International Civil Aviation Organization
North American, Central American and Caribbean Office

INFORMATION PAPER

E/CAR/NTG/5 & E/CAR/RD/3
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Fifth Eastern Caribbean Network Technical Group (E/CAR/NTG/5) and Third Eastern Caribbean Radar Data Sharing Ad-hoc Group (E/CAR/RD/3) Meetings

Guadeloupe, France, 22 to 24 October 2014

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

2.2 Implementation of Aeronautical Message Handling System (AMHS) and Aeronautical Information Services System (AISS)/Central Flight Data Processing System (FDPS)

IMPLEMENTATION OF AMHS CIRCUIT PIARCO- ATLANTA

(Presented by United States)

EXECUTIVE SUMMARY	
This information paper presents the status of implementation of AMHS in the Eastern and Central Caribbean region.	
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Environmental Protection
References:	• III Workshop/Meeting on the Follow-up to the Implementation of the ATS Message Handling System (AMHS) in the NAM/CAR Regions (III AMHS-IMP), Santo Domingo, Dominican Republic, 24 to 26 September 2013.

1. Introduction

1.1 The last AMHS workshop/meeting was hosted by the Dominican Republic in coordination with the ICAO NACC Regional Office on 24-26 September 2013. The workshop provided participants with a forum to exchange experiences, guidance on implementation of AMHS, as well as implementation activities and schedule updates. It also allowed the participants to see an AMHS System in operation as the Dominican Republic AMHS System was cutover days before the meeting. Currently, the FAA is working with 6 Civil Aviation Authorities toward the implementation of the circuits for interconnecting their AMHS system.

2. Discussion

2.1 On 18 September 2013, after successfully completing the Interoperability Testing, the Dominican Republic AMHS system was cutover. It operated in a dual-feed mode until 18 October 2013 without problem, and, on that date, the single feed mode phase was initiated. The AMHS System ran successfully in that mode until the 26 November 2013. On that date, IDAC and FAA agreed to decommission the AFTN link, and that task was completed in mid-January 2014. Since then the Dominican Republic AMHS System has been performing flawlessly.

2.2 Currently, the FAA is working with the CAA's of the Canada, Cayman Islands, Cuba, Portugal, Sint Maarten and Trinidad and Tobago, and to migrate their AFTN connections to AMHS. The status of the various AMHS Implementation Projects is as follow:

- Canada: Interoperability Testing is on-going over a MPLS circuit between FAA's Technical Center and NavCanada test bed in Toronto
- Cayman Islands: Initial conversations to migrate the existing AFTN System to a new AFTN-AMHS System have been held. The AFTN capabilities of the new system will be tested and cutover first while, in parallel, the longer AMHS implementation process will start in early October 2014.
- Cuba: Interoperability Testing is on-going over a MEVA II 64kbps IP circuit. Both AMHS Systems have exchanged messages but configuration issues needs addressed.
- Portugal: The initial phase of the Interoperability Testing will be performed through a VPN over the Internet that has already been set up.
- Trinidad and Tobago: A 64kbps IP circuit between the E/CAR AIFSS router in San Juan CERAP and Atlanta NEMC was implemented and tested. Extension of the circuit to the FAA's Technical Center was performed but testing is pending a configuration change in PIARCO.

2.3 **Interfaces Types**. Currently the International User Portal (IUP) at the Atlanta NEMC is configured to accept serial interfaces (RS-232 or EIA-530) at various bit rates. As outlined in the Regional AMHS Plan, the minimum defined bit rate for an AMHS circuit is 64kbps.

2.4 **AMHS in MEVA III.** The FAA is requesting the MEVA III Service Provider to implement only EIA-530 interfaces.

2.5 The lessons learned from the implementation of the 1st AMHS connection allowed streamlining to some extend the AMHS implementation process. However, each individual effort presents its own challenges. The most important of these lessons are:

- The Documentation Exchange phase is crucial to understand the scope of the effort, the configurations of both AMHS systems, and the connectivity between them.
- The implementation of the communication links (VPN, IP Circuit), and the configuration of those links (NATing, Circuit Extensions) take more time than planned.
- VPN connections do not necessarily remain "up" from one test session to the other.

2.6 The next ICAO/FAA AMHS workshop is tentatively scheduled as part of the ATN Application workshop for the October 2015. Location is still to be determined. The Members are encouraged to attend as we will go over the lessons learned in more details, and we'll plan future connections.

3 Conclusion

3.1 The participants to the meeting are invited to take note of the information provided. We would like to emphasize the importance of coordination during the implementation and transition process.

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