International Civil Aviation Organization

EIGHTEENTH MEETING OF THE METEOROLOGY SUB-GROUP (MET SG/18) OF APANPIRG

Beijing, China, 18 – 21 August 2014

Agenda Item 7: Research, development and implementation issues in the MET field

7.1 WAFS

SUMMARY OF RECENT AND FORTHCOMING DEVELOPMENTS TO THE SADIS

(Presented by the SADIS Provider)

SUMMARY

This paper describes SADIS developments since the last meeting of the Asia/Pacific MET Sub Group in May of 2013. Some of these developments have had a direct impact on end users. A number of important developments are planned to the SADIS in future years and these are highlighted in this paper for the consideration of the group.

This paper relates to – **Strategic Objectives:**

A: ***Safety*** *– Enhance global civil aviation safety*

Global Plan Initiatives:
GPI-19 Meteorological Systems

1. Introduction

1.1 This paper presents developments to the SADIS since the seventeenth meeting of the Asia/Pacific MET Sub Group (13th-16th May 2013). Since then, the eighteenth and nineteenth meetings of the SADISOPSG have taken place (29th-31st May, Dakar, Senegal; and 27th-29th May, London, United Kingdom respectively). For more detail of the activities relating to the SADIS, users are encouraged to review information available on the ICAO SADIS Operations Group website at URL: http://www.icao.int/safety/meteorology/sadisopsg/Pages/default.aspx.

2. Recent developments

2.1 Withdrawal of WAFS Upper Air Forecasts in WMO GRIB Edition 1 code form

Following the removal of WAFS Upper Air Forecasts in WMO GRIB Edition 1 code form from the WAFS portfolio, this dataset ceased to be made available via SADIS with effect from 14th November 2013.

Suggested action: *Any user who is still unable to obtain and/or visualize WAFS Upper Air Forecasts in WMO GRIB Edition 2 code form should contact the provider of their SADIS Workstation/Software.*

2.2 **Provision of WAFC London CB, icing and turbulence data via SADIS 2G**

WAFS Upper Air Forecasts for cumulonimbus (CB) cloud, icing and turbulence commenced distribution over SADIS 2G on 14th November 2013.

Suggested action: *Note this information*

2.3 **Provision of WAFC London CB, icing and turbulence data via Secure SADIS FTP**

WAFS Upper Air Forecasts for cumulonimbus (CB) cloud, icing and turbulence were made available in folders that no longer indicated the products were trial, effective from 14th November 2013. The data will also continue to be made available in the existing 'trial' folders (to aid transition by users) until 12 August 2014 – when the 'TRIAL_FORECASTS' folders (and subfolders) will be deleted along with the now redundant 'GRIB1' folder (and subfolders).

It should also be noted that effective 12 March 2014 both WAFCs were able to bring forward the availability of the GRIB2 cumulonimbus, icing and turbulence data. The data is now routinely made available by T+4:35 on Secure SADIS FTP, and by T+5:00 on SADIS 2G.

Suggested action: *Note this information.*

2.4 **Provision of WAFC London Upper Air Forecast data for FL410**

WAFS Upper Air data for FL410 was made available on SADIS 2G and Secure SADIS FTP on 14th November 2013.

Suggested action: *Note this information.*

2.5 **Increase of Secure SADIS FTP bandwidth**

The Secure SADIS FTP bandwidth (between the SADIS Provider and its Internet Service Provider) was increased to 16Mbit/sec bursting to 24Mbit/sec on 20th August 2013. It had previously been set to 4Mbit/sec bursting to 8Mbit/sec. At the same time, individual client limits were increased from 128Kbit/sec to 512Kbit/sec. The SADISOPSG/19 meeting considered proposals to increase the Secure SADIS FTP bandwidth further, but the group determined that the current bandwidth remained sufficient.

