SECOND MEETING

OF ASIA/PAC OPMET MANAGEMENT TASK FORCE (OPMET/M TF/2)

OF CNS/MET SUB-GROUP OF APANPIRG

(Bangkok, Thailand, 10 – 13 February 2004)

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA AND PACIFIC OFFICE

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1. Introduction

1.1 The Second Meeting of the ASIA/PAC OPMET Management Task Force (OPMET/M TF/2) of the CNS/MET Sub-group of APANPIRG was held in Bangkok, Thailand from 10 to 13 February 2004.

2. Attendance

2.1 The meeting was attended by 15 experts from seven ASIA/PAC States, one expert from the Sultanate of Oman, representing the ICAO MID Region, and one expert from IATA. The List of participants is provided in Appendix A to the Report.

3. Opening of the meeting

3.1 On behalf of Mr. Lalit B. Shah, Regional Director, ICAO Asia and Pacific Office, Mr. Dimitar Ivanov welcomed all participants to the ICAO Regional Office, Bangkok and provided a brief overview of the objectives and the working arrangements for the meeting.

3.2 Mr. Rick Houghton, National Manager, Defence Weather Services, Australia, opened the meeting and welcomed the new participants from Indonesia, Hong Kong China, and Oman.

4. Officers and Secretariat

4.1 Mr. Rick Houghton, Rapporteur of the OPMET/M Task Force presided over the meeting.

4.2 Mr. Dimitar H. Ivanov, Regional Officer, Aeronautical Meteorology acted as Secretary of the meeting. He was assisted by Mr. Li Peng, Regional Officer, CNS.

5. Agenda of the Meeting

5.1 The agenda adopted by the meeting was as follows:

Agenda Item 1:
- a) Adoption of provisional agenda and working arrangements for the meeting
- b) Review of the TORs and work programme of the group

Agenda Item 2: Review:

- a) Current status of OPMET exchange in the Region
- b) Content and operation of regional OPMET Data Banks
- c) Inter-Regional exchange

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

- a) Draft new version of ROBEX Handbook
- b) Regional ICD for OPMET data banks access procedures

Agenda Item 4: Requirements for amendments of the OPMET exchange schemes

Agenda Item 5: Development of procedures for monitoring and management of the OPMET information:

- a) OPMET exchange monitoring

b) OPMET bulletins update procedure
c) SIGMET tests
d) OPMET data banks quality control procedures

Agenda Item 6: Future Work Programme

Agenda Item 7: Any other business

Agenda Item 1 b): Review of the TORs and work programme of the group

1.1 The meeting recalled that the OPMET Exchange Task Force (OPMET/E TF) was established by Decision 13/28 of APANPIRG based on the proposal by the sixth meeting of the CNS/MET Sub-group held in July 2002 in Bangkok. The Seventh Meeting of the CNS/MET Sub-group of APANPIRG, held in Bangkok conjointly with the Tenth Meeting of the CNS/ATM Implementation Coordination Sub-group from 15 to 21 July 2003, reviewed the terms of reference (TOR) and work programme of the OPMET Exchange Task Force. It was recognized that the OPMET exchange and the ROBEX scheme needed continuous management, therefore, the meeting proposed to assign some additional tasks to the group and to rename it to ASIA/PAC OPMET Management Task Force (OPMET/M TF). The CNS/MET SG/7 meeting adopted Decision 7-10/26, by which the TOR and the work programme of the task were amended to reflect its expanded responsibilities.

1.2 The meeting reviewed the TOR and the work program of the group as approved by CNS/MET SG/7 and proposed some changes, as shown in Appendix B to the report. The meeting formulated the following draft decision:

Draft Decision 2/1 – Terms of reference and work programme of OPMET/M TF

That, the terms of reference and the work programme of the OPMET/M TF be amended as shown in Appendix/xx to the Report.

1.3 The meeting reviewed the progress on the Action Item list developed by OPMET/E TF/1 meeting. The list contained 24 Action Items and represented *de facto* a detailed work schedule to be followed by the task force in carrying out the tasks defined by the CNS/MET SG. It was identified that nine tasks have been fully completed and two tasks have been partly completed, while the rest of the tasks were on-going. Detailed information on the status of the tasks, together with the new tasks agreed by the meeting, is provided in Appendix C-1, Revised list of Action Items by OPMET/M TF/2 meeting.

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Agenda Item 2: Review:

a) Current status of OPMET exchange in the Region
b) Content and operation of regional OPMET Data Banks
c) Inter-Regional exchange

2.1 Current status of OPMET exchange in the Region

2.1.1 Monitoring of OPMET data availability

2.1.1.1 The meeting reviewed the results of a recent monitoring of the OPMET data availability carried out by RODB Bangkok. The purpose of this monitoring exercise was to identify any shortfalls of OPMET data required at RODB Bangkok. ROBEX Tables and ASIA/PAC AOP1 Table were used as reference in monitoring the incoming OPMET traffic for a period of 24 hours. The results are presented in Appendix D to the report in two tables covering: a) aerodromes listed in ASIA/PAC FASID Table MET 1A, from which METAR and "long" (18 and 24 hr) TAF are required; b) additional aerodromes, not listed in ASIA/PAC FASID Table MET 1A, for which METAR and/or TAF have been received at the RODB Bangkok.

2.1.1.2 The meeting expressed its appreciation to RODB Bangkok for providing the material, which, though limited to 24-hours, was illustrative of the current status of the OPMET data availability. In discussing the results of the study, the following observations were made:

- all aerodromes in the MID region were listed in table B, since only the FASID Table MET 1A from the ASIA/PAC region had been used as reference;

- there were still a number of AOP aerodromes, from which OPMET data was missing;

- there were a number of non-AOP domestic aerodromes included in the OPMET exchange, mainly due to the requirements stated in the SADIS User Guide (SUG), Annex 1.

2.1.1.3 The meeting requested that in order to monitor properly the OPMET information from the MID region, which is part of the ROBEX scheme, an updated MID FASID Table MET 1A should be made available (**Action item**).

