



International Civil Aviation Organization

**SEVENTEENTH MEETING OF THE METEOROLOGY
SUB-GROUP (MET SG/17) OF APANPIRG**

Bangkok, Thailand, 13 – 16 May 2013

Agenda Item 8: OPMET (TAF, METAR, SPECI) Exchanges

8.1) Review of ROBEX WG/11 meeting

ROBEX WORKING GROUP REPORT

(Presented by Sue O'Rourke, Chair of ROBEX WG)

SUMMARY

This paper presents a summary of the eleventh meeting of the Regional OPMET Bulletins Exchange Working Group (ROBEX WG) of the Meteorology Sub Group (MET SG) of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) held in Bangkok, Thailand from 11 to 13 March 2013. It includes the agreed actions of the group.

1. Introduction

1.1 The 13th Meeting of APANPIRG (Bangkok, September 2002) with its Decision 13/28 established the ICAO Asia/Pacific OPMET Exchange Task Force (OPMET/E TF). The Meeting adopted Terms of Reference (TORs), Work Programme and composition of the Task Force. The 7th Meeting of the CNS/MET Sub-group of APANPIRG (July 2003), adopted Decision 7-10/26, by which the OPMET Exchange Task Force was renamed to ASIA/PAC OPMET Management Task Force (OPMET/M TF). At the 23rd Meeting of APANPIRG (September 2012) it was agreed that, due to the ongoing monitoring and testing role, the group should be migrated from a Task Force to a Working Group and renamed the Regional OPMET Bulletin Exchange Working Group (ROBEX WG).

1.2 The Eleventh Meeting of the ROBEX Working Group (ROBEX WG/11) was held in Bangkok, Thailand, from 11 to 13 March 2013 and was attended by 34 experts from 13 States, IATA and ICAO. The meeting included a conjoint session on 13 March 2013 with the Third Meeting of the Meteorological Hazards Task Force (MET/H TF/3) to review SIGMET issues which included an additional 15 participants from a further 2 States.

1.3 Ms Sue O'Rourke presided over the meeting in the role as chairperson and Ms. Sujin Promduang was elected as the new chairperson of the ROBEX WG commencing at the next meeting and assisted as co-chairperson. Mr. Peter Dunda, RO-MET, acted as Secretary of the meeting.

1.4 The full report of the ROBEX WG/11 can be accessed at the following website:
http://www.bangkok.icao.int/cns/meeting.do?method=MeetingDetail&meeting_id=269

2. OPMET Data

2.1 **Follow-up action from OPMET/M TF/10.** Follow-up action from the 10th meeting of the OPMET Management Task Force is given in **Appendix A** to this report. Note that action agreed by ROBEX/11 is provided in **Appendix B** to this report.

2.2 **OPMET Deficiencies.** The meeting reviewed the APANPIRG deficiencies relating to MET. Refer to the Secretariat WP on this item to be presented at MET SG/17.

2.3 **WIFS and Secure SADIS FTP Implementation.** The WAFS Internet File System (WIFS) and the Secure SADIS FTP service became the primary internet-based distribution system for WAFS data on 1 July and 3 December 2012 respectively. The Meteorological Authority in each State is responsible for ensuring that each State has a secure means of obtaining and distributing the WAFS information to aviation users. There are still some States within the APAC region that have not fully implemented this.

2.4 **New Zealand METAR.** New Zealand is proposing to fully automate the METAR program at Auckland, Wellington and Christchurch. The current METAR/SPECI program which is supplemented by manual observations will be replaced by a fully automated program of METARs issued every 30 minutes on 1 July 2013. Additional system redundancy, verification and support will be implemented as part of the project along with a series of web-cam.

2.5 **30-hr TAF in Japan.** Currently Japan issues 27 hour TAF for 36 aerodromes, 7 of which require a 30 hour TAF. The recent upgrade of the supercomputer at JMA will allow enhanced capability of weather prediction at longer lead-time. JMA therefore plan to extend the validity of all 36 locations to 30 hours while also meeting the requirement to issue the TAF 30-60 minutes prior to validity.

2.6 **OPMET Data Performance Indices.** Results of the monitoring indicated that the performance indices (availability, compliance and regularity) for TAF exceeded 90%. However the indices for METAR exceed only 80%. It was also noted that OPMET data was unavailable for a number of locations:

- Both TAF and METAR were unavailable for 5 AOP locations;
- TAF was unavailable for 8 AOP locations;
- METAR was unavailable for 21 AOP locations; and
- METAR was unavailable for 8 non-AOP locations.

