



**INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE**

**REPORT OF
THE THIRTEENTH MEETING OF ASIA AND PACIFIC
REGIONAL OPERATIONAL METEOROLOGICAL (OPMET)
BULLETIN EXCHANGE WORKING GROUP (ROBEX WG/13)**

**16 – 18 March 2015
Seoul, Republic of Korea**

The views expressed in this Report should be taken as those of
the Meeting and not the Organization.

Approved by the Meeting
and published by the ICAO Asia and Pacific Office, Bangkok

<u>History of the Meeting</u>	Page
Introduction.....	i-2
Attendance	i-2
Officer and Secretariat	i-2
Language and Documentation	i-2
Draft Conclusions, Draft Decisions and Decisions of ROBEX WG – Definition.....	i-2
<u>Report on ROBEX WG/13</u>	
Agenda Item 1: Organizational matters	1
Agenda Item 2: Review of follow-up from previous meetings	1
Agenda Item 3: OPMET information	2
Agenda Item 4: OPMET exchange	4
Agenda Item 5: Guidance material	7
Agenda Item 6: Future work programme	9
Agenda Item 7: Any other business	10
<u>List of Appendices</u>	
Appendix A: List of participants	
Appendix B: List of working and information papers	
Appendix C: Updated work programme	
Appendix D: Task List of ROBEX WG/13	

1. Introduction

1.1 The Thirteenth Meeting of the Asia/Pacific Regional OPMET¹ Bulletin Exchange Working Group (ROBEX WG/13) was hosted by the Korea Aviation Meteorological Agency/Korea Meteorological Administration, at the GLAD Hotel, Seoul, Republic of Korea, from 16 to 18 March 2015.

1.2 The meeting ended with a conjoint session of ROBEX WG/13 and the Fifth Meeting of the Meteorological Hazards Task Force (MET/H TF/5) to discuss items of interest to both groups on 18 March 2015. Outcomes from the conjoint session of ROBEX WG/13 and MET/H TF/5 are covered in a separate report.

2. Attendance

2.1 The meeting was attended by 40 experts from Australia, Bangladesh, Bhutan, Cambodia, China, Hong Kong China, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Thailand, Viet Nam, IATA, IFALPA and the International Civil Aviation Organization (ICAO). The List of Participants is provided in **Appendix A** to this Report.

3. Officer and Secretariat

3.1 Mr. Tim Hailes presided as Chair of the meeting.

3.2 Mr. Peter Dunda, Regional Officer Aeronautical Meteorology, ICAO Asia and Pacific Office, acted as the Secretariat for the meeting.

4. Language and Documentation

4.1 The ROBEX WG/13 met as a plenary throughout the meeting. The working language of the meeting was English inclusive of all documentation and this Report. A total of 19 Working Papers (WP), 8 Information Papers (IP) were considered by the meeting. The list of working and information papers is attached at **Appendix B** to this Report.

5. Draft Conclusions, Draft Decisions and Decisions of ROBEX WG – Definition

5.1 The ROBEX WG recorded the outcomes of its discussions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

- a) **Draft Conclusions** (for further consideration and action by APANPIRG) deal with matters that, according to APANPIRG terms of reference, require the attention of States, or action by the ICAO in accordance with established procedures;
- b) **Draft Decisions** (for further consideration and action by APANPIRG) deal with the matters of concern only to APANPIRG and its contributory bodies; and
- c) **Decisions** of the ROBEX WG relate solely to matters dealing with the internal working arrangements of the ROBEX WG.

¹ Operational meteorological (information)

5.2 List of Draft Conclusions and Decisions

List of ROBEX WG/13 Draft Conclusions

Draft Conclusion 13/4 – Capacity building workshop to facilitate planning and implementation of digital exchange of aeronautical meteorological information

That, the ICAO be invited to organize and conduct an inter-regional workshop in the first half of 2016 to build capacity in States for digital exchange of aeronautical meteorological information. The workshop should facilitate intra- and inter-regional planning and implementation activities.

List of ROBEX WG/13 Draft Decisions

There were no Draft Decisions recorded by ROBEX WG/13.

List of ROBEX WG/13 Decisions

Decision 13/1 - Contact information for approving officials for WIFS accounts

That, the contact details for WIFS accounts and approving officials in the APAC Region be made available to stakeholders via the ICAO website in order to better facilitate the administration of WIFS accounts.

Decision 13/2 - Standardization and optimization of OPMET monitoring and presentation of the results

That, in order to support improved OPMET availability and reliability in the Asia/Pacific Region, the guidance for OPMET monitoring should be revised to:

- a) Ensure the frequency at which OPMET messages are monitored is in alignment with the OPMET issuance times required by regional agreement (e.g., the frequency of issuance of [routine] METAR is one hour and TAF is six hours);
- b) Enable future OPMET monitoring exercises (e.g., in 2015/2016) to include the monitoring of SIGMET issuance, which may target specific problems such as seasonal/geographical phenomena (e.g., tropical cyclone) and known 'SIGMET-deficient' areas;
- c) Provide additional data in OPMET monitoring reports such as the actual number of messages received per day at locations where OPMET availability is considered not satisfactory (i.e., where the number of messages received does not meet a given threshold for the number of messages expected);
- d) Encourage easily comparable and interpretable data and presentation of results in the OPMET monitoring reports from the various OPMET monitoring entities (i.e., IATA and RODBs); and
- e) Clarify the baseline list of locations to which OPMET monitoring should be applied (i.e., SADIS User Guide or FASID Tables MET).

Decision 13/3 - Alignment of ROBEX OPMET bulletins

That, consideration be given to the realignment of corresponding bulletins for the collection and dissemination of METAR (SA) and TAF (FT) under the ROBEX scheme, with respect to the composition of locations in the bulletins (i.e., corresponding SA/FT bulletins should consist of OPMET from the same set of locations), in order to facilitate the comparison and interpretation of results of monitoring exercises based on the OPMET bulletins.

Decision 13/5 - Coordination on planning and implementation of IWXXM

That, information be presented to MET SG/19 on the current status of planning and implementation by States, and their needs and requirements to support planning and implementation of IWXXM.

Decision 13/6 - ROBEX Handbook revisions

That, revisions to the ROBEX Handbook be drafted to:

- a) Ensure the guidance clearly defines the procedure for OPMET data to be relayed to the SADIS and WIFS gateways under the ROBEX scheme; and
- b) Eliminate unnecessary duplication of information in both the ROBEX Handbook and ICD.

Decision 13/7 - Regional guidance on the frequency of issuance of routine TAF

That, the Secretariat be invited to investigate feasibility of including provisions in the regional guidance material related to the issuance of routine TAF at intervals of three (3) hours.

REPORT ON AGENDA ITEMS

Agenda Item 1: **Organizational matters**

1.1 On behalf of Mr. Arun Mishra, Regional Director of the ICAO Asia and Pacific Office, Mr. Peter Dunda opened the meeting.

1.2 Mr. Jeong-gyoo Park, Director General of the Korea Aviation Meteorological Agency (KAMA), welcomed all the participants to the meeting and to the Republic of Korea.

Agenda Item 2: **Review of follow-up from previous meetings**

ROBEX WG/12

2.1 The meeting reviewed progress on the fourteen (14) items agreed for action (12/1 to 12/14) by the twelfth meeting of the Regional OPMET Bulletin Exchange Working Group (ROBEX WG/12), held in Beijing, China, from 17 to 19 March 2014, and noted that with the exception of agreed action 12/3 – in which Regional OPMET Databanks (RODBs) were expected to construct a test dataset to support standardized OPMET exchange verification and validation – follow-up to the agreed actions was either in progress or completed. Further details and the follow-up status for each action are provided in WP/2 presented by the Secretariat.

MET SG/18 and APANPIRG/25

2.2 The meeting reviewed follow-up relevant to the ROBEX WG on decisions and conclusions adopted by the eighteenth meeting of the Meteorology Sub-Group (MET SG/18), held in Beijing, China, from 18 to 21 August 2014 and the twenty-fifth meeting of the Asia and Pacific (APAC) Air Navigation Planning and Implementation Regional Group (APANPIRG/25), held in Kuala Lumpur, Malaysia, from 8 to 11 September 2014. The follow-up status details are provided in WP/3 presented by the Secretariat.

2.3 With respect to the MET SG/18 Decisions 18/5 and 18/10 to update the requirements for WIFS² for APAC Region States and the contact information for States' approving officials for WIFS accounts, the meeting noted that it would be helpful to provide States access to the contact list (e.g., via the Regional Office eDocuments web site) to facilitate the administration of WIFS accounts and adopted the following Decision:

Decision 13/1 - Contact information for approving officials for WIFS accounts

That, the contact details for WIFS accounts and approving officials in the APAC Region be made available to stakeholders via the ICAO website in order to better facilitate the administration of WIFS accounts.

² World Area Forecast System (WAFS) Internet File Service

Agenda Item 3: OPMET informationOPMET monitoring

3.1 The meeting reviewed results of monitoring of the availability of non-scheduled OPMET data (i.e., SIGMET, VA and TC advisory information)³ from the APAC Region on the SADIS⁴ and WIFS over a period of four (4) days commencing 21 February 2015 conducted by the International Air Transport Association (IATA). Further details are provided in WP/4 presented by IATA. The meeting noted that the explanation of the table of results in the appendix to WP/4 should be revised to provide a definition for the abbreviation “A”, which is used in the table to denote OPMET received directly via AFTN⁵.