2.1.1.4 The meeting was advised by the Secretariat that the inclusion of additional domestic aerodromes in the SUG Annex 1 was done through a process that involved concurrence by the States concerned. Therefore, once the States agree on the inclusion of these aerodromes in the SUG Annex 1, OPMET data for them should be included in the exchange, and in particular, should be made available on SADIS. In this regard, the meeting agreed that in assessing the availability of the OPMET data, the three main sources of requirements for regular (METAR, TAF) data should be considered, as follows: 1) Regional ANP: BANP Table AOP1, FASID Table MET 1A, FASID Table MET 2; 2) ROBEX Tables developed initially by the RAN meeting and updated afterwards, which may differ slightly from the ANP tables; and, 3) SUG Annex 1, which reflects the requirements by aviation users for global availability of OPMET data through SADIS.

2.1.1.5 Based on the above understanding, it has been generally agreed that in the future, the availability of OPMET data should be monitored against the three sources mentioned above, either separately, or simultaneously. This matter was further discussed under Agenda Item 5.

2.1.2 OPMET data shortfalls

2.1.2.1 The meeting noted in particular the shortfalls of OPMET data from the Pacific region. It was felt that more information regarding the current situation with the OPMET exchange in the Pacific was needed. In this regard, the meeting invited the members from Brisbane and Nadi RODBs to carry out a study on the availability of OPMET data from the Pacific region and the corresponding arrangements for the preparation and dissemination of this information. It was noted that New Zealand in a recent communication with the Rapporteur of the group expressed concern regarding the current situation with the provision of OPMET information in some parts of the Pacific region and requested the assistance of the group in improving this situation. (**Action item**)

2.1.2.2 The meeting was informed that Hong Kong China, as the ROBEX centre responsible for the OPMET information from the Philippines, had not received regularly METAR and TAF messages from the Philippines and that it faced difficulties in communicating with the relevant State's authorities on this matter. It was decided that the problems related to the availability of OPMET information from the Philippines should be pursued with the help of the Secretariat. If no improvement was achieved by the APANPIRG/15 meeting in August 2004, the irregular METAR and TAF information from the Philippines should be included in the List of Air Navigation Deficiencies for the ASIA/PAC Region. (**Action item**)

2.1.2.3 The expert from Indonesia informed the meeting on the planned inclusion of METAR and TAF for most of the Indonesian aerodromes listed in the FASID Table MET 1A into the ROBEX bulletins compiled by Jakarta ROBEX centre. He provided the information about the new structure of the ROBEX bulletins from Indonesia for inclusion in the final draft of the ROBEX Handbook.

2.1.2.4 The meeting noted an information that TAF for the two international aerodromes of Cambodia have appeared recently in a FT bulletin issued by Vietnam. The Secretariat was aware of the fact that these TAFs were not issued by a meteorological office in Cambodia and it was most likely that the TAFs were issued by a meteorological office in Vietnam. The meeting expressed concern of the procedural and quality assurance aspects in this case and requested the Secretariat to clarify it further with the meteorological authorities of Cambodia and Vietnam. (Action item)

2.1.3 The meeting noted the following improvements of the ROBEX exchange:

2.1.3.1 Australia introduced new bulletins SAAU31 and SAAU32 containing 34 Australian aerodromes. Three TAF bulletins have been introduced as follows: FTAU31 (10 airports); FTAU32 (11 airports, and FCAU33 (13 airports issuing 12-hr forecasts at 6-hr cycle). With the introduction of the new bulletins all requirements for OPMET information from Australia stated in the FASID Table MET 1A and SUG Annex 1 were covered.

2.1.3.2 Thailand introduced new METAR bulletins SATH31, SATH32, SATH33, and new TAF bulletins FTTH31, FTTH32, FTTH33, which have been sent regularly to London for uplink through SADIS. Thus, OPMET information from 35 international and domestic aerodromes in Thailand has been included in the exchange covering most of the requirements of FASID Table MET 1A and SUG Annex 1

2.2 Content and operation of regional OPMET Data Banks

2.2.1 Representatives of Bangkok, Brisbane, Nadi, Singapore and Tokyo RODBs presented to the meeting information on the current content and procedures of the corresponding data banks.

2.2.1.1 RODB Bangkok carried out monitoring trials on the availability of OPMET data and reported the results to CNS/MET SG/7 meeting. This issue was discussed in more detail under agenda

item 5. New METAR and TAF bulletins for additional airports in Thailand were introduced and sent to London regularly.

2.2.1.2 RODB Brisbane has been developing a new ROBEX database based on Microsoft Access. New METAR and TAF bulletins for Australia have been introduced in order to fulfill the requirements of the FASID Table MET 1A and SUG Annex 1.

2.2.1.3 RODB Nadi has continued to serve PAC area. The meeting was informed that a secondary access to Brisbane via Internet has been established.

2.2.1.4 RODB Singapore presented examples of OPMET bulletins received and pointed out a number of discrepancies in the format of the bulletins, as follows:

a) the use of code words METAR and TAF, and the date/time group in the bulletins varied from centre to centre;
b) TAFs with different validity periods were included in some bulletins; FT data type designator was used for "short" TAFs; the filing time for TAFs was also incorrect in some instances;
c) examples for AIREP bulletins showed that most of them were being received via GTS or ISCS and only a few via AFTN;
d) the code word PIREP appeared in some special air-reports, disseminated in the AIREP bulletins; in this regard, it was pointed out that PIREP was not defined neither by ICAO nor by WMO and, therefore, should not be used.

2.2.1.5 The meeting expressed serious concern regarding the deviations from the standard formats of the OPMET messages and bulletins, as seen from the examples provided by Singapore, and stressed on the need for standardizing all messages and bulletins according to ICAO SARPs and WMO codes. This was particularly important in view of the additional changes to the METAR, SPECI and TAF codes introduced by Amendment 73 of Annex 3. The Secretariat advised that these changes have already been introduced in the draft new edition of the ROBEX Handbook, where examples of the correct format for all OPMET messages and bulletins were provided. The issue was further discussed under the Agenda Item 3.

2.2.1.6 RODB Tokyo informed on the on-going work for adding some domestic airports in Japan to the ROBEX bulletins. Japan had already included short TAFs (9-hr validity) in the OPMET exchange. It was also noted that the procedures for SIGMET for volcanic ash issued by MWO Tokyo have been aligned with the ICAO requirements.