It was agreed that further monitoring and investigation into the monitoring method be undertaken along with correspondence with States that are failing to meet the requirements (Action 11/2 refers). IATA monitoring of OPMET data revealed that only 88% of METAR and 91% of TAF were available from AOP aerodromes with an even lower availability at non-AOP locations. There was also a discrepancy between the availability at WIFS and SADIS which should be identical. IATA also revealed that there were a number of METAR had transit times in excess of 15 minutes.

3. OPMET Exchange

3.1 **IROG Back-up.** The eighth Inter-Regional OPMET Gateway (IROG) back-up test saw ROBG Bangkok successfully transmitting 99.82% of the RODB Singapore METAR and TAF bulletins with an average transit time of 1 minute. It was recommended that the backup procedures and testing be extended to the IROGs in Tokyo and Brisbane (Action 11/3 refers).

3.2 **RODB Monitoring and Quality Control.** RODBs Bangkok, Brisbane, Singapore and Tokyo conducted an OPMET bulletin monitoring exercise from 1 to 31 January 2013. The exercise revealed that there are several inconsistencies in the number of TAF and METAR received. RODB Nadi didn't participate in the exercise.

4. OPMET Regional Guidance Material

4.1 The OPMET guidance material published by the ICAO Regional Office Bangkok includes the ROBEX Handbook, OPMET Interface Control Document (ICD) and the OPMET related FASID tables. The meeting suggested a number of additions and improvements to each of the documents. All States are urged to review each of the documents and provide amendments to the APAC Regional MET by July 2013 (Actions 11/4, 11/5 and 11/6 refers). All documents are available on the ICAO Bangkok website at: <http://www.icao.int/APAC/Pages/edocs.aspx>

5. OPMET Exchange Format

5.1 RODB Bangkok represented the APAC Region at the RODB meeting held in Belgium on 4-5 March 2013. Following this a meeting of the ICAO Meteorological Aeronautical and Information Exchange Project Team (MARIE-PT) was held on 6-8 March 2013 where several APAC States were represented. The main point of discussion was regarding the implementation of the ICAO Meteorological Information Exchange Model (IWXXM). WMO's Task Team on Aviation XML (TT-AvXML) is developing XML schema for METAR, SPECI, TREND, TAF and SIGMET. There is now a need to check the Unified Markup (UML) diagrams to ensure the logic is consistent with the provisions in Annex 3 for each of these products. It is hoped that testing of the exchange of XML MET products will begin this year and amendment 76 to Annex 3 will enable this. As such the RODBs will be required to be able to handle the MET data in digital format.

6. VAAC Backup Tests

6.1 VAACs Darwin and Tokyo have developed back-up procedures and these are reflected in the SIGMET Guide and were tested on 19 September 2012. The problems that arose during the first test on 18 January 2012 were resolved and only a few minor issues were highlighted during the second test. It was agreed that a further review of the back-up procedures would be undertaken (Action 11/7 refers) and that the next test would include VAAC Wellington.

7. SIGMET Tests

7.1 The meeting reviewed the outcomes from the 8th APAC SIGMET Test that was conducted on 7, 14 and 21 November 2012. All RODBs participated in the WS SIGMET Test; RODB Nadi didn't participate in the WC or WV SIGMET Tests. Along with many States/MWO not issuing the SIGMET tests there were also formatting and heading errors and multiple issuance of messages.

7.2 WS SIGMET Tests results:

- 16 out of 29 States participated;
- 7 States (Afghanistan, Bangladesh, Nauru, Nepal, Papua New Guinea, Solomon Islands and Sri Lanka) have never participated in the tests;
- 7 MWOs (Kabul, Dhaka, Port Moresby for Nauru, Kathmandu, Port Moresby, Port Moresby for Honiara, Colombo) have never participated in the tests;
- Australia advised that they would change to an ICAO compliant SIGMET format on 30 May 2013;
- Reception at RODB Nadi has increased from 76% in 2011 to 90% in 2012;

- Reception at WAFC London was only 81% compared with the RODB average of 91%.

7.3 WC SIGMET Test results:

- 32 messages were received out of the expected 46.

7.3 WV SIGMET Test results:

- 35 messages were received out of the expected 49 from APAC States;
- 8 messages were received out of the expected 9 from Russia.

