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NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE

Twenty-Eighth Eastern Caribbean Working Group Meeting (28 E/CAR WG)

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28 E/CAR WG – WP/06

29/03/04

Agenda Item 3: Specific Air Navigation Activities and Developments
3.3 Aeronautical Meteorology (MET)

CURRENT STATUS OF THE WAFS OPERATIONS IN THE CAR/SAM REGIONS

(Presented by the Secretariat)

SUMMARY

This working paper presents updated information on the requirements to the transition of the final phase of the world area forecast system (WAFS) of the CAR/SAM Regions. Furthermore, updated information on the installation of the TCP/IP Protocol software was provided by the United States, International Satellite Communication System (ISCS) Provider State regarding the transition to the ISCS/WAFS broadcast using the TCP/IP Protocol.

References:

- The Eleventh Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/11), (Manaus, Brazil, 3 to 7 December 2002);
- GREPECAS AERMETSG Report of the WAFS Task Force Special Meeting (WAFS/TF/SM) (Santiago, Chile, 2 –3 April 2002); and
- GREPECAS Report of the Sixth Meeting of the Aeronautical Meteorology Subgroup (AERMETSG/6) (Brasilia, Brazil, 23 to 27 June 2003).

1. Introduction

1.1 The Eleventh Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/11), held in Manaus, Brazil, 3 to 7 December 2002), approved the Draft Conclusion 1 presented in the Report of the WAFS Task Force Special Meeting (WAFS/TF/SM), Chile, 23 April 2002, and formulated Conclusion 11/69 – Transition Plan for Final Phase of WAFS in the CAR/SAM Regions.

1.2 Updated information that amend the schedule of the transition plan for the final phase of the WAFS in the CAR/SAM Regions is presented based on the review carried out during the Sixth Aeronautical Meteorology Subgroup (AERMETSG/6) Meeting held in Brasilia, Brazil, 23 to 27 June 2003.

2. Discussion

2.1 The purpose of the WAFS broadcast is to make globally available the centrally produced aviation model forecast product of a World Area Forecast Centre (WAFS) in standard gridded form (WMO GRIB code) as well as other supporting data for flight operations to as many aviation users as possible.

2.2 The service provided by the International Satellite Communications System (ISCS), was developed amongst others, for meteorological data delivery in support of the International Civil Aviation Organization (ICAO) program for aviation data distribution. Updated information concerning the ISCS implementation of the Transfer Communication Protocol/Internet Protocol (TCP/IP), and the X.25 Protocol/TCP/IP overlap period was informed by the United States ISCS Provider State.

Update of the transition plan to the final phase of the WAFS in the CAR/SAM Regions

2.3 Aimed at ensuring the reception of WAFS forecasts in GRIB and BUFR code forms, which allow CAR/SAM States to access the global forecasts, the GREPECAS/11 formulated Conclusion 11/69, including the dates in which the CAR/SAM States/Territories, should take necessary action to achieve the WAFS final phase without problems in these two Regions. The updated schedule of the abovementioned transition plan is included in **Appendix A**, and will be presented to the GREPECAS/12 Meeting in June 2004 for its consideration and further approval.

3. Update of ISCS Implementation of the TCP/IP Protocol and the X.25/TCP/IP overlap period

3.1 Furthermore, it may be noted that the ICAO NACC Office received official communications, whereby, the United States National Oceanic and Atmospheric Administration / Weather Service (NOAA/NWS) announced that it issued a contract modification to MCI Inc. extending the X.25 broadcast over the International Satellite Communications Systems/World Area Forecast System (ISCS/WAFS).

3.2 The NOAA/NWS announced that the new ISCS TCP/IP VSAT network was successfully commissioned on 19 February 2004. It was indicated by the ISCS Provider State, their intention to extend the ISCS/WAFS X.25 broadcast until **30 April 2004**, which means that starting 1 May 2004, the ISCS broadcast will be only available in the TCP/IP Protocol.

3.3 This extension will allow the continuing upgrade to the ISCS/WAFS and provide States with additional time for the upgrades to the VSAT equipment and the replacement of X.25 workstations with those able to process (TCP/IP) data. Each State must acquire a new TCP/IP ISCS compliant workstation before the date indicated above. This is necessary in order to continue receiving ISCS/WAFS data.

3.4 It was also informed by the ISCS Provider State that it is collaborating closely with the World Meteorological Organization (WMO) in this upgrade. ICAO NACC Office forwarded a copy of this announcement to the States/Territories of the CAR/SAM Regions.