2.2.1.7 Regarding the mirroring of the data between the RODBs, the Secretariat informed that in the new ROBEX tables the AFTN addresses of four RODBs: Bangkok, Brisbane, Singapore and Tokyo, were included in the dissemination lists of all ROBEX bulletins. This will ensure that all ASIA/PAC OPMET data included in the ROBEX exchange will be available in these four RODBs. RODB Nadi was not included in the mirroring at this stage but this could be done in the future if necessary. In order to facilitate this mirroring procedure RODB Brisbane was requested to introduce a single AFTN address for the incoming messages. (**Action item**)

2.3 Inter-Regional exchange

2.3.1 The meeting recalled the agreement by the OPMET/E TF/1 meeting that the inter-regional exchange should be carried out through dedicated gateways, rather than through individual addressing by the ROBEX centres. This procedure was intended to eliminate the current practice of

sending more than one copy of the same bulletin to other regions, which created problems in automatic handling of the OPMET data by the receiving/processing centres.

2.3.2 This procedure has been introduced in the exchange between ASIA/PAC and EUR regions, where RODB Singapore relayed all collected ASIA/PAC OPMET data to London. Similarly, RODB Bangkok provided ASIA/PAC OPMET data to MID Region and Tokyo to NAM Region. By means of dedicated single IROGs the inter-regional exchange has improved, however, it was identified that the procedure has not been fully efficient yet. Some of the ROBEX centres have continued to send their bulletins directly to the other regions, therefore, duplications still existed. The meeting agreed that all ROBEX centres should be advised by the Secretariat on the need to eliminate the AFTN address of other Regions from the distribution lists for their METAR and TAF bulletins. (**Action item**)

2.3.3 Regarding the transmission of ASIA/PAC OPMET data to North America, the meeting recognized that Tokyo, Nadi and Brisbane were sending bulletins to Washington which would lead to repetitions of bulletins. Since the U.S. member of the group was not present, it was decided that the matter of single IROG for NAM region should be further coordinated with Washington. (**Action item**)

2.3.4 It was noted that RODB Brisbane can not provide IROG function for South America because there was no direct AFTN link between Brisbane and Chile and it was not feasible to establish such a link in the future. That is why, the transmission of OPMET data between ASIA/PAC and South America was through the U.S. In view of this it was proposed to amend the ROBEX Handbook by deleting the requirement for IROG between ASIA/PAC and SAM regions.

2.3.5 The observer from IATA presented preliminary results of a monitoring study aimed at identifying the availability of OPMET data from ASIA/PAC region in the EUR Region and on SADIS. The availability in EUR was monitored based on the OPMET data received at the German Weather Service (DWD). The results were grouped in different tables, reflecting the status of the exchanged information against the requirements stated by the ANP (the AOP table), SUG Annex 1 and the IATA requirements. The monitoring results showed a large variety in the availability of the OPMET data. It was noted, in particular, that some ASIA/PAC OPMET data were available in the DWD, but not on SADIS. It was suggested that inadequate AFTN addressing, as well as dissemination of OPMET data through non-ICAO communication circuits, for instance, via the WMO GTS, could have bearing to the observed discrepancies. The meeting was invited to review the results and to pay special attention to missing or irregular OPMET data on SADIS.

2.4 Transition to ATN

2.4.1 The meeting was briefed by the secretariat on the developments related to the transition to ATN Transition in the ASIA/PAC Region. It was recalled that OPMET/E TF/1 meeting recognized the need for continuous liaison with the ATN Transition Task Force and requested information on possible effect of ATN on the current OPMET exchange procedures and data formats. It was explained that the ground/ground element of Aeronautical Telecommunication Network (ATN) in the Asia and Pacific regions is expected to be completed by the end of 2005. The ground/ground application – AMHS, would be gradually employed to replace AFTN switches by States in the region. During the transition period, the conventional messages, exchanged through AFTN, including OPMET messages, would continue be supported by address conversion to AMHS format and vice versa. No changes would be made to the format and contents of text part of AFTN messages carried over by AMHS. Inter-regional exchanges of OPMET bulletins should be carried out via AFTN during the transition period through AMHS/AFTN gateway.

2.4.2 The meeting felt that the transition to ATN should continue to be a focus of the group and liaison with the ATN Transition Task Force should be maintained. It was stressed also that these issues

should become even more important in connection with the planned transition from alphanumeric aeronautical meteorological codes to binary coded BUFR messages. It was mentioned in this regards that, though this transition was to be finalized not earlier than 2015, preparations should start on time. It was decided that some information related to the transition from AFTN to ATN should be included in the ROBEX Handbook to increase the awareness of the ROBEX centres on the on-going developments in the COM field. (**Action item**)

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

a) Draft new version of ROBEX Handbook
b) Regional ICD for OPMET data bank access procedures

3.1 Under this agenda item the meeting reviewed the drafts for the ROBEX Handbook and the ICD document, that had been prepared by the Secretariat. Some changes were proposed for the final drafts, which are to be presented at the CNS/MET SG/8 Meeting in July 2004.

3.2 ROBEX Handbook

3.2.1 The ROBEX Handbook has been fully revised and the draft new version (12th edition) presented a number of changes to cover *inter alia* the items agreed by the OPMET/E TF/1 meeting, as follows:

- aligning the provisions of ROBEX Handbook with the relevant provisions of Annex 3, Annex 10, WMO No.306 and WMO No. 386;
- inclusion of all OPMET data types in the ROBEX exchange;
- modifying the structure of the ROBEX scheme and changing the related terminology (cf. p. 3.4 of OPMET/E TF/1 report);
- improving the format of the ROBEX tables;
- introducing new tables where necessary and deleting the obsolete tables.

3.2.2 The meeting reviewed the draft in detail and proposed some corrections and additions. The Secretariat took note of the changes proposed, which appear in the final draft shown in Appendix … to this report as highlighted/deleted text.