Suggested action: *Note this information.*

3. Forthcoming developments

3.1 **Future requirements of a SADIS satellite broadcast beyond 2015**

The SADISOPSG/18 meeting (29-31 May 2013, Dakar, Senegal), recommended that the SADIS 2G service be extended to November 2019, after which it is expected that the satellite service will be withdrawn. The Secure SADIS FTP service is expected to continue. This recommendation was presented to the Conjoint ICAO/WMO MET Divisional Meeting, (July 2014, Montréal).
Suggested action: *Note this information.*

3.2 **SADIS Gateway mid-life upgrade**

The existing SADIS Gateway infrastructure (known as CoreMet) is now at end of life, and a mid-life upgrade project is being implemented to ensure its continued resilience and availability, as well as introducing greater capability. The SADISOPSG/19 meeting endorsed the proposal, the costs attributable to SADIS amounting to GBP 187,110.27 capitalized over a period of 5 years.

Suggested action: *Note this information.*

3.3 **Endorsement of targets to be used for availability of WAFC London GRIB2 and SIGWX data on SADIS 2G and Secure SADIS FTP.**

The SADISOPSG endorsed targets to be used for availability of WAFC London GRIB2 and SIGWX data on SADIS 2G and Secure SADIS FTP. These targets take into account United Kingdom CAA requirements as well as ICAO requirements whilst taking into account the actual time required to deliver data via the differing mediums. The targets are presented in **Appendix A**.

Suggested action: *Note this information.*

3.4 **Provision of a dedicated server for monitoring of availability of WAFC London data on SADIS 2G and Secure SADIS FTP**

The SADISOPSG endorsed the provision of a dedicated server for monitoring of availability of WAFC London data on SADIS 2G and Secure SADIS FTP. This is expected to result in an annual cost of GBP4,000 and will make the monitoring of timeliness and availability statistics much more reliable. This is expected to be implemented by 30 September 2014.

Suggested action: *Note this information.*

3.5 **Removal of redundant folders on Secure SADIS FTP**

As noted in 2.3 certain folders on Secure SADIS FTP are now redundant and will be deleted on 12 August 2014. The affected folders are listed below. The Secure SADIS FTP User Guide will be amended accordingly.

a) GRIB1;
b) GRIB2/COMPRESSED/EGRR/TRIAL_FORECASTS; and
c) GRIB2/COMPRESSED/KWBC/TRIAL_FORECASTS

Suggested action: *Note this information.*

3.6 **Implementation of WAFS re-issuance policy for WAFS GRIB2 and WAFS SIGWX forecasts**

In accordance with WAFSOSPG/7 Conclusion 7/5 (and as also noted in the separate 'Summary of Recent and Forthcoming Developments to the WAFS' Working Paper), the SADISOPSG endorsed distribution of corrections to SIGWX forecasts and GRIB2 data via SADIS. In addition, the SADISOPSG endorsed the necessary modifications to file behavior on Secure SADIS FTP as described in the attachment to the separate 'Summary of Recent and Forthcoming Developments to the WAFS' Working Paper.

Suggested action: *Note this information.*

3.7 **Provision of One minute updates to traditional alphanumeric OPMET data on Secure SADIS FTP**

In accordance with WAFSOPSG/8 Conclusion 8/7, the SADISOPSG endorsed a proposal by the SADIS Provider to implement additional files/folders to provide traditional alphanumeric OPMET data at 1 minute intervals. The methodology is described in **Appendix B**. This was originally implemented on 22nd July 2014, but regrettably had to be withdrawn due to unforeseen consequences. This is now under review and is planned for implementation by 31 October 2014.

4. Standing arrangements

4.1 **Access to Internet based services (Secure SADIS FTP/WIFS).**

SADIS users are encouraged to apply for WIFS accounts for the establishment of backup/contingency processes in the rare event of a failure of SADIS. Users should note that there are now agreed policies with regard to accessing data from SADIS and WIFS, and the use of such backup/contingency accounts. Details are available on the SADISOPSG Website http://www.icao.int/safety/meteorology/sadisopsg/SADIS%20User%20Guide/Obtaining%20access%20to%20WIFS%20as%20a%20backup%20to%20SADIS%20FTP.pdf. It is the user's responsibility to apply for and arrange a WIFS account. *The SADIS Provider will not arrange such accounts on behalf of users.*

Suggested action: *Note this information. Users are encouraged to establish and regularly test backup accounts with the alternative provider to be used in the rare event that their normal service (Secure SADIS FTP or WIFS, as specified by Regional Air Navigation Plan) is unavailable.*

5. Action by the meeting

5.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matters as appropriate.

