INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE

REPORT OF THE SEVENTH MEETING OF THE ASIA/PAC OPMET MANAGEMENT TASK FORCE (OPMET/M TF/7)

2-4 June 2009

Bangkok, Thailand

History of the Meeting **Page**

Report on Agenda Items

Attachment

Appendices

1. Introduction

1.1 The Seventh Meeting of the ASIA/PAC OPMET Management Task Force (OPMET/M TF/7) of the CNS/MET Sub-group of APANPIRG was held in Bangkok, Thailand, from 2 to 4 June 2009.

2. Attendance

2.1 The meeting was attended by 27 experts from Australia, Cambodia (Observer), China, Hong Kong China, India, Japan, Malaysia, Singapore, Thailand, Viet Nam, IATA, and ICAO. The List of Participants is provided in **Attachment 1** to the report.

3. Opening of the meeting

3.1 Mr. Chris Keohan, Regional Officer Aeronautical Meteorology, ICAO Asia and Pacific Office opened the meeting and extended welcome to all the participants to the ICAO Regional Office and emphasized the importance of timely exchange of OPMET information through ROBEX scheme for the safety of flight operation. He was pleased to see that all Tropical Cyclone Advisory Centres (TCACs) participated in the WC SIGMET test and commended the increase in State involvement. He supported efforts in continuing this trend of SIGMET test involvement to help reduce real time SIGMET format errors. He also commended the recent efforts to update the ROBEX Handbook that is referenced by the Regional OPMET Data Banks (RODBs) in the exchange of OPMET data needed for flight safety and efficiency by providing timely meteorological data for international flight. He assured his full support to the meeting and wished the meeting all success in its productive deliberations.

3.2 The meeting elected a new chairperson, Ms. Guat Mui CHUA of the Meteorological Services of the National Environment, Singapore. Ms. Chua expressed her appreciation of the nomination and accepted on the terms that she serve as chairperson for two years to give others an opportunity to chair future meetings and to give other RODBs a chance to bring a different perspective to the meeting. The meeting wished Ms. Chua a successful meeting and appreciated her efforts in OPMET exchange in the previous years. Ms. Chua commended the previous efforts of OPMET exchange monitoring, quality checking and efficiency of the previous Chairperson; Mr. Rick Houghton. She provided a brief overview of the objectives of the meeting and also highlighted main tasks for the meeting and sought continuous support from all participants of the meeting.

4. Officers and Secretariat

4.1 Ms. Guat Mui Chua, elected chairperson of the OPMET/M Task Force presided over the meeting.

4.2 Mr. Chris Keohan, Regional Officer, MET acted as Secretary of the meeting.

5. Organization and language of the meeting

5.1 The meeting met as a single body. Working language was English including all papers and this report. The meeting considered 23 working papers and 10 information papers. List of papers is provided at **Attachment 2** to this report.

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Adoption of agenda

1.1 The agenda adopted by the meeting was as follows**:**

Agenda Item 1:
a) Election of chairperson
b) Adoption of provisional agenda and working arrangements for the meeting
c) Review of the TORs and follow-up action on the TF/6 meeting

Agenda Item 2: Review:
a) Report of 3rd RODB Coordination Meeting – Melbourne
b) Current status of OPMET exchange in the Region
c) Status report of Regional OPMET Data Banks
d) Inter-Regional exchange and new requirements for OPMET information.
- Harmonization of OPMET data on SADIS and ISCS
- State implementation of new TAF format (Am 74)
- State implementation of one TAF per aerodrome (Am 74)
- State implementation of long TAF dissemination only
- State implementation of 24 and 30-hour TAF requirement
- State selection of long or short TAF in VOLMET

Agenda Item 3: Review of regional guidance material on OPMET exchange:
a) ROBEX Handbook
b) ASIA/PAC ICD
c) OPMET related FASID tables
d) ASIA/PAC OPMET Data Catalogue

Agenda Item 4: Management of OPMET exchange:
a) OPMET monitoring and quality control procedures
-RODB backup procedures – contingency trials
b) SIGMET tests
-Address and header format verification
-Follow-up notification to States on errors identified

Agenda Item 5: Update on BUFR coded OPMET information – ANC decision

Agenda Item 6: Future Work Programme

Agenda Item 7: Any other business

Agenda Item 1: Review of the Terms of Reference (TORs) and follow-up action on the TF/6 meeting

1.2 The meeting reviewed the Terms of Reference (TOR) of the group which was last adopted by the CNS/MET SG/12 meeting (July 2008). In relation to the work programme section (f), to prepare, in conjunction with the ATN 1C Group, regional plan for the transition to BUFR coded OPMET information in coordination with the relevant APANPIRG contributing bodies; the meeting noted that XML may be used in the exchange of OPMET contingent on a pilot project being conducted by WMO in close coordination with ICAO and endorsement by the ANC in 2010. Therefore, continuous monitoring of the progress of XML is needed. The proper wording of section (f) is thus proposed for the terms of reference: (f) to monitor in coordination with the ATN 1C Group, the transition to an alternative code (i.e. XML) for OPMET exchange as highlighted in **Appendix A.** In view of the foregoing, the meeting developed the following draft Decision.

Draft Decision 7/1 - Revised TOR and Work Programme for the OPMET/M TF

That, the revised TOR and the work programme for the OPMET/M TF as shown in the **Appendix A** to the report under Agenda Item 2 be adopted.

1.3 In relation to the task force membership, the meeting noted the attendance of Cambodia as an observer to the meeting and encouraged attendance of States who are interested in learning and facilitating the improvement of OPMET exchange in the Region. In light of the recent letter of agreement between China and Cambodia on the provision of the SIGMET by China for the Phnom Penh FIR, the meeting commended the efforts of the two States in providing this critical hazardous information to the users. The meeting noted that if Cambodia wished to become a permanent member, a valid reason can be formulated for a draft Conclusion to the CNS/MET SG/13 meeting for endorsement by APANPIRG. Cambodia accepted its role of an observer and no further action needed in terms of membership.

Actions taken by the CNS/MET Sub-group and APANPIRG on OPMET/M TF/6 Report

Review of the status of follow-up action on OPMET/M TF List of Action Items

1.4 The meeting reviewed the List of Action Items adopted by the OPMET/M TF/6 meeting and took note of the achieved status of each item. A total of 23 of the 31 tasks were closed and accounted for in the second table of **Appendix B**. The long term ongoing tasks and the new short term tasks with associated assignment, follow-up action and target dates are given in the first table of **Appendix B**.

1.5 The group further reviewed the follow-up action taken by APANPIRG/19 (September 2008) meetings on the OPMET/M TF/6 report. The meeting noted APANPIRG/19 adopted draft conclusions on OPMET related matters formulated by the Task Force. The meeting also noted follow-up actions taken by States, Secretariat and International Organization with respect to the adopted Conclusions. The following follow-up actions on the OPMET management related issues were highlighted:

- **Conclusion 19/45 – Transition to ISCS 3rd Generation**. State letter (T 4/8.1: AP-MET0019/09(MET)) sent 27 February 2009 to the ISCS Provider State soliciting information on hardware and software specifications, transition timeline, and expected cost implications to users related to the ISCS 3rd Generation. Waiting to receive the above information by the Provider State in order to disseminate to States.

- **Conclusion 19/46 – Regional preparedness for timely implementation of the new TAF provisions**. State letter (T 4/8.3.2:AP127/08(MET)) sent 23 September 2008 that included Regional plan for the new TAF provision presented in Appendix W to

APANPIRG/19 final report. State letter (T 4/8.3.2:AP129/08(MET)) sent 29 September 2008 that informed States of the new TAF format effective 00 UTC on 5 November 2008.

- **Conclusion 19/47 – Test website for the transition to the new TAF format**. State letter (T 4/8.3.2:AP129/08(MET)) sent 29 September 2008 that invited States in the ASIA/PAC Region to use the special website established by the U.S. NWS to facilitate the transition to the new TAF format and test their procedures for issuance of 30-hour TAF.

- **Conclusion 19/49 – Guidance on the period of validity of TAF included in the HF VOLMET broadcasts.** Inter Office Memorandum and Issue Form sent to ICAO Headquarters inviting ICAO to urgently review the concerns expressed with regard to the non-suitability of 30-hour TAF for HF VOLMET broadcasts as described in detail in the Report on Agenda Item 3.4 of the CNS/MET SG/12 meeting. State letter (T 4/6.1.1:AP124/08(MET)) sent 17 September 2008 that provided urgent guidance to States concerned taking into consideration the user requirements expressed by IATA and IFALPA, which was well before the implementation date of 5 November 2008.

- **Conclusion 19/50 – Issues related to TAF code.** Issue Form sent to ICAO Headquarters requesting ICAO, in coordination with WMO be invited to consider the following issues related to TAF: a) providing explicit definition of the geographical area that the TAF covers with consistency between this definition for the TAF and METAR; b) establishment of amendment criteria for the temperature group in the TAF; and c) establishment of provision for multiple occurrences of operationally significant maximum and minimum temperatures in a 30-hour TAF.

- All the proposals contained in Conclusion 19/50 have been referred to the ICAO Secretariat which will progress these tasks with the assistance of the AMOFSG/8 Meeting (February 2010).

- **Conclusion 19/51 – Coordination and Implementation of the Volcanic Ash Notification for Aviation.** State letter (T 4/9.1:AP171/08(MET)) sent 28 November 2008 encouraging States listed in FASID Table MET 3C to implement the format VONA developed by the International Airways Volcano Watch Operations Group (IAVWOPSG) in order to: a) improve communication of information on volcanic activity to ACC, VAAC, and MWO; and b) provide feedback on the utility of the Volcano Observatory Notice for Aviation (VONA) and refinements that should be considered by the IAVWOPSG.

- **Conclusion 19/52 – Update of ASIA/PAC Regional SIGMET Guide.** State letter (T 4/8.3.2:AP185/08(MET)) sent 17 December 2008 notifying States of the new SIGMET examples developed by Hong Kong, China and Australia given in Appendix Y to the CNS/MET SG/12 Report on Agenda Item 3.4 were included in the new amendment (December 2008) to the ASIA/PAC Regional SIGMET Guide.

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Agenda Item 2: Review:

a) Report of 3rd RODB Coordination Meeting – Melbourne
b) Current status of OPMET exchange in the Region
c) Status report of Regional OPMET Data Banks
d) Inter-Regional exchange and new requirements for OPMET information
- **Harmonization of OPMET data on SADIS and ISCS**
- **State implementation of new TAF format (Am 74)**
- **State implementation of one TAF per aerodrome (Am 74)**
- **State implementation of long TAF dissemination only**
- **State implementation of 24 and 30-hour TAF requirement**
- **State selection of long or short TAF in VOLMET**

2.1 **Review of 3rd RODB Coordination Meeting**

The meeting reviewed the report of the 3rd RODB Coordination Meeting held in Melbourne from 29 to 30 January 2009. Progress on the list of action items that resulted from the RODB/3 meeting was reviewed. The list mainly includes tasks for preparation of the OPMET/M TF/7 meeting such as inquiries on specific OPMET requests, RODB Backup tests, update of regional guidance material, improvement and expansion of SIGMET test procedures and providing specific OPMET deficiencies to the Regional Office for use in State letters. Most items were complete or will be complete during the meeting and the Secretariat noted that the action items list served its purpose in that the members of the meeting were well prepared.

2.2 **Current status of OPMET exchange in the Region**

Status of Deficiencies

2.2.1 The Secretariat informed the meeting that a State letter sent on 16 February 2009 that solicited an update on 'U' (urgent) type APANPIRG MET deficiencies. A reply was received from one of the eight States the letter was sent. Information on the status of deficiencies was also obtained at ICAO forums and the ICAO Technical Co-operation Bureau (TCB) Co-Operative Agreement for the Enhancement of Meteorological Services for Aviation in the South Pacific (CAEMSA-SP) draft reports.

2.2.2 DPR Korea responded to the State letter regarding Air Navigation Deficiency AP-MET-16, establishment of MWO and provision of SIGMET, with a letter to the ICAO Regional Office dated 30 March 2009. DPR Korea informed the Regional Office that "The current MET office in Pyongyang International Airport has expanded MET service to include MWO and has been also serving as MWO to provide required regular SIGMET service for Pyongyang FIR since February 2009. The above information is already published in our AIP dated 16 February 2009."

2.2.3 With the aforementioned, the Secretariat proposed to present a draft Conclusion that removes the AP-MET-16 deficiency from the APANPIRG list of deficiencies at the CNS/MET SG/13 meeting under the condition that it is proven SIGMET is properly provided for the Pyongyang FIR. The RODBs agreed to monitor the issuance of SIGMET in the Pyongyang FIR during the weeks leading up to the CNS/MET SG/13 meeting in order to endorse this proposal. The frequency of SIGMET with relation to the expected frequency will not be monitored as it requires significantly more resources (i.e. monitoring of weather on daily basis). Nevertheless, the monitoring of the issuance of SIGMET by the RODBs satisfies the Asia/Pacific Supplement to the Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies paragraph 4.13 and 5.9.