3.2.3 In discussing Chapter 9 of the Handbook, AIREP exchange, the meeting noted that due to the lack of up-to-date information regarding this particular exchange, the chapter has not been changed. It was felt that a survey with the ASIA/PAC and MID States on the AIREP exchange was necessary in order to verify the current procedures, as well as the availability and the usage of the AIREP bulletins. The Secretariat advised that according to Annex 3, the collection and dissemination of the AIREPs was supposed to be done by the MWOs, while in the current version of the ROBEX Handbook this task was assigned to the METAR Collection Centres (MCCs). The meeting agreed that a small sub-group, named AIREP Team, should carry out the survey by means of a questionnaire circulated to all States in the regions. The Secretariat would support the work of the AIREP Team. (**Action item**)

3.2.4 The meeting noted that new ROBEX Tables for “short” TAF (FC TAF with 9 and 12 hour validity), and for SIGMET, were under development based on surveys done by Secretariat. It was expected that these new tables should be finalized on time for inclusion in the draft new ROBEX Handbook. (**Action item**)

3.2.5 The meeting was advised by the Secretariat on the changes to METAR, SPECI and TAF formats as a result of Amendment 73 to Annex 3, which would become applicable on 25 November 2004. In particular, it was noted that each METAR, SPECI and TAF message in a bulletin should start with the code words METAR, SPECI and TAF, respectively; in case of corrected and/or amended messages, the abbreviations COR and AMD should be additional included, e.g., METAR COR, TAF AMD. Since these changes were to be implemented by the end of November this year, they have been incorporated in the draft ROBEX Handbook.

3.2.6 The meeting considered the changes to the codes as a very important issue that needed to be addressed urgently by all ROBEX Centres. It was shown through examples that the current METAR

and TAF bulletins issued by different States deviated considerably from the standard formats. It was stressed that the format of the OPMET messages and bulletins should be standardized by strictly following the ICAO and WMO provisions. In this regard, the meeting formulated the following draft conclusion:

Draft Conclusion 2/2 – Fostering the standardization of OPMET bulletins in the ASIA/PAC region

That, the States in the ASIA/PAC Region be urged to fully implement the new provisions related to the format of the METAR, SPECI and TAF messages specified in the Amendment 73 of the Annex 3, which will become applicable on 25 November 2004.

3.2.7 The meeting noted that the ROBEX Handbook chapters on OPMET exchange management procedures and quality control of OPMET data were still under development. Nevertheless, the meeting considered the draft of the new ROBEX Handbook as a considerable improvement and agreed that it should be published as soon as possible, while the missing new chapters could be added at a later stage. The meeting agreed also that the ROBEX Handbook should be a dynamic document that could be amended quickly when necessary, and should be made available on the ICAO web site and on the OPMET/M TF page on the web site of the Bureau of Meteorology, Australia.

3.2.8 Concern was expressed regarding the time that should be given to the ROBEX centres and RODBs to introduce the changes required by the new ROBEX Handbook including those originating from the Amendment 73 of Annex 3. The meeting was advised by the Secretariat that the applicability date of the Amendment 73 was November 2004; as for the applicability date for the new ROBEX Handbook, it was explained that it should undergo a review by the CNS/MET SG/8 meeting in July, followed by final presentation at the APANPIRG/15 in August 2004. Thus it was feasible that the applicability date for any new provisions should be around 1 January 2005. This should not prevent, however, the introduction of some of the changes included in the ROBEX Handbook on an earlier date by some centres if this would not affect the normal operation of other centres included in the ROBEX scheme.

3.3 ASIA/PACIFIC Regional Interface Control Document for OPMET Data Banks Access Procedures

3.3.1 The meeting reviewed the draft new ASIA/PAC Regional Interface Control Document for OPMET Data Banks Access Procedures (RODB ICD) prepared by the Secretariat. The new concept for the ICD was to have one “general” part describing the common procedures valid for all RODBs, and separate Appendices for each RODB, describing some specific procedures and formats.

3.3.2 It was planned that the ICD should contain in the future another appendix, ASIA/PAC OPMET Data Catalogue, which should contain a comprehensive list of all OPMET data available in all RODBs. This part of the ICD was still to be developed.

3.3.3 The new ICD document included a standardized format for a RODB “Reply” message similar to the one used by the European Data Banks. The RODBs were requested to assess the feasibility of introducing such a message including the necessary software changes and advise the Secretariat accordingly.

3.3.4 The expert from Brisbane RODB presented an alternative form of the ROBEX Tables that could be used as a proper format of the future Catalogue. He presented also information on the development of a ROBEX database by means of the Microsoft Access, that could be used by the RODBs, ROBEX centres, and the Secretariat as a standard tool in the OPMET exchange management. It was

agreed that after completing the database content, this tool, named ASIA/PAC ROBEX Data Base, should be made available on CD-ROM or through a FTP site to all members for testing and evaluation.

3.3.5 The meeting expressed its appreciation to the representative of Brisbane RODB for developing this very useful tool and decided that all RODBs should take part in its further development and evaluation. The results of the evaluation would be reviewed by OPMET/M TF/3 meeting in February 2005.

3.3.6 A proposal was made to combine the ROBEX Handbook and the RODB ICD in one document and thus to avoid duplication of tables and other identical material. The Secretariat explained that while this was a very good idea, it was very important to publish the new versions of the documents as soon as possible, since the older versions were very much outdated. Combining the two documents would require coordination and corresponding changes in some other documents, like the Regional ANP, and this would cause a delay. Therefore, it was agreed that the prepared drafts, amended as necessary to reflect the agreed changes by this meeting, should be processed further and published after the final approval by APANPIRG/15 in August 2004. In this regard, the meeting formulated the following draft conclusion:

Draft Conclusion 2/3 – New edition of the ROBEX Handbook and ICD

That, ICAO is invited to publish the new editions of the ROBEX Handbook and the Interface Control Document (ICD) for interrogating the ASIA/PAC Regional OPMET Data Banks (ICD for ASIA/Pac RODBs), according to the established procedures.

Note: It is recommended that both documents be posted on the ICAO web site.

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Agenda Item 4: Requirements for amendments of the OPMET exchange schemes

4.1 Inclusion of "short" TAF in the ROBEX scheme

4.1.1 The meeting was informed that the seventh meeting of CNS/MET SG held in Bangkok, July 2003, discussed the need for inclusion of the "short" TAFs in the regular ROBEX exchange. The meeting was aware that a number of States in the Region have already been issuing short TAFs with period of validity 9 or 12 hours(FC TAF). It was noted, however, that there was no formal requirement for these forecasts in the Regional ANP and for this reason the short TAFs were not included in the ROBEX exchange. It was also noted that IATA had included the requirement for the short TAFs, issued by ASIA/PAC States, in the SUG Annex 1. Therefore, CNS/MET SG/7 agreed that the ASIA/PAC States should be requested to include the "short" TAF bulletins in the regular ROBEX exchange, and consequently, make them available for uplink to SADIS and ISCS. A draft conclusion on the subject was formulated.