8. SIGMET Monitoring

8.1 RODB Singapore and Brisbane monitored WS SIGMET during the period 1 August to 30 September 2012. The meeting was concerned that no SIGMET was received from four States, namely Afghanistan, Nauru, Papua New Guinea and Solomon Islands, in the 2-month period monitored, noting that SIGMET (for thunderstorms) were issued by surrounding MWOs on some days. The meeting also recalled that one of those States, Papua New Guinea, has an agreement to provide SIGMET for 3 FIRs – Port Moresby, Honiara, and Nauru – on behalf of the host States.

9. Action by the Meeting

9.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) provide updates to the list of agreed actions; and
- c) formulate actions as appropriate.

APPENDIX A
FOLLOW-UP ACTION OF OPMET/M TF/10

Status on 6 May 2013

√ = completed

No.	Title/Action	Follow-up action (target/completion dates in brackets)
10/1	<p>Updates to Work Plan. That, the Secretariat will update the Work Plan document on the website with updates provided by the meeting and present the updated Work Plan document to the CNS/MET SG/16 meeting.</p>	<p>Secretariat/Chair ✓ Work Plan presented to CNS/MET SG/16 (Jul 2012); updated on website (Feb 2012)</p>
10/2	<p>Updates to Follow-up Action Reports. That, the Secretariat will update the working papers on follow-up action to OPMET/M TF/9 and APANPIRG/22 with updates provided by the meeting, ICAO and States.</p>	<p>Secretariat ✓ WP/3 & WP/5 updated on OPMET/M TF/10 website; email notification to TF meeting participants (May 2012)</p>
10/3 Also 9/4	<p>SIGMET Monitoring for non-participating States in 6 SIGMET tests. That, RODB Singapore and RODB Brisbane (need confirmation in coordination with ICAO) monitor the issuance of SIGMET for the following States: Afghanistan, Bangladesh, Nauru, Papua New Guinea, Solomon Islands, and Sri Lanka noting that PNG arranges for SIGMET issuance by Port Moresby for PNG, Solomon Islands and Nauru.</p>	<p>RODB Singapore and Brisbane ✓ Monitor SIGMET (period to be determined in consultation with Secretariat) by PNG, Afghanistan, Sri Lanka and Bangladesh. WP presented to ROBEX WG/11 (Mar 2013)</p>
10/4 Also 9/7	<p>Verify authenticity of aerodromes selected for OPMET data requirements and selected for 30-hour TAF. That, feedback is sought from IATA to justify the selection of aerodromes where 30-hour TAF is required (typically AOP).</p>	<p>Secretariat / IATA In progress (revised – July 2012)</p>
10/5	<p>WIFS implementation. That, the Secretariat contacts States with no WIFS registration, and/or States with registered WIFS users but no demonstrated usage, and provide assistance where required to establish those States' capability for operational use of WIFS (e.g., determine the Status of Fiji in relation to access of WAFS products).</p>	<p>Secretariat (with US assistance) ✓ Followed-up with required States (Fiji indicated WAFS accesses through Australia, however Australia does not on forward WAFS to other States). Reminder Emails sent (31 May & 1 Jun) to WIFS contacts regarding State Letter and questionnaire (revised – July 2012). CNS/MET SG/16 suggested that Secretariat to develop a gap analysis.</p>

10/6	<p>Improve OPMET exchange between ASIA/PAC and AFI region. That, the Secretariat, in conjunction with IROG Bangkok, formulates required actions to improve OPMET exchange between ASIA/PAC and AFI region.</p>	<p>Secretariat/IROG Bangkok Determine required action In progress Secretariat contacted IROG Bangkok and IROG Pretoria in Jun/Jul 2012 to review status of OPMET exchange. Responses in Aug 2012 indicated still some issues to resolve (revised Jul 2012)</p>
10/7	<p>Update OPMET related FASID Tables. That, the Secretariat compiles a proposal for amendment to OPMET related FASID Tables with proposal information provided by Indonesia the meeting.</p>	<p>Secretariat/Indonesia In progress Proposal for Amendment drafted (May 2012); requires review to realign with amendments resulting from SADISOPSG Conclusion 17/9</p>
10/8	<p>Update ROBEX Handbook in relation to OPMET monitoring. That, the Secretariat includes the following information in the next proposed ROBEX HB update: a) updated information on the availability of OPMET messages, as provided by States; and b) clarification of standard monitoring references to be used for the measurement of performance indices.</p>	<p>Secretariat/States/RODBs ✓ Draft updates presented to CNS/MET SG/16 (July 2012) ROBEX HB updates posted to website (Jan 2013)</p>
10/9	<p>Follow-up on OPMET monitoring issues. That, RODBs include follow-up information on issues arising from discussions at OPMET/M TF/10, including: a) unexpected results for compliance and availability as measured by RODB Tokyo, which may be software related; and b) missing bulletins in OPMET monitoring.</p>	<p>RODBs In progress WP presented to ROBEX WG/11 (March 2013)</p>
10/10	<p>Follow-up on RODB backup trials. That, RODBs follow up on issues arising from discussions at OPMET/M TF/10, including: METAR bulletins from India not successfully routed/not received via AFTN.</p>	<p>India/RODBs ✓ (May 2012)</p>
10/11	<p>SIGMET test 2011 AFTN errors. That, the Secretariat contacts VAAC Darwin to confirm that correct AFTN addresses are used for WIII and WAAA in the advisory test messages template.</p>	<p>Secretariat Email to VAAC Darwin ✓ Confirmed correct AFTN addresses (Jul 2012). Indonesia & VAAC Darwin will test AFTN circuit on date(s) TBC.</p>
10/12	<p>VAAC backup test header errors. That, the Secretariat contacts VAAC Darwin to request replacement of the header YMMC with YPDM.</p>	<p>Secretariat Email to VAAC Darwin ✓ Incorrect header due to setup of AFTN dissemination network; corrective action TBA.</p>