2.2.4 The Secretariat informed the group that the provision of SIGMET for the Phnom Penh FIR (AP-MET-15) was temporarily resolved in that the Air Traffic Management Bureau (ATMB) of the Civil Aviation Authority of China (CAAC) began issuing SIGMET for the Phnom Penh FIR on behalf of

the Flight Operation and Safety Department (FOSD) of the State Secretariat of Civil Aviation of Cambodia (SSCA) as of 1 June 2009. Specifically, the Kunming Meteorological Watch Office (ZPPP MWO) is issuing SIGMET for the Phnom Penh (VDPP) FIR on behalf of FOSD of SSCA for a proposed period of 1 year as per the Letter of Agreement (LOA) signed by the two parties. The LOA states that the agreement is automatically renewable each year unless there is a disagreement within 30 days of the renewal date. With the aforementioned, the meeting agreed that the removal of AP-MET-15 deficiency from the APANPIRG deficiencies list be proposed to the CNS/MET SG/13 in the form of a draft conclusion. This was agreed to encourage States to find solutions, even if temporary, for the provision of SIGMET or any other urgent deficiency in the provision of meteorology for international air navigation.

2.2.5 The Singapore RODB expressed concern over the different ICAO location indicator for the ICAO location indicator of the FIR being served (VDPP) from the issuing MWO (ZPPP) in the first line of SIGMET. Though this follows the procedures in the SIGMET Guide derived from the WMO- No. 306, manual on Codes, the RODB Singapore may not accept this difference. The RODB Singapore is investigating whether or not SIGMET of this nature is being accepted for further dissemination to SADIS. The Singapore RODB verified the reception and transmission of VDPP SIGMET by ZPPP on 1 and 2 June 2009.

2.2.6 The meeting discussed whether or not the deficiency for Cambodia related to the implementation of a Meteorological Watch Office (AP-MET-11) should be removed from the list of deficiencies as well. Other duties such as dissemination of pre-eruption information and the dissemination of information on a radioactive material release are included in Annex 3, 3.4, and therefore need to be considered before removing this deficiency. Cambodia will consider these items during the next year before proposing the removal of this deficiency.

2.2.7 The Secretariat informed the group that Myanmar is making progress with regards to the two APANPIRG deficiencies, AP-MET-10 (need for pre-flight documentation from WAFS) and AP-MET-13 (provision of SIGMET). Specifically, Myanmar plans to implement the regular retrieval of WAFS products and is already an approved SADIS FTP user. In addition, Myanmar will improve the access to meteorological information via a separate internet line provided by the WMO. These improvements will be monitored and a status will be provided at the CNS/MET SG/13 meeting.

2.2.8 The CAEMSA-SP executed by the ICAO Technical Co-Operation Bureau (TCB) was conducted from August to December 2009. This project proposed by the Regional Office in response to identified deficiencies in the provision of Meteorological Service was conducted in order to assist airlines in receiving sufficient meteorological data for flight planning (alternate airports) and in-flight decision making over the South Pacific.

2.2.9 Seven Pacific Island States, Cook Islands, Fiji, Kingdom of Tonga, Kiribati, Nauru, Solomon Islands, and Vanuatu participated in the CAEMSA-SP. The ICAO TCB Technical Expert visited five of the seven States and developed a list of action items associated with identified gaps as given in **Appendix C**. Of these gaps, some are recommended to be added to the APANPIRG list of deficiencies (bold font in **Appendix C**). A total of 11 deficiencies were recommended by the ICAO TCB Technical Expert, but two of these (AP-MET-01 and AP-MET-02) are already APANPIRG deficiencies. The remaining 9 proposed deficiencies were presented to the group in WP10 for input in determining which deficiencies should be presented to the CNS/MET SG/13 meeting in a proposed draft Conclusion.

2.2.10 The group was reminded of the definition of a deficiency defined by the ICAO Council in 2001. In addition, that the U (urgent) status is reserved for an ICAO standard and the A (top priority) status is reserved for recommended practices according to paragraph 4.6 of the Asia/Pacific Supplement to the Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies. With that, the group decided the following deficiencies be included in a proposed draft Conclusion for the CNS/MET SG meeting:

NAURU:

- MET Observations at Nauru International – AUUU: No METAR/SPECI observing program is in place. TAF issuance monitoring and amending not supported by an observing program. Reference Annex 3, 4.3.1 and no calibrated and maintained equipment available for measuring wind speed and direction: no calibrated and maintained equipment available for the measurement of temperature and dew point; lack of automatic instruments to support accurate visibility and cloud base observations. Reference Annex 3, 4.5, 4.6 and Appendix 3 Section 4

- Lack of WAFS products needed for pre-flight planning. Reference Annex 3, Chapter 9 and Appendix 2, 2.1 and Appendix 8.

COOK ISLANDS:

- NIL

SOLOMON ISLANDS:

- Lack of WAFS products needed for pre-flight briefing. Annex 3, Chapter 9 and Appendix 2, 2.1 and Appendix 8.

KINGDOM OF TONGA

- Lack of monitoring of active volcanoes – non-compliance with IAVW provisions. Reference Annex 3, 3.6 and 4.8 *(Note that Annex 3, 3.6 does not say that it needs to establish a state volcanic observatory – only that the information be provided to ATS, etc..)*

KIRIBATI

- Lack of WAFS products needed for pre-flight briefing. Annex 3, Chapter 9 and Appendix 2, 2.1 and Appendix 8.

2.2.11 Of the 9 proposed deficiencies, the meeting agreed that 5 warrant further scrutiny by the CNS/MET sub group to APANPIRG. The lack of WAFS products deficiency is determined as the 'A' (requires action) type deficiency *(this could actually be U in that it is a requirement)*, while the lack of METAR data and volcanic ash monitoring warrants the 'U' (urgent) type deficiency. The Secretariat requested that IATA consider the impact of these deficiencies to operations in order to help formulate the deficiency type. This input should be provided by IATA at the CNS/MET SG/13 meeting. The meeting agreed to present these deficiencies as a draft Conclusion to the CNS/MET SG/13 meeting.

2.3 Status report of Regional OPMET Data Banks

2.3.1 The Singapore RODB informed the meeting of the status of the databank system in the region. In particular, statistics of non-regular or ad-hoc requests of Asia/Pacific and Europe OPMET data was generated for the monitoring period of January through March 2009. The average number of

requestors of 69 requested an average of 5,276 requests per month during the period. Of these OPMET requests, 64, 35 and 1% were for METAR, 12-hour or greater TAF, and 9-hour TAF. The type of aviation user requesting OPMET data was composed of Met offices (73%), Airlines (19%) and others (8%). Lastly, the meeting was informed of the backup test results between Bangkok and Singapore conducted between 0200 and 0800 UTC on 16 March 2009. The percentage of METAR, TAF and total bulletins transmitted to the London IROG by the RODB Bangkok was 94, 70 and 91%.

2.3.2 The Bangkok RODB was able to transmit 91% of the messages to the London IROG within 3 minutes. The reason for the lack of transmission of the remaining 9% is due to invalid WMO Abbreviated Header Line (AHL) date time group or the message was not received in Bangkok. The meeting noted that the bulletins (SACI31-ZBBB, SAID33-WIII, *SAKO31-RKSI*, *SAPK31-OPKC*, FTAU31-YBBN, FTAU33-YBBN, FTAU34-YBBN, FTBN31-OBBI, FTBN32-OBBI, FTIN31-VIDP, FTIR32-OIII, FTNZ31-NZKL, *FTPK31-OPKC*, FTSD31-OEJD, *FTSD32-OEJD*, FTTM31-YBBN) were either not received (italics) or the data was received, but not sent. The Bangkok RODB will modify the software to handle non transmitted messages.

Report of RODB Singapore

2.3.2 The Singapore RODB provided an update on the recent development on the Internet Databank System. Specifically, the websites were improved to provide clarity of the user navigation. Singapore invited the meeting to request a username and password for access to the Internet Databank System.

2.4 Inter-Regional Exchange and New Requirements for OPMET Information

Inter-Regional exchange and new requirements for OPMET information

2.4.1 The meeting was reminded of the changes associated with Amendment 74 to Annex 3 and regional requirements in relation to the issuance of TAF. That is, (a) the TAF format includes the day in the time elements, (b) only one TAF is required at an aerodrome at any given time, (c) 9-hour TAF is no longer issued internationally in the ASIA/PAC Region, and (d) the requirements for the period of validity of TAF was increased to 30 hours at some aerodromes to support ultra-long haul flights and 24 hours for all other AOP aerodromes in the ASIA/PAC Region.

2.4.2 The Singapore RODB monitored TAF with regards to points (a)-(c) between 6 and 9 April 2009 and summarized the errors into three categories: TAF messages encoded with the old code form (date not included in the time elements), the issuance of 9-hour TAF, and incorrect position of the temperature groups. Examples of TAF messages not including the date in the time elements were observed from WAAA, WABB, and WICC. The 9-hour TAF bulletins were issued for WIII, WIHH, VTSS, and VABB (contents of bulletin: VAAH and VABB). Incorrect position in the temperature groups was noted for VCBI. Thailand informed the meeting that VTSS no longer sends FC TAF to Singapore.

2.4.3 The meeting reviewed the status of Amendment 74 TAF implementation with relation to points (a)-(c) provided by the Secretariat. The compiled TAF noncompliance information was received from the RODBs and IATA. **Appendix D** includes the noncompliant TAF type (format or short TAF issuance) for each State reportedly issuing noncompliant TAF. Regional Office and State actions are also included in the table and discussed by the meeting. Currently, six States (Indonesia, Papua New Guinea, India, Pakistan, Mongolia, and Sri Lanka) in the ASIA/PAC Region have been identified as issuing noncompliant TAF, but no State actions are given for these States. The RODBs agreed to continue the monitoring of TAF issued by these States.

2.4.4 The Secretariat informed the meeting that India and Indonesia have been sent State letters addressing the issuance of 9-hour TAF and the correct format in December 2008. This issue was forwarded to the Indonesian Single Point of Contact on 25 May 2009. The Secretariat also informed the meeting that a State letter was sent to Pakistan and Mongolia indicating the noncompliant TAF. The temperature group location error at VCBI (Colombo, Sri Lanka) can be reiterated by the Secretariat. The

meeting inquired if the ICAO Regional Office could request from States a compliance date for the implementation of TAF in accordance to Annex 3. The Secretariat agreed that any State letters issued on noncompliant TAF associated with Amendment 74 should request a compliance date.

2.4.5 Viet Nam informed the meeting that 24-hour TAF will replace 18-hour TAF at four international aerodromes (VVNB, VVDN, VVTS and VVPB) on 01 August 2009. In addition, the 2-hour lead time of TAF issuance will be changed to 1 hour in accordance to the ASIA/PAC Basic Air Navigation Plan. Viet Nam will thus be in compliance with the Regional Air Navigation Plan (ANP and FASID Table MET 1A) except for VVTS which has a 30-hour TAF requirement. Two reasons for noncompliance were given by Viet Nam: (1) lack of ultra-long haul flights at VVTS and (2) ease of MET operational surveillance of TAF when all are of the same period of validity. Viet Nam will consider issuance of a 30-hour TAF at VVTS if ultra-long flights are conducted in the future. IATA informed the meeting that the 30-hour TAF requirement for VVTS is needed for alternate aerodrome planning for ultra-long haul flights and suggested that all international aerodromes for Viet Nam could issue a 30-hour TAF to simplify operational surveillance. The Secretariat pointed out that this approach would add cost to the user, however, IATA expressed the cost would be minimal. The meeting agreed that Viet Nam has made progress in TAF compliance and should consider the 30-hour TAF for VVTS and if for ease of surveillance, possibly implement 30-hour TAF at the other international aerodrome and present the plan at the CNS/MET SG/13 meeting.

2.4.6 Viet Nam also proposed a change to the VVPB entry in the FASID Table MET 1A in that the trend forecast will be issued as of 01 August 2009. Therefore, column 6 will change to Y. In addition, Viet Nam proposed a change to the period of validity of TAF requirement from 30 to 24 hours for VVTS. As mentioned, the Secretariat explained that the requirement was given by IATA and must remain unless IATA requests the change. The operational period of validity is located in Table B of the ROBEX Handbook.

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Agenda Item 3: Review of regional guidance material on OPMET exchange

a) ROBEX Handbook
b) ASIA/PAC ICD
c) OPMET related FASID tables
d) ASIA/PAC OPMET Data Catalogue

3.1 ROBEX Handbook

3.1.1 The meeting was reminded by the Secretariat of the recent amendments to the ROBEX Handbook with regards to the new TAF provisions associated with Amendment 74 to Annex 3. In particular, the long TAF bulletins in Table B were amended in November and December 2008. A new amendment expected in June 2009 will include the period of validity of TAF requirement if the TAF issued is different from the requirement.

3.1.2 The meeting was informed by Thailand of changes to the ROBEX TAF exchange for 3 AOP aerodromes in Thailand. Beginning at 0000 UTC on 1 August 2009, the Bangkok ROBEX Centre will disseminate 24-hour TAF for VTCT (Chiang Rai Intl Airport), VTSG (Krabi) and VTUU (Ubon Ratchathani) in a new TAF bulletin FTAE33 VTBB. The new TAF bulletin will be issued 4 times per day at 0500, 1100, 1700 and 2300 UTC. ROBEX Table B, TAF exchange, will reflect this change in the amendment planned in June 2009 with an editorial note of the effective changes proposed by Thailand. Subsequently, ROBEX Table C which describes the ROBEX scheme in relation to FASID Table MET 1A will also be updated to reflect these changes. Al list of changes associated with the ROBEX Handbook between December 2008 and June 2009 are given in **Appendix E**.