3.2 The meeting noted that the data provided by IATA in WP/4 was useful for monitoring the availability of (non-scheduled) OPMET in SADIS/WIFS and could also be of use in conjunction with the SIGMET-test data to help improve SIGMET issuance in the APAC Region. To this end, the meeting agreed that future monitoring exercises such as that discussed in WP/4 could be targeted to monitor SIGMET issuance based on seasonal variations (e.g., tropical cyclone seasons) and specific, known SIGMET-deficient areas.

3.3 The meeting reviewed results of a comparison of OPMET data (METAR⁶ and TAF⁷) monitored by IATA on SADIS and WIFS from the APAC Region over a period of nine (9) weeks commencing 29th December 2014. Further details are provided in WP/5 presented by IATA.

3.4 The meeting noted a number of locations are identified in the results in WP/5 where OPMET data was not available as required at either SADIS or WIFS, or in some cases, both. In view of the results in WP/5, the meeting noted that the ROBEX Handbook guidance should be reviewed to ensure the ROBEX scheme clearly defines the procedure for OPMET data to be relayed to the SADIS and WIFS gateways and recommended that the Secretariat coordinate further with other ICAO Regions to ensure harmonization of the APAC Region procedures for relaying OPMET to SADIS and WIFS. Revisions to the ROBEX Handbook were discussed further in paragraphs 5.2 to 5.6.

3.5 The meeting reviewed results of IATA monitoring of the availability of scheduled OPMET data (METAR and TAF) from the APAC Region in SADIS and WIFS over a period of nine (9) weeks commencing 29th December 2014. Further details are provided in WP/6 presented by IATA.

3.6 The meeting noted significant improvement in the availability of OPMET in SADIS and WIFS had been highlighted by the monitoring in recent years (as presented in WP/6) and agreed that further improvement in OPMET availability could be achieved. In reviewing the information in WP/6, the meeting noted that some of the IATA OPMET monitoring practices could be adapted to better suit APAC Region requirements (e.g., the monitoring of METAR issuance at intervals of twenty minutes and the monitoring TAF issuance at intervals of three hours, as documented in WP/6, do not reflect the current provisions in the ANP and ROBEX Handbook, which stipulate the frequency of issuance of [routine] METAR and TAF as one hour and six hours respectively). The meeting also recommended that additional data be provided from such monitoring exercises in future for review by the ROBEX WG, especially when OPMET availability is considered not satisfactory by IATA, e.g., provide the actual number of messages received per day at locations considered not satisfactory to help States identify problems in METAR/TAF issuance.

³ SIGMET = Information concerning en-route weather phenomena which may affect the safety of aircraft operations; VA = Volcanic ash; TC = Tropical cyclone

⁴ Satellite Distribution System for Information Relating to Air Navigation

⁵ Aeronautical fixed telecommunication network

⁶ Aerodrome routine meteorological report

⁷ Aerodrome forecast

3.7 In view of the discussion above, the meeting recommended that the Secretariat and IATA should coordinate more on developing the standards for OPMET monitoring and reporting of the results ahead of the next meeting in order to optimize States' and the ROBEX WG's understanding of the data and identification of issues to be addressed.

3.8 The meeting reviewed the results of OPMET monitoring carried out by RODB Singapore, RODB Tokyo and RODB Bangkok between 1 and 31 January 2015 for the APAC Region. The details and results of the monitoring process are provided in WP/7, WP/8 and WP/19 presented by Singapore, Japan and Thailand.

3.9 The meeting noted that the results in WP/7 showed the rate of issuance (or, more precisely, the availability) of TAF and METAR in the APAC Region was overall quite high (e.g., TAF were received from 97% of expected locations; METAR were received from 94% of expected locations), with significant improvement recorded in the availability of METAR in the Asia Region on the previous year's results (i.e., availability of METAR from locations listed in AOP increased from 93% to 96%; not listed in AOP increased from 86% to 91%), though the reception of OPMET from some locations remained poor (e.g., TAF were not received from 10 expected locations and METAR were not received from 19 expected locations). The meeting also noted that the results in WP/19 showed poor availability of OPMET at some locations (e.g., TAF were not received from 5 expected locations and METAR were not received from 15 expected locations).

3.10 When comparing the results of OPMET monitoring presented by the RODBs, the meeting recommended that the presentation of OPMET monitoring data and results could be harmonized in order to improve comparability and facilitate correct interpretation of the results, e.g., the meeting noted that blank spaces in the table of data presented by Japan in WP/8 resulted from the misalignment of locations in the corresponding METAR [SA] and TAF [FT] bulletins; and the blank spaces in the tables should not be interpreted as representing missing data. The meeting agreed that an initiative to realign the composition of locations in METAR bulletins to match the composition of locations in corresponding TAF bulletins would help avoid the above issue; this was discussed further in paragraph 4.9.

3.11 Also, the meeting noted that OPMET data captured as AMHS⁸ messages (as opposed to AFTN messages) was problematic for the monitoring exercise because RODBs are unable to ingest the AMHS messages into their analysis systems. This issue was further discussed by the meeting in paragraphs 4.5 and 4.6.

3.12 The meeting noted the summarized results of the IATA OPMET monitoring over two years, which was presented by the Secretariat in order to facilitate necessary coordination between States, RODBs and ICAO to improve the availability of APAC Region OPMET information in SADIS and WIFS. Further details are provided in WP/10.

3.13 In view of the various OPMET monitoring results discussed above the meeting noted that in order to make optimal use of the monitoring results a comprehensive comparison of the reports from the RODBs (and IATA) should be analysed as part of the ROBEX WG work programme. This was addressed under agenda item 6. The meeting also recommended that the use of the SADIS User Guide or the Facilities and Services Implementation Document (FASID)⁹ Tables MET as the baseline reference for OPMET monitoring should be clarified to ensure comparability of the results.

3.14 In view of all the discussion concerning OPMET monitoring above, the meeting adopted the following Decision:

⁸ Air traffic services message handling system

⁹ Volume II of the Air Navigation Plan (Doc 9673)

Decision 13/2 – Standardization and optimization of OPMET monitoring and presentation of the results

That, in order to support improved OPMET availability and reliability in the Asia/Pacific Region, the guidance for OPMET monitoring should be revised to:

- a) Ensure the frequency at which OPMET messages are monitored is in alignment with the OPMET issuance times required by regional agreement (e.g., the frequency of issuance of [routine] METAR is one hour and TAF is six hours);
- b) Enable future OPMET monitoring exercises (e.g., in 2015/2016) to include the monitoring of SIGMET issuance, which may target specific problems such as seasonal/geographical phenomena (e.g., tropical cyclone) and known ‘SIGMET-deficient’ areas;
- c) Provide additional data in OPMET monitoring reports such as the actual number of messages received per day at locations where OPMET availability is considered not satisfactory (i.e., where the number of messages received does not meet a given threshold for the number of messages expected);
- d) Encourage easily comparable and interpretable data and presentation of results in the OPMET monitoring reports from the various OPMET monitoring entities (i.e., IATA and RODBs); and
- e) Clarify the baseline list of locations to which OPMET monitoring should be applied (i.e., SADIS User Guide or FASID Tables MET).

3.15 Additionally, the meeting noted that initiatives to realign the FASID OPMET-related tables and ROBEX Handbook OPMET bulletin tables with respect to the current requirements for OPMET from States should help to reduce some of the poor OPMET monitoring results at certain locations.

Agenda Item 4: OPMET exchangeIROG back-up test

4.1 The meeting reviewed results presented by Thailand on the tenth real-time backup test between Inter-Regional OPMET Gateways (IROGs) Singapore and Bangkok conducted on 13 February 2015. Further details of the test and results are provided in WP/11.

4.2 The meeting was pleased to note the perfect (100%) success rate of the back-up test results in 2015. The meeting also noted the issues that occurred due to multiple, duplicated OPMET bulletins received from the MID¹⁰ Region during the test, which the RODBs were able to manage adequately on behalf of the end user recipients, however the duplicate messages did cause delays in the processing of messages at times.

OPMET bulletins

4.3 The meeting reviewed changes to OPMET bulletins generated by Brisbane RODB, which are provided in detail in IP/2.

¹⁰ Middle East

4.4 The meeting noted that the changes contained in IP/2 would make the OPMET bulletins more compliant with ICAO provisions, regional air navigation agreements and the ROBEX Handbook procedures. In particular, expected improvement with respect to the compliance of priority codes in SIGMET messages from Australia was discussed again later in the conjoint session (Report of the conjoint session of ROBEX WG/13 and MET/H TF/5, paragraph 2.10 refers).

OPMET exchange in the AMHS

4.5 The meeting reviewed information which highlighted a problem with capturing AMHS messages during ICAO Data Monitoring Exercises presented by Australia, which was also discussed in paragraph 3.11. Further details are provided in WP/9.

4.6 In relation to WP/9, the meeting agreed that RODB Bangkok should notify the group of any requirement to modify the OPMET monitoring procedures in order to accept the AMHS message format. Furthermore, the meeting noted that such notification should be a common requirement for all RODBs as part of the ROBEX WG work programme in order to properly address OPMET when exchanged in AMHS message format. The meeting addressed this issue under Agenda Item 6.

OPMET filing time

4.7 The meeting reviewed the definition of filing time for TAF bulletin and a recommendation presented by Australia that the APAC air navigation plan (ANP), ROBEX Handbook and RODB procedures be better aligned with ICAO Annex 3 — *Meteorological Service for International Air Navigation* with respect to TAF bulletin filing time. Further details are provided in WP/13.

