



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**THIRD MEETING OF THE EASTERN CARIBBEAN NETWORK  
TECHNICAL GROUP**

**E/CAR/NTG/3**

**FINAL REPORT**

**Christ Church, Barbados, 5 to 6 June, 2012**

**Presented by E/CAR/NTG Rapporteur**

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Third Meeting of the Eastern Caribbean Network Technical Group  
(E/CAR/NTG/3)  
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## **HISTORY OF THE MEETING**

### **1. PLACE AND DURATION OF THE MEETING**

1.1 The Third Meeting of the Eastern Caribbean Network Technical Group (E/CAR/NTG/3) was carried out at the Savannah Beach Hotel, The Garrison Historic Area, Hastings, Christ Church, Barbados, from 5 to 6 June 2012. The E/CAR/NTG/3 Meeting was held together with the Eastern Caribbean Working Group Committees meeting and Ad-hoc Group discussion under the E/CAR/WG/33 Meeting.

### **2. OPENING CEREMONY**

2.1 The E/CAR/WG/33 and the E/CAR/NTG/3 Meetings were officially opened during the E/CAR/WG/33 opening ceremony by Mr. Mitchinson Beckles, Director of Barbados Civil Aviation Department, Mr. Julio Siu, ICAO NACC Regional Officer on Communications, Navigation and Surveillance, on behalf of Mrs. Loretta Martin, Regional Director of ICAO NACC Regional Office, and The Honourable Mr. George Hutson, Minister of International Business and International Transport. Mr. Julio Cesar Siu, Regional Officer, Communications, Navigation and Surveillance of the ICAO NACC Regional Office, welcomed the participants, thanked the Barbados Civil Aviation for hosting and inviting ICAO to this important meeting, emphasizing the ECAR NTG active participation and functions as advisory body to the E/CAR/DCAs and a contributory body to the E/CAR/WG.

### **3. WORKING LANGUAGES**

3.1 The working language of the Meeting was English. The Documentation was provided electronically to the participants and was available in the ICAO NACC Regional Office Website under the section “meetings” together with the E/CAR/WG/33 Meeting documentation: <http://www.mexico.icao.int/Meetings/ECARWG33.html>.

### **4. PARTICIPANTS AND ORGANIZATION**

4.1 The meeting was attended by 23 participants from eight (8) E/CAR States/Territories (Antigua and Barbuda, Barbados, France, Grenada, Montserrat, Saint Lucia, Trinidad & Tobago and United States), ECCAA in representation of the OECS States, ICAO and the E/CAR AFS Network Service Provider (TSTT). The list of participants is being presented in pages iii-1 to iii-3.

4.2 The Meeting was chaired by Ms. Veronica Ramdath, Rapporteur of the Eastern Caribbean Network Technical Group (E/CAR/NTG), who also acted as Secretary to the Meeting. She was assisted by Mr. Julio Siu, ICAO NACC Regional Officer Communications, Navigation and Surveillance.

## **5. AGENDA**

5.1 The Meeting adopted the following agenda:

**Agenda Item 1: Review of valid conclusions from E/CAR/WG, NACC/WG, E/CAR/DCA and NACC/DCA Meetings related to the work of the NTG**

- 1.1 Follow-up to previous E/CAR/NTG Conclusions and Decisions
- 1.2 Revision and actions concerning E/CAR/WG and the NACC/WG conclusions and the support of the E/CAR NTG to these WGs
- 1.3 Follow-up to conclusions from E/CAR/DCA and NACC/DCA meetings related to the E/CAR AFS Network

**Agenda Item 2: E/CAR AFS Network**

2.1 Review of Multi-Protocol Label (MPLS) implementation

- a) Overview of new E/CAR AFS network
- b) Review of voice and data requirements
- c) Final configuration
- d) Maintenance procedures (network level)

2.2 Network Performance analysis and general aspects

- a) Analysis of performance of the network,
- b) Analysis of failures and recommendations
- c) Maintenance and reporting procedures (user level),
- d) Logistics activities and their improvements
- e) Fault reporting website (Topdesk)

2.3 E/CAR AFS Network Replacement Activities

- a) Request for Information Document (RFI)

**Agenda Item 3: Related Additional NTG Activities.**

- a) Radar Sharing Ad-hoc Group
- b) AMHS
- c) Central FDP System activities

**Agenda Item 4: Other Business**

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**6. SCHEDULE AND WORK MODE**

6.1 The Meeting agreed to hold its daily sessions from 08:30 to 15:30 hours with two breaks on the first day and 08:30 to 10:30 on the second day with one break.

**7. RECOMMENDATIONS AND CONCLUSIONS**

7.1 The Eastern Caribbean Network Technical Group recorded its activities as Decisions and Draft Conclusions as follows:

<b>No.</b>	<b>Title</b>	<b>Page</b>
DRAFT Conclusion E/CAR/NTG/3/01	Use of Top-Desk faults reporting application	2-5
Decision E/CAR/NTG/3/02	Regional Interconnection of the MEVA III and the E/CAR Networks	2-6

**8. List of Working and Information Papers**

8.1 Working and Information Papers are available on the ICAO website at the following link:  
<http://www.mexico.icao.int/Meetings/ECARWG33.html>

Number	Agenda Item	Title	Presented by
WP/01	-	Draft Agenda and Schedule of The E/CAR/NTG/3 Meeting	ECARNTG Rapporteur
WP/02	1.1	Follow-up to previous E/CAR/ NTG Conclusions and actions	ECARNTG Rapporteur
WP/03	1.2/1.3	Revisions and actions concerning E/CAR/WG and NACC/WG conclusions and follow up to ECARDCA and NACC DCA conclusions and PIARCO Policy Meeting agreements related to the ECAR AFS Network	ICAO
WP/04	3	Radar Data Sharing infrastructure	Trinidad and Tobago
WP/05	3	Radar Data Sharing and Central FDP System	ICAO
WP/06	2	E/CAR AFS Network – network performance from user’s point of view	ECCAA
WP/07	2	E/CAR AFS Network – network performance from user’s point of view	French Antilles
WP/08	2	E/CAR AFS Network – network performance from user’s point of view	Barbados
WP/09	2	ECAR AFS Network expansion for new requirements	ICAO
WP/10	2	E/CAR AFS and MEVA common RFI	MEVA TMG Coordinator
WP/11	3	Radar Sharing activities telecom requirements in E/CAR	French Antilles
WP/12	3	Telecom requirements for AMHS implementation and FPL Centralized Activities	Trinidad and Tobago
WP/13	4	ASBU modules concerning ATN infrastructure	ICAO
WP/14	2	Maintenance and reporting procedures (user level)	Trinidad and Tobago
IP/01	3	Second FAA/ICAO Workshop/Meeting on the follow-up to the Implementation of the ATS Message Handling System (AMHS)	USA
P/01	2	ECAR AFS Network– network performance/final configuration/ failures and maintenance procedures/ maintenance reporting/ logistic activities/ recommendations/ top-desk analysis of usage – web portal live session	Trinidad and Tobago /TSTT

Third Meeting of the Eastern Caribbean Network Technical Group  
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List of Participants – General Information

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**ANTIGUA AND BARBUDA**

Shenneth Phillips

**BARBADOS**

Karen Walkes  
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**FRANCE**

Jean-Jacques Deschamps

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**MONTSERRAT**

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**ECCAA**

Rudyard Ashe

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Julio Siu

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List of Participants – General Information

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Third Meeting of the Eastern Caribbean Network Technical Group  
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List of Participants – General Information

iii- 3

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**Agenda Item 1: Review of valid conclusions from E/CAR/WG, NACC/WG, E/CAR/DCA and NACC/DCA Meetings related to the work of the NTG**

**1.1** *Follow-up to previous E/CAR/NTG Conclusions and decisions*

1.1.1 Under WP/02, the Meeting recalled that the only valid conclusions and decisions from previous E/CAR/NTG Meeting were the 7 conclusions and 6 decisions from the E/CAR/NTG/2 Meeting. The Meeting reviewed and followed up these valid conclusions and decisions, having the following conclusions and decisions as completed/superseded: C2/2, C2/4, D2/6, D2/7, D2/8, D2/10, D2/11, C2/12 and D2/13. The remaining conclusions and decisions remained valid: C2/1, C2/3, C2/5 and C2/9. In **Appendix A** to this part of the report, a detailed follow-up of these conclusions is shown.

**1.2/1.3** **Revision and actions concerning E/CAR/WG and NACC/WG conclusions and follow up to E/CAR/DCA and NACC DCA conclusions and PIARCO Policy Meeting agreements related to the ECAR AFS Network**

1.2.1 Under WP/03, the Meeting followed up the valid conclusions formulated by the E/CAR/WG, NACC/WG, E/CAR/DCA, NACC/DCA and the Piarco Policy Group Meetings related to the E/CAR AFS Network, proposing to inform these meetings of the progress achieved by the E/CAR/NTG as detailed in **Appendix B** to this part of the report.

1.2.2 In this regard, the Meeting highlighted the following progress achieved:

- Maintenance information: An escalation maintenance list will be defined (31 July 2012) and the Points of contact for the maintenance (**Appendix C** to this report) were updated. ICAO was requested to post this information under the E/CAR/NTG webpage.
- That all deficiencies regarding ECAR AFS Network operation be considered resolved based on the overall satisfactory 6 month evaluation performance of the new MPLS Network (with the exception of the AFTN circuit in Guadeloupe).
- The new ECAR AFS Network is operational but it noted that the redundant circuit Guadeloupe-Antigua remains outstanding.