3.1.3 The meeting was reminded that many METAR bulletins are disseminated in accordance to the ROBEX scheme as reported by the RODB Bangkok in the RODB/3 meeting. In order to increase the performance indices of METAR collection and dissemination with the end result increasing the availability of OPMET to the users, the RODB/3 meeting agreed that States should be invited to input changes associated with the collection and dissemination of METAR (ROBEX Handbook Table A). The Regional Office provided States an opportunity to update the information in the ROBEX Handbook Table A. States input received by Australia, Hong Kong, New Zealand, Thailand and the ICAO Technical Co-operation Bureau with regards to the Solomon Islands were used to update the Table.

3.1.4 Australia noted that the requirements of 24 hours for some aerodromes in the FTAU33 bulletin were not applied to all the aerodromes. The Secretariat noted that this was based on FASID Table MET 1A requirements and requirements were not, for the most part, specified for non-AOP aerodromes. The meeting agreed that requirements for non-AOP aerodromes, but which are considered as international aerodromes (i.e. Gold Coast) are not clear. This may be considered for future meetings by IATA.

3.1.5 Singapore requested that the SATH31, SATH32 and SATH33 bulletin contain a footnote of hours of operation as it is partially available, but not accounted for in the performance indicators. A note of the availability of these METAR bulletins will be provided to the Secretariat. The FTTH and SATH bulletins will be sent to all the RODBs.

3.1.6 The updated Table A will be included in an amended ROBEX Handbook before the CNS/MET SG/13 meeting. The meeting agreed that the ROBEX Handbook should be updated once per year after the OPMET/M TF meeting but before the CNS/MET SG meeting.

3.2 Updates to the ASIA/PAC ICD

3.2.1 At the request of the RODB/3 meeting, the Secretariat updated the Asia/Pacific OPMET data banks interface control document (ICD) to reflect the non issuance of FC TAF in the Asia/Pacific Region and to change the definition of FT TAF to be with a period of validity of at least 12 hours. Also agreed upon at the RODB/3 meeting was for the RODBs to provide updates to their respective appendices

to the document. The Bangkok, Brisbane, Singapore and Tokyo RODBs submitted updated appendices A, B, D and E to the ICD and included in the new proposed amendment, which will be posted on the web in the near future. The list of ICD updates is given in **Appendix F.**

3.3 OPMET related FASID tables

3.3.1 The Secretariat reminded the group that FASID Tables MET 1A, 1B, 3A, 3B, 3C, 5, 6, and 7 were recently updated. The imminent amendment proposal (origin IATA) to FASID Table MET 1A adds a 24-hour TAF requirement for seven aerodromes. Furthermore, States will be invited to provide updated information with regards to FASID Table MET 2A (OPMET for non AOP aerodromes) in the next two quarters. Information provided for FASID Table MET 2A does not go through the nominal amendment proposal procedures and information will simply be gathered and sent to headquarters to input into the database system that produces the FASID Table MET 2A.

3.3.2 The meeting agreed with the proposal made by the Secretariat that the ROBEX Handbook be replaced by FASID Tables MET 4A and 4B when referencing the ROBEX Scheme in the Basic ANP and FASID text. This proposal is in view of current practices by RODBs and States in terms of referencing OPMET exchange information. The meeting also agreed with the subsequent proposal of removing the FASID Tables MET 4A and 4B from Part VI Meteorology (MET) – FASID.

3.3.3 The meeting agreed with the proposal made by the Secretariat that the Asia/Pacific regional OPMET data banks interface control document replace FASID Table MET 4C when referencing the responsibilities of the ASIA/PAC OPMET data banks for collection and dissemination of OPMET bulletins to support the ROBEX Scheme in the Basic ANP. This proposal is in view of current practices by RODBs in terms of referencing OPMET exchange information in support to the ROBEX Scheme in the Basic ANP. The meeting also agreed with the subsequent proposal of removing the FASID Table MET 4C from Part VI Meteorology (MET) – FASID.

3.4 ASIA/PAC OPMET Data Catalogue

3.4.1 The meeting did not determine where the updated catalogue should reside.

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Agenda Item 4: Management of OPMET exchange

Under this agenda item, the meeting considered and discussed 8 papers on the OPMET monitoring and quality control and 6 papers on the SIGMET testing (four of which relate to the tests conducted in February 2009.

4.1 OPMET monitoring and quality control procedures

IATA OPMET monitoring data

4.1.1 IATA monitored the timeliness and regularity of OPMET data received from the Asia/Pacific Region for the period 18 March 2009 to 07 April 2009. Data received included communication mediums of SADIS, ISCS, German MET Office (DWD), AFTN and SITA. With reference to ICAO Annex 3, Appendix 10 (paragraph 1.1 and 2.1.2) the time between observation and reception should be 15 minutes or less for METAR, Trend Forecasts TAF and SPECI. Also, the regularity was assessed and if the number of METARs received was less than an arbitrary value of 150 (out of 504 for hourly TAF or 1008 for TAF provided every half hour); an irregularity in METAR for an aerodrome is identified. For TAF, for a particular hour, the threshold chosen was 10 of a potential 21. This value is much lower than the goal to have 95% and 90% availability of METAR for AOP and non-AOP aerodromes.

4.1.2 In addition to regularity, IATA informed of those aerodromes whose OPMET data lack timeliness: greater than 15 minutes from observation to reception or less than 5 minutes from observation to time of reception. The Secretariat requested the meeting to determine the most logical minimal threshold time from observation to reception at SADIS. The meeting decided that if the OPMET data reception time is after the observation time, further investigation is warranted. Before action is taken by the RODBs or the Secretariat with regards to the results of the IATA monitoring, the Chairperson requested a percentage of occurrences of reception time anomalies (observation time to SADIS reception time greater than 15 minutes or less than 0 minutes). The meeting also agreed that clarification of terms is needed in terms of transmission time, which is defined as the time from filing to reception to the RODBs and ICAO.

4.1.3 IATA monitored OPMET data received from the Asia/Pacific Region from SADIS for the period from 10 March to 11 May 2009. METAR and TAF issued and received for AOP and non-AOP aerodromes in the SADIS Users' Guide Annex 1 dated January 2009 were analyzed. Only 61.7% and 86% of AOP aerodromes issued METAR and TAF while 66.1% and 67.7% of non-AOP aerodromes issued METAR and TAF (non-AOP aerodrome monitoring was conducted on March 7, 2007). IATA set a goal of METAR and TAF availability of 95% and 90% for AOP and non-AOP aerodromes. IATA identified aerodromes with insufficient regularity (using the same METAR and TAF thresholds) **Appendix G** combines the resulting information from both papers that identifies missing or untimely OPMET data with reference to States. The bold font in the **Appendix G** describes OPMET deficiencies from many sources (SADIS, ISCS, German MET Office (DWD), AFTN and SITA) where the non bold font describes OPMET deficiencies from SADIS only. Lastly, States (AY, AP, VA, VE, VI, VO, VT) will be reminded that if a line file must be inserted it should be placed where a space is found.

4.1.4 The meeting was informed by Malaysia the non-AOP aerodrome WMBA does not issue TAF and it be removed from the Appendix G for missing TAF from non-AOP aerodromes. In addition, Thailand informed the meeting that the non-AOP aerodrome VTPH does not issue TAF and Viet Nam noted that the non-AOP aerodromes VVDL and VVNT be replaced with VVLK and VVCR. These comments will be forwarded to SADISOPSG for corrective action to the SADIS Users Guide Annex 1.

4.1.5 IATA informed the meeting of the continued issuance of FC TAF in Pakistan, India, Indonesia and Mongolia, which is no longer a requirement in the Asia/Pacific Region. The Secretariat informed the meeting that this had already been identified and the States informed of the new regional requirements that eliminate the exchange of FC TAF. IATA also informed the meeting of the lack of OPMET information for Katmandu and the negative impact to operations by airlines having to carry more

fuel when TAF is not available from Katmandu which does not allow the airlines to use that aerodrome as an alternate.

4.1.6 IATA presented the meeting with examples of TAF format errors that included the day missing in the time elements, no time or erroneous time period of the validity of TAF, TEMPO period too long, change groups missing, misspelling and bulletin errors. The meeting agreed that the presentation was useful in identifying errors with TAF formatting.

4.2 RODB Bangkok, Brisbane and Singapore Performance Indices

4.2.1 The meeting was informed by the Bangkok RODB of the METAR and TAF performance indices (availability, compliance and regularity) generated for the Bangkok, Brisbane and Singapore RODBs for data collection between 9 and 22 March 2009. The performance indices (PIs) for SA and FT bulletins at the RODB Bangkok and Brisbane were generated without screening observation or filing times. The RODB Singapore analyzed the incoming OPMET data and the information sent to Bangkok for a comparison of the PIs from the three RODBs. The SA and FT tables in the ROBEX Handbook were used for reference in the analysis (what is expected in terms of METAR and TAF reception). The meeting noted that the Singapore RODB had higher PIs (than Bangkok and Brisbane) and that numerous bulletins were not received at Brisbane. The Chairperson noted that the Singapore RODB measures incoming OPMET data against the mean of real time reception. The Bangkok RODB measures incoming OPMET data against what is expected according to the ROBEX Handbook. Some aerodromes listed in the ROBEX Handbook are not received at the RODBs. With the aforementioned, the Singapore RODB will verify the ROBEX Handbook against the mean real time reception of OPMET data and provide the recommended changes to the ROBEX Handbook. The next comparison of performance indices from the RODBs will be against the same expected OPMET data set.

4.2.2 The meeting was informed by the Tokyo RODB of METAR and TAF performance indices for the monitoring period 1-30 April 2009. The Tokyo RODB developed the performance indices using the mean real time OPMET data received at Singapore.

4.3 OPMET Quality Control at Singapore RODB

4.3.1 The Singapore RODB informed the meeting of results of SIGMET monitoring conducted between 1 and 31 March 2009. Specifically, the timeliness of SIGMET in accordance to Appendix 10 of Annex 3 (filing time to time of reception less than or equal to 5 minutes) and WMO headings for SIGMET messages in accordance to the Asia/Pacific Regional SIGMET Guide were assessed. Those SIGMET messages that were received within the required 5 minutes were 83, 95 and 89% for WS, WC and WV type SIGMETs. Content of SIGMET message errors were given such as the time in the header being incorrect and format errors such as NIL for weather phenomenon, multiple FIR listings, and no space in the SIGMET sequence number. In addition, incorrect validity times such as a validity period for WS SIGMET greater than 4 hours or the incorrect date of the validity time were given. The meeting agreed that the Secretariat inform States to use the filing time in the SIGMET header in the issuance of SIGMET.

4.3.2 Performance indices for scheduled OPMET information received at the Singapore RODB for information received between 9 and 22 March 2009. The compliance, regularity and availability indices were given for the 14-day monitoring period. For METAR and TAF, the availability, regularity and compliance indices were .98/.99, .93/.97, and .93/.93. Bulletins that had less than .9 for at least one index were mainly from the Middle East, Iran, Pakistan, India, Thailand, Indonesia, and the South Pacific. The meeting was informed by the Chairperson that the low indices for Thailand are likely due to the partial operations at some aerodromes, which are not noted for METAR in the ROBEX Handbook.

4.4 RODB Brisbane – Multi Part OPMET Bulletins

4.4.1 RODB Brisbane identified incorrectly formatted multi part OPMET bulletins from SA and FT bulletins collected by the RODBs for the periods 9-22 February and 9-22 March 2009. Specifically, 60 of 115 multi part bulletins generated were incorrectly formatted and did not conform to the ROBEX Handbook Appendix F. All but one of these bulletins were in the FTIN31 bulletin and is likely stemming from the AFTN communications center (COMC). The first part of a bulletin is sent in two parts, the second part without a heading which can result in incomplete meteorological information being stored for a location in some end user systems, such as automatic AIS an ANSP. Also note that the FTHK31 bulletin was identified as incorrectly associated with PAB instead of PZB. Hong Kong, China referenced the ROBEX Handbook, which was identified as not referencing PZB. The Secretariat will update the ROBEX Handbook to include PZB in the TAF bulletin splitting process and include an example provided by the Singapore RODB. Hong Kong, China also informed the meeting that the some bulletin truncation is occurring at one of the AFTN Centres. This will be investigated by the RODBs. The Chairperson reminded the meeting that the maximum allowable bulletin length is 1800 characters; however, that guidance for 1500 characters is preferred to account for the spaces and message headers often placed in the bulletins.

4.4.2 Note the following finding since the OPMET/M TF/7 meeting: The optional group Pxx for use of bulletin splitting was removed from the WMO Manual on the Global Telecommunication System (WMO – No. 386) effective 7 November 2007. Instead of using Pxx for bulletin splitting, RRx is used for additional or subsequent issuances of messages with the same abbreviated heading line including the YYGGgg regardless whether these reports are on time, late or delayed. Effective 1 February 2010 (as agreed upon by the RODBs and ROBEX BCCs), the Asia/Pacific Region will utilize RRA for the second part of a split bulletin. An example of a split bulletin using RRA will be provided. The reference of Pxx will subsequently be removed from the regional guidance material.

