International Civil Aviation Organization
North American, Central American and Caribbean Office (NACC)
Fourth Eastern Caribbean Network Technical Group and Second Eastern Caribbean Radar Data Sharing Adhoc Group Meetings (E/CAR/NTG/4- E/CAR/RD/2)
Martinique, French Antilles, France, 17 to 18 June 2013

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

2.2 **Implementation of AMHS and AISS/Central FDP System**

(Presented by Trinidad and Tobago)

SUMMARY
This paper presents a summary of the Implementation of AMHS and AISS/Central FDP System in the Eastern Caribbean and the operational benefits achieved.

REFERENCES:
• Third Meeting of the Eastern Caribbean Network Technical Group (E/CAR/NTG/3) Final Report (Christ Church, Barbados, 5 to 6 June, 2012)

ICAO STRATEGIC OBJECTIVES	This paper is related to Strategic Objective A and C

1. Introduction

1.1 In keeping with ICAO Global Plan Initiative 18 (GPI-18) *AERONAUTICAL INFORMATION: To make available in real-time quality assured electronic information (aeronautical, terrain and obstacle),* GPI-22 *COMMUNICATION INFRASTRUCTURE: To evolve the aeronautical mobile and fixed communication infrastructure, supporting both voice and data communications, accommodating new functions as well as providing the adequate capacity and quality of service to support ATM requirements and the ICAO Flight Plan 2012 requirement,* Trinidad and Tobago Civil Aviation Authority embarked on two projects for the supply and installation of an Air Traffic Services Message Handling System (AMHS) and an Aeronautical Information Services System (AISS) with COMSOFT and IDS Technologies respectively

2.0 Discussion

2.1 The COMSOFT AMHS replaced the Thales AFTN Switching System. The system is designed to operate as an AFTN and an AMHS switching centre and also a FPL 2012 Converter. Presently the System is operating in the AFTN mode only. Plans are underway to introduce the AMHS in the ECAR region as well as with the FAA. Due to the mixed environment in the ECAR region, AFTN will be maintained for Barbados (ATOM), Grenada (ATOM) and the French territories (Guadeloupe and Martinique). Trinidad and Tobago will maintain AFTN with the SELEX ATM system and IDS AISS. AFTN will also be maintained with Venezuela.

2.2　　　　　The Thales AFTN terminals on the ECAR states have been replaced with AMHS User Agent (UA) terminals. Presently the UA's are operating in AFTN mode only. The UAs are connected to the Switching Centre via the E/CAR AFS Network as the primary connection and via VPN as the secondary connection.

2.3　　　　　The AISS is designed to support several key applications including NOTAM, Flight Plan (2012), MET, Charting, Procedure Design and Electronic AIP. It has a Central Database built on the AIXM 5.1 model. All Flight Plans, NOTAM and Meteorological data received by the AFTN/AMHS Switching Centre are copied to the AISS for storage and can be accessed using Standard ICAO request proposal over the AFTN or by all AISS Workstations directly connected. The Primary Connection for the AISS Workstations on the ECAR states is via the MPLS. Secondary connection is available via the Internet.

2.4　　　　　The Central Flight Planning unit is expected to be installed and commissioned by September 2013. The intent is to have all international flight plans addressed to one AFTN address (Central Flight Planning address). The system will then distribute the Flight Plans to the appropriate ECAR AFTN addresses automatically to avoid duplication of flight plans.

2.5　　　　　The AMHS UAs and the AISS Workstations with the necessary training was completed during the period 04th January 2013 thru the 01st March 2013 (**Appendix A** for schedule). The Meteorology module of the Spatia software is yet to be fully utilized by all states. This should be configured by July 2013. **Appendix B** presents a summary of the AMHS/AISS immediately after installation.

3.　　　　　Suggested action

3.1　　　　　The meeting is invited to:

　　　　a)　　　take note of the information presented; and
　　　　b)　　　agree to any other actions as deemed appropriate.

