-G Applications trial Plans	Trial Plans for A-G Applications	States/ Territories coordinated by WG		E/CAR States shall review the results of the ATN Ground-Ground and Air-ground Application seminar held on Dominican republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html Trial Plan for Air-ground Applications should be developed by the E/CAR/WG.	Valid
17	vi) ACT PLAN COM: 17. Participate on training seminars and events	Participation on events	States/ Territories		On-going task. Several E/CAR States participated in the ATN Ground-Ground and Air-ground Application seminar held on Dominican republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html	

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18	Procure the application of management/coordination of frequency assignments and the implementation of tools -	Frequency Management and coordination tools	ICAO		ICAO is working on a Software application to facilitate frequency assignments coordination. An update to COM Lists 1, 2 and 3 will be available by August 2010.	
19	Implement management and coordination of frequencies with ICAO	Comments to ICAO reviewed frequency assignment lists	States/ Territories		Several E/CAR States participated in the NAM CAR SAM Regional Preparatory Meeting for WRC-2012 (NCSRPM). The conclusions of this events concerning frequency coordination and frequency interference procedures are available on the Meeting report: http://www.mexico.icao.int/CNS.html . The E/CAR States shall follow the recommendations of this meeting report.	On-going. The CAAs work closely with spectrum/telecommunications management agency and ICAO to support the protection of the aviation band.
20	Comments to management frequency tools provided by ICAO	Comments and evaluation of tools	Barbados, French Antilles, Trinidad & Tobago, ECCAA		Completed. A new version will be developed based on comments received.	Completed
21	Promote and coordinate diffusion of ICAO position for WRC-2012		ICAO		NAM CAR SAM Regional Preparatory Meeting for WRC-2012 (NCSRPM) was organized. E/CAR States shall complete the Point of Contact to coordinate the support to ICAO position for the WRC-2012	
22	Participate/coordinate with their national spectrum regulation entities the support to ICAO position for the WRC-12	Support ICAO position in WRC-2012 related meetings	States/ Territories		Several E/CAR States participated in the ATN Ground-Ground and Air-ground Application seminar held on Dominican Republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html	The CAAs work closely with spectrum/telecommunications management agency and ICAO to support the protection of the aviation band.

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ID	TASK NAME	DELIVERABLE	RESPONSIBLE	REFERENCE	COMMENTS	STATUS
NAVIGATION						
23	Evaluation of required nav. infrastructure to satisfy PBN based nav.requirements , identifying improvements and deficiencies	Analysis of required navigation infrastructure for example: DME-DME coverage for selected ATS routes for RNAV 5; and Identification of deficiencies; and corresponding corrective Action plan	States/ Territories coordinated by WG	Reference to CNS table 3	For the development of this task, operational PBN navigation specifications need to be defined. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.	Valid
24	Development of a regional strategy for the implementation of navigation systems	Regional Strategy for Navigation Systems	GREPECAS CNS/ATM/SG	Navigation Infrastructure alternatives for PBN -	E/CAR States are invited to take note of this work to be developed by GREPECAS. Draft version presented in CNS/ATM/SG01 Meeting, available on Meeting report.	
25	Develop recommendations for training in GNSS elements	recommendations for training in GNSS elements	GREPECAS CNS/ATM/SG		E/CAR States are invited to take note of this work to be developed by GREPECAS. GBAS/SBAS training proposal were proposed by GNSS Task Force and presented in CNS/ATM/SG01 Meeting, information available on Meeting report.	
26	Plans on GNSS systems (SBAS and GBAS) and trial conduction	GNSS trial plan	States/ Territories coordinated by WG	Navigation Infrastructure alternatives for PBN	Based on GREPECAS references (http://www.mexico.icao.int/CNS.html), the E/CAR states shall plan or agree on future trials for GBAS and SBAS evaluation.	The E/CAR through Trinidad and Tobago has joined the SACCSA Project RLA/03/902
SURVEILLANCE						
27	Evaluation of radar coverage and identification of improvements to satisfy operative	Identification of improvements and Respective Action Plan	States/ Territories coordinated by WG	Reference to CNS table 4A -	E/CAR States shall: 1. Evaluation of the existing SSR radar coverage in the E/CAR Subregion in accordance to operational requirements and looking for situational awareness	Completed. Result is the plans for radar sharing Trinidad and Tobago, Antigua, French Antilles, Barbados – this would cover the portion of the Piarco FIR with some overlap for redundancy