4.8 The meeting agreed with the proposal by Australia that the regional guidance (mentioned above) should be realigned to conform to the Annex 3 provisions introduced in Amendment 76 (i.e., 6.2.2¹¹ and Appendix 10, 2.1.2¹²). The meeting found that the TAF bulletin filing times currently provided in the ROBEX Handbook (Twelfth Edition — 2004; Amended – May 2013), which stipulate that TAF bulletins are filed for transmission (by the ROBEX centres) either: a) one hour prior to the beginning of their validity period; or b) earlier than one hour prior to the beginning of their validity period, are impractical given the requirement that TAF shall be issued (by the originating station/office) not earlier than one hour prior to the beginning of its validity period, and, in the case of b), do not conform to the aforementioned Annex 3 provisions. Furthermore, the meeting agreed that consideration should be given to provide additional recommendations/guidance on the filing time of TAF bulletins (by ROBEX centres) in order to ensure the OPMET information is available to the users with sufficient lead-time prior to the beginning of the TAF validity period. To this end the meeting agreed that the filing time of a TAF bulletin, when given in the ROBEX Handbook Appendix B, should correspond to a time 25-minutes prior to the commencement of the validity period. In view of the discussion above, the meeting agreed to develop proposed amendments to the ROBEX Handbook and APAC Region draft electronic ANP (eANP) and to include the proposed changes in the updates to the regional guidance material discussed further under Agenda Item 5.

¹¹Requires that "An aerodrome forecast shall be issued [as TAF] at a specified time not earlier than one hour prior to the beginning of its validity period ..."

¹² Recommends that "... TAF [bulletins] should be filed for transmission not earlier than one hour prior to the beginning of their validity period"

OPMET bulletin changes

4.9 The meeting reviewed a number of proposed changes to Australian TAF bulletins as detailed by Australia in IP/5. The meeting noted that the changes in IP/5 were included in the updates to the ROBEX Handbook to be reviewed by the meeting under agenda item 5. On further discussion concerning Australia's proposal in IP/5, the meeting agreed that the proposed effective date should be changed to 30 April 2015 (from 2 April 2015) to allow adequate time for RODBs to accept the necessary system changes. Additionally, in view of the similar discussions in the meeting concerning alignment of METAR and TAF bulletins in paragraph 3.10, the meeting agreed that Australia should consider realigning the composition of locations in Australian METAR bulletins with the composition of locations in the proposed changes to Australian TAF bulletins and, noting the advantages of the broader application of such an initiative, the meeting adopted the following decision:

Decision 13/3 – Alignment of ROBEX OPMET bulletins

That, consideration be given to the realignment of corresponding bulletins for the collection and dissemination of METAR (SA) and TAF (FT) under the ROBEX scheme, with respect to the composition of locations in the bulletins (i.e., corresponding SA/FT bulletins should consist of OPMET from the same set of locations), in order to facilitate the comparison and interpretation of results of monitoring exercises based on the OPMET bulletins.

OPMET QMS

4.10 The meeting reviewed information on a quality control system for METAR production implemented in the Republic of Korea in order to reduce errors in METAR messages. Further details are provided in IP/3. The meeting also referred to the information provided by the Republic of Korea in IP/3 in relation to later discussions on digital exchange of OPMET information in paragraph 4.16.

Digital exchange of OPMET

4.11 In view of the recent and forthcoming developments in ICAO provisions for digital exchange of aeronautical meteorological information (e.g., in Amendment 76 to Annex 3, applicable November 2013, and in the proposed Amendment 77 to Annex 3, applicable November 2016), the meeting reviewed information on plans and progress towards the implementation of the ICAO meteorological information exchange model (IWXXM) by the Republic of Korea, Australia, Thailand and Singapore; the details of which are provided in IP/4, WP/12, IP/6 and IP/7. Japan also provided a summary of its plans for implementation of digital exchange of meteorological information in Flimsy No.1 and Singapore provided additional details of IWXXM exchange testing that it conducted in March 2015 in Flimsy No.2.

4.12 The meeting appreciated the various degrees to which IWXXM implementation planning and testing was being carried out in the APAC Region but acknowledged that, in order to maintain optimal regional exchange of OPMET data, a coordinated approach to the implementation of IWXXM within the ROBEX scheme should be encouraged.

4.13 In keeping with the topic of the discussion above, the meeting reviewed a proposal for an inter-regional capacity building workshop to support the implementation of digital exchange of meteorological information for the APAC Region and other ICAO Regions presented by the Secretariat in WP/14.

4.14 In view of the discussions above, and noting that the issues associated with implementation of digital exchange of meteorological information (presented in the WPs/IPs) are of an inter-regional nature, and that (as discussed in WP/14) the European (EUR) Data Management Group has been developing the *Concept of Operations for the Transition of OPMET Data Exchange using IWXXM to enable SWIM*¹³, which may be adopted by the EUR METG/25¹⁴ later in 2015 as guidance material for the EUR Region (and possibly by other Regions) to support planning and implementation of digital OPMET exchange, the meeting formulated the following draft conclusion for further consideration by the MET SG/19 meeting in August 2015:

Draft Conclusion 13/4 – Capacity building workshop to facilitate planning and implementation of digital exchange of aeronautical meteorological information

That, the ICAO be invited to organize and conduct an inter-regional workshop in the first half of 2016 to build capacity in States for digital exchange of aeronautical meteorological information. The workshop should facilitate intra- and inter-regional planning and implementation activities.

4.15 With respect to the Draft Conclusion above, and recognizing the need to enhance coordination and information sharing between States with respect to the status of planning and implementation of IWXXM, the meeting agreed that further information should be provided to support the MET SG in its deliberations and adopted the following Decision:

Decision 13/5 – Coordination on planning and implementation of IWXXM

That, information be presented to MET SG/19 on the current status of planning and implementation by States, and their needs and requirements to support planning and implementation of IWXXM.

4.16 The meeting also envisaged that, as IWXXM exchange of OPMET data is implemented, the compliance (of OPMET format) to ICAO standards will remain of critical importance in order to mitigate potential failure or delay in the conversion of OPMET (from TAC¹⁵ to digital) format (which would pose potential safety implications to users) and to ensure the transmission and global availability of the data. The meeting therefore noted that initiatives such as those implemented in the Republic of Korea (discussed in IP/3) to ensure compliance of METAR format represented a positive step in this direction.

Agenda Item 5: Guidance material

ROBEX Handbook and ICD

5.1 The meeting was informed by Indonesia that the publication of DGCA AIP¹⁶ supplement number 01/15 on 8 January 2015 notified users of changes to Indonesian location indicators as a result of AFTN network realignment within the Jakarta and Ujung Pandang flight information regions (FIRs). Further details are provided in IP/8 presented by Indonesia.

5.2 The meeting agreed that the changes notified by Indonesia (in IP/8) should be reflected by updates to the ROBEX Handbook (OPMET bulletin tables), where applicable, as soon as

¹³ System-wide information management

¹⁴ Twenty-fifth meeting of the (ICAO) European (Region) Meteorology Group

¹⁵ Traditional alphanumeric code

¹⁶ Directorate General of Civil Aviation, Aeronautical Information Publication

possible and therefore should be included in the draft amendment of the ROBEX Handbook under review by the meeting, which the ICAO Regional Office was expected to publish as soon as possible after the meeting had completed its review (also discussed in paragraph 5.5).

5.3 With respect to the above, and the requirement for RODBs to implement consequential operational changes to OPMET bulletins, RODB Singapore advised the meeting that it had made the necessary changes to the relevant OPMET bulletins compiled by RODB Singapore under the ROBEX scheme. The meeting also noted that the Secretariat would assist Indonesia with the development of FASID (Table MET) amendment proposals, where necessary, which could be processed (i.e., circulated for comments then approved and published) once the reassigned Indonesian location indicators (discussed in IP/8) are published in ICAO Location Indicators (Doc 7910).

5.4 The meeting reviewed a draft amendment to the ROBEX Handbook and draft updates to the APAC Region OPMET Data Banks Interface Control Document (ICD), which were intended for publishing soon after the meeting's review to realign the guidance material with current regional requirements. Further details of the changes incorporated in the draft amendment to the ROBEX Handbook are provided in WP/15, and the ICD in WP/16, presented by the Secretariat.

5.5 On further discussion of the draft amendments to the ROBEX Handbook and the ICD (in WP/15 and WP/16) the meeting provided several additional necessary updates (to bring the documents into alignment) including the changes to specific locations in Indonesia, additional changes notified by States necessary to reflect current regional requirements (details are provided in Flimsy No.3) and changes discussed earlier in paragraphs 4.8 and 4.9. The additional updates proposed by the meeting were recorded by the Secretariat and are included in the revised attachments to WP/15 and WP/16.

5.6 The meeting also noted that, as the ROBEX Handbook and the ICD contain similar and, in some cases, duplicated information, it may be more efficient to include the ICD as an appendix to the ROBEX Handbook and replace duplicated information with appropriate referencing. However, as this was considered to be a significantly bigger task, the meeting agreed that the ROBEX Handbook and ICD should first be updated in accordance with the discussion above and then consideration should be given to the migration of the ICD into ROBEX Handbook as a second stage. In view of this agreement, together with the previous discussion in paragraph 3.4 concerning the need to review the ROBEX Handbook procedures for the relay of OPMET data to the SADIS and WIFS gateways, the meeting adopted the following Decision:

Decision 13/6 - ROBEX Handbook revisions

That, revisions to the ROBEX Handbook be drafted to:

- a) Ensure the guidance clearly defines the procedure for OPMET data to be relayed to the SADIS and WIFS gateways under the ROBEX scheme; and
- b) Eliminate unnecessary duplication of information in both the ROBEX Handbook and ICD.

