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**Agenda Item 5: Exchange of OPMET information**

(Presented by the Secretariat)

**Summary**

This working paper presents the results of the OPMET exchange control in the States/Territories of the CAR/SAM Regions in accordance with the procedures established by GREPECAS. In addition, it presents information on persisting problems in OPMET exchange.

**References:**

- Report of the Sixth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/6, Mexico City, 1996);
- Report of the Twelfth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/12, Havana, Cuba, 2004);
- Report of the Eleventh Meeting of the SADIS Operations Group (SADISOPSG/11, Cairo, Egypt, 2006);
- Report of the Fourteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/14, San José, Costa Rica, 15 - 20 April 2007);
- Ad-hoc Meeting of the planned migration of OPMET data to Table-driven code forms (Geneva, Switzerland, 13 April 2007); and
- Meeting of the WMO Commission for Basic Systems (CBS) Expert Team (ET) on data representation and codes (Darmstadt, Germany, 23-27 April 2007).

**1. Introduction**

1.1 The problems related with the exchange of OPMET information have been identified by GREPECAS, thanks to the analysis of the results obtained in the OPMET information exchange controls conducted by CAR/SAM States/Territories that participate in the control since 1996, in keeping with the procedures established by previous implementation meetings and by GREPECAS. In this regard, considerable improvements have been noted in most of the States that participate in the control, but problems still persist in some of them.

## 2. Discussion

### Status of implementation of the conclusions recommended by GREPECAS for OPMET information exchange

2.1 The meeting may recall that OPMET exchange problems have been constantly analyzed by GREPECAS, and as a result several conclusions have been formulated, among them, the development of Special Implementation Projects (SIP) in CAR/SAM States, and others aimed at assisting States to take actions for their solution.

2.2 During the development of the SIPs, note was taken that the lack of implementation of the AFTN network terminals in meteorological stations with international OPMET exchange requirements represents one of the main communications problems to be solved. The lack of implementation of this terminal is the reason of the delays and errors in the transmission of OPMET information, since these errors and delays are because the meteorologist has to transmit the OPMET information by phone or handwritten to a communications operator, who reproduces it in his AFTN network terminal. For this reason, GREPECAS/6 Meeting, through Conclusion 6/33 recommended the installation of AFTN network PC terminals in every meteorological station with international OPMET exchange requirements, in order to be operated by meteorological personnel.

2.3 The main actions suggested by GREPECAS and by the SIPs, as well as their current status of implementation are detailed hereunder:

- Implementation of AFTN network PC terminals in aeronautical meteorology stations (GREPECAS Conclusion 6/33), **Appendix A**;
- OPMET information national collecting centre (Recommendation SIP), **Appendix B**;
- Adoption of a unique address for OPMET exchange (Recommendation SIP), **Appendix C** (implemented in the SAM Region);
- Replacement of remote printers by PC terminals (GREPECAS Conclusion 10/20);
- Appropriate communications means (GREPECAS Conclusion 11/42).

2.4 With respect to the last item, the meeting may note that both at a regional and at a national level in each State, modern digital networks have been implemented during the last years, which enable the increase of the capacity, availability and integrity of aeronautical information, in general, in the CAR/SAM Regions.

2.5 In this regard, the subgroup may agree that in order to solve problems still persisting in OPMET exchange, it is essential that the States, which have not done so, make the maximum efforts to implement the actions recommended in the COM/MET SIP, as well as GREPECAS related conclusions.

**OPMET information exchange controls in CAR/SAM States participating in the control**

2.6 The meeting may recall that GREPECAS Conclusion 12/64 – OPMET exchange controls for the CAR/SAM Regions establishes, among others, that until an optimum percentage of reception of OPMET data in the CAR/SAM Regions is achieved, OPMET exchange controls be carried out annually from 10 to 16 June. In this regard, the SAM COM/MET/2007 Meeting (August 2007) analyzed in detail the results of OPMET exchange controls corresponding to this period of the years 2006 and 2007 of the States that participate in the control, and of those from which information was received. Likewise, and as a follow up to the OPMET information controls carried out by the Brasilia International OPMET Data Bank four (4) times a year, in order to identify the deficiencies related to the availability of these data in the referred bank, the meeting thoroughly reviewed the results of a comparative study of METAR and TAF availability from 2000 to 2006.