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AMHS/AISS ECAR INSTALLATION AND TRAINING FROM 04JANUARY-01 MARCH 2013

◄ Dec 2012		~ January 2013 ~				Feb 2013 ►
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	**2**		**4** Techs Arriving in Montserrat-	**5** AMHS AISS Installation-MNI
6 Techs Training -MNI **AIS#1-Joseph Jaggan Montserrat**	**7** Techs Audit Eqpt & Depart to Antigua Arr:5:15pm Dep:5:35pm **AIS Training Day 1 -MNI**	**8** Techs Audit Off-site Eqpt in Antigua **AIS Training Day 2- MNI**	**9** AMHS/AISS Installation-Antigua **AIS Training Day 3- MNI**	**10** Techs Training- Antigua **AIS Depart to Antigua**	**11** Techs Audit Eqpt & Departure to Anguilla ANU-ANG Dep:430pm Arr:5:45pm **AIS Training Day 1-Antigua**	**12** AMHS/AISS Installation Anguilla **AIS Training Day 2-Antigua**
13 Rest Day	**14** Techs Training-Anguilla **AIS Training Day 3 & Depart to Anguilla Dep:5:00pm Arr:5:40pm**	**15** Techs Audit Eqpt in Anguilla **AIS Training Day 1-Anguilla**	**16** Techs Dept Anguilla to St.Kitts Dep:3:50pm Arr:8:00pm **AIS Training Day 2-Anguilla**	**17** AMHS/AISS Installation (SKB) AIS Training Day 3	**18** Techs Training (SKB) **AIS Depart to St. Kitts Dep:3:50pm Arr:8:00pm**	**19** Techs Audit Eqpt (SKB) & Depart to Nevis DeP:6:40pm Arr:6:55pm **AIS Training Day 1 -SKB**
20 AMHS/AISS Installation -Nevis	**21** Techs Training- Nevis **AIS Training Day 2 -SKB**	**22** Techs Audit Eqpt **AIS Training Day 3 & Depart to Nevis Dep:6:40pm Arr:6:55pm**	**23** Techs to depart from Nevis & to Dominica Dep:1:50pm Arr:3:50pm **AIS Training Day 1-Nevis**	**24** AMHS/AISS Installation-Dominica (DOM) Canefied **AIS Training Day 2-Nevis**	**25** Techs Training-DOM **AIS Training Day 3-Nevis & Depart to Dominica Dep:1:50pm Arr:3:50pm**	**26** Techs Audit Eqpt **AIS Training Day 1 –DOM / Canefield**
27 Rest Day Techs Depart to Meville Hall	**28** AMHS/AISS Installation-Meville Hall **AIS Training Day 2-Canefield**	**29** Techs Training-Melville Hall **AIS Training Day 3-Canefield & Depart to MevileHall**	**30** Techs Audit Eqpt- & depart to St. Lucia Dep:9:20pm Arr:10:00pm **AIS Training Day 1-MelvilleHall**	**31** AMHS/AISS Installation St.Lucia-George Charles (SLU) **AIS Training Day 2-MelvileHall**	**Notes: Color Code Red-Technicians Black Bold –AIS Green –Extra day to accommodate off site Audit**	

~ February 2013 ~

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Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 Techs Training-SLU **AIS Training Day 3-MelvilleHall & Depart to POS** **Dep: 5:40pm** **Arr:7:35pm**	**2** **Techs Audit Eqpt off Site with Cable Wireless**
3 Rest Day **AIS #2-Ricky Bissessar Arriving St.Lucia** **Dep:1:45pm** **Arr:2:50pm**	**4** Techs Audit Eqpt -SLU **AIS Training Day 1-George Charles**	**5** AMHS/AISS Installation-Hewanorra **AIS Training Day 2-SLU**	**6** Techs Training-Hewanorra **AIS Training Day 3-SLU**	**7** Techs Audit Eqpt & Depart to St. Vincent (SVD) Dep:10:20pm Arr:10:50pm **AIS Training Day 1-Hewanorra**	**8** AMHS/AISS Installation-SVD **AIS Training Day 2-Hewanorra**	**9** Techs Training –SVD **AIS Training Day 3-Hewanorra & Depart to St. Vincent** **Dep:10:20pm** **Arr:10:50pm**
10 Rest Day	**11** Techs Audit Eqpt **AIS Training Day 1-SVD**	**12** Depart from SVD to Fort de France (FOF)-Martinique Dep:6:00am Arr:10:20am **AIS Training Day 2-SVD**	**13** AMHS/AISS Installation-FOF **AIS Training Day3-SVD (FOF)**	**14** Techs Training-FOF **AIS Depart from SVD to Fort de France-(FOF)-Martinique** **Dep:6:00am** **Arr:10:20am**	**15** Techs Audit Eqpt & Depart to Guadeloupe (PPR) Dep:7:45pm Arr: 8:30pm **AIS Training Day 1-FOF**	**16** AMHS/AISS Installation-PPR **AIS Training Day 2-FOF**
17 Rest Day	**18** Techs Training-PPR **AIS Training Day 3 & Depart to Guadeloupe-PPR** **Dep:7:45pm** **Arr:8: 30pm**	**19** Techs Audit & Depart to Barbados (BGI) Dep:4:30pm Arr:10:20pm **AIS Training Day 1-PPR**	**20** AMHS/AISS Installation-BGI **AIS Training Day 2-PPR**	**21** Techs Training –BGI **AIS Training Day 3 & Depart to Antigua & Overnight** **Dep:8:00pm** **Arr:8:30pm**	**22** Techs Audit Eqpt -BGI Arriving Barbados Arr:8:00am **AIS Training Day 1 -BGI**	**23** **Techs Audit Eqpt Off-site with Cable& Wireless & Depart to Grenada (GND)** **Dep:6:30pm** **Arr:8:00pm** **AIS Training Day 2-BGI**
24 Rest Day	**25** AMHS/AISS Installation-GND **AIS Training Day 3-BGI**	**26** Techs Training –GND **Depart from BGI to Grenada (GND)** **Dep:12:**	**27** Techs Audit Eqpt GND and Depart to POS Dep:8:45pm Arr:9:25pm **AIS Training Day 1-GND**	**28** **AIS Training Day 2-GND**	**March 01** **AIS Training Day 3-GND & Depart to POS** **Dep:8:15pm** **Arr:8:55pm**	