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Appendix A to the Report on Agenda Item 1

A1-1

*Follow-up to previous E/CAR/NTG Conclusions and decisions*

Reference	Description	Status
<p><b>Conclusion</b> <b>E/CAR/NTG/2/01</b></p> <p>MPLS Maintenance Procedure and Service Level of Agreement</p>	<p>In order to establish and define the MPLS Maintenance procedures and inform on the service level of agreement to be applicable to the MPLS Network, that:</p> <ul style="list-style-type: none"> <li>a) E/CAR AFS Network members provide the E/CAR/NTG Rapporteur the necessary information for the coordination of the maintenance (Point of Contact information, working hours available for technical intervention, any particular security procedure to follow, escalation, etc.) by the <b>30 June 2011</b>;</li> <li>b) United States, Trinidad and Tobago and TSTT to review and draft a personalized version of the Standard Operations Procedure (SOP) by <b>31 July 2011</b>;</li> <li>c) E/CAR/NTG Rapporteur to draft a MPLS Maintenance Procedure based on the personalized SOP and the MPLS SLA by <b>30 August 2011</b>;</li> <li>d) Comments to MPLS Maintenance Procedure by E/CAR/NTG Members by <b>15 September 2011</b>; and</li> <li>e) E/CAR AFS Network members to apply MPLS Maintenance Procedure final version by <b>1 October 2011</b>.</li> </ul>	<p>VALID</p> <ul style="list-style-type: none"> <li>a) Point of Contact provided in Appendix C to this part of the report.</li> <li>Escalation information to be provided by July 31<sup>st</sup> 2012.</li> <li>b) United States submitted a draft SOP for consideration. Review by TTCAA and TSTT in progress and is expected to be completed by August 31, 2012</li> <li>c) Valid based on (b). The NTG/3 agreed that the information in SOP and the SLA be combined in one document by September 30, 2012</li> <li>d) Valid based on (c). The combined SOP/SLA (E/CAR Maintenance Procedures) to be provided to States by October 31<sup>st</sup> 2012.</li> <li>e) Valid based on (d) by December 31<sup>st</sup> 2012</li> </ul>
<p><b>Conclusion</b> <b>E/CAR/NTG/2/02</b></p> <p>Use of IP phones in MPLS Network</p>	<p>In order to define the use of IP phones in the MPLS Network, and considering the existence of these equipment in all the sites, that E/CAR AFS Network members:</p> <ul style="list-style-type: none"> <li>a) coordinate and agree with their local ATC users the use of IP phones as a contingency media in case of VCCS failure;</li> <li>b) coordinate with TTCAA for implementation actions for those IP phones not installed but requested to be implemented by users; and</li> <li>c) inform the use of IP phones and progress made in action b) to the E/CAR/NTG by <b>31 July 2011</b>.</li> </ul>	<p>COMPLETED</p> <p>France requested 2 IP phones which will be provided in addition to the required 8-port switch.</p> <p>ECCAA reported that Antigua has 1 IP phone in the tower but there is no cable between router and tower, the IP phone in the Approach is good.</p> <p>St Vincent has a new VCS installed and the IP phone is used for backup. It is functioning but disconnected due to operational requirements and recording issues.</p> <p>St Lucia Hewanorra - still trying to sort out the problems with their VCCS from INEO. They will keep the IP phone although they are not currently using it.</p> <p>Barbados' IP phones are installed in Approach and Tower but are not operationally used due recording issues.</p>

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Appendix A to the Report on Agenda Item 1

A1-2

Reference	Description	Status
<p><b>Conclusion</b> <b>E/CAR/NTG/2/03</b></p> <p>Removal of old unused E/CAR Network equipment</p>	<p>To free the space occupied by the old E/CAR Network equipment and to complete the installation of the MPLS Network that TTCAA inform the E/CAR Network members no later than <b>30 July 2011</b> on the actions to be carried out for the removal of these old unused equipment.</p>	<p>VALID</p> <p>Equipment to be disconnected during first maintenance visit planned for June 2012, boxed and returned to Trinidad.</p> <p>Trinidad and Tobago has requested the assistance of States to package the equipment which will be shipped to Trinidad during the AMHS/AISS installation planned for October/November 2012. States were informed not to seal boxes until the customs documents were included.</p>
<p><b>Conclusion</b> <b>E/CAR/NTG/2/04</b></p> <p>Revision of Basic operating conditions for E/CAR AFS Network Equipment at OECS States</p>	<p>Considering the criticality to provide and maintain the basic operating conditions (air conditioning, cleanness, cabling order, equipment ventilation, etc.) for the optimum operation of the E/CAR AFS Network equipment, the OECS States and ECCAA shall review with the assistance of TSTT these conditions to implement them no later than <b>31 July 2011</b> and informing the E/CAR/NTG members on this matter.</p>	<p>COMPLETED</p>
<p><b>Conclusion</b> <b>E/CAR/NTG/2/05</b></p> <p>Urgent Immediate Solution to Power Supply Irregularity at Melville Hall Premises</p>	<p>Since E/CAR AFS Network equipment implemented in Melville Hall premises is facing major power supply irregularities that will soon damage the operating equipment, that:</p> <p>a) TTCAA Director General writes to ECCAA Directorate advising of the matter of irregularities in the electrical power and bringing to his attention the resulting action if the AFS equipment is damaged as a result of power problems. As stated at the E/CAR/WG/32, the state will bear responsibility for the cost of replacing and installing the damaged equipment; and</p> <p>b) Dominica/Melville Hall Airport Authority to implement an urgent immediate solution for the power supply irregularity no later than <b>30 June 2011</b>.</p>	<p>VALID</p> <p>a) Valid</p> <p>b) Valid</p> <p>ECCAA has suggested the installation of power conditioning/saturation equipment and will inform by August 31<sup>st</sup>, 2012 whether this recommendation is approved for implementation.</p>
<p><b>Decision</b> <b>E/CAR/NTG/2/06</b></p> <p>Submission MPLS Test Protocols</p>	<p>For the corresponding follow-up and internal testing procedures, TSTT will send United States and French Antilles the test protocols to be carried out with the implementation of the MPLS no later than <b>24 June 2011</b>.</p>	<p>COMPLETED</p>

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Appendix A to the Report on Agenda Item 1

A1-3

Reference	Description	Status
<p><b>Decision</b> <b>E/CAR/NTG/2/07</b></p> <p>E/CAR AFS Network members' access to MPLS Website Portal</p>	<p>In order to facilitate the E/CAR AFS Network members information on the network performance (utilization, availability and router performance), as well as the provision of reports, that TTCAA/TSTT, to provide portal access by <b>31 July 2011</b> to all E/CAR AFS Network members and ICAO.</p>	<p>COMPLETED</p> <p><a href="http://tsttmetro.e.tstt.co.tt">http://tsttmetro.e.tstt.co.tt</a></p> <p>Username- ttcaa-me</p> <p>Password- !@#%\$.</p>
<p><b>Decision</b> <b>E/CAR/NTG/2/08</b></p> <p>Analysis of telecommunication requirements for future operation needs</p>	<p>In order to identify the future telecommunication requirements for future operational needs in the E/CAR Region, that the E/CAR/NTG Rapporteur:</p> <p>a) coordinates and requests the E/CAR/WG ATM, AIM and CNS Committees their future operational needs that require the use of the E/CAR AFS Network (Centralized FDP System, Radar Data Server, Contingency plan, FPL mitigation, ADS-B Trial, etc.); and</p> <p>b) inform the E/CAR/NTG members by <b>30<sup>th</sup> September 2011</b> on the progress of this enquiry so as to include these tasks in the NTG work programmes.</p>	<p>COMPLETED</p>
<p><b>Conclusion</b> <b>E/CAR/NTG/2/09</b></p> <p>IPv4 Addresses implementation in the E/CAR AFS Network</p>	<p>In compliance with the regional agreement for implementing ATN IPS Networks, under the IPv4 addressing scheme, TTCAA carry out the necessary activities for the application of the IPv4 addressing scheme in the MPLS Network and inform the progress of this action to the E/CAR/NTG Members by the next E/CAR/NTG Meeting (E/CAR/NTG/03).</p>	<p>VALID</p> <p>To be completed at the visit to replace the AFTN equipment to AMHS (4<sup>th</sup> quarter 2012)</p>

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Appendix A to the Report on Agenda Item 1

A1-4

Reference	Description	Status
<p><b>Decision</b> <b>E/CAR/NTG/2/10</b></p> <p>Planning for the implementation of a Common Request for Information (RFI) document for the CAR Region telecommunication networks.</p>	<p>Considering the current modernization and improvement activities by the MEVA II Network and future improvement of the E/CAR AFS Network, the need to collect information on the current available technologies and the convenience/optimization of resources for the implementation of a Common Request for Information (RFI) document for the CAR Region telecommunication networks as to achieve a common single region CAR Network, that the E/CAR/NTG Rapporteur</p> <p>a) in coordination with the MEVA TMG Coordinator and the assistance of ICAO, drafts the planning and administrative structure needed to carry out the process of the RFI by the <b>30 of September 2011</b>;</p> <p>b) send this draft to the E/CAR/NTG members for comments and observations, to receive these by <b>28 October 2011</b>; and</p> <p>c) inform and coordinate with the E/CAR/NTG members the activities agreed for this RFI.</p>	<p>SUPERSEDED based on WP/10 with draft Decision E/CAR/NTG/3/02</p> <p>Regional Interconnection with the E/CAR Network</p> <p>Considering the importance of exchanging information for a regional interconnection between the E/CAR and the MEVA Network (MEVA III) that the NTG Members</p> <p>a) Review the draft RFI and provide comments to the E/CAR/NTG representative in the MEVAIII Task Force</p> <p>b) the MEVA Task Force with the assistance of ICAO generate and issue a Request for Information (RFI) by 6 July 2012</p> <p>c) participate in the MEVA TMG/24 meeting where vendors are to response to the RFI</p>
<p><b>Decision</b> <b>E/CAR/NTG/2/11</b></p> <p>E/CAR Replacement Activities Revision.</p>	<p>Considering the current performance and operation of the new ECAR AFS Network and the improvements achieved, the need to evaluate the MPLS network when fully implemented and the information from the RFI Process, that the E/CAR/NTG</p> <p>a) continues the evaluation of the MPLS Network Performance and operation;</p> <p>b) defines the need and activities for a network replacement based on the MPLS Network performance and the RFI Process information; and</p> <p>c) inform by the next E/CAR/DCA/24 Meeting the progress and results on actions a) and b)</p>	<p>COMPLETED</p> <p>The E/CAR/NTG/3 reviewed the performance of the new E/CAR AFS network over the last six months and the general comments is that the network is performing at an acceptable level. At this time there is no need to look into replacing the network. The RFI process will provide information on the interconnectivity of E/CAR and MEVA III.</p>

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Appendix A to the Report on Agenda Item 1

A1-5

Reference	Description	Status
<p><b>Conclusion</b></p> <p><b>E/CAR/NTG/2/12</b></p> <p>Update to E/CAR/NTG Terms of Reference, work programme and membership.</p>	<p>In order to show the current valid works and activities of the E/CAR/NTG, the terms of reference, work programme and membership were reviewed and updated as shown in <b>Appendix</b> to this report and so are submitted for the E/CAR Directors approval</p>	<p>COMPLETED</p>
<p><b>Decision</b></p> <p><b>E/CAR/NTG/2/13</b></p> <p>Planning for E/CAR AFS Network Website implementation.</p>	<p>In order to coordinate and support the customization of the new E/CAR AFS Network Website, that TCCAA informs on the planning of its implementation to States by <b>30 August 2011</b>.</p>	<p>COMPLETED</p> <p>Topdesk implemented</p>

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**Follow up to the valid conclusions formulated by the E/CAR/WG, NACC/WG, E/CAR/DCA, NACC/DCA and the Piarco Policy Group Meetings related to the E/CAR AFS Network**