4.1.2 APANPIRG/14 endorsed the conclusion on "short" TAF and, as a follow-up, a letter was circulated to the ASIA/PAC States requesting information on the current situation concerning the issuance and dissemination of short TAF. The Secretariat informed the meeting that 17 replies to the State letter were received. Most of the States that replied had the practice of regular issuance of short TAFs with validity of either 9 or 12 hours. Some of these short TAFs had already been included in the regular exchange but this had not been reflected in the ROBEX Handbook. Out of the 17 States that replied, two States did not issue short TAF (the U.S. and Macao, China) and one State (Cambodia) did not issue any TAF at the moment. There was a general agreement expressed by the States that the short TAFs should be included in the ROBEX exchange. One State (New Zealand) advised that the 9-hour TAFs for its international aerodromes were issued mainly for the purpose of VOLMET, and since there was no requirement from the aviation users for their short TAF, there were no plans to include them in ROBEX.

4.1.3 Based on the results of the study above, the meeting agreed that the Regional ANP should be amended to reflect the requirement for the short TAF and formulated the following draft conclusion:

Draft Conclusion 2/4 – Amendment of the ASIA/PAC Basic ANP and FASID to include enabling provision for "short" TAF (period of validity - 9- or 12-hour)

That, the ASIA/PAC Basic ANP and FASID Table MET 1A be amended as shown in Appendix xx to the Report.

Note: The draft amendment proposal is to be prepared by the Secretariat and coordinated with the MET Section, ICAO Headquarters, so as to be ready for the CNS/MET SG/8 meeting in July 2004.

4.2 Inclusion of SIGMET in the ROBEX scheme

4.2.1 The meeting recalled that OPMET/E TF/1 meeting was of the opinion that the RODBs should handle all types of OPMET information including SIGMET (WS, WC, WV) and advisories (FK and FV). The meeting was advised by the Secretariat that as a follow-up of Recommendation 1/12 b) of the MET Divisional Meeting (2002), a new version of the ASIA/PAC Regional SIGMET Guide was prepared and published. This document provided *inter alia* information on the requirements for the dissemination and exchange of SIGMET. The Guide was sent to all ASIA/PAC States and posted on ICAO web site.

4.2.2 The meeting reviewed the results of a monitoring exercise carried out by the SADIS Gateway in the UK an the availability of SIGMET for SADIS. The monitoring results were presented in a

table that included every SIGMET header received at the SADIS Gateway during a three-month period. It was seen from the table that there existed serious shortfalls of SIGMET messages from ASIA/PAC region for uplink through SADIS. The reason for this could be two-fold: inadequate communication (e.g., AFTN addressing of SIGMET did not include SADIS), or not issuance of SIGMET by the MWOs in the States. It was recalled that, whatever the reason was, lack of SIGMETs from some MWOs in the ASIA/PAC Region has been recognized and included in the list of air navigation deficiencies.

4.2.3 The inclusion of information about SIGMET bulletins issued by the States in the ROBEX documentation should allow for systematic monitoring of their availability and, thus, should lead to resolving the existing deficiencies. Therefore, the group agreed that this task should be given highest priority, and a SIGMET-team should study the matters related to SIGMET and report to OPMET/M TF/3 meeting. (**Action item**)

4.2.4 The meeting noted that provisions for SIGMET have already been included in the draft new ROBEX Handbook. The Secretariat informed the meeting that in December 2003 a letter was sent to all ASIA/PAC States requesting information on SIGMET bulletins issued by their MWOs. So far, only 7 replies have been received. The results from this survey, together with the information received from the participants at this meeting would be used to develop a SIGMET bulletin table for the ROBEX Handbook. This table will use as a reference the FASID Table MET 1B, which lists all MWOs in the ASIA/PAC Region. Similar table should be prepared for the MID Region. (**Action item**)

4.3 Introduction of new WMO data type designator for the bulletins containing special air-reports

4.3.1 The meeting noted that currently the WMO abbreviated heading for the AIREP messages did not make any distinction between routine and special air-reports; the data type designator UA was being used for both. However, the requirements for distribution of the routine (AIREP) and special air-reports (SPECIAL AIREP) were different. That is why, the meeting agreed to propose to CNS/MET SG/8 meeting to review the matter of introducing separate data type designator for special AIREPs (e.g., UB), and eventually, for the particular case of special AIREP for volcanic ash (e.g., UV). Taking into account that this matter should be addressed to WMO, the meeting formulated the following draft conclusion:

Draft Conclusion 2/5 – New data type designators for bulletins containing special air-reports

That, in order to facilitate the exchange of the special air-reports, WMO be invited to designate new data type designators (A_1A_2) for the WMO abbreviated headings of the bulletins containing special air-reports and, in particular, for special air-reports for volcanic ash.

4.4 Additional requirements for OPMET data

4.4.1 The meeting noted that since the OPMET/E TF/1 meeting there were some improvements of the availability of ASIA/PAC OPMET data by including in the exchange additional data required by the SUG Annex 1. New METAR and TAF bulletins were introduced by Australia and Thailand. The experts from Indonesia advised that Indonesia would also introduce new bulletins to include all required AOP aerodromes. The information from Indonesia was appreciated by the meeting.

4.4.2 In reviewing the new ROBEX tables for TAF the meeting noted that currently the FT bulletins from Japan were issued with a lead-time of 9 hours, while it was a requirement by the ASIA/PAC Basic ANP, that the filing time of these forecasts should be “approximately two hours before

the start of the period of validity". The expert from Japan took note of this discrepancy to be further reviewed by Japan with the intention to align the procedure with the requirement for a two-hour lead-time. (**Action item**)

4.4.3 Singapore indicated that METAR and TAF for Paya Lebar airport could be made available after consultation with the ROBEX centre Kuala Lumpur.

4.4.4 The meeting was informed that Papua New Guinea agreed to introduce new OPMET bulletins in order to include in the exchange all aerodromes required by SUG Annex 1. The introduction of the new bulletins would be done in cooperation with Brisbane ROBEX centre.