ANP and OPMET related FASID tables

5.7 The meeting reviewed progress on development of the MET Parts of the draft new APAC ANP, based on the eANP template (approved by the Council in June 2014 to align the regional ANPs with the fourth edition of the Global Air Navigation Plan (GANP – Doc 9750)), for possible adoption at APANPIRG/26 in September 2015. Further details are provided in WP/17 presented by the Secretariat.

5.8 Noting that the draft material on the new ANP as presented in WP/17 was still a work in progress, the meeting provided the following suggestions for further consideration for inclusion in the draft material before a final review by the MET SG/19 meeting in August 2015 prior to submission of the draft new ANP to APANPIRG/26:

- In VOL II, 2.2: retain the provision for the issuance of METAR at intervals of one half hour (for States/locations that agree to do so);
- In VOL II, 2.5: include provisions for the period of validity of a routine TAF of 12- and 18-hours (to reflect current annotation contained in the ROBEX Handbook; at 3.1.1, 7.1.4 and Appendix E);
- In VOL II, 2.8: retain the provision related to the dissemination of AIRMET (for States/locations that agree to prepare AIRMET information); and
- In VOL II, 2.8: use the most appropriate nomenclature (for OPMET centres) for the Region (e.g., "regional OPMET databanks" instead of "international OPMET databanks").

5.9 The meeting also reviewed draft updates to OPMET-related Tables in the current regional ANP, FASID, as presented by the Secretariat in the Attachment 2 to WP/17.

5.10 The meeting noted that the draft proposal for amendment of the FASID Tables in WP/17 reflected updates provided by Australia (at ROBEX WG/12 in March 2014) and addressed outcomes from the eighth meeting of the International Airways Volcano Watch Operations Group (IAVWOPSG/8 – Conclusion 8/2 refers). Australia provided an additional change to the draft proposal for amendment of FASID Table MET 3B (with respect to the consequential placement of area control centre Townsville in the table); the details of which are included in the revised Attachment 2 to WP/17.

5.11 The meeting was advised that some States now issue TAF every three (3) hours. Noting that the ANP and ROBEX Handbook only include provisions for the issuance of TAF at intervals of six (6) hours, the meeting adopted the following Decision:

Decision 13/7 – Regional guidance on the frequency of issuance of routine TAF

That, the Secretariat be invited to investigate feasibility of including provisions in the regional guidance material related to the issuance of routine TAF at intervals of three (3) hours.

Agenda Item 6: Future work programme

6.1 The meeting reviewed the work programme of the ROBEX WG, including the composition of the group, terms of reference and detailed work plan. Further details are provided in WP/18 presented by the Secretariat.

6.2 A break-out group at the meeting, comprising core members of the ROBEX WG, performed a comprehensive update of the work programme document, taking into account issues discussed and agreed throughout the meeting. The updated work programme, as presented to and agreed by the meeting, is contained in **Appendix C** to this Report.

Agenda Item 7: Any other businessTask List

7.1 The meeting agreed to the ROBEX WG/13 task list included as **Appendix D** to this Report.

Next Meeting

7.2 Noting the tentative schedule adopted in APANPIRG/25 WP/12, which took into consideration the need to advance the schedule for APANPIRG/26 (to July 2016) and its Sub-Group meetings (before June 2016) to accommodate States' preparations for the ICAO Assembly in 2016, the next meeting, ROBEX WG/14, was tentatively agreed to be held during the week commencing 7 March 2016, back-to-back with, and including a conjoint session with MET/H TF/6.

**Thirteenth Meeting of the Asia/Pacific Regional OPMET Bulletin Exchange Working Group
(ROBEX WG/13) and Fifth Meeting of the Asia/Pacific
Meteorological Hazards Task Force (MET/H TF/5)**

(Seoul, Republic of Korea, 16 – 20 March 2015)

Appendix A to the Report

LIST OF PARTICIPANTS

STATE/ORGANIZATION/N AME	DESIGNATION/ADDRESS	TEL/FAX/E-MAIL
AUSTRALIA (3)		
Ms. Susan E. O’rourke	Section Head, Meteorological Authority Australian Bureau of Meteorology GPO Box 1289 Melbourne VIC 3001 <u>AUSTRALIA</u>	Tel: +61 (3) 9669 4662 Mobile: +61 418 234 138 E-mail: s.orourke@bom.gov.au stma@bom.gov.au
Mr. Tim A. Hailes	National Manager, Regional Aviation Weather Services Hazards Prediction Branch GPO Box 1289 Melbourne VIC 3001 <u>AUSTRALIA</u>	Tel: +61 (3) 9669 4273 Mobile: +61 427 840 175 E-mail: sral@bom.gov.au t.hailes@bom.gov.au
Mr. Aidan Cooley	ATM Systems Specialist Airservices Australia Locked Bag 747 QLD 4009 <u>AUSTRALIA</u>	Tel: +61 (7) 3866 3762 Mobile: +61 417 434 975 E-mail: aidan.cooley@airservicesaustralia.com
BANGLADESH (2)		
Mr. Mohammad Khorshed Ali	Assistant Director (AIS)/Chief Instructor ATS Civil Aviation Authority of Bangladesh Civil Aviation Training Centre Kurmitola, Dhaka 1229 <u>BANGLADESH</u>	Tel: +88 (2) 890 1014 Mobile: +88 0191 357 5950 Fax: +88 (2) 890 1418 E-mail: khoshed.caab@yahoo.com
Mr. Mohammad Manzurul Hoque Khan	MET Inspector & Consultant Flight Safety Division Civil Aviation Authority of Bangladesh Headquarters, Kurmitola Dhaka 1229 <u>BANGLADESH</u>	Tel: +88 (2) 890 1406 Mobile: +88 017 1675 4192 Fax: +88 (2) 890 1418 E-mail: mhkhan1953@gmail.com
BHUTAN (1)		
Mr. Tashi Dukpa	Deputy Chief of Aviation Meteorology Department of Civil Aviation Paro International Airport, Paro <u>BHUTAN</u>	Tel: +975 (8) 271 404 Mobile: +975 17606741 Fax: +975 (8) 271407, 272 307 E-mail: tdukpa@dca.gov.bt
CAMBODIA (2)		

STATE/ORGANIZATION/N AME	DESIGNATION/ADDRESS	TEL/FAX/E-MAIL
Mr. Heang Vandy	Chief of Meteorological Services Bureau for Aeronautical Services Department State Secretariat of Civil Aviation No. 62 Preah Norodom Blvd. Phnom Penh <u>CAMBODIA</u>	Tel: +855 15 662 56 Fax: E-mail: heangvandy@cats.com.kh
Mr. Chvea Thol	Chief of Meteorological Standard Bureau for Standards and Air Navigation Safety Department State Secretariat of Civil Aviation No. 62 Preah Norodom Blvd. Phnom Penh <u>CAMBODIA</u>	Tel: +855 12 586 738 Fax: E-mail: chveathol@yahoo.com
CHINA (2)		
Mr. Wang Ke	Engineer Aviation Meteorological Center Air Traffic Management Bureau Civil Aviation Administration of China P.O. Box 2272, Chaoyang District Beijing 100122 <u>PEOPLE'S REPUBLIC OF CHINA</u>	Tel: +86 (10) 8792 2095 Fax: +86 (10) 6733 2446 E-mail: wangke166@163.com
Mr. Wang Fengyun	Meteorologist Aviation Meteorological Center East China Air Traffic Management Bureau Civil Aviation Administration of China No. 35, Konggang 3 rd Road Changning District, Shanghai <u>PEOPLE'S REPUBLIC OF CHINA</u>	Tel: +86 (21) 2232 7505 Mobile: +86 136 6142 8099 Fax: +86 (21) 6268 8071 E-mail: wangfy@atmb.cn
HONG KONG, CHINA (2)		
Mr. Chan Pak Wai	Senior Scientific Officer Hong Kong Observatory 134A Nathan Road Kowloon <u>HONG KONG, CHINA</u>	Tel: +852 2926 8435 Mobile: +852 9186 4981 Fax: +852 2375 2645 E-mail: pwchan@hko.gov.hk
Mr. Li Luen On	Chief Experimental Officer (Airport Meteorological Office) Hong Kong Observatory 134A Nathan Road Tsim Sha Tsui, Kowloon <u>HONG KONG, CHINA</u>	Tel: +852 2926 8209 Mobile: +852 9169 8381 Fax: +852 2375 2645 E-mail: loli@hko.gov.hk
INDONESIA (2)		
Drs. Yunus Subagyo Swarinoto	Deputy Director for Meteorology Indonesia Agency for Meteorology Climatology & Geophysics Jl. Angkasa I, No. 2 Kemayoran Jakarta 10720 <u>INDONESIA</u>	Tel: +62 (21) 6586 7065 Mobile: +62 8121 010 9924 Fax: +62 (21) 6586 7065 E-mail: yunus.swarinoto@bmkg.go.id