Reference	Description	Follow-up by E/CAR/NTG/3 Meeting
CONCLUSION E/CAR/WG/31/6 E/CAR AFS NETWORK IMMEDIATE RECOVERY ACTIONS	<p>a) each E/CAR Network member State shall facilitate the transportation of spare parts of the system, to avoid delays due to VAT payments or customs formalities;</p> <p>b) under TTCAA management, adequate spare parts shall be available on sites,</p> <p>c) that TTCAA study the possibility for first intervention actions to be performed by local maintenance teams;</p>	<p>Completed</p> <p>a) ECCAA, Barbados and France confirmed that customs clearance was okay.</p> <p>b) TSTT confirmed that the routers were under agreement with Cisco next day replacement, 4 routers are held in Piarco, Trinidad and Tobago ready to deploy to States as required.</p> <p>c) No first level maintenance required on the ECCAA States and Barbados on the Cisco routers. On-Site support to be provided by SNA-AG in Martinique and Guadeloupe.</p> <p>Due to the importance of the maintenance information for the ECAR AFS Network, the E/CAR/NTG requests ICAO NACC Office to make the maintenance activities point of contact and escalation list available on the ICAO NACC office website under Regional Groups/E/CAR/WG.</p>
CONCLUSION E/CAR/WG/31/7 REPLACEMENT OF THE E/CAR AFS NETWORK	<p>a) an E/CAR Network Technical Group (E/CAR/NTG) be formed to study, analyze and follow-up on the planning, documentation and implementation of the replacement of the E/CAR AFS Network;</p> <p>b) TTCAA conduct the replacement process of the E/CAR Network, assisted by the E/CAR/NTG and the ICAO NACC Regional Office; and</p> <p>c) the new AFS Network should be a VSAT solution operational <b>by mid 2011.</b></p>	<p>The action for this conclusion was superseded by Decision E/CAR/NTG/2/10</p>

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Reference	Description	Follow-up by E/CAR/NTG/3 Meeting
CONCLUSION E/CAR/WG/32/5 E/CAR AFS NETWORK DEFICIENCIES	<p>a) ICAO to change the priority of the existing related E/CAR AFS network Air Navigation deficiencies to priority “A;” and</p> <p>b) E/CAR States/Territories in coordination with the E/CAR/NTG evaluate further improvements with the implementation of the MPLS Network and the complete solution to the mentioned deficiencies, once the MPLS network has been in operation for 6 months.</p>	<p>Completed.</p> <p>Considering the favourable report from States on the performance of the E/CAR AFS Network, the E/CAR/NTG proposes that the deficiencies related to the E/CAR AFS Network under the GANDD be considered resolved. ICAO shall review this proposal and update the GANDD accordingly.</p>
CONCLUSION E/CAR/WG 32/6 E/CAR AFS NETWORK FAULT REPORTING SYSTEM BY E-MAIL	<p>As an improvement to the fault reporting and feedback issues of the E/CAR AFS Network, the E/CAR AFS Network users, may apply the email fault reporting system proposed by Trinidad and Tobago, and so use the corresponding email addresses and form1 described for this system.</p>	<p>An email reporting system was introduced in October 2010 and continues to date and a new website application for electronic fault reporting has been implemented.</p>
CONCLUSION NACC/WG/3/2 PRELIMINARY OFF- LINE TESTING OF THE NEW FPL FORMAT	<p>That Mexico, Curacao, United States, Dominican Republic and other States, COCESNA and Service Providers who are available to carry-out preliminary off-line testing for changes to the new flight plan format:</p> <p>a) coordinate preliminary off-line testing to carry them out in November and December 2011; and</p> <p>b) report the results of these tests to the ICAO NACC Regional Office, no later than January 30, 2012.</p>	<p>The testing for the New Flight Plan Format implementation is being considered under the Centralized Flight Planning System activities (WP/12)</p>

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<b>Reference</b>	<b>Description</b>	<b>Follow-up by E/CAR/NTG/3 Meeting</b>
<p>CONCLUSION NACC/WG/3/3 ACTIONS TO AVOID ERRORS, MISSING AND DUPLICATION OF FLIGHT PLANS</p>	<p>That NAM/CAR States/Territories/International Organizations ensure to implement the following actions to avoid errors, missing and duplication of flight plans:</p> <ul style="list-style-type: none"> <li>a) publish the corresponding standards in accordance with ICAO SARPs for the coordination, validity and update of changes in flight plans by 30 December 2011;</li> <li>b) update domestic provisions on flight plan message transmission in accordance with Doc 4444 and the Interface Control Document (ICD) for data communications between ATS units, approved by GREPECAS, by 30 December 2011;</li> <li>c) publish the appropriate address in the AIP for the flight plan transmission by 30 December 2011;</li> <li>d) update letters of agreement (LOAs) between adjacent ATS units for flights that operate from one FIR to an adjacent FIR by 30 May 2012;</li> <li>e) provide the appropriate training so ATC personnel can provide the ATC clearances according to ICAO Doc 4444, PANS-ATM by 30 May 2012;</li> <li>f) coordinate with operators to ensure the timely coordination for data changes and validity of a specific flight plan by 30 December 2011;</li> <li>g) encourage that dispatch offices have a sufficient number of qualified experts for proper flight plan coordination and follow-up by 30 September 2012;</li> <li>h) consider the implementation of electronic applications for the pre-departure clearance (PDC) by 30 September 2012, as necessary; and</li> <li>i) provide the ICAO NACC Regional Office the</li> </ul>	<p>The telecommunications requirement in support of the AISS implementation is completed</p>

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Reference	Description	Follow-up by E/CAR/NTG/3 Meeting
<p>CONCLUSION NACC/WG/3/6 ADS-B TRIALS AND ANALYSIS IN THE CAR REGION</p>	<p>In order to consolidate ADS-B efforts and activities to have an homogeneous criteria in analysis and data exchange, that:</p> <p>a) States/Territories/International Organizations who are carrying out ADS-B trials, or who have short-term plans to do so:</p> <p style="margin-left: 40px;">i. inform the ICAO NACC Regional Office about these trials or plans by <b>December 2011</b>;</p> <p style="margin-left: 40px;">ii. designate a point-of-contact to coordinate these activities and notify this information to the ICAO NACC Regional Office;</p> <p style="margin-left: 40px;">iii. consider the technical support and assistance offered by the United States on these activities;</p> <p style="margin-left: 40px;">iv. report their progress to the ICAO NACC Regional Office for the next NACC/WG/4 meeting;</p> <p>b) the ICAO NACC Regional Office:</p> <p style="margin-left: 40px;">i. support coordination with users (IATA) for their participation in these trial activities; and</p> <p style="margin-left: 40px;">ii. provide assistance to participating States with the development and definition of this homogeneous analysis criteria as well as with the activities mentioned in item a)</p>	<p>The telecommunications requirement in support of the ADS-B is completed</p>

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Reference	Description	Follow-up by E/CAR/NTG/3 Meeting
E/CAR/DCA/23/6 IMPLEMENTATION OF SOLUTIONS FOR MISSING/DUPLICATI ON OF FLIGHT PLAN DATA IN THE E/CAR	That E/CAR States/Territories to resolve or mitigate missing/duplication of Flight Plan Data in the E/CAR Sub-Region: a) implement the recommended solutions and actions suggested by the E/CAR/WG AIS Committee as presented in the <b>Appendix B</b> to this part of the report by <b>31 December 2010</b> ; and b) conduct a review of the improvements obtained and inform the results to the E/CAR AIS Committee Rapporteur and ICAO by <b>28 February 2011</b> .	Same actions as conclusion NACC/WG/3/3 The telecommunications requirement in support of the AISS implementation is completed
E/CAR/DCA/23/7 MPLS IMPLEMENTATION MILESTONES	That in order to ensure appropriate coordination, follow-up, and timely conclusion of the MPLS Network implementation activities for the E/CAR Network members, Trinidad and Tobago: 1) accomplish the following milestones: a) completion of in-house testing of MPLS equipment by <b>14 November 2010</b> ; b) shipping and delivery of equipment by <b>16 November 2010</b> ; c) confirm completion of implementation of local installation requirements (site survey results) in States with E/CAR AFS Network Members by <b>20 November 2010</b> ; d) customs clearance in States/Territories by <b>24 December 2010</b> ; e) deployment of equipment by <b>14 January 2011</b> ; f) VOIP configuration, testing and set-up by <b>17 March 2011</b> ; and g) Operational readiness by <b>17 March 2011</b> . 2) Immediately inform the E/CAR/NTG Rapporteur, E/CAR/WG Chairman, E/CAR DCAs and ICAO NACC Regional Office of any delays in meeting these milestone dates.	Completed  New E/CAR AFS Network became operational for AFTN on 18 February 2011 and voice operational on 1 <sup>st</sup> April 2011

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Reference	Description	Follow-up by E/CAR/NTG/3 Meeting
E/CAR/DCA/23/8 E/CAR AFS NETWORK FAILURE REPORTING IMPROVEMENTS	That Trinidad and Tobago implement the following procedures to improve the current failure reporting method for the E/CAR AFS Network: a) send an immediate acknowledgement of receipt of the failure report to the failure report originator with its corresponding tracking number; b) send an immediate report to the failure report originator when the failure is resolved, including the corresponding tracking number; and c) notify all the E/CAR AFS Network members and the ICAO NACC Regional Office of the implementation of these improvements and the revised failure reporting procedure by <b>3 December 2010</b> .	Completed
PIARCO/FIR/PG/1/2 E/CAR RADAR DATA SERVER	That Trinidad and Tobago will provide and host the radar data server for the sharing/exchange/remoting of radar data in the Eastern Caribbean.	Completed
PIARCO/FIR/PG/1/3 PIARCO AIS CONTINGENCY PLAN	That: a) the E/CAR/WG AIS Committee, in collaboration with the Trinidad and Tobago Piarco AIS Office, develop and circulate a draft Piarco AIS Contingency Plan to E/CAR States, ECCAA and ICAO by 15 March 2011; b) E/CAR States, ECCAA and ICAO will provide the E/CAR/WG AIS Committee with comments on the draft PIARCO AIS Contingency Plan by 31 March 2011; and c) the E/CAR/WG AIS Committee Rapporteur, E/CAR/WG Chairman or Trinidad and Tobago will present the proposed PIARCO AIS Contingency Plan at the NACC/WG/3 Meeting in May 2011.	Valid  Telecom requirements to be identified and analysed for its implementation based on the definition of the AIS Contingency Plan.