4.4.5 Australia informed that information for the two international airports in East Timor (not included in the ASIA/PAC AOP1 table) could also be made available by the Brisbane RODB.

4.4.6 The observer from IATA requested that the tables presented by him as a result of a survey of the availability of OPMET data in EUR Region and on SADIS be further reviewed by the RODBs and IROGs in order to introduce corrections to the dissemination procedures, especially for those airports indicated as "sometime available". The meeting agreed that the tables presented by IATA indicated a large number of issues for the ASIA/PAC region and that the tables presented would serve as a basis for identifying the main shortfalls, for which rectifying action should be taken urgently. (**Action item**).

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Agenda Item 5: Development of procedures for monitoring and management of the OPMET information:

a) OPMET exchange monitoring
b) OPMET bulletins update procedure
c) SIGMET tests
d) OPMET data banks quality control procedures

5.1 OPMET exchange monitoring

5.1.1 The meeting recalled that the OPMET/E TF/1 Meeting proposed that OPMET monitoring procedures similar to those used in the EUR Region should be developed. It was agreed that Bangkok RODB should perform the first monitoring trial on the regular METAR and TAF exchange.

5.1.2 RODB Bangkok carried out the first OPMET monitoring on 1st July 2003 for 24 hours. During this period all received METAR and TAF bulletins by Bangkok RODB were filed and analysed in regard to the availability of METAR and TAFs from the aerodromes required by the ROBEX tables. The format of the WMO header and the dissemination time were also monitored. The meeting was presented with tables showing the results of this first trial. The tables allowed for identification of airports with irregular availability of METAR or TAF.

5.1.3 The meeting was informed that Bangkok RODB could not utilise the software developed by UK for OPMET monitoring due to some differences in the presentation format of the OPMET data in the two centres. Therefore, the first trial, as well as the most recent monitoring carried out just before the meeting, involved manual processing of the incoming data. The meeting was informed in this regard that a special OPMET monitoring software was under development in RODB Bangkok and expected to be completed before CNS/MET SG/8 meeting in July 2004.

5.1.4 The meeting expressed appreciation to the Bangkok RODB for carrying out the monitoring trials and agreed that the monitoring procedures for both regular and non-regular OPMET data should continue to be developed by the OPMET/M TF. It was also agreed that all RODBs should implement monitoring as part of the quality control procedures. Brisbane RODB proposed to carry out an off-line monitoring trial using data from all other RODBs. For the purpose of this trial, it was decided that all RODBs should provide taped OPMET data for an agreed period on CD-ROM or through Internet.

5.1.5 It was recognized that one of the main difficulties in developing procedures for OPMET monitoring was in deciding what should be the adequate reference for the requirements against which the OPMET exchange should be monitored. There was a need to consolidate different requirements stated in different documents, like: Regional ANP (Table AOP1 and relevant FASID Tables), ROBEX Handbook, and SUG Annex 1. It was recalled that APANPIRG Conclusion 10/23 called for inclusion of all aerodromes in Table MET 1A (same as AOP1 Table); the current ROBEX tables did not yet cover all these aerodromes, though the situation has been improved since the OPMET/E TF/1 meeting in 2003. Finally, the meeting was advised that SUG Annex 1 should be considered a formal requirement set by the aviation users. Based on this understanding, the meeting agreed that the ROBEX scheme should continue to be developed in the direction to cover all the requirements set by the Regional ANPs and the SUG Annex 1. In view of this, it was agreed that the monitoring exercises and the presentation of the results from them should be done either separately against each of the tables in the main documents (ANP, ROBEX Handbook, SUG Annex 1), or, alternatively, against consolidated tables combining all requirements.

5.1.6 Regarding the additional requirements for the exchange of OPMET information not catered for by the ROBEX scheme, stated in FASID Table MET 2, the meeting was on the opinion that they were very much outdated. It was also recognized that keeping this table up-to-date was a very difficult task since it included information from different regions. The expert from IATA advised the meeting that in the EUR Region the SUG Annex 1 was considered as replacement of FASID Table MET 2. The meeting requested that Secretariat should further clarify the status of FASID Table MET 2 with the view that it could be declared obsolete and replaced by the SUG Annex 1 table as a formal "global" requirement for OPMET data stated by aviation users.

5.2 OPMET Bulletins Update Procedure

5.2.1 No progress has been made on this subject since OPMET/E TF/1 meeting. The Secretariat advised the group that during this period there was only one official request from an airline for additional OPMET data for one airport in India. The meeting was of the opinion that direct implementation of the EUR procedure for bulletin updates might not be efficient for ASIA/PAC Region. It was proposed that a simplified procedure should be used with the ICAO Regional Office acting as the main coordinator of any changes in the ROBEX bulletins.

5.2.2 On agreeing in principle with the development of a simplified procedure, the meeting stressed that whatever procedure was to be utilized, the States and ROBEX centres should be given advanced notice about any changes in the ROBEX bulletins in order to introduce the necessary changes to their data handling systems. In this regard, a lead time period of two months (or two AIRAC cycles, as defined in the EUR procedure) was considered appropriate.

5.3 SIGMET Tests

5.3.1 The meeting noted that with the inclusion of the new SIGMET table in the ROBEX Handbook, it would be possible to start monitoring of the SIGMET issuance and availability. Further development of the necessary procedures, based on those used in EUR Region, would be undertaken by the SIGMET team of the OPMET/M TF (cf. p.4.2.3).

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5.4 OPMET Data Banks Quality Control Procedures

5.4.1 It was recognized that all RODBs have been using some kind of quality control procedures. It was agreed that in the future these procedures should be unified and documented in the ROBEX Handbook. The matter of developing quality control procedures, including suitable performance indicators, would continue to be in the work programme of the task force.

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Agenda Item 6: Future Work Programme

6.1 Based on the discussions on the different agenda items, a list of action items has been adopted by the meeting with corresponding target dates and responsibilities as shown in Appendix J to the report.

6.2 It was expected that during the period between the meetings the group should continue working actively by correspondence. It was agreed that the Rapporteur should present the report of this second meeting of the Task Force at the Eighth Meeting of the CNS/MET Sub-group to be held from 12 to 16 July 2004 in Bangkok.