4.4.3 The Brisbane RODB requested the AFTN COMC responsible (Mumbai, Bangkok, and Singapore) for routing FTIN31 OPMET bulletins investigate the source of the incorrect format of the multi part OPMET bulletins. IATA requested that a TAF split occur at the equal sign. The Chairperson summarized the multi bulletin by informing the meeting of the need to split bulletins over 1800 characters long using the proper identifier and including the WMO header in the second part of the message.

4.5 SIGMET tests

4.5.1 The meeting reviewed the results of the SIGMET tests conducted February 2009 in the ASIA/PAC Region presented by the members from Australia and Japan. The tests were conducted according to a schedule, coordinated with the Rapporteur of the ASIA/PAC VA/TC Implementation Task Force, as follows:

- Test for SIGMET for tropical cyclones (WC SIGMET) – 10 February 2009, start time (time of issuance of the triggering tropical cyclone advisory by the TCACs concerned) 0200 UTC;

- Test for SIGMET for volcanic ash (WV SIGMET) – 17 February 2009, start time (time of issuance of the triggering volcanic ash advisory by the VAACs concerned) 0200 UTC; and

- Test for SIGMET for other weather phenomena (WS SIGMET) – 24 February 2009, start time 0200 UTC.

4.5.2 The objective and procedures for conducting the test were provided to the States through ICAO letter T 4/7.5: AP187/08 (MET) dated 19 December 2008 and a reminder letter T 4/7.5: AP018/09 (MET) dated 27 January 2009. The purpose of the tests is to measure the availability of SIGMET in order to resolve SIGMET related errors. The following observations regarding the test SIGMET issuance and dissemination were noted:

4.6 SIGMET for volcanic ash and tropical cyclones (WC and WV)

WC SIGMET test

4.6.1 The Rapporteur of the VA/TC/I TF of Japan informed the meeting of the WC and WV SIGMET test results that were conducted on 10 and 17 February 2009 in the vicinity of 0200 UTC. All seven Tropical Cyclone Advisory Centres (La Réunion, Delhi, Brisbane, Fiji, Tokyo, Honolulu and Miami) issued SIGMET advisories for the production and dissemination of WC SIGMET by MWOs. A total of 27 test WC SIGMETs were received while 35 were expected. The overall availability of the test WC SIGMET was 77%, significantly better than the 54% availability in 2008.

WC SIGMET test

- availability increased by 23% compared to the WC SIGMET test in 2008;
- not all the test TC advisories and test SIGMETs issued by MWOs reached all RODBs:
- incorrect WMO headers were identified
- an overall increase in reception of the test messages was observed at four reporting RODBs (Bangkok, Brisbane, Singapore and Tokyo)

WV SIGMET test

4.6.2 Four Volcanic Ash Advisory Centres (Tokyo, Wellington, Darwin and Washington) issued VA advisories on 17 February 2009 in the vicinity of 0200 UTC. A total of 62 test WV SIGMETs were issued and some were duplicate bulletins. Of these, 14 WV SIGMETs were issued by MWOs in the Russian Federation which are under the area of responsibility of VAAC Tokyo. A total of 25 WV SIGMETs were received while 33 were expected. Thus the overall availability of the test WV SIGMET was 76% which is a 11% increase compared to the WV SIGMET test in 2008. The number of participation by States for the test remains under the goal of 95%.

- 25 out of 33 states (76%) in the ASIA/PAC Regional SIGMET Guide, Appendix H (provided that WVIN31 VOMM and WVMS31 WBKK are added to Appendix H and WVNG01 AYPY is removed),

- the number of availability was 11% better than the fourth test in 2008.

- the participation of following 14 Russian MWOs were satisfactory: UHBB, UIAA, UIII, UHHH, UIKK, UHMM, UHNN, UHSH, UHPP, UHWW, UHSS, UELL, UESO, and UEST. RODB Tokyo relayed the Russian VA SIGMET messages received from GTS to the other RODBs via AFTN,

- not all the test VA advisories issued by the VAACs and **test WV SIGMETs issued by the MWOs** reached all the RODBs,

- Some WMO headings were incorrect (e.g WSxx instead of WVxx),

- Incorrect priority (GG, DD) was observed in some SIGMET test messages,

- An increase in availability of VA SIGMET test messages was observed for the Bangkok, Singapore and Tokyo RODBs (a decrease was observed for the Brisbane RODB).

4.6.3 Australia informed the meeting that the Darwin VAAC only received one SIGMET from

the MWOs and reminded the meeting that SIGMETs be sent to the VAACs via AFTN. The Secretariat will inform States to include the VAAC AFTN address for dissemination of VA SIGMET.

4.6.4 Cambodia informed the meeting that information on the SIGMET tests was not received. Australia noted that Papua New Guinea was also not informed of the SIGMET tests which reiterate the need to develop a list of MWO contacts for dissemination of information on SIGMET tests.

4.6.5 The Chairperson noted that only FV and FK messages by AFTN should be included in the reception statistics and that if deemed necessary, the SIGMET Guide reflects this clarification.

4.7 SIGMET for other MET phenomena

4.7.1 Four RODBs in the Region provided summary of the reception of the WS tests to Australia. Analysis of the test results is as follows:

- Out of 29 States in the Asia/Pac Region SIGMET Guide, Appendix H, 12 States (41%) participated in the test, by having their MWOs issue a test SIGMET. This was a decrease of 2 States from the 2008 test. Note that of the 29 States listed in the SIGMET Guide, 9 States were listed without an associated MWO or an MWO that has not been established or the details are not confirmed or there is no information or SIGMET is not issued. Taking this into account the participation rate could be stated as 12 of 20 States (60%) compared to 66% in 2008;

- Of the 54 MWOs listed in the ASIA/PAC Region SIGMET Guide, Appendix H, 34 MWOs (63%) issued a test WS SIGMET for at least one of their FIRs. Melbourne/National Centre MWO, Australia, is not listed in the SIGMET Guide but did participate in the test. Those FIRs where a SIGMET was not issued are indicated with a red shade in **Appendix H**.

- Of the 12 States who took part, 34 out of 35 (97%) MWOs within those States issued a test WS SIGMET for at least one of their FIRs. This was a modest improvement from 2008 test when the MWO participation rate was 93%, however, two less States were involved. The MWOs within the participating States which did not issue a SIGMET were Urumqi from China, Brisbane from Australia, and Kansas City from the United States (for KZNY, KZMA, KZHU, and TJZU FIRs). The United States was not included in the analysis since it is out of the ASIA/PAC Region;

- Not all test SIGMETs issued reached all RODBs, where it had been agreed that all RODB's would mirror each other RODB contents. Of the 4 RODBs who took part in the test, 156 test WS SIGMETs messages were received, the maximum number possible should have been 168. A total of 7% of SIGMETs were not received by RODBs, an improvement of 10% from the 2008 test.

    - RODB Bangkok received 36 of 42 test WS SIGMETs issued or 86% up from 76% in 2008. The Bangkok RODB was missing WS SIGMETs from Adelaide and Melbourne National Centre (for FIRs YBBB and YMMM), Anchorage, Honolulu and Kansas City.

    - RODB Brisbane received 39 out of 42 test WS SIGMETs issued or 93% down from 95% in 2008. The Brisbane RODB was missing WS SIGMETs from Brisbane, Nadi and Anchorage.

- RODB Singapore received 42 of 42 test WS SIGMETs issued or 100% which was the same in 2008.

- RODB Tokyo received 39 of 42 test WS SIGMETs issued or 93% up from 92% in 2008. The Tokyo RODB was missing Calcutta, Kota Kinabalu and Kuala Lumpur.

- The following States did not use the correct WMO SIGMET headings, as per ASIA/PAC Region SIGMET Guide Appendix H (Edition 4 Amended December 2008).

MWOs/FIR	Received designator	SIGMET guide designator	Action by the Meeting
Australia, all MWOs/YMMM & YBBB	WSAU21	WSAU31	Change to WSAU21 in SIGMET Guide
China, Haikou	ZJHK	ZJSY	Remove ZJSY from the SIGMET Guide (and the FASID Table MET 1B)
China, Haikou	ZJSA	-	This is correctly stated in the SIGMET Guide as ZJHK
China, Taibei	RCAA	RCTP	Correct to RCAA in SIGMET Guide
China, Wuhan	WSCI45	WSCI35	
Malaysia, Kota Kinabalu	WSMS31	-	Correct to WSMS31 in SIGMET Guide
Malaysia, Kota Kinabalu	WMKK	WBKK	This is correctly stated in SIGMET Guide
Thailand, Bangkok	VTBS	VTBD	Correct to VTBS in the SIGMET Guide

- A report was not received by the Nadi RODB and was strongly encouraged to participate in the next test to gauge the SIGMET issuance and reception of the South Pacific Region.

- State participation in the SIGMET test fell short of expectations in the 4th test. However, of the States that did participate there has been a steady increase in MWO participation.

4.7.2 The Secretariat noted that the WS SIGMET test State involvement had decreased and was less than the involvement observed in the WC and WV SIGMET tests. With that, the Secretariat suggested the WS SIGMET test procedures include a note in the introduction that the WS SIGMET test is initiated by the MWO in the designated time given in the procedures and mention that this test is not initiated by an advisory centre as with the TC and WV SIGMET tests.

4.7.3 Australia noted that the Melbourne National Centre is not listed in the ASIA/PAC Region SIGMET Guide Appendix H and should be updated accordingly. In addition, Australia requested that the WSAU31 WMO SIGMET Headings be changed to WSAU21. China requested adding WMO SIGMET Headings WCCI33 for the ZBAA MWO and WCCI35 for the ZJHK MWO. In addition, to add ZJSA FIR/ACC served by the ZJHK MWO and the RCAA FIR/ACC served by the RCTP MWO. The meeting agreed on including the WMO SIGMET Headings WSKP31, WCKP31 and WVKP31 for the Kunming MWO (ZPPP) on behalf of Phnom Penh, Cambodia. Thailand requested that the VTBD MWO be replaced with VTBS. Lastly, WBKK will include WMO Headings for WSMS31 and WCMS31 for Malaysia and VOMM will include the WMO Heading WVIN31. Action will be taken to update Appendix H to the SIGMET Guide by the Secretariat. An update to the SIGMET Guide Appendix H is reflected in **Appendix I**.

4.8 Comparison of WS SIGMET TESTS 1, 2, 3 & 4

4.8.1 The meeting reviewed the report of the comparison work accomplished by the OPMET Management Task Force SIGMET Team presented by Australia. The result of WS SIGMET Tests undertaken on 9 February 2006, 9 February 2007, 29 January 2008 and 24 February 2009 was presented to the meeting.

4.8.2 Comparison of the test results for the three tests is as follows:

- **State participation in tests**

  Test 1 out of 29 States 13 participated in the test or 44%
  Test 2 out of 28 States 12 participated in the test or 42%
  Test 3 out of 28 States 14 participated in the test or 50%
  Test 4 out of 29 States 12 participated in the test or 41%

  If the nine States where information is not confirmed or there is no MWO or SIGMET issued then the response rate for participation would become:

  Test 1 out of 21 States 13 participated or 62%
  Test 2 out of 20 States 12 participated or 60%
  Test 3 out of 20 States 14 participated or 70%
  Test 4 out of 20 States 12 participated or 60%

  States who did not participate in any of the four WS SIGMET tests are as follows:

  Bangladesh, Cambodia, DPR Korea, Indonesia, Lao PDR, Maldives, Mongolia, Myanmar, Nauru, Nepal, Northern Mariana Islands, Papua New Guinea, Solomon Islands, and Sri Lanka.

  MWOs who did not participate in any of the four WS SIGMET tests are as follows:

  Brisbane for YMMM, Dhaka, Phnom-Penh, Pyongyang, Jakarta, Ujung Pandang, Vientiane, Malé, Ulan Baataar, Yangoon, Nauru Island, Kathmandu, Saipan Island (Obyan), Lahore, Port Moresby, Honiara, and Colombo.

- **RODB results**

  Individual result from RODBs was pleasing in that overall a significant increase in reception of test messages had occurred as follows;

  - There was an improvement with the reception by RODB Bangkok, who received 45% of SIGMETs sent in test 1, this increased to 67% in test 2, 76% in test 3, and 86% in test 4. It is still missing SIGMETs from 2 MWOs in Australia and 3 MWOs in the United States.

  - Not much variability with the reception by RODB Brisbane who received 90% of SIGMETs in test 1, 94% in test 2, 95% in test 3 and 93% in test 4. It is still missing SIGMETs from Brisbane, Nadi and Anchorage.

- RODB Singapore as the European gateway showed improvement with 80% reception in test 1 to 97% in test 2 to perfection of 100% in tests 3 and 4.

- RODB Tokyo continues with an improvement trend with a reception of 85% in test 1, 84% in test 2, 92% in test 3, and 93% in test 4. It is still missing SIGMETs from Kolkata, Kota Kinabalu, and Kuala Lumpur. Malaysia informed the meeting that the error associated with the missing SIGMETs was identified and corrected.