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**Point of Contact Information for coordination of maintenance activities for the E/CAR AFS Network**

<b>State/Airport</b>	<b>Contact Name</b>	<b>Telephone</b>	<b>Alternate Contact</b>
Maurice Bishop Airport, Grenada	Christopher Ogilve	Office: 4734444151 Mobile 4735372045	David Gibbs Office: 4734444151  Mobile 4735372046
E.T. Joshua Airport, St. Vincent	David Boston	Office: 7844564950  Mobile: 7844546342	Anthony Benjamin  Office: 7844564950  Mobile:7845284083
George Charles, St. Lucia	Paulinus Frederick	Office: 7584522660  Mobile:7587189408	Arlinton Alfred  Office: 7584522660  Mobile:7585183995
Hewanorra, St. Lucia	Andre Klien	Office: 7584546649  Mobile:7587215152	Arlinton Alfred  Office: 7584522660  Mobile:7585183995
Melville Hall and Canefield, Dominica	Joseph Morvan	Office: 7674491071  Mobile 7672777909	
John Osbourne, Monserrat	No ECCAA contact.	Contact ATC at 6644914229	
V C Bird Antigua	Anthony Lawrence	Office: 2684623115  Mobile 2644643291	Trevor Davis  Office: 2684623115  Mobile:2687232955
R L Bradshaw, St. Kitts	Wycliffe Gumbs	Office: 8694654388  Mobile 8697641126	
Clayton Lloyd, Anguilla	Daniel Maina	Mobile: 2645824204	
Barbados	Electronics/Engineering 428 0928 technician on duty Electronics/Engineering Manager: 233 5107 Available If required (Richard Odle)	AIS: 420 2874 ATC /TMA: 428 6162	

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<b>State/Airport</b>	<b>Contact Name</b>	<b>Telephone</b>	<b>Alternate Contact</b>
United States	Mr. Al O'Neill	770-210-7798 and/or 770-210-7861	Dulce Maria Roses ATC Communications Services International Telecomm. Lead, AJW-9222 Caribbean and South America Phone 305-716-1830 Fax 305-716-1831 Mobile 202-528-9133
Martinique	Jean-Jacques Deschamps DGAC / SNA-Antilles Guyane Head of Technical Division/HQ Email: jean-jacques.deschamps@aviation-civile.gouv.fr	Tel: + 596 596 42 25 07 Fax: +596 596 42 26 92	Thierry Alibert DGAC / SNA-Antilles Guyane Head of Technical Division/Airport Email: thierry.alibert@aviation-civile.gouv.fr Tel: +596-596-42-24-91 Fax: +596 596 42 26 92
Guadeloupe	Sébastien Bomont Organisme de Contrôle Pointe-à-Pitre, SNA-AG head of Technical Service in Pointe-à-Pitre Chef de Division Technique Email: sebastien.bomont@aviation-civile.gouv.fr	Tel: 0590482011	Maurice Esquirol DGAC / SNA-Antilles Guyane Chief of Maintenance Email: maurice.esquirol@aviation-civile.gouv.fr Tel: + 590 590 48 20 13

**Agenda Item 2: E/CAR AFS Network**

**2.1 *Review of Multi-Protocol Label Switching (MPLS) Implementation***

2.1.1 Under P/01, TSTT Presentation, the ECAR/AFS Network Service Provider provided an overview of the new E/CAR AFS Network and reviewed the final configuration (to date). **Appendix A** details the final deployment of the AFS network. The project milestones from the site surveys to the handover of final documentation are detailed in **Appendix B** of this part of the report. The deployment of handsets is detailed in **Appendix C** to this part of the report. Several pending works on wiring for the handset deployment by the E/CAR States (detailed in Appendix C) need to be completed.

2.1.2 One of the challenges facing the Dominica installation relates to power regularity and conditioning on the island. It has been noted that power fluctuates at the airports occurs on a daily basis and on resumption of regular power there is a spike in the voltage. These continuous spikes can pose long term damage to UPS equipment and network hardware. It is suggested a power regulation analysis be conducted at both airports in order to deliver safe and clean power to AFS hardware.

2.1.3 There were several challenges in the deployment to the French West Indies in terms of connectivity since the TSTT MPLS network does not extend to Martinique and Guadeloupe. Initially IPLC circuits were requested for connectivity from Trinidad to Martinique and Guadeloupe. Upon information from France Telecoms on the discontinued support for this type of circuit, IPLC was later replaced with VPN connectivity. The equipment was configured and shipped based on the VPN request. VPN was then discarded and another provider was selected to provide IPLC to Martinique and Guadeloupe. Therefore, reconfiguration of the equipment from VPN to Leased circuit was required for Martinique and Guadeloupe.

2.1.4 A contract was signed with Southern Caribbean Fibre for 1 Mbps IPLCs between Trinidad and Martinique, Martinique and Guadeloupe and Guadeloupe and Antigua. This design provides circuit redundancy to Martinique and Guadeloupe. The Piarco-Martinique and Martinique-Guadeloupe IPLCs were implemented in July 2011. In March 2012, SCF advised Trinidad and Tobago that despite all efforts they are unable to deliver the Guadeloupe-Antigua circuit due to legal issues on connectivity with Antigua Public Utilities Authority (APUA). A proposal for the Guadeloupe-Antigua circuit from Telecommunication Services of Trinidad and Tobago (TSTT) is presently under review by Trinidad and Tobago.

2.1.5 TSTT discussed the maintenance procedures at the network level and informed that proactive monitoring is in effect for the network via portal access, regional notifications and field forces. An internet portal which can be used to monitor the performance of the network was provided to E/CAR AFS users via <http://tsttmetro.e.tstt.co.tt>, for monitoring purposes. This access is read only and can be used to provide reports. States would be able to log onto the portal using a username and password via any internet connection. The MPLS portal would provide statistics such as utilization, availability and router performance. The following requests were made: a) to have the network overview on the first page of the

portal amended to reflect the actual installation for Guadalupe and b) to reintroduce the router CPU usage (%) in the portal. TSTT will review these requests and inform TTCAA accordingly. Maintenance visits are scheduled bi-annually with the switching of primary to secondary routers on each visit. The visits also serve to verify the equipment inventory on site and proper environmental conditions.

2.1.6 TSTT informed on their fixed and contracted maintenance:

- Fixed maintenance included dedicated technical support during the hours of 8:00 am to 4:00 pm Monday through Friday at Piarco, 24 x 7 x 365 monitoring of the AFS voice network and Cisco devices and biannual visits to each AFS site to conduct operational audits on circuits and Cisco equipment. **Appendix D** to this part of the report details the agreed schedule for the first maintenance visits to be carried out from June 2012. The next maintenance visits are scheduled by December 2012. The E/CAR Members will be informed at least two weeks in advance for this coming December maintenance visits.
- Contract maintenance refers to any maintenance conducted by TSTT and/or its contractors on public holidays and outside of 8:00 to 4:00 pm Mondays through Fridays and includes the repair or replacement of any components.

2.1.7 TSTT outlined their maintenance procedures in terms of timelines as follows:

- Initial feedback on fault after the report is made to the Customer Service Operations Center (CSOC)- within 30 minutes;
- TSTT to identify and isolate fault of notification to Customer – within 90 minutes;
- Arrival on a /AFS site from when initial feedback is received after a report is made- within one to three hours;
- General fault resolution time which may be dependent on access to TTCAA's premises, nature of the fault and availability of spare equipment – within two to four hours;
- Escalation conditions under the following conditions:
  - No status update in any 4 hour period;
  - After the first 4-hour period with no response, the first escalation should be utilized. The first call should be to the Manager of the NOC. The ESOC Manager should then be advised of the problem;
  - After five (5) hours have elapsed with no response, the second escalation should be utilized, with the first call to The Manager, technical Solutions and Support, should be advised of the problem soon thereafter;
  - After seven (7) hours have elapsed with no response, the third escalation should be utilized.

2.1.8 The TSTT maintenance procedure will be included in the ECAR Maintenance Procedure (which includes also the Standard Operation Procedure and Service Level Agreement) to be implemented by December 2012 (details in Conclusion E/CAR/NTG/2/01 Appendix A of Agenda Item 1.)

## 2.2 Network Performance Analysis and General Aspects

2.2.1 Under P/01, TSTT Presentation, a six-month performance evaluation of the new ECAR/AFS Network (MPLS) was presented emphasizing the good performance and availability of the network, showing a great improvement in comparison to the previous AFS Network infrastructure. **Appendix E** to this part of the report shows the availability statistics per node.

2.2.2 Several E/CAR AFS Network users reported their evaluation for the network performance:

- Under WP/07 France informed the Meeting that the E/CAR AFS network (MPLS) is globally better than its previous network infrastructure and performance, but a connexion to Guadeloupe remains, and since months AFTN is unserviceable in Guadeloupe. Moreover, a 3 days complete failure occurred in May which resulted in no voice and flight plans, and neither information nor feedback was received. So availability has to be closely monitored and needs to be improved, in terms of its Mean Time between Failures - MTBF and Mean Time to Repair – MTTR parameters. France has concluded that the E/CAR/NTG network is globally operating correctly except for AFTN in Guadeloupe. More efforts are needed to react and investigate more quickly when a problem is detected. Communication with end users has to improve. Pending actions have to be completed (backup procedures, visit to sites, SLA). The direct connexion to Guadeloupe has to be set up urgently.
- Under WP/08 Barbados informed that both voice and data circuits are operational and have remained so with a minimal number of failures particularly in comparison to the legacy network. Though some issues of lack of effective feedback on resolution of those issues that occurred is to be noted during the period, the level of service from this network over the past year has been generally acceptable. Barbados has experienced an absence of major network failures during the past year. This represents a significant improvement in network availability over what previously existed. The overall Network performance as evidenced by availability was found to be very good.
- ECCAA in representation of the OECS States informed that from the feedback from most of the airports suggests that both speech and data have been performing reasonably well.

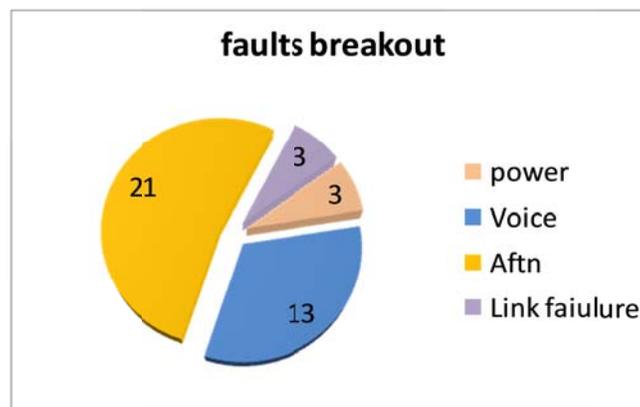
2.2.3 The E/CAR AFS Network members also provided several comments for improving the performance of the network:

- Since August 2011, AFTN in Guadeloupe is not functioning correctly. Some AFTN messages are split in two different IP frames, with important delay between the receptions of these two frames, resulting in the message rejection in our AFTN switch. The cause of this delay and the fact that in Martinique this phenomenon is not occurring has not been resolved yet. On March 2012, the AFTN in Guadeloupe has started operating, the Guadeloupe AFTN switch being tuned with specific parameter (no time out between two received frames),

nevertheless until 7th of May, the AFTN service in Guadeloupe unserviceable (no output to serial AFTN interface).

- Barbados noted that currently the area where improvement is required is in the feedback on the status of faults and their resolution and there is a need to close the reporting and fault resolution loop. An Initial step in this direction was noted for a fault occurring in mid-May which is a step in the right direction and has so been noted.
- The United States also confirmed the performance of the network and commented that the problems in the Atlanta - Piarco AFTN through San Juan were resolved and that the network was performing very well.

2.2.4 The failure reporting tickets registered from November 2011 to April 2012 highlighted that a total of forty (40) tickets were reported for the period November 2011 to April 2012. As of April 2012, thirty-seven (37) of these have been closed with three (3) still open. The breakout of faults is illustrated as follows:



The failures due to the AFTN serial port are resolved by resetting the interface. This failure will be eliminated when the AMHS IP interfaces are deployed.

## 2.3 Fault Reporting

2.3.1 An important aspect of the Eastern Caribbean Aeronautical Fixed Services (E/CAR AFS) network is the fault reporting and resolution process. In WP/08 Barbados identified the internal and external procedures used. At the E/CAR/WG/29 a fault reporting form was introduced which could have been sent to Trinidad and Tobago, the Network Coordination Centre for fault management either by facsimile or email to [ais@caa.gov.tt](mailto:ais@caa.gov.tt) or/and [telecoms.ttcaa@gmail.com](mailto:telecoms.ttcaa@gmail.com). In October 2010 Trinidad and Tobago introduced an email reporting system which continues to date.