6.3 The meeting agreed that the third meeting of the group will be held in February 2005, the exact dates to be decided. Tentatively the venue for this third meeting should be ICAO Regional Office, Bangkok.

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Agenda Item 7: Any other business

7.1 The expert from IATA who is also a member of the EUR BMG presented to the meeting a briefing on the recent BMG meeting. The following was the highlight of the discussions by BMG:

- The regular monitoring tests would be perormed in the future at six-month intervals rather than thre-months; the reason being an overall improvement of the OPMET exchange that rendered it possible to have less frequent tests;
- BMG have continued developing performance indicators and they could be found together with the results from the monitoring tests at the FTP sites of the three OPMET databanks in Europe;
- Problem handling procedures have been developed; the users report problems to BMG, who decides what follow up should be undertaken;
- Volcanic ash SIGMETs have been included as a separate item in the monitoring tests;
- BMG expressed some concerns regarding the introduction of BUFR coded OPMET data and its handling by the COM systems.

7.2 A proposal was made that in order to facilitate the communication between the RODBs and the ROBEX centres a system of focal points should be developed. The meeting agreed with this proposal and requested the Rapporteur to draft a letter to all ROBEX centres seeking nomination of focal points. The Secretariat would assist in this matter. (**Action item**)

7.3 The Secretariat was requested to provide as a matter of urgency additional information on the current status of Amendment 73 and the items related to the format of OPMET messages. It was agreed that this information would be provided in two weeks time after the meeting. (**Action item**)

7.4 The representative of Indonesia expressed their wish to become a permanent member of the OPMET/M TF. The meeting agreed that the membership of Indonesia would be very useful for the group and that the CNS/MET SG/8 meeting should be requested to adopt the corresponding amendment of the composition of the TF. (**Action item**)

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TERMS OF REFERENCE OF ASIA/PAC OPMET MANAGEMENT TASK FORCE

ASIA/PAC OPMET MANAGEMENT TASK FORCE (OPMET/M TF)

1. Terms of Reference

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

- Develop monitoring and management procedures related to ~~the~~ ROBEX exchange and other exchanges of OPMET information;

- ~~Keep up to date~~Regularly update the regional guidance material related to OPMET exchange;

- Liaise with ~~similar~~ other groups dealing with communication and/or management aspects of the OPMET exchange in ASIA/PAC and ~~in~~ other ICAO Regions (ASIA/PAC ATN Transition TF, BMG EUR Region, CNS/MET SG MID Region, etc.).

2. Work Programme

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

(a) to examine the existing ~~requirements~~ and any new requirements for ~~the~~ OPMET exchange in ASIA/PAC and MID regions and ~~to~~ 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 ~~based on this review to~~ prepare proposal for updating and optimizing of the schemes;

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

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

(e) to conduct trials and develop procedures for monitoring and management of the OPMET ~~information~~exchange; to foster implementation of quality management of OPMET data by the ROBEX centres and the RODBs~~, based on the procedures used at the OPMET data banks~~;

Note: It is recommended that the EUR OPMET ~~update~~ quality control and management procedure~~s~~ ~~to~~ be reviewed and utilize~~dused as the bases for~~ in ~~development~~ developing~~of~~ similar procedure for the ASIA/PAC and MID Regions.

3. Composition

(a) The Task Force is composed by experts from:

Australia (Rapporteur), China, Fiji, Japan, Singapore, Thailand, United Kingdom and United States; ~~.~~

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

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Revised List of Action Items from OPMET/E TF/1 Meeting, 19 – 21 February 2003

Action Item ID	Paragraph from the Report	Action	Status	Target Date	TF Member(s)
2.1	2.1.6	Consultation with ATN Transition TF on the possible impact on OPMET Data exchange; report to OPMET/E TF/2	***Ongoing***	Permanent task	Secretariat (RO/CNS)
3.1	3.2	Provide the Secretariat with updated information on the AIREP exchange in ASIA/PAC	***Ongoing***	July 2004	AIREP Team
3.2	3.3	Preparation of a draft proposal for the re-composition of the ROBEX scheme based on the current MCC and TCC centres	***Completed***	15 April 2003 to be reported to CNS/MET SG/7 July 2003	Secretariat
3.3	3.4	Introduction of the new terminology to the ROBEX Handbook and other relevant documents	***Completed***	April 2003 to be reported to CNS/MET SG/7 July 2003	Secretariat
3.4	3.5	Coordination of the ROBEX Tables with the ROBEX centres	***Completed***	Tables sent to States before 30 April 2003 Replies from States before 15 June 2003	Secretariat All Members
3.5	3.6 (1)	Australian METAR and TAF bulletins to be rearranged to include all required international aerodromes	***Completed***	March 2004	Australia
3.6	3.6 (2), 4.12	Survey of the availability of METAR and TAF from the Pacific States (based on FASID Table MET 1A and SUG Annex 1	***Ongoing***	July 2004	Fiji Australia United States

Action Item ID	Paragraph from the Report	Action	Status	Target Date	TF Member(s)
3.7	3.9	Harmonization of the format and content of OPMET related Tables in different documents; change of format of FASID Tables MET 4A and 4B	***Ongoing***	July 2004	Secretariat
3.8	3.10	Change of OPMET bulletin structure from multinational to national	***Ongoing***	2005	Secretariat, Rapporteur, ROBEX centres
3.9	3.12 5.4	Preparation of Catalogue of ASIA/PAC OPMET bulletins	***Ongoing***	First draft – January 2005	Australia
3.10	3.14	Deletion of obsolete EUR AFTN addresses from the distribution lists of ROBEX centres	***Ongoing***	December 2004	ROBEX centres, Secretariat
3.11	3.14, 3.15, 3.16	Designation of inter-regional OPMET Gateways as single contact points for other regions	***Completed***	Continuous implementation	Singapore Bangkok Tokyo Secretariat
3.12	3.17	RODB Bangkok to provide back-up to RODB Singapore as IROG for EUR	***Ongoing***	July 2004	Bangkok Singapore Secretariat
3.13	3.19	ASIA/PAC RODBs to handle all OPMET data types	***Completed***	31 May 2003	All RODBs
3.14	3.20	Introduction of mirroring of Databank's content (first phase)	***Ongoing***	31 December 2004	Bangkok Singapore Tokyo
3.15	3.21	Further standardization of access procedure to the ASIA/PAC RODBs	***Ongoing***	Along with action item 5.3	All RODBs Secretariat Rapporteur
3.16	3.23	Study of the possibilities of the RODBs to provide ftp and Internet access to OPMET related information.	***Completed*** ***Ongoing***	31 March – web place for the OPMET/E TF February 2005	Australia Other RODBs