Appendix B –
Summary of E/CAR AMHS/AISS Installation

LOCATION	STATUS OF INSTALLATION	FOLLOW UP FOR STATE	FOLLOW UP FOR TTCAA/COMSOFT/IDS
Anguilla	Completed	None	1. The CADAS-ATS printer form feeding after one message is printed; 2. Alarm log reporting a loss of connection with the server.
Antigua	Completed	None	1. The CADAS-ATS printer form feeding after one message is printed; 2. Alarm log reporting a loss of connection with the server.
Barbados	Completed	None	CADAS-ATS printer form feeding after one message is printed
Dominica-Canefield	Completed	None	CADAS-ATS printer form feeding after one message is printed
Dominica-Melville Hall	Completed	None	CADAS-ATS printer form feeding after one message is printed
Grenada	Completed	To provide internet not going through a proxy server in order to connect the CADAS AMHS system	CADAS-ATS printer form feeding after one message is printed
Guadeloupe	Completed	To provide internet not going through a proxy server in order to connect the CADAS AMHS system	1. CADAS-ATS printer form feeding after one message is printed 2. Changing the CADAS system to a French Keyboard
Martinique	Completed	To provide internet not going through a proxy server in order to connect the CADAS AMHS system	1. CADAS-ATS printer form feeding after one message is printed 2. Changing the CADAS system to a French Keyboard
Montserrat	Completed	None	CADAS-ATS printer form feeding after one message is printed
Nevis	Completed	None	1. CADAS-ATS printer form feeding after one message is printed 2. Alarm log reporting a loss of connection with the server
St. Kitts	Not Completed	1. To install the CADAS-ATS system in the tower St. Kitts will need to install a modem to provide Ethernet connection over the copper cable that connects the AIS and the Tower). 2. Until connection can be established between the two buildings to extend the network St. Kitts will relocate the CADAS-ATS to the AIS office. The output trunk connection from TSTT will now have to be connected to the modem	CADAS-ATS printer form feeding after one message is printed

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Summary of E/CAR AMHS/AISS Installation

LOCATION	STATUS OF INSTALLATION	FOLLOW UP FOR STATE	FOLLOW UP FOR TTCAA/COMSOFT/IDS
		supplied by the Airport's technical department and the LAN switch relocated to the AIS office to accommodate the CADAS and AISS. 3. Local technical staff to relocate the CADAS-ATS hardware from the tower to the AIS office and make the necessary connection to the AFS network.	
St. Lucia-George Charles	Completed	The COMSOFT CADAS workstation's VPN connection could not be established via proxy server. Comsoft has recommended a dedicated DSL line be provided for this connection.	CADAS-ATS printer form feeding after one message is printed
St. Lucia-Hewanorra	Completed	The COMSOFT CADAS workstation's VPN connection could not be established via proxy server. Comsoft has recommended a dedicated DSL line be provided for this connection.	CADAS-ATS printer form feeding after one message is printed
St. Vincent	Completed	1. To provide appropriate Internet connection 2. ECCAA technicians to install a separate AC supply on an independent breaker for the AMHS/AISS	CADAS-ATS printer form feeding after one message is printed

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