2.3.2 During the third quarter (June) of 2011 Trinidad and Tobago introduced an on-line web-based fault reporting and resolution application (Topdesk), which would allow users of the Eastern

Caribbean AFS network to log faults and receive timely resolution information. Passwords were assigned per State to ATC, AIS, Engineering/NOC and Administration departments which allowed users the ability to enter a fault and view subsequent feedback information on resolution for their State/Territory. The application provides statistics and reports for all States/Territories. Reports and Statistics may be generated per State, per period, per type of failure, etc. TTCAA will provide France a technical support contact in Trinidad and Tobago regarding the progress to the resolution of failures.

2.3.3 Three on-line training sessions were held utilizing *gotomeeting*. After the training, trial and familiarisation period States were informed that as of the 1<sup>st</sup> January 2012 reports would be accepted on Topdesk while maintaining all previous medium for reporting faults (telephone, fax, email). While faults that are called in via telephone, faxed or emailed are logged into the Topdesk application by the Piarco AIS or the Telecommunications and Electronics Department, the intent is for users to become familiar with the application. If training on this application is necessary, States can request this support to the E/CAR/NTG rapporteur by email. In this regard the meeting drafted the following conclusion:

**Draft Conclusion E/CAR/NTG 3/01 Use of TopDesk fault reporting application**

To improve the efficiency and shorten the fault reporting times, E/CAR AFS Network users are urged to utilize the Topdesk application as the primary means to log fault reports

**2.4 E/CAR AFS Network Replacement Activities**

2.4.1 WP/10 by the MEVA TMG Coordinator provides an update on the work carried out by the newly created MEVA Task Force to develop the common Request for Information (RFI) for the transition to MEVA III in the CAR Region in coordination with the ECAR NTG. The MEVA TMG/22 Meeting proposed to the Director of Civil Aviation to start the process for transitioning to MEVA III Network. In support of the interconnection/integration initiative, at the 2<sup>nd</sup> E/CAR/TNG Meeting, the E/CAR/NTG agreed the Decision E/CAR/NTG/2/10 - Planning for the implementation of a Common Request for Information (RFI) document for the CAR Region telecommunication networks. With the above mentioned conclusions an E/CAR/NTG member was requested by the MEVA TMG to join the MEVA III TF.

2.4.2 During the MEVA TMG/23 Meeting, the Meeting agreed on the creation of a Task Force to carry out the development and corresponding activities necessary to complete the Request for Information (RFI) document. The newly created Task Force is responsible for:

- a) Project Work Plan and Schedule
- b) Generate and issue a Request for Information (RFI)
- c) Generate and issue a Request for Proposal (RFP)
- d) Update to DOA and other Network administrative issues

- 2.4.3 The Task force participants are:
- COCESNA - Roger Pérez
  - FAA - Dulce María Rosés (lead) and Olivier Delperdange
  - Jamaica - Derrick Grant (lead) and David Miller
  - Panama - Daniel Avila
  - Trinidad & Tobago - Veronica Ramdath
  - Haiti - Yves Andre Cesar - Part of the Task Force as an observer
  - ICAO will technically assist this task Force

2.4.4 The TMG agreed that the RFI be drafted in such a way that the response from potential service providers includes all available technologies and architectures, as well as the interconnection with the ECAR AFS Network. It was also defined that the RFI should be available no later than 6 July, 2012. This will provide time to organize and invite potential vendors to present their responses to the RFI in the MEVA/TMG/24 Meeting scheduled for 15 to 19 October 2012. An initial draft RFI is being reviewed by the MEVA III Task Force. The Task Force conducts scheduled teleconferences to carry out the work assigned by the TMG. The last one was held on 8 May 2012. In this regard and to supersede decision E/CAR/NTG/2/10, the Meeting formulated the following decision:

**Decision E/CAR/NTG/3/02 – Regional Interconnection of the MEVA III and the E/CAR Networks**

Considering the importance of exchanging information for a regional interconnection between the E/CAR and the MEVA Network (MEVA III) that the NTG Members:

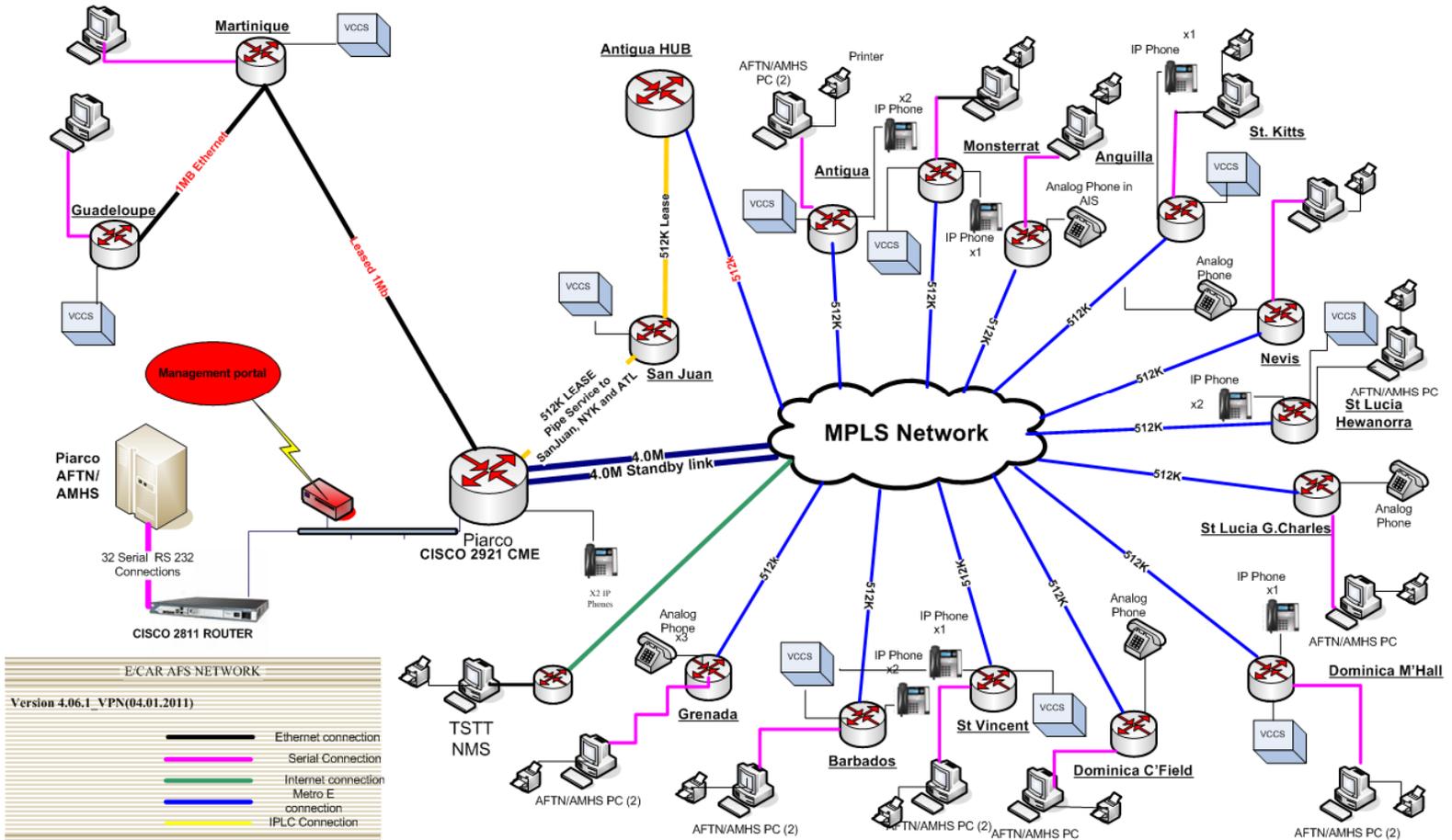
- a) Review the draft MEVA III Request for Information Document (RFI) and provide comments to the E/CAR/NTG representative (Veronica Ramdath) in the MEVA III Task Force; and
- b) Participate in the MEVA TMG/24 meeting when vendors are to respond to the RFI.

2.4.5 Similarly the Meeting identified the importance to discuss how the interconnection between the existing MEVA II Network and the E/CAR AFS Network could be achieved. In this regard the 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.

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APPENDIX A

E/CAR AFS NETWORK



## APPENDIX B

### ECAR AFS NETWORK Project Milestones

ACTIVITIES	DATES
SITE SURVEY	3-18 May 2010
SITE PREPARATION	JUNE-JULY 2010
CUSTOMER ACCEPTANCE OF DESIGN	16-JUN-2010
VOICE PROOF OF CONCEPT COMPLETED	25-Oct-2010
AFTN PROOF OF CONCEPT COMPLETED	9-Nov-2010
PRESENTATION OF TRANSITION PLAN AND SIGN OFF OF PROOF OF CONCEPT	11-Nov-2010
STAGING OF EQUIPMENT	AUG-OCT 2010
DEPLOYMENT PHASE 1 AFTN CUTOVER	24 JAN - 18 FEB 2011
DEPLOYMENT PHASE 11 AND VOICE IMPLEMENTATION	17 MARCH -01 APRIL 2011
MARTINIQUE AND GUADELOUPE DEPLOYMENT	25-26 AUGUST 2011
PUERTO RICO (SAN JUAN) DEPLOYMENT – VOICE	23-24 AUG 2011
PIARCO VOICE DEPLOYMENT	11-OCT-2011
PUERTO RICO (ATLANTA) DEPLOYMENT - AFTN	25-MAR-2012
HANDOVER OF PROJECT DOCUMENTS	14 FEB-2012

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**APPENDIX C**  
**Handset deployment (IP Phones)**

SITE	HANDSETS DEPLOYED	TYPE	LOCATION	COMMENTS
Anguilla	1	Analog	AIS	
Antigua - VC Bird	3	2 IP / 1 ALG	ATC / AIS	1 IP Phone deployed in tower, not connected wiring to be put in place.
Barbados	3	2 IP / 1 ALG	ATC / AIS	Wiring required to Tower to complete installation of one back up IP phone.
Dominica - Canefield	3	ALG	ATC / AIS	
Dominica - Melville Hall	2	1 IP / 1 ALG	ATC / AIS	1 Analog outstanding for Fire Station; Additional wiring required.
Grenada	3	ALG	ATC / AIS	2 Multiline analog sets installed in Tower.
Monsterrat	3	Analog	ATC / AIS	
Nevis	3	Analog	ATC	
St Kitts	3	1 IP / 2 ALG	ATC / AIS & FIRE	Leased circuit required for AIS phone deployment; Fire - new wiring required
St Lucia - GF Charles	4	1 IP / 3 ALG	ATC / AIS & FIRE	Wiring required to complete fire ext installation
St Lucia - Hewanorra	4	4 ALG	ATC / AIS & FIRE	
St Vincent	3	3 ALG	AIS / FIRE	New wiring required for AIS and Fire
Trinidad	4	3 IP / 1 ALG	ATC / AIS	

