



Agenda Item 4: Specific Air Navigation Activities and Developments
4.5 Communications, Navigation and Surveillance (CNS)

CNS – EASTERN CARIBBEAN DIGITAL NETWORK (AFS)

(Presented by Trinidad and Tobago)

SUMMARY

This information paper advises the E/CAR WG of the progress thus far by Trinidad and Tobago with regards to the resolution of identified deficiencies in communication using the Aeronautical Fixed Services (AFS) network within the Eastern Caribbean.

References:

- Summary of Discussions and Conclusion 29th Eastern Caribbean Working Group Meeting, Saint Vincent, 2005.
- Summary of Discussions and Conclusion 28th Eastern Caribbean Working Group Meeting, Montserrat, 2004.

1. Introduction

1.1 States of the Eastern Caribbean continue to experience problems with the AFS point-to-point voice and the AFTN services on the E/CAR Digital Network. At the 29th E/CAR WG meeting held in St. Vincent, Trinidad and Tobago presented WP/25 entitled “E/CAR Digital Network”. This information paper highlighted some of the major problems which exist on the Network.

1.2 These problems affected point-to-point Voice communication, AFTN data on the AFS and the Aeronautical Mobile Services (A3/A7) (AMS). The Meeting was also informed that as of February 1, 2005 a new organization, Caribbean Air Navigation and Advisory Services (CANAS) Ltd., assumed full responsibility for the management of the E/CAR Digital Network. CANAS Ltd operates within the TTCAA and as such the TTCAA now has the responsibility to ensure that the E/CAR networks operate to customer satisfaction.

2. Discussion

2.1 The TTCAA has held several meetings with Telecommunications Services of Trinidad and Tobago (TSTT), to resolve the problems with the networks. Since then, TSTT has permanently assigned staff to handle fault resolution on the networks.

2.2 In August 2005, TTCAA and TSTT conducted a joint scope of supply and needs assessment exercise on the Eastern Caribbean States with reference to the AFS and AMS networks. A report with recommendations was submitted to States.

2.3 The AFTN component of the E/CAR Digital network consists of two areas:

1. Connectivity on the E/CAR Digital Network
2. Computer hardware and software

2.4 The Trinidad and Tobago Civil Aviation Authority has taken the decision to replace all AFTN computers hardware and Software. This exercise is expected to be completed in the third quarter of 2006. The TTCAA will also conduct training for both Operational and Technical Personnel. This proposal is outlined in IP XX.

2.5 Trinidad and Tobago is the AFTN switching centre for the Eastern Caribbean with connectivity to Atlanta USA in the North, and Caracas, Venezuela in the South. The E/CAR Digital Network provides two paths to connect to the FAA's domain: one through Antigua and the other through Trinidad. These two paths have experienced single point failures in Trinidad and in San Juan, Puerto Rico.

2.6 The Caracas AFTN land line link has been unserviceable for the past two years. This is a major deficiency, resulting in the non-existence of a true redundant path for AFTN traffic.

2.7 To resolve this deficiency, The TTCAA is implementing a REDDIG VSAT node at Piarco. This system will provide both Voice and Data connectivity to South America and provide a true redundant path for AFTN.

2.8 The TTCAA procured through ICAO a VSAT node of the existing REDDIG South American network in August 2005.

2.9 A successful Factory Acceptance Test was conducted in April 2006 and the equipment will be shipped shortly to Trinidad for installation. Meanwhile the civil works for the antenna are under way.

2.10 It is expected that the Trinidad REDDIG VSAT node will be commissioned within the third quarter of 2006.

2.11 At the 28th Eastern Caribbean Working Group Meeting (28 E/CAR WG) in Montserrat, Inter-caribbean Aeronautical Communications Limited (IACL) presented WP/24 entitled "Design Description of the Upgraded E/CAR AFS Network". This information paper gave a brief analysis of the existing E/CAR Digital AFS Network, and the problems plaguing both Voice and AFTN circuit. It was also identified that one of the major problems on the AFS network was the last mile, i.e. from the IMC on the respective island to the Airport operator site.

2.12 The Trinidad and Tobago Civil Aviation Authority is currently researching several possible solutions for the networks:

1. Replace the present TSTT provided network with modern network.
2. Switch to the existing Frame Relay Network from Cable and Wireless.
3. Design a VSAT system for the region.

2.13 Research into the satellite solution necessitates a survey of the region to determine the optimum locations of the VHF equipment, the location of the VSAT antenna and a detailed digital coverage mapping of the Eastern Caribbean. A proposal to conduct such an exercise has already been received and is under evaluation.

2.14 States continue to send fault reports to the TTCAA and these reports are forwarded to TSTT for resolution.

2.15 The TTCAA sent out to States the first quarterly report on the E/CAR network for 2006 in April 2006. This report listed the failures and resolution action for the period and provided statistics of the failures that reported. States were reminded to note the outage and restoration to service times since we have no other way to verify the operational status of the voice circuits. Reliable statistics depend on reliable information.

2.16 The report stated immediate solutions for Dominica and Grenada's AFTN problems. Resolution of the AFTN problems is detailed in IP XX on the AFTN.

2.17 The TTCAA paid off in April 2006 the outstanding balance of monies owed on the networks.

2.18 The TTCAA requested from TSTT a list of all the obsolete/defective hardware for the AFS voice and AMS. The TTCAA has opted to immediately replace these items until a more permanent solution as listed in 3.2 is realized. The AFS voice circuits will include the Option 11, the Promina mux equipment and the modems.

3. Conclusion

3.1 Trinidad and Tobago accepts its responsibility for the provision of reliable voice and data communications within the Eastern Caribbean and is fully committed to fulfilling this obligation by the most cost effective and reliable means agreeable to all parties.

3.2 TSTT has given the TTCAA its highest assurances that they are committed to ensuring that the networks deliver services as designed and the TTCAA in turn is committed to diligently following up on all fault reports.

4. Suggested action

4.1 The Meeting is invited to take note of the information presented in this paper.