- The lack of a report from Nadi RODB was noted and encouraged to participate in the next SIGMET test.

4.9 Plans for future SIGMET tests actions aimed at improving the SIGMET services

4.9.1 Japan presented a proposal for an expanded WV SIGMET test procedure (**Appendix J**) that involves a simulated volcanic eruption that straddles three VAACs (Tokyo, Washington and Darwin). The simulated Mt. Canlaon volcano is first identified by satellite at 0200 UTC resulting in a volcanic ash advisory by the Tokyo and Darwin VAACs. From 0200-0210 UTC, MWOs receiving advisories issue a WV SIGMET providing there are no other advisories or severe weather in the region. The test continues until 0400 UTC (why so long) at which time the VAAC Tokyo and Darwin issue a test VAA for VA dissipation. Cancellation of the test SIGMET is omitted in the plan. Involvement of ATS units is desirable, but not part of the plan. Lastly, test NOTAMs are issued 1 hour before the test and at the end of the test. The meeting agreed that a volcanic ash expanded test include a NOTAM example. The meeting agreed that a pilot expanded volcanic ash test plan include one VAAC and one FIR and one MWO in the first instance to verify the test procedures. Once the procedures have been tested and validated, a step by step expansion of the areas involved be conducted. Japan informed the meeting that the expanded test procedure would not be conducted until 2011.

4.9.2 Japan informed the meeting of a proposal to add backup transmission to the expanded WV SIGMET test procedure in the ASIA/PAC region. The requirement having backup operations for a VAAC is stated in Annex 3, Chapter 3, paragraph 3.5.3. This procedure, if incorporated in the volcanic ash SIGMET test, will test the AFTN circuit used in the backup procedures. The meeting discussed the need for other VAACs in the Region to conduct backup tests. The meeting agreed an inquiry by the Secretariat is needed to determine whether or not the backup test involves communications only or actual issuance of volcanic ash advisories. The meeting agreed that the Secretariat investigate the availability of VAAC backup procedures for use as regional guidance material.

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Agenda Item 5: Update of BUFR coded OPMET information – ANC Decision

5.1 Air Navigation Commission Decision on BUFR code

5.1.1 The meeting was informed by the Secretariat that the recent WMO Commission for Basic Systems (CBS)-XIV held in Dubrovnik from 25 March to 2 April 2009 addressed the planned migration of alpha-numeric codes for METAR, SPECI and TAF to an alternate code (i.e. XML). The CBS-XIV meeting noted the establishment of the CAem-CBS Expert Team on OPMET Data Representation (ET-ODR), which is tasked to address the requirements of aeronautical meteorology for data representation. The CBS-XIV meeting also noted the creation of a pilot project for the presentation of OPMET data in XML and requested the OPAG-ISS to pursue the development of the project in collaboration with CAeM and ICAO.

5.1.2 The Secretariat informed the meeting of the estimated timeline of OPMET data in XML as follows:

2009 – pilot project conducted by WMO (late June/early July 2009 – IATA invited to participate)
2010 – possible endorsement of XML for OPMET by the ICAO Air Navigation Commission
2010 – 2012 – finalization of “code tables” for XML
2013 – enabling clauses to use XML in Annex 3 (Amendment 76)
2013 – 2014 – planned endorsement of XML by the MET Divisional Meeting

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Agenda Item 6: Future Work Programme

6.1 The meeting was introduced to the regional performance framework adopted by APANPIRG/19 Conclusion 19/1 – Regional performance framework. The ICAO planning objective is to achieve a performance based global air traffic management system through the implementation of air navigation systems and procedures in a progressive, cost-effective and cooperative manner. Regional performance objectives that take into consideration user expectations which are mapped against current work through regional performance framework forms. The meeting reviewed examples of the performance framework forms related to OPMET shown in **Appendix K** and agreed that the forms be presented to the CNS/MET SG/13 meeting in the form of a draft Conclusion. PFFs are used to formulate current work programmes in order to keep in mind the benefits to the user community.

6.2 The group decided that the WC, WV and WS SIGMET tests will be conducted on 10, 17, and 24 November 2009.

6.3 The group decided that the OPMET monitoring period will be November and December 2009.

6.4 The group discussed the possible date and venue for the fourth RODB coordination meeting. Aerothai considers hosting the meeting in Chiang Mai, Thailand from 11-12 February 2010.

6.5 The group agreed that its eighth meeting would be held from 23-25 March 2010 in the ICAO Regional Office, Bangkok.

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Agenda Item 7: Any other business

NIL

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TERMS OF REFERENCE OF ASIA/PAC OPMETMANAGEMENT TASK FORCE (OPMET/M TF)

1. Terms of Reference

-Review the OPMET exchange schemes in the ASIA/PAC and MID Regions and develop proposals for their optimization taking into account the requirements by the aviation users and the current trends for global OPMET exchange;

-Develop standardized quality control, monitoring and management procedures related to ROBEX exchange and other exchanges of OPMET information;

- Regularly update the regional guidance material related to OPMET exchange;

-Liaise with other groups dealing with communication and/or management aspects of the OPMET exchange in ASIA/PAC and other ICAO Regions (ASIA/PAC ATN Implementation Coordination Group, BMG EUR Region, CNS/MET SG MID Region, SADISOPSG).

2. Work Programme

The work to be addressed by the ASIA/PAC OPMET Management Task Force includes:

(a) to examine the existing and any new requirements for OPMET exchange in ASIA/PAC and MID regions and assess the feasibility of satisfying these requirements, taking into account the availability of the data;

(b) to keep under review the ROBEX scheme and other OPMET exchange schemes and prepare proposal for updating and optimizing of the schemes;

(c) to review and update the procedures for interregional OPMET exchange and ensure the availability of the required ASIA/PAC and MID OPMET data for the AFS satellite broadcasts (ISCS and SADIS);

(d) to keep under review and provide timely amendments to the regional guidance material on OPMET exchange; to ensure that guidance material contains procedures for the exchange of all required OPMET data types: SA, SP, FT, WS, WC, WV, FK, FV, UA;

(e) to conduct trials and develop procedures for quality control, monitoring and management of the OPMET exchange; to foster implementation of quality management of OPMET data by the ROBEX centres and the RODBs;

(f) ~~to prepare, in coordination with the ATN IC Group, regional plan for the transition to BUFR coded OPMET information in coordination with the relevant APANPIRG contributing bodies;~~

(f) to monitor in coordination with the ATN 1C Group, the transition to an alternative code (i.e. XML) for OPMET exchange;

(g) to participate in the regular regional SIGMET tests;

(h) to further develop quality control guidance material and to promote implementation of quality control for OPMET management.

3. Composition

(a) The Task Force is composed by experts from:
Australia ~~(Rapporteur)~~; China; Fiji; Japan; Hong Kong, China; India; Indonesia; Malaysia, Singapore; Thailand; United Kingdom; United States; and Viet Nam;

(b) Representatives of IATA, EUR BMG and MID OPMET Bulletin Board are invited to participate in the work of the Task Force

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Follow-up of OPMET/M TF/7 Action Agreed
(3 June 2009)

No	Action	Assigned	Progress/Follow-up Action	Target/ Completion Dates
Long term				
1/08	Shortfall of OPMET data reported by IATA	All ROBEX Centres	TF to determine the follow-up action needed	On-going
2/08	Implement new South PAC bulletins; Fiji to present an action plan with target date. Fiji and PNG to sign MOU of technical cooperation project.	Fiji Secretariat	Fiji to report the progress	On-going
3/08	Low percentage/inconsistency of provision of OPMET information from WABB.	Indonesia	Further follow-up actions to be taken by Secretariat	On-going
4/08	Coordinate with ICAO MID Regions in regard to the operation of databanks.	RODBs		On-going
5/08	Standardization of Databank reply messages - with "XX" geographical designator	RODB Singapore	Singapore RODB will drop this non-compliance format after upgrading the Message Switch in Nov 2009.	To be reported in TF/8 meeting
6/08	Advise States that had wrongly formatted WMO header and incorrect MWO and FIR location indicators in SIGMET Messages	Secretariat RODBs	To be monitored by RODBs regularly	On-going
7/08	Coordinate with EUR region harmonization of WV test procedures	Secretariat		
1/09	Monitor the progress of pilot project -implementation of XML for OPMET exchange	Secretariat	Preliminary review	On-going (2013-2019)

2/09	Resolve non transmission of OPMET data to SADIS from Bangkok RODB identified when operating in backup mode for the Singapore RODB	Bangkok RODB	Investigate possible correlation of OPMET data filing on the half hour	2009
3/09	Develop ROBEX Handbook amendment recommendations using mean real time reception at the Singapore RODB and subsequently update the ROBEX Handbook	Singapore RODB Secretariat		1 Nov 2009
Short term (numbers not assigned)				
OPMET Monitoring				
	Monitor issuance of SIGMET from Pyongyang (ZKPY) FIR	RODBs		30 June 2009
	Monitor progress of the issuance of SIGMET by Myanmar	RODBs		30 June 2009
	Continue monitoring TAF issued by Indonesia, Papua New Guinea, India, Pakistan, Mongolia, and Sri Lanka where noncompliance with Amendment 74 to Annex 3 have recently been identified for the issuance of TAF	RODBs Secretariat		30 June 2009 If noncompliance still identified, continue monitoring each month Based on monitoring, the Secretariat issues State letters with action requested by State to provide a compliance date
	Determine the percentage of reception time anomalies (time of observation to reception of SADIS greater than 15 minutes or less than 0 minutes) of OPMET data received by the SADIS	IATA		2009
	Determine source of bulletin truncation as identified by Hong Kong, China	RODBs		2009

Verification / Assessment				
	Verify that the issuance of SIGMET for the Phnom Penh (VDPP) FIR by the Kunming MWO (ZPPP) is disseminated to SADIS – if needed, make correction	Singapore RODB		15 June 2009
	Assess (1) impact to MET operations involved with issuing a 30-hour TAF for VVTS in terms of monitoring TAF and (2) impact to MET operations involved with issuing a 30-hour TAF for all aerodromes that have international flight operations (also consider the skill of the 30-hour forecasts)	Viet Nam		10 July 2009
Inquiries / SL				
	Follow-up with U.S. on APANPIRG C19/45 for information on 3rd Generation ISCS needed for State preparation in the ASIA/PAC Region	Secretariat		15 June 2009
	Develop MWO contact list for distributing information on SIGMET tests and other OPMET related issues	Secretariat		CNS/MET SG13 - initiate 1 Oct 2009 -complete
	Inform States to use the filing time in the SIGMET header in the issuance of SIGMET	Secretariat		1 Oct 2009
	Inform States to include the VAACs and RODBs in the AFTN list as per the SIGMET Guide	Secretariat		1 Oct 2009
	Determine if a VAAC backup test is available and note whether they involve communications only or communications and issuance of advisories	Secretariat		1 Oct 2009
Documents				
	Obtain SATH31, SATH32 and SATH33 bulletin hours of operations and add footnote to the ROBEX Handbook Table A	RODB Bangkok Secretariat		
	Include PZB in the bulletin split section of the ROBEX Handbook	Secretariat		June 2009
	Obtain example of bulletin splitting to the ROBEX Handbook and add to the ROBEX Handbook	Singapore RODB Secretariat		June 2009

	Update SIGMET Guide to clarify that the WV and WC tests only include AFTN reception (do not include GTS and WAFS) of FV and FK messages	Secretariat		June 2009
	Update SIGMET Guide with note that WS SIGMET is not initiated with an advisory message and that the MWO initiates the SIGMET test at the designated time in the SIGMET Guide	Secretariat		1 Oct 2009

COMPLETED TASKS
(3 June 2009)

COMPLETED TASKS **Status on 2 June 2009**		
No	**Action**	**Completion date (2007-2008)**
T5-1	Propose to CNS/MET SG inclusion of States with systematic OPMET data shortfalls in the APANPIRG List of Deficiencies	Jul 07
	Request States to update SUG Annex 1 in regard to non-AOP aerodromes	Mar 08
	Continue operational trials of back-up procedures between IROGs BKK and SIN	Mar 08
T5-2	Harmonization of SADIS and ISCS OPMET data content	Sep 08
	Relay Russian SIGMET received via WMO GTS to all RODBs	Jan 08
T5-3	FTP and Web based access to RODB	Sep 07

T5-4	METNO messages and e-mail notifications for changes in ROBEX bulletins to be distributed to SADIS and ISCS Providers	Mar 08
	Mirroring of RODB content	Mar 08
	Standardize request message format and inform users	Jul 08
T5-5	Correct format of recompiled METAR and TAF bulletins by WAFC Washington Provider State	Sep 08
T5-6	Finalize the analysis of the WV, WC and WS tests held in Jan/Feb 2007, report to CNS/MET SG/11	Jul 07
	Advise all VAACs and TCACs of the correct AFTN addresses for test advisories.	Jun 07
	Conduct next SIGMET tests.	Feb 08
	Update Regional SIGMET Guide to reflect changes in Amendment 74 to Annex 3.	Jul 07
T5-7	Update ROBEX Tables with the information received during the meeting.	May 07
	Review and update the FT and FC Tables in ROBEX HB	July 08
T5-8	Update ICD with the information received during the meeting.	Mar 08
	Include information about web and ftp access for RODB Singapore.	Jul 08