STATE/ORGANIZATION/N AME	DESIGNATION/ADDRESS	TEL/FAX/E-MAIL
Mr. Zulkarnain	Staff of Aeronautical Meteorological Division Indonesian Meteorological Climatological and Geophysical Agency Jalan Angkasa I No. 2 Kemayoran Jakarta <u>INDONESIA</u>	Tel: +62 (21) 424 6321 Fax: +62 (21) 654 6315 E-mail: zulkarnain@bmkgo.id
JAPAN (4)		
Mr. Koichiro Kakihara	Senior Scientific Officer Aeronautical Meteorology Division Administration Department Japan Meteorological Agency Otemachi 1-3-4, Chiyoda-ku Tokyo, 1008122 <u>JAPAN</u>	Tel: +81 (3) 3212 8341 Ext. 2298 Mobile: +81 90 4614 4756 Fax: +81 (3) 3212 8968 E-mail: k-kakihara@met.kishou.go.jp
Mr. Kentaro Tsuboi	Scientific Officer Information and Communications Technology Division, Forecast Department Japan Meteorological Agency Otemachi 1-3-4, Chiyoda-ku Tokyo, 1008122 <u>JAPAN</u>	Tel: +81 (3) 3212 8341 Ext. 3283 Mobile: +81 90 1768 6653 Fax: +81 (3) 3211 8404 E-mail: k-tsuboi@met.kishou.go.jp
Mr. Hirotaka Sato	Assistant Scientific Officer Aeronautical Meteorology Division Administration Department Japan Meteorological Agency Otemachi 1-3-4, Chiyoda-ku Tokyo, 1008122 <u>JAPAN</u>	Tel: +81 (3) 3212 8341 Ext. 2280 Mobile: +81 90 7936 4637 Fax: +81 (3) 3212 8968 E-mail: h_sato@met.kishou.go.jp
Mr. Shingo Ichikawa	Assistant Scientific Officer Information and Communications Technology Division, Forecast Department Japan Meteorological Agency Otemachi 1-3-4, Chiyoda-ku Tokyo, 1008122 <u>JAPAN</u>	Tel: +81 (3) 3212 8341 Ext. 3274 Mobile: +81 90 6561 0609 Fax: +81 (3) 3211 8404 E-mail: s_ichikawa@met.kishou.go.jp
MALAYSIA (1)		
Mr. Abd Malik Tussin	Director Sabah Meteorological Office Malaysian Meteorological Department 7 th Floor, Wisma Dang Bandang Locked Bag 54, 88995 Kota Kinabalu, Sabah <u>MALAYSIA</u>	Tel: +60 8825 6054 Mobile: +60 138 682709 Fax: +60 8821 1019 E-mail: malik@met.gov.my
PHILIPPINES (2)		
Mr. Jose V. Festejo, Junior	Acting Chief, MET Inspectorate Section Civil Aviation Authority of the Philippines Philippines-Aerodromes and Air Navigation Safety Oversight Office NAIARoad, Cornor Baltao Street Pasay City, Metro Manila 1300 <u>PHILIPPINES</u>	Mobile: +63 921 801 1110, 917 844 7545 Fax: +63 (2) 879 9118 E-mail: jadper_fr@yahoo.com

STATE/ORGANIZATION/N AME	DESIGNATION/ADDRESS	TEL/FAX/E-MAIL
Ms. Cabuyadao Helen Grace	Air Traffic Management Officer Manila Control Tower Civil Aviation Authority of the Philippines NAIA Terminal Pasay City 1300 <u>PHILIPPINES</u>	Tel: +63 (2) 879 9265 Mobile: +63 (2) 917 839 7941 Fax: +63 (2) 879 9264 E-mail: juliet-golf@yahoo.com
REPUBLIC OF KOREA (6)		
Dr. Park Hyesook	Senior Researcher/ Satellite Planning Division National Meteorological Satellite Centre 64-18, Guam-gil Gwanghyewon-myeon Jincheon-gun Chungcheongbuk-do, 365-830 <u>REPUBLIC OF KOREA</u>	Tel: +82 (70) 7850 5804 Mobile: +82 10 4702 1126 Fax: +82 (43) 717 0230 E-mail: hyesookpark@korea.kr
Dr. Choi Daebeom	Deputy Director/Satellite Planning Division National Meteorological Satellite Centre 64-18, Guam-gil Gwanghyewon-myeon Jincheon-gun Chungcheongbuk-do, 365-830 <u>REPUBLIC OF KOREA</u>	Tel: +82 (70) 7850 5735 Mobile: +82 10 3758 6149 Fax: +82 (43) 717 0210 E-mail: dbchoi@korea.kr
Ms. Kim Youn Jeong	Senior Meteorologist/Information and Technology Division Korea Aviation Meteorological Agency 272 Gonghang-ro Jung-gu, Incheon 400720 <u>REPUBLIC OF KOREA</u>	Tel: +82 (32) 740 2850 Mobile: +82 (10) 6374 5922 Fax: +82 (32) 740 2847 E-mail: bj414@korea.kr
Ms. Oh Heejin	Senior Meteorologist/ Information and Technology Division Korea Aviation Meteorological Agency 272 Gonghang-ro Jung-gu, Incheon 400720 <u>REPUBLIC OF KOREA</u>	Tel: +82 (32) 740 2850 Mobile: +82 (10) 6440-1536 Fax: +82 (32) 740 2847 E-mail: heejin5@korea.kr
Ms. Park Jieun	Senior Meteorologist/Observation & Forecast Division Korea Aviation Meteorological Agency 272 Gonghang-ro Jung-gu, Incheon 400720 <u>REPUBLIC OF KOREA</u>	Tel: +82 (32) 740 2821 Mobile: +82 (10) 8554-4337 Fax: +82 (32) 740 2808 E-mail: jieuni@korea.kr
Ms. Park Seon Young	Meteorologist Air Navigation Meteorological Team Korea Aviation Meteorological Agency 272 Gonghang-ro Jung-gu, Incheon 400720 <u>REPUBLIC OF KOREA</u>	Tel: +82 (32) 740 2812 Mobile: +82 (10) 4095-7366 Fax: +82 (32) 740 2808 E-mail: Sunny07@korea.kr
SINGAPORE (1)		

STATE/ORGANIZATION/N AME	DESIGNATION/ADDRESS	TEL/FAX/E-MAIL
Mr. Goh Wee Poh	Senior Meteorologist Meteorological Service Singapore P.O. Box 8 Singapore Changi Airport <u>SINGAPORE</u> 918141	Tel: +65 6542 5059 Mobile: +65 9879 0461 Fax: +65 6542 5026 E-mail: goh_wee_poh@nea.gov.sg
THAILAND (4)		
Ms. Rassmee Damrongkietwattana	Director of Weather Monitoring Division Bureau of Aeronautical Meteorology 6 th Floor ATC Complex Suvarnabhumi International Airport Bang Phli, Samutprakarn 10540 <u>THAILAND</u>	Tel: +66 (2) 134 0011 Ext. 213 Fax: +66 (2) 213 4001 E-mail: rassmee@hotmail.com
Ms. Lorrat Manimont	Wing Commander Deputy Vice President, Aerodrome Standardization and Safety Department Airports of Thailand Public Company Ltd. 333 Cherdwutagard Road Sikun, Don Mueang Bangkok 10210 <u>THAILAND</u>	Tel: +66 (2) 535 8491 Fax: +66 (2) 535 2530 E-mail: lorrat@airportthai.co.th
Ms. Narissara Na Rangri	Aeronautical Communication and AIS Manager Aeronautical Radio of Thailand Ltd. 102 Soi Ngamduplee Tungmahamek, Sathorn Bangkok 10120 <u>THAILAND</u>	Tel: +66 (2) 285 9084 Fax: +66 (2) 287 8645 E-mail: narissara.na@aerothai.co.th
Mr. Worapong Jirojkul	Senior System Engineer Aeronautical Radio of Thailand Ltd. 102 Soi Ngamduplee Tungmahamek, Sathorn Bangkok 10120 <u>THAILAND</u>	Tel: +66 (2) 287 8075 Fax: +66 (2) 287 8645 E-mail: worapong.ji@aerothai.co.th
VIET NAM (4)		
Mr. Dao Son Hai	Deputy Director of Air Navigation Department Civil Aviation Authority of Viet Nam 119 Nguyen Son Street Long Bien District Hanoi <u>THE SOCIALIST REPUBLIC OF VIET NAM</u>	Tel: +84 (4) 3827 4191 Fax: +84 (4) 3827 4194 E-mail: dsh@caa.gov.vn
Mr. Nguyen Van Thanh	Deputy Manager of Aviation Meteorological Section Airport Corporation of Viet Nam Tan Son Nhat International Airport 20518 Bue Vien, District 1 Ho Chi Minh City <u>THE SOCIALIST REPUBLIC OF VIET NAM</u>	Tel: +84 (8) 3848 5383 Mobile: +84 90 800 7353 E-mail: ngthan31@yahoo.com

STATE/ORGANIZATION/N AME	DESIGNATION/ADDRESS	TEL/FAX/E-MAIL
Mr. Nguyen Duc Chinh	Deputy Director of Noibai Operation Control Centre Airports Corporation of Viet Nam Noibai International Airport Socson, Hanoi <u>THE SOCIALIST REPUBLIC OF VIET NAM</u>	Tel: +84 (4) 3584 4444 Fax: +84 (4) 3886 6825 E-mail: ndchinh@vietnamairport.vn
Mr. Phan Ba Hung	Chief of Meteorology Department Viet Nam Air Traffic Management Corporation No. 5/200 Nguyen Son Street Bo De Ward Long Bien District, Hanoi <u>THE SOCIALIST REPUBLIC OF VIET NAM</u>	Tel: +84 (4) 3827 1513 Fax: +84 (4) 3873 3110 E-mail: hungphb@yahoo.com
IATA (1)		
Mr. Hans-Rudi Sonnabend	Head of Meteorological Services Lufthansa Systems AG Meteorological Services FRA AF/L-P-MET Am Prime Parc 2 D-65479 Raunheim <u>GERMANY</u>	Tel: +49 (69) 696 90362 Mobile: +49 151 589 22475 Fax: +49 (69) 696 94736 E-mail: hans-rudi.sonnabend@lysystems.com
IFALPA (1)		
Capt. Jaffar Hassan	Regional Vice President for Asia East 52 West Coast Crescent Singapore 12806 <u>SINGAPORE</u>	Tel: +65 94 300 747 Fax: E-mail: jaffar747@gmail.com
ICAO (1)		
Mr. Peter C. Dunda	Regional Officer MET International Civil Aviation Organization Asia and Pacific Office 252/1, Vibhavadi Rangsit Road Ladyao, Chatuchak Bangkok 10900 <u>THAILAND</u>	Tel: +66 (2) 537 8189 Ext. 153 Fax: +66 (2) 537 8199 E-mail: PDunda@icao.int