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## APPENDIX D

### Schedule for First E/CAR AFS Maintenance Visit

DATE	LOCATION	ACTIONS
Sunday June 3, 2012	Trinidad	Travel Day to Barbados
Mon June 4 - Tues June 5, 2012	Barbados	Maintenance; routine tests and switch over Router configuration
Wed June 6, 2012	Barbados	Travel Day to St Kitts & Nevis
Thur June 7 - Sat June 9, 2012	St Kitts & Nevis	Maintenance; routine tests and switch over. Router configuration
Sunday June 10, 2012	St Kitts & Nevis	Travel Day to Dominica
Mon Jun 11 - Wed Jun 13, 2012	Dominica	Maintenance: routine tests and switch over. Router configuration.
Thurs June 14, 2012	Dominica	Travel Day to Anguilla
Fri June 15 - Sat Jun 16, 2012	Anguilla	Maintenance; routine tests and switch over; installation of 2 exts.
Sunday June 17, 2012	Anguilla	Travel Day to Martinique
Mon Jun 18 - Tues June 19	Martinique	Maintenance; routine tests and switch over
Tues June 19, 2012	Martinique	Travel Depart Martinique pm for Guadeloupe
Wed June 20 - Thur June 21	Guadeloupe	Maintenance: routine tests and switch over. Router configuration.
Friday June 22, 2012	Guadeloupe	Travel Day to Antigua
Monday June 25 - Wed June 27	Antigua & Monsterrat	Maintenance: routine tests and switch over. Router configuration.
Thurs June 28	Antigua	Travel Day to St Lucia
Friday June 29 - Mon July 2	St Lucia	Maintenance: routine tests and switch over. Router configuration.
Tues July 3	St Lucia	Travel Day to St Vincent
Wed July 4 - Thur July 5	St Vincent	Maintenance: routine tests and switch over. Router configuration.
Friday July 6	St Vincent	Travel Day to Grenada
Mon July 9 - Tues July 10, 2012	Grenada	Maintenance: routine tests and switch over. Router configuration.
Wed July 11, 2012	Grenada	Travel Day - Return to Trinidad

**APPENDIX E**

## Availability Stat per Node

Country	% Availability (6months)
St Kitts	88.19
San Juan	94.834
G F Charles	98.839
Piarco	99.938
Canefield	78.063
Hewanorra	98.853
Anguilla	86.365
Antigua	98.351
Dominica Melville Hall	97.926
St Vincent	98.843
Montserrat	98.860
Grenada	98.582
Nevis	97.178
Barbados	98.909
Martinique	92.129

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**Agenda Item 3:            Related Additional NTG Activities**

**3.1                    Radar Sharing**

3.1.1                The Meeting recalled that the Fourth Meeting of the PIARCO FIR Policy Group (PIARCO/FIR/PG/4) in response to ICAO letter dated 6 January 2011 (Ref.: N1-3.10 – EMX0014), for the need for a State or organization to host the radar data server in the Eastern Caribbean, agreed to accept Trinidad and Tobago's offer to provide the radar data server and so formulated conclusion *PIARCO/FIR/PG/4/2*:

**CONCLUSION PIARCO/FIR/PG/4/2 E/CAR RADAR DATA SERVER**

That Trinidad and Tobago will provide and host the radar data server for the sharing/exchange/remoting of radar data in the Eastern Caribbean.

3.1.2                Radar data sharing will bring to the air traffic environment benefits such as increased surveillance coverage which directly impacts on airspace utilization and efficiency by permitting a reduction in aircraft separation and improve safety of operations. It will provide redundancy within areas where nearby Radar systems overlap, cost benefits to airline operators due to improved service and optimum flight performance. It will also reduce traffic congestion or efficiency manages traffic in busy ATC environments and homogeneity in ATC operations between neighbouring states.

3.1.3                Trinidad and Tobago informed of their full commitment to the realization of radar data sharing. Following the commitment of conclusion *PIARCO/FIR/PG/1/2*, Trinidad and Tobago will collect the surveillance information (radar feeds) from the Martinique and Guadeloupe radars (monoradar and multiradar), Barbados and Trinidad and Tobago, process the information via multi sensor fusion on the Piarco Air Traffic Management (ATM) system and then disseminate the data to the E/CAR states on the new E/CAR AFS network via a Cadmos ST media switch unit. All these radar feeds are available today at PIARCO ATM system through the E/CAR AFS Network.

3.1.4                The Piarco ATM system will be able to provide a maximum of twenty-four (24) (serial) outputs or multiple outputs via LAN with IP addresses. The data will be provided as System Track (ASTERIX Category 62 standard) data format. For this purpose, a gateway will be integrated into the system. It will be comprised of a Dell dual server. The surveillance data output will be centred on the same system centre of the Piarco ATM system. The gateway will provide the output through a serial line, which will be split by means of a passive data distributor.

3.1.5                The ST media switch, connected to a local area network, acts as a data communications server providing wide-area connectivity. It supports a wide range of Wide Area Network (WAN) protocols, allowing several different clients to access the data communication server simultaneously. It can also interface WANs which differ in protocol type, standard (V.24, V.11, V.35), baud rate and/or timing (also using the internal clock). It provides up to six (6) independent sections, each one with two 10/100 Ethernet ports and 4 high-speed WAN serial ports, thus acting as an intelligent WAN/LAN bridge, a WAN/LAN gateway device, or a remote WAN connectivity unit. The media switch is specifically designed to act as a router, performing switching and tunneling functions between serial ports and/or Ethernet ports.

3.1.6                Under WP/5, ICAO informed the meeting that Radar Data Sharing in the E/CAR Region has been discussed since the first E/CAR/WG Meetings, with little progress in its implementation up to

date. During the E/CAR/WG/32 Meeting and with the segregation of tasks between the CNS Committee and the E/CAR Network Technical Group (E/CAR/NTG) as requested by the DCAs, the assignment of the radar data sharing tasks to the CNS Committee was made.

3.1.7 During the E/CAR/NTG/2 Meeting, to analyse and plan the necessary actions for future telecommunication requirements, the NTG considered the radar data sharing activities in their work programme and formulated Decision E/CAR/NTG/2/08 *Analysis of telecommunication requirements for future operation needs*, requesting the E/CAR/NTG Rapporteur to coordinate and request the E/CAR/WG CNS Committees their future operational needs that require the use of the E/CAR AFS Network regarding the Radar Data Server implementation

3.1.8 The Radar Data Sharing Project led by the CNS Committee shall also ensure that radar data is exchanged and transmitted following GREPECAS conclusion with the ASTERIX specifications, which describe the formats for the exchange of data between the surveillance sensors and data processing systems, and also for the generalized exchange of surveillance data between systems. Also the correct ASTERIX Addressing scheme should be implemented. In this regard, Antigua, Barbados, Trinidad and Tobago and France (Martinique and Guadeloupe) are to inform ICAO, by the 30 of July 2012, on what ASTERIX SAC/SIC codes are being configured in their respective radar systems. Also the CNS Committee requested Antigua, Barbados, Trinidad and Tobago and France (Martinique and Guadeloupe) to provide their theoretical radar coverage for Flight Level (FL) 50, 100, 150, 200 and 300 by 26 July 2012 to continue the evaluation on this matter.

3.1.9 Since the E/CAR/NTG contributes to the radar data sharing Project, who already defined an action plan for these activities, the CNS Committee and the participating States need to define a complete Project Plan for the implementation of the Radar Data Processor and the end user systems that will process the radar feed. Definition of the roles, responsibilities, conditions and requirements for this implementation shall be made and established in agreements.

3.1.10 WP/11 by France informed the Meeting that while the TTCAA RDPS becomes operational, FWI can provide to any E/CAR States the same data being provided currently to Trinidad (DACOTA multiradar and/or the 2 monoradar data). All data provided complies with Asterix Eurocontrol format (Dacota data is ASTERIX category 30 and the monoradar data are categories 1 and 2). The only requirements to display the provided data is that each receiving data States should ensure that their radar/traffic displays are capable of processing this type of data, the telecommunication mean through E/CAR AFS Network is available and the corresponding letter of agreement (LOA) is formalized by FWI and the State.

### **3.2 AMHS and FPL Centralized Activities**

3.2.1 In IP/01 the United States informed that the FAA in coordination with ICAO NACC Office hosted a second workshop/meeting in Miami, FL in 10 to 12 April 2012. The objectives of the workshop were to:

- Provide guidance on the AMHS implementation within the global operational concept framework of the ICAO and the regional agreements;
- Provide participants with a forum to exchange information, experiences and lessons learned from the different AMHS preparatory actions made in the NAM/CAR Regions;

- Discuss and organize the AMHS for coming trial and implementation activities in the NAM/CAR Regions based on the implementation matrix agreed in the AMHS workshop of 2012; and;
- Provide knowledge on the current and future status of the AMHS implementation in the NAM/CAR regions

3.2.2 The participants to the Workshop had a chance to review presentations made by United States on lessons learned on recent AMHS Implementation with the United Kingdom, Japan and Fiji describing the FAA AMHS cutovers, current FAA AMHS Status, interoperability testing, cutover planning and procedures and dual feed of data configuration. Also the NAM/CAR/SAM IPv4 Addressing application were discussed, as well as the possible monitoring features with BGP and SNMP and the planning for X.25 circuit migration to an IP infrastructure. Finally a live presentation for the ATS Messaging Management Centre (AMC) was given to promote the participants registration and use of the AMC.

3.2.3 The United States highlighted the following issues for the AMHS transition:

- States that are ready to transition to AMHS should plan well in advance and begin coordination with Federal Aviation Administration
- Select a Point of Contact through the transition process,
- That States share information among themselves regarding AMHS implementation.

3.2.4 In keeping with ICAO Global Plan Initiatives – DOC 9750 (GPI-22) Communication and Infrastructure, ICAO implementation of the New Flight Plan format (Amendment 1 to Doc 4444) and ECAR/DCA/23 Conclusion 23/6 on Missing and Duplicate Flight Plan, Trinidad and Tobago Civil Aviation Authority signed contracts with COMSOFT and IDS for the supply and installation of an Air Traffic Services Message Handling System – Extended Service (AMHS) and an Aeronautical Information Services System (AISS) respectively.

3.2.5 The AMHS will be installed and commissioned in Trinidad during the period 3rd May 2012 thru 16th November 2012. **Appendix A** to this part of the report shows the timeline for Trinidad and Tobago's installation etc. AMHS User Agent (UA) terminals will be installed for the Eastern Caribbean States during the period November 2012 thru March 2013. States are requested to make arrangements for expediting of customs clearances and to have on-site wiring completed so that this task can be completed without undue delay. Technical and operational training will be done on site after installation and testing. Therefore states are to ensure that the appropriate staff is on hand to receive this training. During this period Eastern Caribbean States will continue to use the present IAT terminals for communication using an AFTN gateway provided by the COMSOFT Switch.

3.2.6 Interoperability test with the Port of Spain AMHS switch and the Maiquetia Switch is expected to begin in October 2012. Similar tests with Atlanta NADIN will be conducted in February 2013 and thereafter, the switch will be commissioned for use in March 2013.