2.7 In this regard, the COM/MET/2007 Meeting noted with concern that problems in the reception, through the AFTN, of both the OPMET exchange controls carried out by the States of the CAR and SAM Regions and those carried out by the Brasilia International OPMET Data Bank, still persist at the aeronautical meteorological offices. However, it was considered that OPMET data is also being provided through the International Satellite Communications System (ISCS) and SADIS broadcast, and that with the implementation of the ISCS workstation in most States of the SAM Region, the States are using this alternate mean to obtain the OPMET data required for the development of their respective functions. Therefore, it was considered not necessary for the States to continue carrying out the controls, and that for an OPMET data control through the AFTN, the controls carried out by the Brasilia International OPMET Data Bank would be enough. In this respect, the following conclusion was formulated:

***“CONCLUSION COM/MET 07/04 - OPMET EXCHANGE CONTROLS***

*That, the Ninth Meeting of the GREPECAS AERMETS/9 analyzes the possibility that:*

- a) the OPMET information controls be deactivated by the States of the CAR/SAM Regions;*
- b) the Brasilia International OPMET Data Bank keep on carrying out the OPMET data controls in accordance with the established procedures;*
- c) OPMET exchange controls be carried out according with the operational deficiencies identified, enclosing a control of the back up systems efficiency of the referred data;*
- d) OPMET data internal quality controls be carried out; and*
- e) OPMET data responsible be updated both at a meteorology and communications level in each State, and be communicated to the ICAO South American Office not later than 30 November 2007.”*

2.8 In view of the above, the meeting may agree to formulate the following draft conclusion:

**DRAFT  
CONCLUSION 09/XX – OPMET EXCHANGE CONTROLS**

That, as of June 2009 the OPMET information exchange coordinated controls be deactivated by the States of the CAR/SAM Regions, and in order to continue assessing the efficacy of the OPMET information exchange:

- a) the Brasilia International OPMET Data Bank keep on carrying out the OPMET data controls in accordance with the established procedures; and
- b) OPMET exchange controls be carried out according with the operational deficiencies identified, enclosing a control of the back up systems efficiency of the referred data.

**Use of public Internet for OPMET information exchange**

2.9 The subgroup may recall that ICAO published in 2005 Doc 9855 – *Guidelines on the Use of the Public Internet for Aeronautical Applications*. It may also recall proposal for amendment to Annex 3 – *Meteorological Service for international air navigation*, circulated to the States on 19 January 2007, with State Letter AN 7/11-15, AN 10/1 } -07/3, which seek to permit the operational use of the public Internet for the dissemination and exchange of non-time critical messages, with applicability proposed for 18 November 2010.

2.10 In accordance with the referred document and with the Sixteenth edition of Annex 3, the category of the messages to be transmitted by Internet is that in which messages do not have immediate effect on an active flight; that is, non-time critical messages. For the exchange of meteorological information, the meeting may recall that the following message categories can be transmitted by public Internet (Doc 9855, Chap. 4):

- a) meteorological information related with TAF forecasts and with observations, such as METAR; and
- b) meteorological information provided by world area forecast centres (WAFC);

2.11 Those non-time critical meteorological messages for service operators and flight crew members may also be transmitted by Internet before the flights (for flight planning). These messages include:

- a) up to date and forecast information of upper wind and upper-air temperature and their corresponding amendments;
- b) up to date and forecast significant weather phenomena for en-route operations, jet stream information and the corresponding amendments;
- c) METAR and when available SPECI for the aerodromes of departure, take off and en-route alternate, the landing aerodrome and destination alternate specified in the regional air navigation plan;

- d) TAF or amended TAF for aerodromes of departure and intended landing, en-route and destination alternate aerodromes specified in the regional air navigation plan; and
- e) SIGMET information and appropriate special reports relevant to the whole routes determined in accordance with the regional air navigation agreements.