International Civil Aviation Organization

**THIRTEENTH MEETING OF THE ASIA/PACIFIC REGIONAL OPMET
BULLETIN EXCHANGE WORKING GROUP (ROBEX WG/13)**

Seoul, Republic of Korea, 16 – 18 March 2015

LIST OF WORKING AND INFORMATION PAPERS

WP/IP No.	Agenda Item	Subject	Presented by
WP/1	-	Provisional Agenda	Secretariat
WP/2	2	Follow-up to Action Arising from ROBEX WG/12	Secretariat
WP/3	2	Follow-up from MET SG/18 and APANPIRG/25	Secretariat
WP/4	3	IATA Non-Scheduled OPMET Monitoring	IATA
WP/5	3	IATA OPMET Data Monitoring for ASIA/PAC (SADIS and WIFS)	IATA
WP/6	3	Availability of OPMET from ASIA/PAC	IATA
WP/7	3	Review of OPMET Monitoring Result	Singapore
WP/8	3	RODB Tokyo Performance Indices for METAR and TAF	Japan
WP/9	4	Data Capture during Monitoring Exercises	Australia
WP/10	3	Follow-up on OPMET Availability Issues	Secretariat
WP/11	4 (a)	ASIA/PAC Inter-Regional OPMET Gateway Backup Exercise between RODB Bangkok and RODB Singapore	Thailand
WP/12	4	Status and Plans for IWXXM in Australia	Australia
WP/13	4	TAF Bulletin Filing Time	Australia
WP/14	4	Capability Building for Implementation of Digital OPMET	Secretariat
WP/15	5	ROBEX Handbook Updates	Secretariat
WP/16	5	ASIA/PAC ICD Updates	Secretariat
WP/17	5	ASIA/PAC ANP Updates	Secretariat

WP/IP No.	Agenda Item	Subject	Presented by
WP/18	6	Review ROBEX WG Terms of Reference and Work Programme	Secretariat
WP/19	4	Performance Indices of ASIA/PAC Region	Thailand
LIST OF INFORMATION PAPERS			
IP/1	-	Order of Discussions	Secretariat
IP/2	4	Brisbane RODB Changes	Australia
IP/3	4	Quality Control Program in METAR	Republic of Korea
IP/4	4	Plan for Implementation of Digital Exchange of OPMET Using XML	Republic of Korea
IP/5	4	Changes to Australian TAF Bulletins	Australia
IP/6	4	Status and Plans for IWXXM in Thailand	Thailand
IP/7	4	Progress Report on Digital Exchange of Aeronautical Meteorological Information	Singapore RODB
IP/8	3	Realignment of Location Indicator	Indonesia
CONJOINT WORKING PAPERS			
WP/C1	2	MWO/ACC Locations/ AFTN Addresses for VAA Information	Secretariat
WP/C2	2	Review of WS SIGMET Test 10	Singapore RODB
WP/C3	2	Progress with SIGMET Tests – WC and WV	Japan
WP/C4	2	SIGMET Test Errors	Secretariat
WP/C5	2	SIGMET Guide Updates	Secretariat
WP/C6	2	Darwin VAAC Management Report	Australia
WP/C7	2	Importance of Accurate en-route Weather Information and Collaborative Information Sharing	Japan
WP/C8	2	Tropical Cyclone Advisories and SIGMETS	Australia

WP/IP No.	Agenda Item	Subject	Presented by
------------------	--------------------	----------------	---------------------

CONJOINT INFORMATION PAPERS

IP/C1	1	Mutual Back-up Operations between VAACS Tokyo and Darwin	Japan and Australia
IP/C2	2	Report of VOLKAM 14 and AIM of VOLKAM 15	Japan
IP/C3	2	Enhancement in Handover Procedures and Collaborative Decision Analyses and Forecast (CDAF) with VAAC Anchorage	Japan
IP/C4	2	Graphical Tropical Cyclone Advisory – TCAC Tokyo	Japan
IP/C5	2	Advisory Number of TCA	Japan
IP/C6		Order of Discussion	Secretariat



**ICAO APAC REGIONAL OPMET BULLETIN EXCHANGE
WORKING GROUP (ROBEX WG)**

Appendix C to the Report

1. COMPOSITION
The ROBEX WG is made up of members from States representing the five APAC Regional OPMET Data Banks (RODBs): <i>Australia/Brisbane, Fiji/Nadi, Japan/Tokyo, Singapore and Thailand/Bangkok</i> ; the World Area Forecast System (WAFS), Satellite Distribution System (SADIS) and WAFS Internet File System (WIFS) Provider States: <i>United Kingdom and United States</i> ; the three APAC Volcanic Ash Advisory Centres (VAACs): <i>Australia/Darwin, Japan/Tokyo and New Zealand/Wellington</i> ; the designated focal points for SIGMET tests and regional OPMET bulletin exchange (ROBEX); and the International Air Transport Association (IATA).

Secretariat	Address	Contact
Mr. Peter Dunda ICAO	Regional Officer MET International Civil Aviation Organization 252/1, Vibhavadi Rangsit Road Ladyao, Chatuchak Bangkok 10900 Thailand	Tel: +66 (2) 537-8189 Ext. 153 Fax: +66 (2) 537-8199 Email: PDunda@icao.int

Chair	Address	Contact
Mr. Tim Hailes AUSTRALIA (Brisbane RODB & Darwin VAAC)	National Manager Regional Aviation Weather Services Weather Policy Branch Australian Bureau of Meteorology GPO 1289 Melbourne VIC 3001	Tel: +61 (3) 9669 4273 Mob: +61 4 2784 0175 Email: t.hailes@bom.gov.au Cc: metauthority@bom.gov.au

Members	Address	Contact
Mr. Aidan Cooley AUSTRALIA (Brisbane RODB)	ATM Systems Specialist Airservices Locked Bag 747 Eagle Farm QLD 4009	Tel: +61 (7) 3866 3762 Mob: +61 417 434 975 Fax: +61 (7) 3866 3506 Email: aidan.cooley@airservicesaustralia.com
Mr William Reece FIJI (Nadi RODB)	Station Officer Telecoms (Training & Standards) Airports Fiji Limited, Private Mail Bag, Nadi Airport Fiji Islands	Tel: +679 673 1198 Mob: +679 990 6105 Fax: +679 673 1198 Email: williamr@afl.com.fj
Mr. Jun Ryuzaki JAPAN (Tokyo RODB)	Senior Scientific Officer Administration Division Forecast Department Japan Meteorological Agency (JMA) 1-3-4 Otemachi, Chiyoda-ku Tokyo 1008122	Tel: +81 3 3212 8341 (ext. 3351) Fax: +81 3 3284 0180 Email: jryuzaki@met.kishou.go.jp
Ms. Yohko Igarashi Mr. Satoshi Harada JAPAN (Tokyo VAAC)	Scientific Officer Deputy Director Tokyo Volcanic Ash Advisory Center Volcanology Division Seismology and Volcanology Department Japan Meteorological Agency (JMA) 1-3-4 Otemachi, Chiyoda-ku Tokyo 1008122	Tel: +81 3 3212 8341 (ext. 47274532) Fax: +81 3 3212 3648 Email: y_igarashi@met.kishou.go.jp sharada@met.kishou.go.jp

Members	Address	Contact
Mr Keith Mackersy NEW ZEALAND (Wellington VAAC)	Senior Meteorological Specialist Civil Aviation Authority of New Zealand PO Box 3555 Wellington	Tel: +64 4 9040543 Fax: +64 4 9041543 Email: keith.mackersy@caa.govt.nz
Ms. Chua Guat Mui SINGAPORE (Singapore RODB)	Principal Technical Officer Meteorological Services Singapore P.O. Box 8, Singapore Changi Airport Post Office Singapore 918141	Tel: +65 6542 2861 Fax: +65 6542 2915 Email: chua_guat_mui@nea.gov.sg
Ms. Sujin Promduang THAILAND (Bangkok RODB)	Director, Aeronautical Information & Flight Data Management Centre General Administrative Manager Aeronautical Information Management Centre Aeronautical Radio of Thailand Ltd. 102 Ngamduplee, Sathorn, Bangkok 10120 Thailand	Tel: +66 (2) 285 9083 Fax: +66 (2) 287 3131 Email: sujin@aerothai.co.th
Mr. Chris Tyson UNITED KINGDOM (WAFC London)	SADIS Manager & International Aviation Analyst Met Office, Fitzroy Road Exeter Devon EX1 3PB	Tel: +44 (0) 1392 884892 Fax: +44 (0) 870 900 5050 Email: chris.tyson@metoffice.gov.uk
Mr. Steven Albersheim UNITED STATES (WAFC Washington)	Federal Aviation Administration Senior Meteorologist, Programme Lead International FAA Headquarters 800 Independence Ave, S.W. Washington, D.C. 20591	Tel: +1 (202) 385 7185 Fax: +1 (202) 385 7240 Email: steven.albersheim@faa.gov
Hans-Rudi Sonnabend IATA	Head of Meteorological Services Lufthansa Systems Aeronautics GmbH & Co KG Am Prime Parc 2 D-65479 Raunheim Germany	Tel: +49 (69) 6969 0362 Fax: +49 (69) 6969 4736 Email: hans-rudi_sonnabend@lhsystems.com met.services@lhsystems.com