3.2.7 The recent Amendment 1 to ICAO DOC 4444 has defined changes in content and format to the traditional Flight Plan (FPL) and how the FPL is shared between stakeholders. With the deadline now fast approaching the challenge facing TTCAA and the ECAR states is in meeting the November 15th 2012 timeline. Further complicating the transition to the 2012 FPL is the fact that some of the global users of flight plans who will be sharing flight information with TTCAA and the ECAR states will not have

adopted the 2012 FPL by the deadline. This means that a dual operational environment of the old FPL and 2012 FPL will need to be maintained for some time.

3.2.8 The procured AISS provides the technological solution to transition TTCAA and all ECAR states to the 2012 FPL while maintaining backwards compatibility to the old FPL at the same time. **Appendix B** to this part of the report details the GANTT chart for the AISS delivery in Trinidad and Tobago. The AISS is designed to be the single authoritative source for FPLs for TTCAA and the ECAR states. All FPLs originating in other countries which are to be sent to TTCAA or an ECAR state will be sent to the AISS. Using the AISS terminals, relevant parties (users) can access these FPLs directly based on their needs. In the same way, any FPL originating from TTCAA or ECAR states will be created using the AISS terminals with the system automating the dissemination of the FPLs to external parties as applicable.

3.2.9 The AISS is 100% compliant to the 2012 FPL. It supports the creation, reception, processing, validation, storage, and dissemination of the 2012 FPL. Additionally the AISS provides backward compatibility to the old FPL format in the following ways. As a matter of configuration, all FPLs received from external parties in the old format can be stored in the database as is or converted to 2012 format and then stored. All FPLs created by the system are created in 2012 format, but upon dissemination they are transmitted in either format based on the capabilities of recipient. (The system contains a listing of FPL recipients with their associated FPL format). In keeping with the time schedule for the delivery of the AMHS UA terminals for the ECAR States the AISS terminals will be delivered during the period November 2012 thru March 2013.

3.2.10 In addition to the 2012 FPL requirements, the AISS is also well positioned to meet the upcoming requirement of Aeronautical Data Quality (ADQ) which is a set of European Regulations intended to ensure the quality of aeronautical information throughout its entire lifecycle. While ADQ is a European requirement, it is quickly being adopted by other regions because of its obvious benefits for quality and safety. In keeping with principles of ADQ, the AISS contains a central static aeronautical database which is based off the AIXM v5.1 data model. This single database employs a complex workflow management system to ensure aeronautical static data maintains its integrity throughout its processing lifecycle from origination to publication. Raw data is captured from the source, follows a defined process flow with full traceability, and is processed and validated prior to storage in the central database. This database serves as data source to publication department enabling a high degree of automation in AIP and Chart publication. Furthermore the content of all NOTAMs, OPMETs, and FPLs received by the AISS are validated against the central static database extending the principles of ADQ beyond static aeronautical data to dynamic data as well.

3.2.11 The TTCAA will begin installation and training of AMHS and AISS stations in November 2012, this will not accommodate the 15th of November deadline for flight plan 2012. A Contingency plan has therefore been developed for the Eastern Caribbean States to fulfil the requirements for FPL 2012. This involves the use of a Flight Plan converter. The FPL converter converts PRESENT FPL to the FPL 2012 format and vice-versa. Some information to this effect has already been disseminated via AIC series A 01/12 dated 31 May 2012. ICAO recalled the Meeting that the use of FPL converters may be used as a temporary solution and only New to PRESENT format conversion should be allowed.

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3.2.12 The initial telecom requirements for the radar data sharing and the Centralized Flight Planning activities will be defined by the Ad-hoc Group Meetings of the E/CAR/WG/33 and follow-up on future teleconferences.

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**Appendix A**  
**AMHS Implementation**

No.	Phase	Done	Begin	End	Dur.	Predecessor	Successor	Staff/Ressource	Ref.	Acr.
1	AMSS-TT (500410)	0%	Do 03.05.12	Fr 04.09.26	3742 t?					
2	Milestones	0%	Do 03.05.12	Fr 04.09.26	3742 t					
3	Payment Milestones	0%	Fr 11.05.12	Fr 16.11.12	135 t					
4	ED - First Payment Received (10%)	0%	Fr 11.05.12	Fr 11.05.12	0 t	9EA+7 t?	10	KL, IH	, C21.2.1	
5	DEL - Delivery (60%)	0%	Fr 24.08.12	Fr 24.08.12	0 t	12		KL, IH	, C21.2.2	
6	FA - Final Acceptance (SAT, 30%)	0%	Fr 16.11.12	Fr 16.11.12	0 t	27		KL, IH	, C21.2.3	
7	Project Milestones	0%	Do 03.05.12	Fr 04.09.26	3742 t					
8	Contractual	0%	Do 03.05.12	Fr 16.11.12	142 t					
9	Contract Signature	100%	Do 03.05.12	Do 03.05.12	0 t		4EA+7 t?	MS/UKA		Ed
10	ED - Reception of First Payment	0%	Fr 11.05.12	Fr 11.05.12	0 t	4	33EA-7 t;60	MS/UKA		Ed
11	FAT - Factory Acceptance	0%	Fr 27.07.12	Fr 27.07.12	0 t	43	67;20	PC		FatD
12	DEL - Delivery	0%	Fr 24.08.12	Fr 24.08.12	0 t	68	5;69	PC		Del
13	SAT	0%	Fr 16.11.12	Fr 16.11.12	0 t	58	27;26	PC		SatD
14	Further Checkpoints	0%	Fr 15.06.12	Fr 04.09.26	3710 t					
15	Project Management	0%	Fr 15.06.12	Fr 04.09.26	3710 t					
16	DA - Design Approved	0%	Fr 15.06.12	Fr 15.06.12	0 t	35	64EA-15 t	PC		DsgnD

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No.	Phase	Done	Begin	End	Dur.	Predecessor	Successor	Staff/Ressource	Ref.	Accr.
17	 F12 - Ready for FPL 2012 Testing	0%	Do 28.06.12	Do 28.06.12	0 t	62		PC		
18	HHO - Hardware Handover	0%	Fr 29.06.12	Fr 29.06.12	0 t	64		PC		
19	FATR - Ready for FAT	0%	Mo 23.07.12	Mo 23.07.12	0 t	41	43	PC		
20	 SHIP - Start of Shipment	0%	Fr 27.07.12	Fr 27.07.12	0 t	11	45	PC	14, C13.1	
21	INST - Installation Complete	0%	Fr 07.09.12	Fr 07.09.12	0 t	69	70	PC		InstD
22	SATR - Ready for SAT	0%	Fr 21.09.12	Fr 21.09.12	0 t	70;47	49	PC		
23	SOP - Start of Operational Service	0%	Fr 05.10.12	Fr 05.10.12	0 t	50		PC		
24	TRR - Ready for Training	0%	Fr 21.09.12	Fr 21.09.12	0 t	70	73;76	PC		
25	TRD - All Training Done	0%	Do 25.10.12	Do 25.10.12	0 t	80		PC		TrD
26	EOP - End of Project	0%	Fr 16.11.12	Fr 16.11.12	0 t	13;27		PC		
27	FA - Final Acceptance (=SAT)	0%	Fr 16.11.12	Fr 16.11.12	0 t	13;20 Monate;	26	PC		Fa
28	 EOW - End of Warranty	0%	Fr 04.04.14	Fr 04.04.14	0 t	EA+12 Monate		NN		
29	 EOM - End of Maintenance	0%	Fr 04.09.26	Fr 04.09.26	0 t	A+120 Monate		NN		
30	Engineering	0%	Do 03.05.12	Mi 14.11.12	140 t?					
31	System Design	0%	Do 03.05.12	Do 03.05.12	1 t?					
32	Design Phase	0%	Do 03.05.12	Fr 15.06.12	32 t?					

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No.	Phase	Done	Begin	End	Dur.	Predecessor	Successor	Staff/Ressource	Ref.	Acr.
33	Design Draft	0%	Do 03.05.12	Mi 16.05.12	10 t?	10EA-7 t	57	SEB[50%];PM[10%		Dsgn
34	Update of Design Documention	0%	Mo 21.05.12	Fr 08.06.12	15 t?	57	35	SEB[50%];PM[10%		Dsgn
35	Final Review of Design Documentation	0%	Mo 11.06.12	Fr 15.06.12	5 t?	34	16	TTCAA		DsgnR
36	Test	0%	Mo 18.06.12	Mi 14.11.12	108 t?					
37	Factory Acceptance Phase	0%	Mo 18.06.12	Fr 27.07.12	30 t?					
38	FAT Script Generation	0%	Mo 18.06.12	Fr 29.06.12	10 t	65AA-10 t	39	TOA[50%];SEB[50		Fats
39	FAT Script Review	0%	Mo 02.07.12	Fr 06.07.12	5 t	38	40	TTCAA		FatsR
40	FAT Script Update	0%	Mo 09.07.12	Fr 13.07.12	5 t?	39	41	TOA[50%];SEB[50		Fats
41	Internal FAT Dry-Runs	0%	Mo 16.07.12	Fr 20.07.12	5 t	40	42AA;19	SEB;PC[10%]		SysT
42	Training	0%	Mo 16.07.12	Fr 20.07.12	5 t	41AA	43	???.TOA		AdmC
43	Performance of FAT	0%	Mo 23.07.12	Fr 27.07.12	5 t	42;19	11	TOA;SEB;PC[10%		Fat
44	Site Acceptance Phase	0%	Mo 30.07.12	Mi 14.11.12	78 t?					
45	SAT Script Generation	0%	Mo 30.07.12	Fr 10.08.12	10 t	20	46	SEB[50%];TOA[50		Sats
46	SAT Script Review	0%	Mo 13.08.12	Fr 17.08.12	5 t	45	47	TTCAA		SatsR
47	SAT Preparation	0%	Mo 20.08.12	Fr 24.08.12	5 t?	46	22	SEB[50%];TOA[50		atPrep
48	PSAT	0%	Mo 24.09.12	Fr 12.10.12	15 t?					