2.12 In this regard, the States that decide to implement the use of the public Internet for the above mentioned applications would have to proceed to the accreditation of the Internet service providers following the guidelines specified in Doc 9855. The accreditation would ensure the State that the information supplied by the Internet provider meets the reliability, integrity, authenticity and availability parameters.

2.13 Based in Doc 9855, the guidelines that the States should follow for the accreditation of the Internet service provider are:

- a) define a service plan in which the provider describes the Internet service to be supplied;
- b) the provider would present the possible risks that might occur offering the service and the actions to be implemented for their mitigation;
- c) the service provider would have to present the quality level of the service provided and develop a service plan to guarantee the level of the proposed service;
- d) the provider would obtain the State's approval once the previous steps have been approved;
- e) once the Internet service operator is functioning, the State would monitor the service provided, in order to verify that it is within the parameters specified in the service levels presented. The results of the monitoring would allow the State to assess the work of the provider in order to keep the certification.

2.14 Considering the above mentioned paragraphs for the use of public Internet as a mean for the transmission of OPMET information, the subgroup may agree to formulate the following draft conclusion:

**DRAFT**  
**CONCLUSION 09/XX – CONSIDERATIONS FOR THE USE OF THE PUBLIC INTERNET FOR OPMET EXCHANGE**

That the States, when using the public Internet for OPMET information exchange take into account the guidelines specified in Doc. 9855 - *Guidelines on the use of the public Internet for aeronautical applications*, as well as proposal for amendment to Annex 3 on the use of the public Internet (Chapter 11 and Appendix 10).

### **Transition of OPMET information to BUFR code**

2.15 The meeting may recall that GREPECAS formulated Conclusion 14/21 – Review of the Transition to the BUFR code. As informed in WP/02, the Air Navigation Commission (AN Min. 176-4, 25 October 2007), made a review of this issue and the Secretariat suspended the related work, depending on the results of the work carried out by the WMO Expert Team on the use of a standard commercial format as the XML (Extensible Markup Language), which was designed by the WWW (World Wide Web) consortium for the treatment of documents by Internet and for data communications among documents.

2.16 In order to keep going the studies and tests of the use of XML format for the transmission of OPMET information, WMO, jointly with ICAO, convened in the development of the following actions:

- a) preparation of a formal answer by WMO to ICAO letter related to the concern expressed by some PIRGs (May/June);
- b) establishment by WMO Commission for Basic Systems, of an Expert Team (ET) in charge of developing XML standards for METAR/SPECI and TAF. The ET would include experts of the WMO Commission for Aeronautical Meteorology (CAeM) and ICAO;
- c) development of XML standards (including encoding/decoding software and the corresponding XML coding tables); and
- d) preparation of a pilot project for an exchange from end to end of METAR/SPECI and TAF in XML, from an aerodrome meteorological office to a final aeronautical user, in order to ensure the feasibility of the code in an operational context.

2.17 In this regard, the establishment of the Expert Team is foreseen for 2008 and the final results about the middle of 2009.

### **3. Action required by the meeting**

3.1 The meeting is invited to:

- a) take note of the contents of this working paper;
- b) consider Draft Conclusions of paragraphs 2.8 and 2.14; and
- c) agree other actions as necessary.