3.5 The ISCS Provider State furnished a progress report on the schedule set by the companies in charge of the complete installation at the sites. Details of the tasks and dates are shown **in Appendix B**. Moreover, the current situation of the ISCS transition in the Central and Eastern Caribbean States/Territories, as of 25 March 2004, can be seen in **Appendix C**.

3.6 There is some concern based on the fact that, several of the States will not be receiving their workstation until the month of May 2004. When the X.25 ISCS service has terminated on 30 April 2004, those States will be without a means to directly receive/transmit data. A File Transfer Protocol (FTP) is the only alternative means to obtain and send data for those States.

3.7 In this regard, the NACC Regional Office was informed that the United Kingdom, WAFC London currently provides a free FTP service via Internet for all authorized WAFS users. However, there are no graphical products available by FTP. Only operational data sets are provided. A user must have the visualization software to produce the required graphical products.

3.8 The United Kingdom Met Office can provide the name of a commercial source for the necessary visualization software and the associated cost (richard.orrel@metoffice.com). This software can be used to automatically access the necessary files from the U.K. WAFS backup FTP server and display wind /temperature and significant weather charts through T4 viewing applications. Modules to display other WAFS products such as GRIB, BUFR and OPMET are available but the license cost obviously increases accordingly.

3.9 Additionally, the United States informed that all WAFS graphical products, Operational Meteorological (OPMET) data and the global gridded data provided, is available at the web site: **<http://aviationweather.gov>** and then clicking on "Flight Folder". It was indicated that all U.S. National Weather Service products, including WAFC Washington GRIB and T4 graphical products, are available on its FTP server.

4. Conclusion

4.1 Based on the updated information and considerations with regard to the transition plan to the final phase of the WAFS in the Eastern Caribbean, expressed in paragraphs 3.1 to 3.9 of this working paper, and of Conclusion 11/69 of the GREPECAS/11 Meeting, the Meeting, is invited to adopt the following Draft Conclusion:

DRAFT

CONCLUSION 28/X

USE OF THE INTERNET TO ACCESS WAFS FORECASTS AND OPMET DATA

That, in case an Eastern Caribbean State/Territory does not have a new or updated operational workstation at the time X.25 is no longer supported on the ISCS, the alternative method of acquisition of WAFS data such as the File Transfer Protocol (FTP) service via Internet, should be considered and evaluated.

5. Recommended Actions

5.1 The Meeting is invited to:

- a) note the information presented in this working paper;
- b) implement Conclusion 11/69 of the GREPECAS/11 Meeting; and
- c) review and adopt Conclusion 28/X regarding the use meanwhile the Internet as a back up to WAFS satellite broadcast.

APPENDIX A**TASK TO BE COMPLETED TO SUPPORT TRANSITION TO THE
FINAL PHASE OF WAFS IN THE CAR/SAM**

TASK	DESCRIPTION OF TASK	DATE
1	WAFC Washington to provide global grided W/T data in GRIB code.	Completed
2	WAFC Washington to produce SWH charts.	Completed
3	ICAO NACC and SAM Regional MET officers survey states ability to produce wind/temperature charts from GRIB data for the purpose of assessing training needs.	Completed
4	ICAO to coordinate with States and users if there is validated regional requirement for SWM Charts for limited geographical area.	Completed
5	U.S. to provide BUFR decode software to the workstation manufactures.	Completed
6	Provide the technical functionality specifications for the purpose of acquiring new WAFS workstations.	Completed
7	Buenos Aires and Brasilia RAFC close.	Completed
8	States to initiate a process to procure new workstations, service agreements, and training to support these stations with a planned installation of workstations by November 2003.	Ongoing
9	Establishment of back-up distribution arrangements for WAFS products.	Completed
10	Provision of test BUFR coded SIGWX via File Transfer Protocol Server (FTP) to selected States for testing.	Completed
11	Satellite distribution of global SWH and SWM for limited geographical areas in BUFR format.	Ongoing
12	Training in the operational conversion of GRIB to wind and temperature charts and BUFR to significant weather charts at Regional seminars.	October 2004 – March 2005
13	States have the ability to operate the decoding and presentation software to convert GRIB forecasts into operational wind and temperature charts and BUFR SIGWX forecasts into operational significant weather charts.	March 2005
14	Removal of T4 wind and temperature and SIGWX products from satellite broadcast.	1 July 2005
WAFS TRANSITION COMPLETED		1 JULY 2005