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Appendix A

The targets below (endorsed by SADISOPSG/19) are to be used to measure the availability and timeliness of data being *received* from the SADIS 2G satellite and *made available* on the Secure SADIS FTP server. The results will be provided annually in the SADIS Management Report.

SADIS 2G	>=99.2% available by*:	No target set
WAFC London GRIB2 (not CB, icing, turbulence)	T+5hrs 00mins	T+6hrs 00mins
WAFC London GRIB2 CB, icing, turbulence	T+5hrs 05mins	T+6hrs 00mins

SADIS 2G	>=99.2% available by*:	No target set
WAFC London SIGWX BUFR	T+7hrs 00mins	T+9hrs 00mins
WAFC London SIGWX PNG	T+7hrs 00mins	T+9hrs 00mins

Secure SADIS FTP	>=99.2% available by*:	No target set
WAFC London GRIB2 (not CB, icing, turbulence)	T+4hrs 20mins	T+6hrs 00mins
WAFC London GRIB2 CB, icing, turbulence	T+4hrs 50mins	T+6hrs 00mins

Secure SADIS FTP	>=99.2% available by*:	No target set
WAFC London SIGWX BUFR	T+7hrs 00mins	T+9hrs 00mins
WAFC London SIGWX PNG	T+7hrs 00mins	T+9hrs 00mins

* Based on UK CAA targets.

Appendix B

Illustrative proposal of additional "OPMET_LAST_MINUTE" file and "OPMET_SET_OF_1MIN_FILES" folder to be added to Secure SADIS FTP (note, ".SIG" files are not shown).

AIRMET	(DIR)	
ALL	(DIR)	
ASHTAMS_AND_VA_NOTAMS		(DIR)
BUFR	(DIR)	
GAMET		(DIR)
GRIB1	(DIR)	
GRIB2	(DIR)	
LAST_18HOURS_DATA		(FILE)
NUCLEAR_EMERGENCY_MESSAGES		(DIR)
OPMET		(DIR)
OPMET_DAILY_HOURLY_FILES	(DIR)	
OPMET_LAST_5MINS		(FILE)
OPMET_LAST_HOUR	(FILE)	
OPMET_LAST_MINUTE		(FILE)
OPMET_SET_OF_1MIN_FILES		(DIR)
OPMET_SET_OF_5MIN_FILES		(DIR)
SADIS_ADMINISTRATIVE_MESSAGES		(DIR)
SIGMETS	(DIR)	
SIGWX_CORRECTION_MESSAGES	(DIR)	
SIGWX_PNG	(DIR)	
SPECIAL_AIREP	(DIR)	
SUPP_VOLC_ASH_CONC_DATA		(DIR)
TROPICAL_CYCLONE_ADVISORIES		(DIR)
TROPICAL_CYCLONE_ADVISORY_GRAPHICS		(DIR)
VOLCANIC_ASH_ADVISORY_GRAPHICS	(DIR)	
VOLCANIC_ASH_ADVISORY_STATEMENTS		(DIR)
VOLCANIC_ASH_SIGMETS	(DIR)	

Note: when considering the naming of the new file/folder, due regard was given to the note to WAFSOPSG/8 Decision 8/6 that requested the WAFCs to align – where possible – folder structures/names. However, in this instance, given this is not a major upgrade to the service nor a successor system, it was determined that consistency with the existing Secure SADIS FTP folder structure overrode the need for alignment with the WIFS service in the provision of TAC OPMET at one minute updates.

2. The OPMET_LAST_MINUTE file would contain concatenated traditional alphanumeric OPMET data for the last minute only.

3. Illustrative content of the proposed new folder OPMET_SET_OF_1MIN_FILES:

OPMET_1100
OPMET_1101
OPMET_1102
OPMET_1103
OPMET_1104
OPMET_1105
OPMET_1106
OPMET_1107
...
OPMET_1159

and the corresponding signature files.

Each file would contain data from the minute preceding the time stated in the file name; i.e. OPMET_1101 would contain data from 11hrs 00min 00.01sec to 11hrs 01min 00sec.

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