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## APPENDIX A

**IMPLEMENTATION OF PC TERMINALS IN NATIONAL MET STATIONS  
WITH INTERNATIONAL OPMET EXCHANGE REQUIREMENT**

State	Implementation of PC terminals in MET stations	Operators	Comments
1	2	3	4
Argentina	Implemented	Communications personnel	By the middle of 2006 the new AMHS system starts operation at a national level and PC terminals were installed in MET stations.
Bolivia	Partially implemented	Most terminals are operated by Communications personnel	The installation of an AMHS system is expected for the end of 2010, including terminals in MET stations.
Brazil	Implemented	Communications and meteorology personnel	In 2002 the AFTN system was modernized including PC implementation in MET stations. The implementation of AMHS systems is foreseen for the end of 2008 with the respective PC terminals in the MET stations.
Chile	Implemented	Meteorology personnel	For the end of this year the implementation of an AMHS system is foreseen including PC terminals in each MET station.
Colombia	Not implemented	Communications personnel	The implementation of an AMHS system and new PC terminals in MET stations is foreseen for 2008.
Ecuador	Implemented	Meteorology personnel	The implementation of an AMHS system and new PC terminals in MET stations is foreseen for 2009.
French Guiana	Implemented	Meteorology personnel	
Guiana	Not implemented	Communications personnel	
Panama	Partially implemented	Communications and meteorology personnel	The implementation of an AMHS system and PC terminals in MET stations is foreseen for the middle of 2008.
Paraguay	Implemented	Meteorology personnel	The implementation of an AMHS system including the installation of PC terminals in MET stations is foreseen for the end of this year.
Peru	Implemented	Meteorology personnel	The implementation of an AMHS system and new PC terminals in MET stations is foreseen for 2008
Suriname	Not implemented	Communications personnel	

<b>State</b>	<b>Implementation of PC terminals in MET stations</b>	<b>Operators</b>	<b>Comments</b>
1	2	3	4
Uruguay	Partially implemented	Communications and meteorology personnel	
Venezuela	Partially implemented	Communications and meteorology personnel	With the implementation of the new AMHS system to be installed in 2008, all MET stations will have PC terminals. It is foreseen that all PC terminals will be operated by meteorology personnel.

**APPENDIX B****OPMET INFORMATION NATIONAL COLLECTING CENTRE**

<b>State</b>	<b>Implementation Status</b>
Argentina	Each MET station with International requirement transmits the information directly abroad
Bolivia	Carried out manually in a PC terminal
Brazil	Carried out through the OPMET Data Bank
Chile	Carried out through the OPMET Data Bank
Colombia	Carried out through the OPMET Data Bank
Ecuador	Carried out through the OPMET Data Bank
French Guiana	At an FEP level of the meteorological network
Guyana	There is only one PC terminal connected to Picarco CCAM at a national level
Panama	Carried out manually in a PC terminal
Paraguay	Carried out manually in a PC terminal
Peru	Carried out through the OPMET Data Bank
Suriname	Carried out manually in a PC terminal
Uruguay	Carried out manually in a PC terminal
Venezuela	Carried out manually in a PC terminal

## APPENDIX C

## AFTN ADDRESS FOR OPMET EXCHANGE

<b>State</b>	<b>Address Transmission</b>	<b>Address Destination</b>
Argentina	SAXXYMYX	SAZZMAMX
Bolivia	SLXXYMYX	SLZZMAMX
Brazil	SBBRYZYX	SBBRYZYX
Chile	SCXXYMYX	SCZZMAMX
Colombia	SKBOYZYX	SKZZMAMX
Ecuador	SEXXYMYX	SEZZMAMX
French Guiana	SOXXYMYX	SOZZMAMX
Guiana	SYXXYMYX	SYZZMAMX
Panama	MPXXYMYX	MPZZMAMX
Paraguay	SGXXYMYX	SGZZMAMX
Peru	SPXXYMYX	SOZZMAMX
Suriname	SMXXYMYX	SMZZMAMX
Uruguay	SUXXYMYX	SUZZMAMX
Venezuela	SVXXYMYX	SVZZMAMX