T5-9	Coordinate with RODBs and use the Database for preparing OPMET Catalogue	Mar 08
T5-10	Regular yearly monitoring of OPMET data by the RODBs using the procedures in ROBEX Handbook.	Mar 08
	Post the OPMET monitoring results on the web and inform States of identified problems.	Oct 07
T5-11	Advise States to implement QC procedures for all OPMET data types	Jul 07
T6-13	Conduct a survey to enquire of airlines of their use of TAF information in the VOLME and the result of which to be presented to CNS/MET/12.	Jul 08

Summary of MET Gaps in South Pacific
(Source: TCB - CAEMSA-SP draft reports)

State	Gap	State action proposed	Target date
Cook Islands	MET Obs. Instr. – NCRG (night)	Install AWOS – supply tower	2010
	no LOA - MET & CAA	Negotiate agreement	2009
	no MOU -TAF – Fiji & Cook Is.	Formulate agreement	2009
	no MET authority assigned	Request government designation	2009
	Unreliable MET data outer Is.	Improve comms, maint, monitor	2010
	Unawareness of Ann 3 changes	Improve info w/ ICAO	2009
	no QMS	Utilize knowledge in Fiji	2009
	Lack of wind shear warnings	Improve forecasts through study	2010
	Lack of QMS auditor	CIMS to train auditor	2009
	Transmission of MET inconsist.	Team w/ NZ CAA to use VSAT	2009
Fiji	Cost recovery out of date	Develop accurate cost model	2009
	no LOA – MET & CAA	Develop LOA after cost model	2009
	QMS not complete	Continue QMS development/ISO	2010/2012
	no bilat agr for TAF service	Develop MOUs after regional cost model	2010
	no delegation of MET oversight	Continue to develop	2011
	Add wind sensors TDZ NFNS	Continue current efforts	2009
	Auto AIREP data – needs dissem	Improve dissem of auto AIREP	2009
	Segments of MET service disaster plan lacking	Develop Suva and/or develop MOU with other State(s)	2010
	Lack of NCRG TAF monitoring	Coord w/ CI in montrg (night – cloud and wind shear)	2010
	Ann 3 / WMO changes insufficiently disseminated	Improve procedure to diss. MET standard changes	2009
Kiribati	***MET Obs. Instr. NGTA*, PLCH *(deficiency AP-MET-02)***	**Purchase/install AWOS**	**2009/2010**
	no MET authority assigned	Continue declaration process	2010
	no MOU – MET support Fiji	Negotiate agreement	2009
	no QMS	Execute KMS strategic plan/ISO	2011/2013
	Need for trained staff for TAF	Develop trng sched and needs to provide to WMO for funds/trng	2009/2013
	no LOA – MET & CAA	Develop LOA	2009
	Tx of MET inconsistent	Explore NZ CAA for VSAT	2010
	Collection/tx of MET info insuf.	Train flight service staff in obs. & monitor procedures	2009
	Current ICAO/WMO docs not avail	Ensure procedures provide info of changes to necessary parties	2009
	Tsunami not in disaster plan	Develop procedures for Tsunami warnings to aviation users	2009
	WAFS forecasts not avail		
Nauru	no MET authority assigned	Rewrite Nauru Civil Aviation Act	2009

State	Gap	State action proposed	Target date
	no MOU – TAF/SIGMET PNG	Negotiate agreement	2009
	no MET authority assigned	Develop designation	2009
	Current ICAO/WMO docs not avail	Ensure current docs are obtained	2009
	Lack of temperature/dewpoint at aerodrome	NOTAM no temp or dewpnt or NOTAM temp/dewpnt measured 2 km away	Immediate
	no MET observations (short term)	Repair equipment via tech support by Airways NZ	2009
	no MET observations (long term)	**Install automated weather observing system at AUUU**	**2011-2012**
	Staff not to WMO standards	**Train FIC staff to WMO stds via trainers in Solomon Islands**	**2009**
	METAR not provided	Re-establish METAR prgm	2009/10
	Comms unreliable	Implement VSAT via Airways NZ	2009/10
	no QMS for METAR	Establish QMS for METAR	2009/10
	no QMS for CAA	Establish QMS/ISO for CAA	2011/13
	WAFS forecasts not avail		
Solomon Is.	AGGH METAR does not comply to ROBEX	Update ROBEX HB (RO)	2009
	TAF not accurate and timely	Establish aviation frcstng unit at AGGH	2009
	no calibrated MET obs (wind, vis, cloud) AGGH (deficiency AP-MET-01)	**Replace and/or calibrate MET obs. equipment AGGH**	**2008/2009**
	MET enclosure poor at AGGH	Develop MET enclosure at AGGH	2008
	METAR avail inconsist	Improve avail of METAR and monitoring	2008
	no QMS for METAR	Develop QMS for METAR	2009
	Tx of METAR not in accord to ROBEX HB	**Tx METAR w/i 5 min of report time to Brisbane**	**Immediate**
	ICAO/WMO docs not current	Obtain updated ICAO/WMO docs	2009
	no formal oversight	Confirm oversight	2009
	no LOA between MET & CAA	Develop LOA MET & CAA	2009
	Need planning for METAR/TAF avail at altern AGGM	Include AGGM in SANG31 and FTNG31 bulletins	As required
	no QMS implementation	Develop QMS/ISO	2010/2013
	WAFS forecasts not avail	**Procure ISCS**	**2010**
	Comms unreliable	Implement VSAT via Airways NZ	2009
	Gaps in disaster plan for provision of MET service	Improve disaster plan via MOU w/ other MET service	2009
	Changes to Annex 3 not communicated	Disseminate Annex 3 changes to appropriate parties	2009
Tonga	no MET auth and oversight designation	TCA define MET auth and oversight	2009

State	Gap	State action proposed	Target date
	AIP needs to reflect MET auth	Include MET auth in AIP	2009
	no cost recovery model	Develop cost recovery model	2010
	no LOA between MET & CAA	Develop LOA MET & CAA	2010
	no QMS established	Develop QMS	2011
	no bilat for TAF w/ Fiji	Develop bilat for TAF from Fiji	2009
	no post disaster recovery for provision of MET in disast plan	Include post disaster recovery for MET in disast plan	2009
	Pilot briefings sometimes outdated	Links to NWS should be deleted if not information not timely	2009
	Met obs not optimal (vis, cloud especially at night)	**Upgrade obs equipment and optimize locations**	**2009-10**
	Action items from APAC MET SIP not current	Revise action items from SIP	2009
	Lack of monitoring of active volcanoes		
Vanuatu	Draft report not submitted yet		

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ASIA/PAC REGIONAL OFFICE AND STATE ACTION WITH REGARDS TO NONCOMPLIANT TAF WITH AMENDMENT 74 TO ANNEX 3

Noncompliant TAF information received from:

- RODBs at RODB/3 meeting, 29-30 January 2009, Melbourne
- IATA analysis conducted for the period 21-26 February 2009

Below table reflects status of noncompliant TAF as of 31 March 2009 (Green highlight – compliant, Yellow – noncompliant)

State	TAF format errors	2 types of TAF	RO action	State action
Australia		X	Email	State and IATA confirmed this was a false alarm
Cook Islands	X		(Email to Fiji)	See Fiji
East Timor		X	(Email to Australia)	See Australia
Fiji	X		Email	Compliance occurred on 30 March 2009 when a computer server was upgraded by the BoM Australia. NOTAM updated with this information.
India	X	X	2 SLs sent	
Indonesia	X	X	SL sent and reiterated at meeting in Jakarta 19 Feb 2009	
Kiribati	X		(Email to Fiji)	See Fiji
Mongolia		X	SL sent	
Pakistan	X	X	SL sent and reiterated to Pakistan at TC Panel in Muscat	
Papua New Guinea	X	X	SL sent	
Sri Lanka		X	Informed Sri Lanka at TC Panel in Muscat	
Tonga	X		(Email to Fiji)	See Fiji
Tuvalu	X		(Email to Fiji)	See Fiji
Western Samoa	X		(Email to Fiji)	See Fiji

In addition, PNG was informed not to exceed the requirements as given in the example TAF for Port Moresby that showed a period of validity of 48 hours

ROBEX HB - list of updates – June 2009

Text

-Removal of FASID Tables MET 4A, 4B and 4C as reference

Table A (METAR)

-added VTSH (Songkhla) with bulletin time HH+00 to SATH32 Bulletin for Bangkok ROBEX Centre

-added YPWR (Woomera) to SAAU32 bulletin for Brisbane ROBEX Centre

-updated foot note 2, HH+30, by adding "RCKH and RCSS not available 1600-2200" in the SAHK31 bulletin for Hong Kong ROBEX Centre

-received updates from India; however, none were made based on the following: Mumbai CCCC is VABB not VECC and aerodrome names reference Doc 7910 and dissemination addresses for Kolkata are suspect (VTBBYZYX, YBZZSPWX, WSSSYZYX, RJAAYPYX and RJTDYZYX) as they are not duplicated anywhere else in the table. Need to also address the bulletin spread of 20 minutes for Delhi.

-received requested change for Malaysia, but only noticed a change for WBKL, Labuan (RMAF), and WMKD, Kuantan (RMAF) in that the location name omitted (RMAF), which was not performed because Doc 7910 shows (RMAF) in the location name. Malaysia will make request to Secretary General to remove to remove (RMAF) and inform the ICAO RO in order to update the appropriate documents (ROBEX HB, FASID Tables).

-Received request from CAEMSA-SP Technical Expert to remove the foot note *** from AGGH (Honiara (Henderson)) in SANG31 bulletin because METAR is issued and disseminated 24 hours a day.

-Inquire at OPMET/M TF/7 meeting status of Muan (should they be in the ROBEX scheme in the exchange of METAR)

Table B (FT TAF)

-Italicized the non-AOP aerodromes (reflected in note 4 of explanation)

-Added TAF validity requirements in column 2 in parenthesis if different from operational practice (reflected in note 3 of explanation)

-Move VTCT (Chiang Rai Intl Airport), VTSG (Krabi) and VTUU (Ubon Ratchathani) from FTTH31, FTTH32 and FTTH33 bulletins and put in new FTAE33 VTBB bulletin (effective 1 August 2009)

Table C (ROBEX exchange of METAR and TAF compared with ASIA/PAC FASID Table MET 1A)

-For VTCT (Chiang Rai Intl Airport), VTSG (Krabi) and VTUU (Ubon Ratchathani) entries, the new FTAE33 VTBB bulletin (effective 1 August 2009) was added in addition to the current bulletins

Appendix I - Focal Points

-Updated New Zealand focal point
-Updated Australia focal point

Asia/Pacific OPMET data banks ICD - list of updates - June 2009

Text

Reflects non issuance of FC TAF in the Asia/Pacific Region
Changed the definition of FT TAF to be with a period of validity of at least 12 hours

RODB updates from

Bangkok	Appendix A
Brisbane	Appendix B
Singapore	Appendix D
Tokyo	Appendix E

IATA Asia/Pacific OPMET deficiency list (non bold from SADIS table)

State	METAR	TAF
Cambodia	**METAR received frequently earlier than OBS time**	**Extreme long transit time, around 2 hours, incorrect promulgation time or communication problem?**
China	No METAR on SADIS for ZKPY, ZUXC	**Very short (doubtful) transit time for RCKH, RCSS, RCTP, incorrect promulgation time?** No METAR (probably means TAF here) on SADIS for ZKPY, ZUXC
Cook Islands	**NO METAR on SADIS** No METAR on SADIS	**TAF randomly on SADIS** TAF randomly on SADIS
Fiji	**METAR for NFFN on SADIS only** **Average transit time more than 15 minutes** METAR for NFFN on SADIS only	**TAF randomly on SADIS** **No TAF for NFNA** TAF randomly on SADIS No TAF for NFNA
French Polynesia (France)	**80% received** **METAR only for NTAA** METAR on SADIS for NTAA only	**No TAF on SADIS for NTGG, extreme short (doubtful) transit time, incorrect promulgation time?** No TAF on SADIS for NTGG
Hong Kong, China (China)		**Very short (doubtful) transit time, incorrect promulgation time?**
India	**VOBL METAR is too early (transit time 3 min), all other METAR received more than 10 min after OBS time** No METAR on SADIS for VOCL, VEBS, VIPK, VOBG	**Sometimes long (doubtful) transit time (more than 1 hour), incorrect promulgation time or communication problems?** No TAF on SADIS for VEBS, VIPK, VOBG
Indonesia	**METAR received randomly for WABB, WADA, WALL, WAMM, WAPP, WIHH** METAR received randomly for WABB, WADA, WALL, WAMM, WAPP, WIHH	**TAF randomly on SADIS for WABB** **Extreme long transit time, around 2 hours, incorrect promulgation time or communication problem?** TAF randomly on SADIS for WABB
Kiribati	**No METAR on SADIS** **Average transit time more than 15 minutes** No METAR on SADIS	**TAF randomly on SADIS, very short (doubtful) transit time, incorrect promulgation time?** TAF randomly on SADIS
Macao, China (China)		**Very short (doubtful) transit time, incorrect promulgation time?**
Maldives	**No METAR for VRMG** **Average transit time more than 15 minutes** No METAR for VRMG	
Marshall Islands	**No METAR on SADIS** **METAR for PKMJ randomly** No METAR on SADIS METAR for PKMJ randomly	**Very short (doubtful) transit time, incorrect promulgation time?**
Micronesia (Federated States of)		**Only one TAF for PTSA?** **Only two TAF for PTPN?** **Very short (doubtful) transit time, incorrect promulgation time?**
Mongolia	**Average transit time more than 15 minutes for METAR issued at a hour** **METAR issued at 30 min after a hour are always received before the observation time**	
Myanmar	**No METAR on SADIS for VYSW** No METAR on SADIS for VYSW	**No TAF on SADIS for VYSW** No TAF on SADIS for VYMD, VYSW
Nauru	**NO METAR on SADIS** **Average transit time more than 15 minutes** No METAR on SADIS	**No TAF on SADIS** No TAF on SADIS
Nepal	**METAR not available for 24 hours** METAR not available for 24 hours on SADIS	**Only two TAF for VNKT?** **There are more TAF available, because NEPAL is sending other TAF to some private addresses**