APPENDIX B
FOLLOW-UP OF ROBEX WG/11 - ACTION AGREED

Status on 6 May 2013

√ = completed

No.	Title/Action	Follow-up action (target/completion dates in brackets)
11/1	Status of OPMET provision in Bhutan. That, the Secretariat (by way of State Letter) verifies the status of implementation of OPMET information in Bhutan to meet the requirements for international air navigation.	State Letter (May 2013)
11/2	Follow-up on OPMET monitoring. That, the Secretariat (with assistance from RODBs and IATA): a) verify the results of RODB and IATA OPMET monitoring; and b) highlight results of OPMET monitoring to States to address problems where OPMET availability, compliance or regularity do not meet requirements.	State Letter (May 2013)
11/3	IROG back-up procedures. That, RODBs Brisbane and Tokyo develop and test IROG back-up procedures based on the procedures developed by RODBs Bangkok and Singapore in the ROBEX Handbook, Appendix D.	IROG back-up procedures and back-up test (progress report to next meeting)
11/4	ROBEX Handbook – updates. That, a) the Secretariat incorporates updates provided by the meeting in Attachment 9 to the Report in the next amendment to the ROBEX Handbook; and b) States provide the Secretariat with further updates required in time for the next major amendment of the ROBEX Handbook in September 2013.	ROBEX Handbook amendment (May 2013) Submission of updates for the ROBEX Handbook (July 2013) ROBEX Handbook amendment (Sept. 2013)
11/5	ASIA/PAC ICD – updates. That, a) the Secretariat incorporates updates provided by the meeting in Attachment 10 to the Report in the next amendment to the ASIA/PAC ICD; and b) States provide the Secretariat with further updates required in time for the next major amendment of the ASIA/PAC ICD in September 2013.	ASIA/PAC ICD amendment (May 2013) Submission of updates for the ASIA/PAC ICD (July 2013) ASIA/PAC ICD amendment (Sept. 2013)
11/6	FASID – updates. That, the Secretariat with assistance from States primarily concerned develop proposal for amendment to FASID as agreed by the meeting in section 4 of the Report.	Proposal for amendment of FASID (May 2013)
11/7	Follow-up on VAAC back-up test. That, the VAAC provider States review the VAAC back-up test procedures and amend if necessary to ensure: a) instructions for States are clear on what action is and is not required by MWOs; and b) best practice to disseminate VAA in a secure manner to	VAAC back-up test procedures reviewed and amended if necessary (August 2013)

	reach all known users, preferably via the AFTN.	
11/8	<p>Follow-up on SIGMET monitoring. That, the Secretariat promulgate the results of SIGMET monitoring by RODBs Singapore and Brisbane presented in the Appendix L to this Report, which indicated that no SIGMET were issued by Afghanistan, Nauru, Papua New Guinea and Solomon Islands, to the States concerned in order to urgently facilitate the establishment and implementation of effective corrective action plans to address deficiencies related to SIGMET not provided in accordance with requirements.</p>	<p>State Letter (May 2013)</p>
11/9	<p>SIGMET Guide – updates. That, the Secretariat incorporates: a) updates provided by the meeting in Appendix N to the Report in the next amendment to the SIGMET Guide; and b) an example to report a situation when no ash is expected in the forecast section of a SIGMET in time for the next major amendment of the SIGMET Guide in September 2013.</p>	<p>SIGMET Guide amendments (May 2013) (September 2013)</p>