2. DESCRIPTION

Objective	Increase OPMET availability and reliability needed for flight planning (efficiency) and in-flight re-planning (safety) in support of the Global Air Navigation Plan framework and the aviation system block upgrade (ASBUs) methodology.
Benefits	Increase in safety and efficiency (time and fuel savings).
Terms of Reference	Under guidance from the ICAO Secretariat: <ul style="list-style-type: none"> - Review the OPMET exchange schemes in the APAC, MID and neighbouring 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 and other exchange schemes for OPMET information;

	<ul style="list-style-type: none"> - Review the regional guidance material related to OPMET exchange; - Liaise with other groups dealing with communication and/or management aspects of the OPMET exchange in APAC, other ICAO Regions and the WAFS Provider States.
Work Programme	<p>The work to be addressed by the ROBEX WG includes:</p> <ul style="list-style-type: none"> - Examine new and existing requirements for OPMET exchange in APAC, MID and other neighbouring regions along with the WAFS Provider States and assess the feasibility of satisfying these requirements, taking into account the availability of the data; - Keep the ROBEX scheme and other OPMET exchange schemes under review and prepare proposals for updating and optimizing the schemes; - Review and update of the procedures for inter-regional OPMET exchange and ensure the availability of the required APAC and MID OPMET data for Secure SADIS FTP and WIFS; - Review the regional guidance material on OPMET exchange to ensure procedures are provided for the exchange of all required OPMET data types: SA, SP, FT, WA, WS, WC, WV, FK, FV and UA; - 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; - Report on deficiencies in the format and dissemination of OPMET messages; - Participate in the testing, implementation and awareness of the transition to digital exchange of OPMET using a code form based on IWXXM XML/GML; - Conduct regular regional VAAC back-up and SIGMET tests; - Provide support for the APAC Volcanic Ash Exercises; - Develop quality control guidance material and promote implementation of quality control for OPMET management.

3. COMMUNICATION STRATEGIES				
Description	Target Audience	Delivery Method	Frequency / Date	Responsibility
Work Plan	ROBEX WG Members	Document via email & ROBEX WG Meeting	As required but reviewed at the ROBEX WG Meeting and the MET SG	Chair
General correspondence	ROBEX WG Members	Email	As required	ROBEX WG Members
Task Force Working Group Meeting	ROBEX WG Members	Meeting	Annually	Chair
Status & Milestone Reports	ICAO Secretariat and ROBEX WG Members	Report via email & WP at ROBEX WG Meeting	Annually	Chair
Task Force Report	All APAC States	Working Paper at MET SG	Annually	Chair

4. PERFORMANCE FRAMEWORK FORM (PFF)				
Tasks	Time Frame	Responsibility	Status	Milestone
Task 1: Improve the availability of OPMET data	Ongoing	ROBEX WG		1
Task 2: Improve timeliness, compliance and regularity of OPMET exchange	Ongoing	ROBEX WG		2

Task 3: Identify gaps and errors in processes, procedures and OPMET exchange	Ongoing	ROBEX WG		3, 4, 5
Task 4: Review regional guidance material related to OPMET data	Ongoing	ROBEX WG		3, 4, 5, 6
Task 5: Facilitate and monitor the migration to IWXXM in support of SWIM/AIM and new MET codes (e.g. XML)	2015-2018 2013-2016	ROBEX WG		7
Task 6: Review the RODB structure	2017 TBC	ROBEX WG		8

5. MILESTONES			
Milestone	Accountability	Dates	Status
Milestone 1: Achieve 95% (90%) or greater OPMET availability for AOP (non-AOP) aerodromes at RODBs and WAFCS WAFS Internet based services as defined in FASID Tables Met2A.	ROBEX WG	Annually Jun	
Milestone 2: Achieve OPMET timeliness, compliance and regularity index of 0.95 (0.90) for AOP (non-AOP) aerodromes at RODBs and WAFCS WAFS Internet based services as defined in FASID Tables Met2A.	ROBEX WG	Annually Jun	
Milestone 3: Improved issuance and compliance of test SIGMETs tests conducted, analysed and report complete.	ROBEX WG	Annually Jun	
Milestone 4: VAAC Back-up tests conducted, analysed and report complete.	VAAC Back-up Focal Points	Annually Jun	
Milestone 5: IROG Back-up tests conducted, analysed and report complete.	Bangkok RODB	Annually Mar	
Milestone 6: RODB Monitoring procedures updated in ROBEX Handbook	Secretariat	Jun 2014	
Milestone 7: Report to ROBEX WG & MET SG on IWXXM digital OPMET exchange (i.e. XML) & testing.	Secretariat & Chair	Annually Mar & May	
Milestone 8: RODB structure review complete.	ROBEX WG	2017 TBC	
Milestone 9: Improved efficiency and effectiveness of ROBEX scheme	RODBs	Annually Jun	

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Activity 1: Increasing OPMET availability at RODBs & WAFCS (95 and 90% for AOP and non-AOP aerodromes) WAFS Internet based services as defined in FASID Tables Met2A				
Activity 1.1: Tokyo RODB to investigate providing Bangkok RODB data in standard format Assist Nadi RODB in conducting OPMET availability testing	Tokyo RODB Brisbane RODB	-	Jun 2015 Nov 2014	

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Activity 1.2: Perform real time monitoring if required	RODBs & IATA	-	If required	
Activity 1.3: Monitor RODB OPMET reception in Jan and use Dec as PI threshold.	RODBs	-	Annually Dec/Jan	
Activity 1.4: Monitor SADIS/WIFS OPMET reception.	IATA	-	Annually Jan	
Activity 1.5: Score against FASID Table MET 1A and 2A.	Singapore, Tokyo, Bangkok RODBs & IATA	1.3 & 1.4	Annually Feb	
Activity 1.6: Prepare ROBEX paper and report results and deficiencies to ROBEX WG meeting.	Bangkok RODB & IATA	1.5	Annually Mar	
Activity 1.7: Report summary of OPMET availability results to MET SG	Secretariat & Chair	1.6	Annually May	
Activity 1.8: Advise States of OPMET deficiencies.	Secretariat	1.7	Annually Jun	
Activity 1.9: Provide support for States to rectify deficiencies if requested.	RODBs	1.8	As required	
Activity 1.10: Exchange Develop a common dataset and assess the consistency between RODBs of the 'availability' calculation and standardise.	Singapore, Tokyo, Bangkok RODBs	-	Aug Jul 2014 ⁵	
Milestone 1: Achieve 95% (90%) or greater OPMET availability for AOP (non-AOP) aerodromes at RODBs & WAFS.	ROBEX WG	1.9	Annually Jun	
Activity 2: Improving OPMET timeliness, compliance and regularity at RODBs and WAFS				
Internet based Services				
Activity 2.1: Investigate the ingestion of AMHS data into analysis Assist Nadi RODB to collect the data for conducting OPMET testing	Bangkok & Tokyo Brisbane RODB	-	Nov 2014 ⁵	
Activity 2.2: Monitor OPMET timeliness, compliance and regularity in Jan and use Dec as PI threshold.	RODBs & IATA	-	Annually Dec/Jan	
Activity 2.3: Collate and analyse data	Singapore, Tokyo, Bangkok RODBs & IATA	2.2	Annually Feb	
Activity 2.4: Prepare paper and report State irregularities to ROBEX WG meeting	Bangkok RODB & IATA	2.3	Annually Mar	

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Activity 2.5: Report summary of OPMET timeliness, compliance and regularity results to METSG	Chair	2.4	Annually May	
Activity 2.6: Inform States of compliance	Secretariat	2.5	Annually Jun	
Activity 2.7: Provide support for States to rectify deficiencies if requested.	RODBs	2.6	As required	
Activity 2.8: Exchange Develop a common dataset and assess the consistency between RODBs of the timeliness, compliance and regularity calculation and standardise.	Singapore, Tokyo, Bangkok RODBs	-	Aug Jun 2014 ⁵	
Activity 2.9: Correct identified issues relating to inconsistencies identified.	Singapore, Tokyo, Bangkok RODBs	2.8	Nov 2014 ⁵	
Milestone 2: Achieve 95% (90%) or greater OPMET timeliness, compliance and regularity for AOP (non-AOP) aerodromes at RODBs & WAFSS.	ROBEX WG	2.9	Annually Jun	
Activity 3: SIGMET Tests				
Activity 3.1: Review SIGMET Test procedures	ROBEX WG	-	Annually Aug	
Activity 3.2: State Letter regarding SIGMET Tests	Secretariat	3.1	Annually Sep	
Activity 3.3: Conduct WC SIGMET Tests	RODBs	3.2	Annually 1 st Wed in Nov	To be conducted on 5 Nov 2014 4 Nov 2015
Activity 3.4: Conduct WV SIGMET Tests	RODBs	3.2	Annually 2 nd Wed in Nov	To be conducted on 12 Nov 2014 11 Nov 2015
Activity 3.5: Conduct WS SIGMET Tests	RODBs	3.2	Annually 3 rd Wed in Nov	To be conducted on 19 Nov 2014 18 Nov 2015
Activity 3.6: Collate and analyse test data against FASID tables	RODBs	3.3 - 3.5	Annually Jan	
Activity 3.7: Report to ROBEX WG	SIGMET Focal Points	3.6	Annually Mar	
Activity 3.8: Report on SIGMET Test Results to MET SG.	Chair	3.7	Annually May	
Activity 3.9: Advise States of SIGMET deficiencies	Secretariat	3.8	Annually Jun	