State	METAR	TAF
		Extreme long (doubtful) transit time, incorrect promulgation time or communication problems? Only two TAF for VNKT? There are more TAF available, because NEPAL is sending other TAF to some private addresses
New Caledonia (France)	**No METAR on SADIS** No METAR on SADIS	**Very short (doubtful) transit time, incorrect promulgation time?**
New Zealand		**Very short (doubtful) transit time, incorrect promulgation time?**
Niue	**No METAR on SADIS** No METAR on SADIS	**No TAF on SADIS** No TAF on SADIS
Northern Mariana Islands (United States)		**Only two TAF per day for PGRO?** **Only three TAF per day for PGUA?** **Very short (doubtful) transit time, incorrect promulgation time?** Only two TAF per day for PGRO? Only three TAF per day for PGUA?
Pakistan	**METARs received only for OPKC, OPLA, OPNH, OPPS, OPRN** **Average transit time more than 15 minutes** No METAR on SADIS for OPGD, OPFA, OPMT, OPPI, OPQT	**No constant dissemination, great variation in transit times, difficult for monitoring and alerting, communication problems?** **No TAF on SADIS for OPFA, OPMT, OPPI, OPQT** No TAF on SADIS for OPMT, OPPI, OPQT
Papua New Guinea	**Hourly METAR only for two airports** **Average transit time more than 15 minutes** No METAR on SADIS for AYDU, AYGA, AYMD, AYMH	**No TAF on SADIS** No TAF on SADIS
Philippines	No METAR on SADIS for RPMG, RPVP	**Extreme short (doubtful) transit time, incorrect promulgation time? All TAF received earlier than promulgation time (up to 2 hours before)** No TAF on RPMG
Republic of Korea	No METAR on SADIS for RKJJ, RKJK, RKSO	No TAF on SADIS for RKJJ, RKJK, RKSO
Samoa	**No METAR on SADIS** **Average transit time more than 15 minutes** No METAR on SADIS	**No TAF on SADIS** No TAF on SADIS
Solomon Island	**Hourly METAR** **50% received**	**TAF randomly on SADIS** TAF randomly on SADIS
Thailand	No METAR on SADIS for VTPB, VTSE, VTSK, VTUL, VTUQ	**Very long transit time, around 1 hour, incorrect promulgation time or communication problem?** No TAF on SADIS for VTPH
Tonga	**No METAR on SADIS** No METAR on SADIS	**TAF randomly on SADIS** **No TAF for NFTV** TAF randomly on SADIS No TAF for NFTV
Tuvalu	**No METAR on SADIS** **Average transit time more than 15 minutes** No METAR on SADIS	**TAF randomly on SADIS** TAF randomly on SADIS
United States	**No METAR on SADIS for PABE, PAHO, PAMC, PANT, PASN, PATK, PAUN, PAYA** **Average transit time more than 15 minutes** No METAR on SADIS for PABE, PAHO, PAMC, PANT, PASN, PATK, PAUN, PAYA	**Only two TAF for PHJH?** Only two TAF per day for PHJH? No TAF on SADIS for PABA, PACZ, PADK, PAEH, PAFB, PALU, PANT, PATC, PAED, PAEI
Vanuatu	**No METAR on SADIS** No METAR on SADIS	**No TAF on SADIS for NVSS** No TAF on SADIS for NVSS
Viet Nam	No METAR on SADIS for VVPB, VVDB, VVDL, VVNT	**Extreme long transit time, up to 2 hours, incorrect promulgation time or communication problem?** No TAF on SADIS for VVPB, VVDB, VVDL, VVNT
Wallis and Futuna Islands	**No METAR on SADIS** No METAR on SADIS	**No TAF on SADIS** No TAF on SADIS
Wake Island (United States)		No TAF on SADIS for PWAK

Missing METAR from AOP Aerodromes

Bhutan	VQPR
	ZKPY
China	ZUXC
Cook Islands	NCRG
Fiji	NFNA
French Polynesia (France)	NTGG
India	VOCL
	WABB
	WABP
	WAJJ
	WAKK
	WALR
	WAMM
	WAOO
	WIDN
Indonesia	WIMG
Kiribati	NGTA
Maldives	VRMG
Nauru	ANYN
New Caledonia (France)	NWWW
Niue	NIUE
Pakistan	OPGD
	NSAP
Samoa	NSFA
Sri Lanka	VCCH
	NFTF
Tonga	NFTV
Tuvalu	NGFU
	NVSS
Vanuatu	NVVV
Viet Nam	VVPB
Wallis and Futuna Is. (France)	NLWW

Missing METAR from Non-AOP Aerodromes

	VEBS
	VIPK
India	VOBG
	WADA
	WARJ
	WARQ
	WASS
Indonesia	WBKT
Myanmar	VYSW
	OPFA
	OPMT
	OPPI
Pakistan	OPQT
	AYDU
	AYGA
Papua New	AYMD
Guinea	AYMH
	RPMB
Philippines	RPVP
	RKJJ
	RKJK
Republic of Korea	RKSO
	VCCC
Sri Lanka	VCCJ
	VTPB
	VTSE
	VTSK
	VTUL
Thailand	VTUQ
	PABE
	PABT
	PACV
	PAHO
	PAMC
	PANT
	PASN
	PATK
	PAUN
	PAYA
United States	PHNY
	VVDB
	VVDL
Viet Nam	VVNT

Missing TAF from AOP Aerodromes

Bhutan	VQPR
	ZKPY
China	ZUXC
Fiji	NFNA
French Polynesia (France)	NTGG
	WABB
	WABP
	WAJJ
	WAKK
	WALL
	WALR
	WAMM
	WAOO
	WAPP
	WATT
	WIBB
	WIDN
	WIMG
	WIOO
Indonesia	WIPP
Niue	NIUE
Papua New Guinea	AYVN
Samoa	NSAP
Sri Lanka	VCCH
Tonga	NFTV
	PAED
United States	PAEI
Vanuatu	NVSS
Viet Nam	VVPB
Wallis and Futuna Is. (France)	NLWW

Missing TAF from Non-AOP Aerodromes

India	VEBS
	VIPK
	VOBG
	WADA
	WARJ
	WARQ
	WASS
Indonesia	WBKT
	WMAU
Malaysia	~~WMBA~~
	VYMD
Myanmar	VYSW
	OPMT
	OPPI
Pakistan	OPQT
	AYDU
	AYGA
	AYMD
	AYMH
	AYMO
Papua New Guinea	AYNZ
	AYWK
Philippines	RPMB
	RKJJ
Republic of Korea	RKJK
	RKSO
	VCCC
Sri Lanka	VCCJ
Thailand	~~VTPH~~
	PABA
	PACZ
	PADK
	PAEH
	PAFB
	PALU
	PANT
United States	PATC
	VVDB
	~~VVDL~~VVLK
	~~VVNT~~VVCR
Viet Nam	VVCR
Wake Island (United States)	PWAK

SIGMET Guide

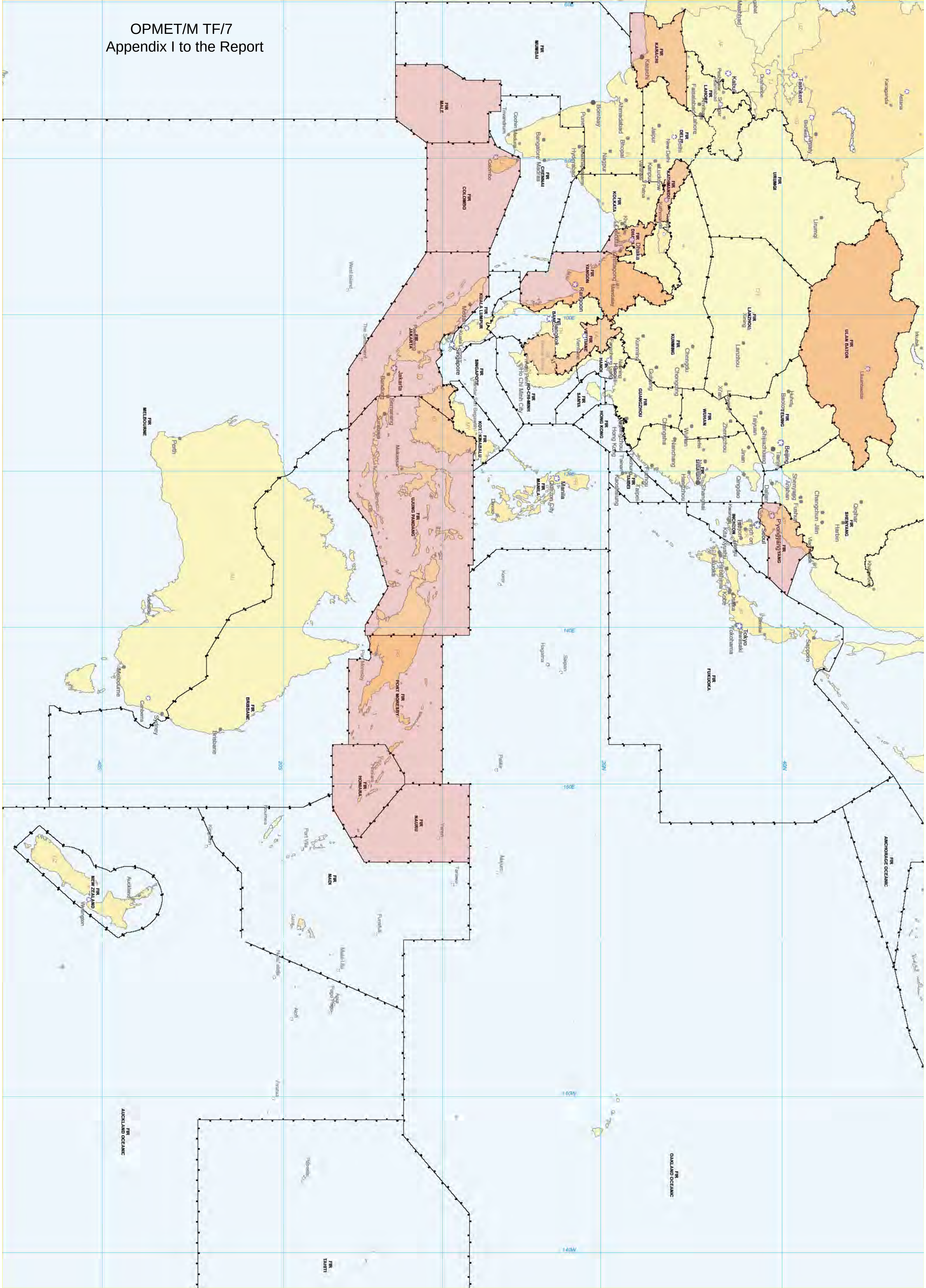
MWO location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
AUSTRALIA						*Note: Non-ICAO location indicators are used in the WMO headings*
ADELAIDE/Adelaide	YPRM	WSAU~~3~~21			YMMM	APRM
BRISBANE/Brisbane	YBRF	WSAU~~3~~21	WCAU01		YBBB YMMM	ABRF
DARWIN/Darwin	YDRM	WSAU~~3~~21	WCAU01	WVAU01	YBBB YMMM	ADRM
HOBART/Hobart	YMHF	WSAU~~3~~21			YMMM	AMHF
MELBOURNE/Melbourne	YMRF	WSAU~~3~~21			YBBB YMMM	AMRF
MELBOURNE (WORLD MET CENTRE, BUREAU OF METEOROLOGY)	YMMC	WSAU21			YBBB YMMM	
PERTH/Perth	YPRF	WSAU~~3~~21	WCAU01		YBBB YMMM	APRF
SYDNEY/Sydney	YSRF	WSAU~~3~~21			YBBB YMMM	ASRF
TOWNSVILLE	YBTL	WSAU~~3~~21			YBBB	ABTL
BANGLADESH						
DHAKA/Zia Intl	VGZR	WSBW20	WCBW20		VGFR	
CAMBODIA						
KUNMING/Wujiaba on behalf of PHNOM-PENH	~~VDPP~~ ZPPP	WSKP31	WCKP31	WVKP31	VDPP	MWO not established
CHINA						
BEIJING/Capital	ZBAA	WSCI33	WCCI33	WVCI33	ZBPE	
GUANGZHOU/Baiyun	ZGGG	WSCI35	WCCI35	WVCI35	ZGZU	
HAIKOU/Meilan	ZJHK	WSCI35	WCCI35	WVCI35	ZJSA	
KUNMING/Wujiaba	ZPPP	WSCI36		WVCI36	ZPKM	
LANZHOU/Chongchuan	ZLLL	WSCI37		WVCI37	ZLHW	
SHANGHAI/Hongqiao	ZSSS	WSCI34	WCCI34	WVCI34	ZSHA	
SHENYANG/Taoxian	ZYTX	WSCI38		WVCI38	ZYSH	
TAIBEI/Taibei Intl	RCTP	WSCI31	WCCI31	WVCI31	~~RCTP~~ RCAA	
URUMQI/Diwopu	ZWWW	WSCI39		WVCI39	ZWUQ	
WUHAN/Tianhe	ZHHH	WSCI35		WVCI35	ZHWH	
HONG KONG/Hong Kong Intl	VHHH	WSSS20	WCSS20	WVSS20	VHHK	