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No.	Phase	Done	Begin	End	Dur.	Predecessor	Successor	Staff/Ressource	Ref.	Acr.
49	PSAT (3 days)	0%	Mo 24.09.12	Mi 26.09.12	3 t?	22	51;50	PC;SEB		Sat
50	Reliability Test (7 days)	0%	Do 27.09.12	Fr 05.10.12	7 t?	49	54;52;53;23	TTCAA		Sat
51	AMHS Interoperability Tests	0%	Mo 08.10.12	Fr 12.10.12	5 t?	49				
52	Venezuela (Maiquetia)	0%	Mo 08.10.12	Mi 10.10.12	2,5 t?	50	53;54	SEB;PC		Sat
53	USA/FAA	0%	Mi 10.10.12	Fr 12.10.12	2,5 t?	52;50	54	SEB;PC		Sat
54	ORD (30 Kalender Days)	0%	Mo 15.10.12	Mi 14.11.12	23 t	50;52;53	58	TTCAA		Stab
55	Logistics	0%	Mo 14.05.12	Fr 16.11.12	135 t?					
56	Meetings	0%	Do 17.05.12	Fr 16.11.12	132 t?					
57	Design Review Meeting/Site Survey	0%	Do 17.05.12	Fr 18.05.12	2 t?	33	34	PC;SEB		Cdr
58	FSAT	0%	Do 15.11.12	Fr 16.11.12	2 t?	54	13	PC		Sat
59	FPL2012 Interoperability	0%	Mo 14.05.12	Do 28.06.12	34 t?					
60	Prepare FPL2012 System	0%	Mo 14.05.12	Fr 08.06.12	20 t?	10	61	TOA[50%]		Int
61	Ship FPL2012 System	0%	Mo 11.06.12	Fr 22.06.12	10 t?	60	62			Ship
62	Introductory FPL2012 Hands-On Training	0%	Mo 25.06.12	Do 28.06.12	4 t?	61	17	TOA		AdmC
63	Manufacturing Phase	0%	Mo 28.05.12	Fr 06.07.12	30 t					
64	HW Procurement & Assembly	0%	Mo 28.05.12	Fr 29.06.12	25 t	16EA-15 t	65;18	HE[25%];SEB[25%]		Proc

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No.	Phase	Done	Begin	End	Dur.	Predecessor	Successor	Staff/Ressource	Ref.	Acr.
65	Integration Tests	0%	Mo 02.07.12	Fr 06.07.12	5 t	64	38AA-10 t	TOA[50%];SEB[50		Int
66	Delivery and Installation on Site	0%	Mo 30.07.12	Fr 21.09.12	40 t?					
67	Shipment Preparation	0%	Mo 30.07.12	Mi 01.08.12	3 t?	11	68 HE			
68	Shipment of Equipment	0%	Do 02.08.12	Fr 24.08.12	17 t?	67	12			Ship
69	Installation on site	0%	Mo 27.08.12	Fr 07.09.12	10 t?	12	21 HE			Inst
70	On-Site Integration	0%	Mo 10.09.12	Fr 21.09.12	10 t?	21	22;24 HE			Inst
71	Training	0%	Mo 24.09.12	Do 25.10.12	24 t?					
72	HW Maintenance Course (2x 5 Days)	0%	Mo 24.09.12	Fr 05.10.12	10 t?					
73	HW Maintenance (Course 1)	0%	Mo 24.09.12	Fr 28.09.12	5 t?	24	74 T-TR			TechC
74	HW Maintenance (Course 2)	0%	Mo 01.10.12	Fr 05.10.12	5 t?	73	76 T-TR			TechC
75	AFTN/AMHS Supervisor Course (2x 5days)	0%	Mo 08.10.12	Fr 19.10.12	10 t?					
76	AFTN/AMHS Supervisor Course (Course 1)	0%	Mo 08.10.12	Fr 12.10.12	5 t?	24;74	77 M-TR			OpsC
77	AFTN/AMHS Supervisor Course (Course 2)	0%	Mo 15.10.12	Fr 19.10.12	5 t?	76	79 M-TR			OpsC
78	User Agent Course (2x 2days)	0%	Mo 22.10.12	Do 25.10.12	4 t?					
79	User Agent Course (Course 1)	0%	Mo 22.10.12	Di 23.10.12	2 t?	77	80 C-TR			OpsC
80	User Agent Course (Course 2)	0%	Mi 24.10.12	Do 25.10.12	2 t?	79	25 C-TR			OpsC

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Appendix B to the Report on Agenda Item 3

**APPENDIX B**

**AISS Program for the Trinidad & Tobago Civil Aviation Authority (TTCAA)**

Task Name	Duration	Predecessors	Start	Finish
Contract Award	0 days		Mon 5/28/12	Mon 5/28/12
<b>Milestones</b>	<b>105 days</b>	<b>1</b>	<b>Mon 5/28/12</b>	<b>Mon 10/22/12</b>
<b>AISS Program for the Trinidad &amp; Tobago Civil Aviation Authority (TTCAA)</b>	<b>114 days</b>	<b>1</b>	<b>Mon 5/28/12</b>	<b>Thu 11/1/12</b>
<b>Design Phase</b>	<b>25 days</b>		<b>Mon 5/28/12</b>	<b>Fri 6/29/12</b>
<b>System Configuration Phase</b>	<b>55 days</b>		<b>Mon 5/28/12</b>	<b>Fri 8/10/12</b>
<b>Data Migration</b>	<b>20 days</b>		<b>Mon 7/2/12</b>	<b>Fri 7/27/12</b>
<b>IDS Configuration Services</b>	<b>10 days</b>		<b>Mon 7/30/12</b>	<b>Fri 8/10/12</b>
OPTIONAL - 3rd Party AMHS Inter-Operability Factory Testing	25 days		Mon 6/25/12	Fri 7/27/12
<b>System Assembly</b>	<b>25 days</b>		<b>Mon 5/28/12</b>	<b>Fri 6/29/12</b>
<b>AIM Factory Acceptance Test (Ottawa)</b>	<b>25 days</b>		<b>Mon 6/11/12</b>	<b>Fri 7/13/12</b>
<b>AIM System Training in Ottawa</b>	<b>15 days</b>		<b>Mon 6/25/12</b>	<b>Fri 7/13/12</b>
Submit FAT Plan to TTCAA	5 days	48SS-4 wks	Mon 6/11/12	Fri 6/15/12
Approval of FAT Plan and Procedures by TTCAA	10 days	46	Mon 6/18/12	Fri 6/29/12
Factory Acceptance Testing - AISS (5 persons)	5 days	45	Mon 7/9/12	Fri 7/13/12
AISS Factory Acceptance Test (Italy)	10 days		Mon 7/30/12	Fri 8/10/12
AIP, Charting, FPDAM, PLX System Training in Rome	10 days		Mon 7/30/12	Fri 8/10/12
Conduct Training on AIP, Charting, PD, PLX (5 persons)	5 days		Mon 7/30/12	Fri 8/3/12
Factory Acceptance Testing - AIP, Charting, PD, PLX	5 days	51	Mon 8/6/12	Fri 8/10/12
<b>Delivery</b>	<b>15 days</b>		<b>Mon 7/16/12</b>	<b>Fri 8/3/12</b>
<b>Installation in Trinidad &amp; Tobago</b>	<b>5 days</b>		<b>Mon 8/6/12</b>	<b>Fri 8/10/12</b>
Installation of AIM/AISS	5 days	56	Mon 8/6/12	Fri 8/10/12
<b>Site Acceptance Testing Phase (Trinidad &amp; Tobago)</b>	<b>80 days</b>		<b>Mon 7/2/12</b>	<b>Fri 10/19/12</b>
<b>Provisional Site Acceptance Test (PSAT)</b>	<b>35 days</b>		<b>Mon 7/2/12</b>	<b>Fri 8/17/12</b>
Advanced Notice of PSAT	0 days	64SS-30 days	Mon 7/2/12	Mon 7/2/12
Submit PSAT Plan and Procedures to TTCAA	5 days	64SS-30 days	Mon 7/2/12	Fri 7/6/12
Approval of PSAT Plan and Procedures by TTCAA	0 days	62FS+15 days	Fri 7/27/12	Fri 7/27/12
Conduct Provisional Site Acceptance Testing	5 days	58	Mon 8/13/12	Fri 8/17/12
<b>Operational Readiness Demonstration (ORD)</b>	<b>40 days</b>		<b>Mon 8/20/12</b>	<b>Fri 10/12/12</b>
Conduct Reliability Acceptance Test (RAT)	7 days	64	Mon 8/20/12	Tue 8/28/12
Conduct ORD Phase (60 Calendar days)	40 days	64	Mon 8/20/12	Fri 10/12/12
<b>Final Site Acceptance Test (FSAT)</b>	<b>30 days</b>		<b>Mon 9/10/12</b>	<b>Fri 10/19/12</b>
Advanced Notice of FSAT	0 days	71SS-30 days	Mon 9/10/12	Mon 9/10/12
Conduct FSAT Testing	5 days	67	Mon 10/15/12	Fri 10/19/12
TTCAA to Sign Final Site Acceptance	0 days	70	Fri 10/19/12	Fri 10/19/12
<b>Site Training</b>	<b>54 days</b>		<b>Mon 8/20/12</b>	<b>Thu 11/1/12</b>
<b>AMSS/AISS Warranty</b>	<b>5 days</b>		<b>Fri 10/19/12</b>	<b>Fri 10/26/12</b>

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**Agenda Item 4: Other Business**

**ASBU Modules Concerning ATN Infrastructure**

4.1 ICAO presented WP/13 informing the meeting of an overview of the Aviation System Block Upgrades (ASBU) modules related with the implementation and services of the Aeronautical Telecommunication Network (ATN) for the E/CAR/NTG to review and consider in its planning and work programme. Due to the needs for airspace interoperability while maintaining its focus on safety, ICAO formulated the “Aviation System Block Upgrades” (ASBU) initiative as a programmatic framework. This framework seeks to provide the greatest operational and performance benefits with the renovation of ATM systems while safely and efficiently accommodate the increase in air traffic demand—as well as respond to the diverse needs of operators, the environment and other issues.

4.2 Aviation System Block Upgrades comprise a suite of modules, organized into flexible and scalable building blocks that can be introduced and implemented in a State or a region depending on the need and level of readiness, while recognizing that all the modules are not required in all airspaces.

4.3 The Block Upgrades describe a way to apply the concepts defined in the ICAO *Global Air Navigation Plan* (Doc 9750) with the goal of implementing regional performance improvements. They will include the development of technology roadmaps, to ensure that standards are mature and to facilitate synchronized implementation between air and ground systems and between regions. The ultimate goal is to achieve global interoperability. Safety demands this level of interoperability and harmonization. Safety must be achieved at a reasonable cost with commensurate benefits. The block upgrades initiative will be formalized at the Twelfth Air Navigation Conference, in November 2012. Following which, it will form the basis of the Global Air Navigation Plan (GANP)

4.4 The Aeronautical Telecommunication Network (ATN) infrastructure should accommodate the growing need for information collection and exchange within a transparent network in which all stakeholders can participate. The E/CAR AFS Network represents this aeronautical telecommunication network. Under the ASBU initiative, the CNS/AIM (Future Aviation Systems & Technology) and Avionics (Part of COM/NAV/SUR infrastructure) roadmaps are established for the coming years, for States to reference and follow-up. These roadmaps are presented in the **Appendix** to this Agenda Item.

**Next Meeting**

4.5 The E/CAR/NTG Rapporteur expressed the challenges faced in having several meetings and committees combined in one meeting and asked for a volunteer to host the next NTG meeting. In this regard France offered to discuss with his government the hosting of the E/CAR/NTG/4 meeting in 2013 approximately one year from now in or around June 2013. It was noted that the E/CAR/WG rotation of meetings schedule has the next E/CAR/WG Meeting in Martinique, French Antilles.

**Follow up on Action Items**

4.6 The E/CAR/NTG Rapporteur will hold the first teleconference to follow up on the activities identified in this report in **September 26, 2012**. The teleconference will be supported by ICAO.

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Appendix A to the Report on Agenda Item 4