APPENDIX B

UPDATED WORK SCHEDULE OF THE SIDS/CARIBBEAN PROJECT * (as of 25 March 2004)

TASK	DATE (DURATION)	REMARKS - COMMENTS
Installation / validation of site N° 1 BARBADOS • 2 days of installation • 3 days of validation • 1 day of SAT (Site Acceptance Test) • Signature of the Site Acceptance Report • 2 days of training (6 hrs per day)	6 March 2004 (8 working days)	COMPLETED MESSIR-ISCS was also delivered and validated in site N° 2 (Caribbean Institute for Meteorology and Hydrology), but was not put in operations (this site has not yet an ISCS reception).
Installation of TRINIDAD & TOBAGO • 2 days of installation • 1 day of SAT (Site Acceptance Test) • Signature of the Site Acceptance Report • 2 days of training (6 hrs per day)	22 March 2004 (5 working days)	COMPLETED
Installation of ANTIGUA & BARBUDA	29 March 2004 (5 working days)	
Installation of GRENADA	5 April 2004 (5 working days)	
Installation of DOMINICAN REPUBLIC	12 April 2004 (5 working days)	
Installation of ST. LUCIA	19 April 2004 (5 working days)	
Installation of GUYANA	26 April 2004 (5 working days)	
Installation of JAMAICA	3 May 2004 (5 working days)	
Installation of MEXICO	10 May 2004 (5 working days)	
Installation of HAITI	17 May 2004 (5 working days)	Provided that the security situation has not deteriorated.
Installation of CUBA	24 May 2004 (5 working days)	Provided that the site is ready (ISCS configured for IP reception).
On each site, just after signature of Site Acceptance Report: - fourteen days of Acceptance Period - signature of the Acceptance Period Report		COROBOR – MORCOM will not attend the Acceptance Period.

*Restriction: The schedule above-mentioned assumes that:

- At the time of arrival of COROBOR-MORCOM on site, each site is ready to receive the system from COROBOR-MORCOM (VSAT hardware ready and tested, standard computer environment as power supply, staff available for work in common, etc...)
- The MCI PD Receiver licenses have been provided for the 12 SIDS configurations

APPENDIX C

CURRENT SITUATION OF THE ISCS TRANSITION IN THE CENTRAL AND EASTERN CARIBBEAN STATES/TERRITORIES

(as of 25 March 2004)

RECEIVE – ONLY SITES	NETWORK INTERFACE HARDWARE INSTALLED	AGREE-MENT SIGNED	SOFTWARE RECEIVED	WORKSTATION VENDOR	DATE TO BE INSTALLED	WORKSTATION INSTALLED	SITE ON TCP/IP
Antigua and Barbuda	10-Sep-03	YES	YES	MORCOM	29 Mar 04	NO	NO
Barbados (MET)	20-Nov-03	YES	YES	MORCOM	1-Mar-04	YES	6-Mar-04
Cayman Islands	15-Sep-03	YES	YES	GST	22-Dec-03	YES	NO
Cuba	PENDING	NO	NO	MORCOM	24-May-04	NO	NO
Curaçao	9-Sep-03	YES	YES	GST	22-Dec-03	YES	NO
Dominican Republic	3-Oct-03	YES	YES	MORCOM	12-Apr-04	NO	NO
France (Guadeloupe)	12-Sep-03	YES	YES	Synergy	Unknown	YES	NO
France (Guiana)	30-Sep-03	YES	YES	Synergy	Unknown	YES	NO
France (Martinique)	5-Nov-03	YES	YES	Synergy	18-Mar-04	YES	18-Mar-04
Grenada	12-Sep-03	YES	YES	MORCOM	5-Apr-04	NO	NO
Guyana	16-Sep-03	YES	YES	MORCOM	26-Apr-04	NO	NO
Haití	17-Sep-03	NO	NO	MORCOM	17-May-04	NO	NO
Jamaica	15-Sep-03	YES	YES	MORCOM	3-May-04	NO	NO
Saint Maarten	11-Sep-03	YES	YES	GST	22-Dec-03	YES	25-Mar-04
Saint Lucia	10-Sep-03	YES	YES	MORCOM	19-Apr-04	NO	NO
Trinidad and Tobago	18-Sep-03	YES	YES	MORCOM	15-Mar-04-Yes	22-Mar-04	

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