MWO location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA						
PYONGYANG/Sunan	ZKPY				ZKKK	~~No SIGMET issued~~
FIJI						
NADI/Nadi Intl	NFFN	WSFJ01,02,…	WCFJ01,02,…	WVFJ01,02,…	NFFF	
FRENCH POLYNESIA						
TAHITI/Faaa	NTAA	WSPF21,22	WCPF21	WVPF21	NTTT	
INDIA						
KOLKATA	VECC	WSIN31	WCIN31		VECF	
CHENNAI/Chennai	VOMM	WSIN31	WCIN31	WVIN31	VOMF	
DELHI/Indira Ghandi Intl	VIDP	WSIN31	WCIN31		VIDF	
MUMBAI/Chhatrapati Shivaji Intl.	VABB	WSIN31	WCIN31		VABF	
INDONESIA						
JAKARTA/Soekarno-Hatta (Comm Center)	WIII	WSID20	WCID20	WVID20	WIIZ	
UJUNG PANDANG/Hasanuddin (Comm Center)	WAAA	WSID21	WCID21	WVID21	WAAZ	
JAPAN						
TOKYO (CITY)	RJTD	WSJP31	WCJP31	WVJP31	RJJJ	
LAO PEOPLE'S DEMOCRATIC REPUBLIC						
VIENTIANE/Wattay	VLVT	WSLA31		WVLA31	VLVT	Not confirmed
MALAYSIA						
KOTA KINABALU/Kota Kinabalu Intl	WBKK	WSMS31	WCMS31	WVMS31	WBFC	
SEPANG/KL International Airport	WMKK	WSMS31	WCMS31	WVMS31	WMFC	
MALDIVES						
MALE/Intl	VRMM	WSMV31			VRMM	
MONGOLIA						
ULAAN BAATAR	ZMUB	WSMO31			ZMUB	Not confirmed
MYANMAR						

MWO location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
YANGON/Yangon International	VYYY	WSBM31	WCBM31		VYYY	Not confirmed
NAURU NAURU I.	ANAU				ANAU	No Information
NEPAL KATHMANDU	VNKT	WSNP31			VNSM	Not confirmed
NEW ZEALAND WELLINGTON (AVIATION WEATHER CENTER)	NZKL	WSNZ21 WSPS21	WCNZ21 WCPS21	WVNZ21 WVPS21	NZZC NZZO	
~~**NORTHERN MARIANA ISLANDS (United States)**~~ ~~SAIPAN I. (OBYAN)/Saipan I.(Obyan) Intl~~	~~PGSN~~					~~No Information~~
PAKISTAN KARACHI/Jinnah Intl LAHORE/Allama Iqbal Intl	OPKC OPLA	WSPK31 WSPK31	WCPK31		OPKR OPLR	
PAPUA NEW GUINEA PORT MORESBY/Intl	AYPY	WSNG20	WCNG20	WVNG20 ~~WVNG01?~~	AYPY	
PHILIPPINES MANILA/Ninoy Aquino Intl, Pasay City, Metro Manila	RPLL	WSPH31	WCPH31	WVPH31	RPHI	
REPUBLIC OF KOREA INCHEON	RKSI	WSKO31	WCKO31	WVKO31	RKRR	
SINGAPORE SINGAPORE/Changi	WSSS	WSSR20	WCSR20	WVSR20	WSJC	
SOLOMON ISLANDS HONIARA (Henderson)	AGGH				AGGG	No Information
SRI LANKA COLOMBO/Bandaranaike International Airport Colombo	VCBI	WSSB31	WCSB31		VCBI	

MWO location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
THAILAND						
BANGKOK/Suvarnabhumi Intl Airport	VTBS	WSTH31	WCTH31	WVTH31	VTBB	
UNITED STATES						
ANCHORAGE/Anchorage Intl	PAWU	WSAK01-09 PAWU	WCAK01-09 PAWU	WVAK01-09 PAWU	PAZA	
HONOLULU/Honolulu Intl	PHFO	WSPA01-13 PHFO	WCPA01-13 PHFO	WVPA 01-13 PHFO	KZOA	
KANSAS CITY	KKCI	WSNT01-13 KKCI	WCNT01-13 KKCI	WVNT01-13 KKCI	KZNY KZMA KZHU TJZU	
KANSAS CITY	KKCI	WSPN01-13 KKCI	WCPN01-13 KKCI	WVPN01-13 KKCI	KZOA	
VIET NAM						
Gia Lam	VVGL	WSVS31	WCVS31	WVVS31	VVNB VVTS	

OPMET/M TF/7
Appendix I to the Report



Expanded WV SIGMET test procedure

Time(UTC)	Event/Action
01:00-01:30	Start of exercise (issuing NOTAM)
02:00	**VAAC Tokyo :** Senario : Volcanic ash is detected on satellite imagery ● Issue a test VAA for eruption of Canlaon ● Issue VAGs to the Website
	VAAC Darwin : ● Transmit the test VAA for eruption of Canlaon ●
Between 02:00 and 02:10	**MWOs :** ● Issue a test VA SIGMET during 10 minute period
04:00	**VAAC Tokyo :** Senario: Volcanic ash dissipated on satellite imagery ● Issue a test VAA for VA dissipation (Cancellation of the test SIGMET is omitted)
	VAAC Darwin : ● Transmit the test VAA for VA dissipation (Cancellation of the test SIGMET is omitted)
04:00	End of exercise (issuing NOTAM)

REGIONAL PERFORMANCE OBJECTIVE —APAC – M4 **Improve OPMET exchange efficiency**					
Benefits					
Safety & Efficiency	• Increase OPMET availability and reliability needed for flight planning (efficiency) and in-flight re-planning (safety)				
Strategy **Short term (2010)** ***Medium term (2011 - 2015)***					
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**	**REMARKS**
MET	• Improve the availability of OPMET data at the Regional OPMET Data Banks (RODB)	2009 - 2015	OPMET/M TF	In progress	
	• Improve the inter-regional OPMET exchange	2009 - 2015	OPMET/M TF	In progress	
	• Improve the availability of OPMET data in the Pacific	2009 - 2015	OPMET/M TF &TCB & PASO & States	In progress	
	• Review and update regional ROBEX tables and guidance material	2009 - 2015	OPMET/M TF & RO	In progress	
	• *Assist in informing States of the implementation of XML for METAR/SPECI, TAF and SIGMET*	*TBD*	*RO*	*TBD*	
Linkage to GPIs	GPI/19 – Meteorological Systems (Note: if sufficient assessment information is available at the OPMET/M TF/7 meeting, use as baseline and provide a target level of improvement in the first 3 bullets)				

REGIONAL PERFORMANCE OBJECTIVE —APAC – M1 **Implement International Airways Volcano Watch (IAVW), International Tropical Cyclone Watch (ITCW) and SIGMETs**					
Benefits					
Safety **Efficiency**	• Improve in-flight safety by providing information on volcanic ash, tropical cyclone or other hazardous weather • Improve pre-flight planning by optimizing flight routes with respect to volcanic ash and hazardous weather phenomena				
Strategy **Short term (2010)** ***Medium term (2011 - 2015)***					
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**	**REMARKS**
MET	• Monitor and provide assistance in the regional implementation of volcanic ash and tropical cyclone advisories and SIGMET	2009 - 2015	VA/TC/I TF	In progress	
	• Conduct periodic tests for SIGMET on volcanic ash and tropical cyclones in view of assessing improvements in their implementation	2009 - 2015	VA/TC/I TF & OPMET/M TF	In progress	
	• Conduct periodic tests for SIGMET for hazardous weather phenomena other than volcanic ash and tropical cyclone in view of assessing improvements in their implementation	2009 - 2015	RODB & OPMET/M TF	In progress	
	• Update the Regional SIGMET Guide to keep it consistent with Annex 3	2010, 2013	VA/TC/I TF & OPMET/M TF & RO	In progress	
Linkage to GPIs	GPI/19 – Meteorological Systems				

Attachment 1

SEVENTH MEETING OF
ASIA/PAC OPMET MANAGEMENT TASK FORCE (OPMET/M TF/7)
2 - 4 June 2009
Bangkok, Thailand

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Attachment 2

INTERNATIONAL CIVIL AVIATION ORGANIZATION

SEVENTH MEETING OF THE ASIA/PACIFIC OPMET MANAGEMENT TASK FORCE (OPMET/M TF/7)

Bangkok, Thailand, 2 - 4 June 2009

LIST OF WORKING AND INFORMAITON PAPERS

WP/IP No.	Agenda Item	Subject	Presented by
WP/1	-	Provisional Agenda	Secretariat
WP/2	1 (c)	Terms of Reference and Work Programme of the OPMET/M Task Force	Secretariat
WP/3	1 (c)	Review of the Progress on Action Item List	Secretariat
WP/4	1 (c)	Review Outcome of APANPIRG/19 Meeting on OPMET Exchange	Secretariat
WP/5	2 (a)	Review Report of the Third RODB Co-ordination Meeting	Secretariat
WP/6	3 (a)	ROBEX Handbook Table A (METAR SA Bulletins) Update	Secretariat
WP/7	3 (b)	Asia/Pacific Regional OPMET Data Banks Interface Control Document Update	Secretariat
WP/8	3 (a)	ROBEX Handbook to Replace FASID Tables MET 4A and 4B in Basic ANP and FASID Text	Secretariat
WP/9	3 (b)	Asia/Pacific Regional OPMET Data Banks Interface Control Document to Replace FASID Table MET 4C in Basic ANP and FASID Text	Secretariat
WP/10	2 (b)	Review of Deficiencies in the ASIA/PAC Region	Secretariat
WP/11	2 (d)	Status of Amendment 74 TAF Implementation	Secretariat
WP/12	2 (d)	Status and Proposed Plan of Amendment 74 TAF Implementation in Viet Nam	Viet Nam
WP/13	6	Introduction to Performance Framework Forms (OPMET Related)	Secretariat
WP/14	4 (a)	RODB Brisbane - Multi Part OPMET Bulletins	Australia
WP/15	4 (b)	Progress with SIGMET Tests – WC and WV	Japan
WP/16	2 (c)	An Update of OPMET Databank Operations	Singapore

WP/IP No.	Agenda Item	Subject	Presented by
WP/17	2 (d)	Review Report of Implementation of TAF Provisions in Amendment 74 to Annex 3	Singapore
WP/18	4 (a)	Monitoring of Non-scheduled OPMET Information (SIGMET) between 1 and 31 March 2009	Singapore
WP/19	4 (a)	Real-time Exercising the Back-up Procedure between RODBs Bangkok and Singapore	Thailand
WP/20	4 (a)	The Performance Indices of RODB Bangkok, RODB Brisbane, and RODB Singapore	Thailand
WP/21	4 (a)	Timeliness and Regularity of OPMET Data from ASIA/PAC	IATA
WP/22	4 (a)	IATA OPMET Data Monitoring for SADIS Broadcast	IATA
WP/23	4 (b)	Proposal for the Expanded WV SIGMET Test Procedure (Revised)	Japan
		LIST OF INFORMATION PAPERS	
IP/1	-	Meeting Bulletin	Secretariat
IP/2	2 (b)	Review of the Co-Operative Agreement for the Enhancement of Meteorological Services for Aviation in the South Pacific (CEAMSA-SP)	Secretariat
IP/3	5	Review XML for OPMET	Secretariat
IP/4	4 (b)	WS SIGMET Test 4	Australia
IP/5	4 (a)	Performance Indices for Scheduled OPMET Information Received at Singapore RODB	Singapore
IP/6	2 (c)	An Update on Internet OPMET Databank Operations	Singapore
IP/7	3 (a)	New FTAE33 VTBB Bulletin	Thailand
IP/8	3 (b)	Updated ASIA/PAC ICD OPMET Data Bank Access Procedures – RODB Bangkok	Thailand
IP/9	4 (b)	Communication Test of VAA (Volcanic Ash Advisory) between VAAC Darwin and VAAC Tokyo	Japan
IP/10	4 (a)	RODB Tokyo Performance Indices	Japan