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Milestone 3: Improved issuance and compliance of test SIGMETs	ROBEX WG	3.9	Annually Jun	
Activity 4: VAAC Back-up Tests				
Activity 4.1: Review VAAC Back-up Test procedures	ROBEX WG and VAACs		May 2014 2015 and then annually Jan	
Activity 4.2: Update VAAC Back-up Procedures	Secretariat	4.1	Annually May	
Activity 4.3: State Letter regarding VAAC Back-up Tests	Secretariat	4.1	Annually Aug	
Activity 4.4: Conduct VAAC Back-up Test between Darwin and Tokyo	VAACs	4.3	Annually Oct – TBC	
Activity 4.5: Conduct VAAC Back-up Test between Darwin and Wellington	VAACs	4.3	Annually Oct – TBC	
Activity 4.6: Collect test results and send to VAAC Provider State members	RODBs	4.4	Annually Oct – TBC	
Activity 4.7: Analyse Test results	VAAC Back-up Focal Points Members	4.5	Annually Nov	
Activity 4.8: Report to ROBEX WG	VAAC Back-up Focal Points Members	4.6	Annually Feb	
Activity 4.9: Report to MET SG.	Chair	4.8	Annually May	
Activity 4.10: Advise relevant States, VAACs and RODBs of any deficiencies.	Secretariat	4.7	Annually Jun	
Milestone 4: VAAC Back-up Tests conducted, analysed and report complete.	VAAC Back-up Focal Points Members	4.8	Annually Jun	
Activity 5: IROG Back-up Tests				
Activity 5.1: Investigate back-up arrangements of IROG Tokyo & Brisbane	Secretariat	-	Oct 2015	
Activity 5.2: Review IROG Back-up Test procedures to include all IROG.	All IROGs	-	Annually Feb	

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Activity 5.3: Updated IROG Back-up Procedures in ROBEX Handbook.	Secretariat	5.2	Annually May	
Activity 5.4: Identify list of MET Bulletins to monitor.	All IROGs	-	Annually Jan/Feb	
Activity 5.5: Conduct IROG Back-up Tests	All IROGs	5.4	Annually Jan/Feb	
Activity 5.6: Collect & analyse test results	All IROGs	5.5	Annually Feb	
Activity 5.7: Report to ROBEX WG	Bangkok RODB	5.6	Annually Mar	
Milestone 5: IROG Back-up Tests conducted, analysed and report complete.	Bangkok RODB	5.7	Annually Mar	
Activity 6: APAC RODB Monitoring procedures				
Activity 6.1: Letter to ROBEX Centres requesting confirmation that ROBEX Handbook Appendix A, B & C has the correct information regarding the Bulletins. Also ask for Hours of Operation and Issue Times of METAR and TAF.	Secretariat	-	Annually May	
Activity 6.2: Review ROBEX Handbook Appendix A & B table structure to include columns for Hours of Operation and Issue Times.	Chair	6.1	Annually Jul	
Activity 6.3: Review monitoring procedure in ROBEX Handbook.	All RODBs	-	Annually Aug	
Activity 6.4: RODBs to indicate differences in procedures and resolve these differences.	All RODBs	6.3	Annually Aug	
Activity 6.5: Any changes to RODB monitoring procedures and updates to Appendix A, B and C in ROBEX Handbook.	Secretariat	6.2 & 6.4	Annually Sep	
Milestone 6: RODB Monitoring procedures updated in ROBEX Handbook	Secretariat	6.5	Annually Sep	
Activity 7: New OPMET Exchange Formats				
Activity 7.1: Monitor migration to iWXXM AIM and new OPMET codes (i.e. XML/GML).	Secretariat	-	As required	

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Activity 7.2: Investigate, and develop a plan, to undertake IWXXM tests with another IWXXM centre. Review documentation relating to the XML schema. Feedback through Secretariat.	Singapore RODB		May 2014 Nov 2015	
Activity 7.3: Report to MET SG on plans for implementation of XML schema at APAC RODBs.	Secretariat		Next meeting MET SG	
Activity 7.4: Conduct a trial of IWXXM the new XML schema developed by WMO TT AvXML.	Singapore RODB	7.2	Oct 2014 Mar 2016	
Activity 7.5: Consider options and strategies to deal with digital data exchange of OPMET data in IWXXM format within its area of responsibility; including non-compliance of OPMET products with requirements of WMO TT AvXML schema.	WG RODBs		Feb 2015 2016	
Activity 7.6: Increase awareness of the requirement of digital exchange of OPMET data in IWXXM format and the impact of inability to do so.	RODBs & Secretariat WG		As required	
Activity 7.7: Report on the status of the testing and implementation of digital OPMET exchange.	RODBs		Annually Mar	
Activity 7.8: Report to ROBEX WG regarding testing and implementation of digital OPMET exchange internationally APAC.	Secretariat	7.1-7.7	Annually Mar	
Activity 7.9: Prepare information (e.g. issues, CONOPS) for ICAO international IWXXM Working Group	WG		Feb 2016	
Activity 7.10: Participate in the ICAO international IWXXM Working Group.	WG		Mar 2016	
Milestone 7: Report to ROBEX WG & MET SG on digital OPMET IWXXM exchange (i.e. XML) & testing.	Secretariat & Chair	7.8	Annually May	
Activity 8: Review RODB Structure				
Activity 8.1: Review optimum inter-regional exchange of APAC OPMET data. In particular consolidate data sent to AFI from either Bangkok or Brisbane.	Bangkok & Brisbane RODBs	-	Dec 2014	
Activity 8.2: Implement optimum inter-regional exchange to AFI	Bangkok or Brisbane RODBs		Jan 2015	

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Activity 8.1: Review ROBEX Scheme diagram vs Table in 11.1 of ROBEX Handbook.	All RODBs	8.2	Oct 2014 2015 May 2015 2016	
Activity 8.2: Review AFTN network diagram and add an AMHS diagram in the ROBEX Handbook.	Secretariat	-	Oct 2014 2015	
Activity 8.3: Review RODB structure taking into account: <ul style="list-style-type: none"> o Capability; o Message structure (XML) IWXXM readiness; o Delivery methods (internet, AMHS); o New Products (i.e. ATM requirements); o International consistency. 	ROBEX WG	-	2017	
Milestone 8: RODB structure review complete.	ROBEX WG	-	2017	
Activity 9: Improve Efficiency and effectiveness of ROBEX Scheme				
Activity 9.1: Align content of SA bulletins with FT bulletins, where appropriate	All RODBs	-	Oct 2015	
Activity 9.2: Adjust FT bulletin filing time, where appropriate	All RODBs	-	Oct 2015	
Activity 9.3: Review FASID table and ensure all necessary aerodromes are contained in OPMET bulletins	All RODBs	-	Oct 2015	
Activity 9.4: Review and update ROBEX HB and ICD to align with of OPMET bulletin contents	All RODBs	-	Oct 2015	
Milestone 9: Efficiency and effectiveness of ROBEX Scheme improved	ROBEX WG	-	2017	

**ROBEX WG/13
Task List**

Appendix D to the Report

(Last updated – 18 March 2015)

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
13/1	Post the list of WIFS accounts and approving officials in the APAC Region on the ICAO Regional Office web site (http://www.icao.int/apac/pages/default.aspx), e.g., with a link to APAC eDocuments.	June 2015	Secretariat	In progress	Related to ROBEX WG/13 Decision 13/1
13/2	Draft revisions to the guidance for OPMET monitoring (e.g., in the ROBEX Handbook and IATA OPMET monitoring practices) to address the specific requirements in ROBEX WG/13 Decision 13/2 and present to MET SG/19.	June 2015	Secretariat and ROBEX WG	To begin	Related to ROBEX WG/13 Decision 13/2
13/3	Consider the feasibility of realigning the locations in corresponding METAR (SA) and TAF (FT) bulletins and report to MET SG/19.	June 2015	Secretariat and ROBEX WG	To begin	Related to ROBEX WG/13 Decision 13/3
13/4	Forward the Draft Conclusion 13/4 – <i>Capacity building workshop to facilitate planning and implementation of digital exchange of aeronautical meteorological information</i> , to MET SG/19 for further consideration.	July 2015	Secretariat and Chair (ROBEX WG)	To begin	Related to ROBEX WG/13 Draft Conclusion 13/4

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
13/5	Present a WP to MET SG/19 on the current status of planning and implementation by States (including Fiji/RODB Nadi), and their needs and requirements to support planning and implementation of IWXXM.	July 2015	Secretariat and ROBEX WG	To begin	Related to ROBEX WG/13 Decision 13/5
13/6	Draft revisions to the ROBEX Handbook to address the specific requirements in ROBEX WG/13 Decision 13/6 and present to the next meeting of ROBEX WG.	February 2016	Secretariat and ROBEX WG	To begin	Related to ROBEX WG/13 Decision 13/6
13/7	Investigate feasibility of including provisions in the regional guidance material related to the issuance of routine TAF at intervals of three (3) hours; present draft material to the next meeting of ROBEX WG.	February 2016	Secretariat and ROBEX WG	To begin	Related to ROBEX WG/13 Decision 13/7