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	requirements				improvements. 2. Identification of any improvement on a collaborative basis. 3. Development of action plan to implement improvement.	
28	Radar Data Sharing implementation	Agreements and implementation of radar data sharing	Barbados, French Antilles, Saint Lucia, Trinidad & Tobago		The involved parties are expected to inform their advances in the agreements and implementation of radar data sharing activities, including advances in the implementation for a multiradar data feed. The Radar Data Sharing Task Force shall provide their report on this subject.	Trinidad and Tobago is host for the radar data sharing server and presently receives the radar system tracks from Martinique and Guadeloupe. The complete project encompasses receiving radar system tracks from Barbados, Antigua, Sint Maarten and Venezuela. The merged image will be made available to the E/CAR States via the E/CAR AFS Network. Expected date is October 2012.
29	Evaluation of surveillance infrastructure to satisfy navigation requirements for PBN	Analysis of surveillance infrastructure	States/ Territories coordinated by WG		For the development of this task, operational PBN navigation specifications need to be defined. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.	Valid
30	Implementation of 24 bits Address registry	24 bits Aircraft Address registry	States/ Territories coordinated by WG		The involved parties are expected to inform their advances in the development and implementation of their national registry of 24-bit aircraft addresses in accordance to Annex 10, Vol III Chap 9 and GREPECAS guidance (http://www.mexico.icao.int/CNS.html).	Trinidad and Tobago – completed Information from other E/CAR States outstanding
31	ADS-B, ADS-C and MLAT trials	Trials on ADS-B, MLAT and ADS-C	States/ Territories coordinated by WG		E/CAR States shall informed their national plans for conducting trials on ADS-B, ADS-C, MLAT and E/CAR/WG shall consolidate a plan for these trials to benefit of its results.	Barbados advised that they completed survey to implement MLAT in Barbados and continues studies for feasibility
32	ADS-C/ CPDLC evaluation and trial Plans	Plan on ADS-C and CPDLC	States/ Territories coordinated by WG			Trinidad and Tobago signed an agreement with ARINC for the provision of FANS 1/A services

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ID	TASK NAME	DELIVERABLE	RESPONSIBLE	REFERENCE	COMMENTS	STATUS
33	ADS-B cost – benefit analysis		States/ Territories coordinated by WG		Cost-benefit analysis for ADS-B shall be organized to justify implementation and enforcement of ADS-B use.	An ADS-B Cost Benefit analysis was provided by CANSO supporting this task as shown on the Workshop summary of Discussion, available at: http://www.mexico.icao.int/Meetings/CCARWG/CCARWG9CAANEWG7/CCARWG9CAANEWG7WP30.pdf
34	Development of a regional strategy for surveillance systems		GREPECAS CNS/ATM/S G		E/CAR States are invited to take note of this work to be developed by GREPECAS.	Noted Completed by CNS/ATM/SG – Surveillance Task Force
35	Mode S radar implementation and update to Regional Plan on Surveillance Systems	Information on Mode S Radar implementation and updates to Regional Plan	States/ Territories coordinated by WG	Reference to CNS table 4A	E/CAR States shall inform on their plans for Mode S implementation. This information and other surveillance systems implementation shall be used to update the regional Plan on Surveillance System (CNS table 4A available on http://www.mexico.icao.int/CNS.html)	Trinidad and Tobago – Mode S radar commissioned in November 2009

APPENDIX B

CNS COMMITTEE POINT OF CONTACT (PoCs)

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