Action Item ID	Paragraph from the Report	Action	Status	Target Date	TF Member(s)
4.1	4.2	Proposal for transforming the Task Force into a "Management Group"	*Completed*	CNS.MET SG/7 Meeting July 2003.	Secretariat
4.1/1	4.2	Preparation of a modified OPMET update procedure for ASIA/PAC based on the EUR procedure	***Ongoing***	July 2004	Secretariat
4.2	4.3	NO messages generated in EUR to be distributed to ASIA/PAC	***Ongoing***	ASAP	Rapporteur of BMG
4.3	4.7	Introduction of the EUR monitoring procedure by RODB Bangkok on a trial basis; provision of relevant software by UK	***Completed***	First 24-hour trial – AIRAC date 2 May 2003	Bangkok UK Secretariat
5.1	5.1	Preparation of the new edition of the ROBEX Handbook	***Completed*** ***On-going***	Submission of the first draft to the ROBEX centres for review, comments and proposals – 30 April 2003 - Responses by the ROBEX centres – 15 June 2003 - Final draft to be presented at the CNS/MET SG/8 Meeting, July 2004	Secretariat ROBEX centres Secretariat
5.2	5.3	Singapore RODB to provide Secreatriat with information on the current availability of EUR OPMET data	***Completed***	30 April	Singapore

Action Item ID	Paragraph from the Report	Action	Status	Target Date	TF Member(s)
5.3	5.4	Preparation of the new edition of the Asia/Pacific Regional ICD for OPMET Data Bank Access Procedures	***Ongoing***	July 2004	Secretariat RODBs
7.1	7.2	Resolving operational problems with OPMET bulletins	***Ongoing***	Permanent Task	Rapporteur Secretariat

List of Action Items agreed by the OPMET/M TF/2 Meeting, 10 – 13 February 2004

Item No.	Field	Description	Action	Status	Target Date	To be done by
1	2	3	4	5	6	7
PART 1. Operational Issues						
2004-1	**1.1 Data Management**	OPMET DATA Shortfalls - ASIA OPMET Shortfalls - PAC Data shortfalls - MID data shortfalls	Prepare list of missing OPMET data by Region and inform States		July 2004	TF members and ROBEX centres
		New Bulletins - Australia - Thailand - Indonesia - Papua New Guinea - East Timor - Others	States planning for new bulletins to inform Secretariat when ready		All new bulls to be introduced not later than 1 Jan 2005	TF members, Secretariat
		Situation with OPMET data from Philippines	Validate with the Philippines and add to deficiency list		ASAP	TF member from HK, China, Secretariat
		Filing time of TAF by Japan	Japan to correct the procedure for filing time for the TAFs in accordance with Annex 3 and ASIA/PAC ANP		To be advised	Japan
		TAFs for Cambodia issued by Vietnam – clarify	Check with Cambodian authorities		May 2004	Secretariat

Item No.	Field	Description	Action	Status	Target Date	To be done by
1	2	3	4	5	6	7
2004-2	**1.2 Procedures**	Inclusion all RODB addresses in distribution lists for all bulletins	1. List to be provided after verification 2. All ROBEX centres informed on RODBs addresses		May 2004	1. Australian member 2. All RODBs, Secretariat
		Deletion of obsolete EUR AFTN addresses (avoid duplication)	1. Letter to ROBEX Centres 2. Checking and removing duplications		May 2004	1. Secretariat 2. RODBs/ ROBEX centres
		Consultation with US on the way to send ASIA/PAC OPMET data to US	Coordination by RODBs concerned		May 2004	RODB Tokyo, Brisbane, Nadi
		How to handle Irregular METARs/TAFs	Require information on the availability of METAR and TAF during the day		July 2004	Secretariat
2004-3	**1.3 Standardize formats**	Use of BBB group	Detailed explanation in ROBEX Handbook		April 2004	Secretariat
		Changes METAR & TAF Amd 73	1. Coordinate with the HQ and inform TF members 2. Conclusion for APANPIRG/15 3. State letter		1. March 2004 2. July 2004 3. August 2004	Secretariat; TF
		SIGMET Headers	Prepare a new ROBEX Table		April 2004	Secretariat
		AFTN Address Brisbane RODB	Provide one address for use by all centres concerned		May 2004	TF member from Australia
		Clarification PIREP – Japan	Remove “PIREP” from SPECIAL AIREP messages		-	TF member from Japan

Item No.	Field	Description	Action	Status	Target Date	To be done by
1	2	3	4	5	6	7
2. Studies necessary for improvement/optimization						
2004-4	**2.1 AIREP**	Study: - current situation with collection/dissemination; - current use of AIREP by Met Offices; - proposals from States for improvement.	1. Prepare a questionnaire and send to all States concerned 2. Prepare proposal for amendment of ROBEX scheme as necessary		July 2004	AIREP Team: Singapore & Australia – chair, assisted by RODBs & ROBEX
2004-5	**2.2 SIGMET and advisories**	- Continue survey on the SIGMET headings; - Survey advisories headings; - Survey dissemination schemes used by MWO	- Finalize SIGMET table for ROBEX - Prepare proposal for optimization of dissemination schemes - Proposal for SIGMET tests		April 2004 Rest of the task – TF/3 meeting	SIGMET Team: Rapporteur – Chair, assisted by all RODBs
3. Regional Guidance documents						
2004-6	**3.1 ROBEX handbook**	Editorial changes proposed at the meeting	All changes agreed to be introduced by Secretariat		May 2004	Secretariat
		Add information on procedures for splitting the long bulletins	Include information in Appendix F		May 2004	Secretariat
		Clarify provision about filing times, obs. times & DTG SPECI	Consult with the HQ		May 2004	Secretariat
		New table short TAF	Prepare table		May 2004	Secretariat
		New table SIGMET	Prepare table		May 2004	Secretariat
		Update MID Region ROBEX tables	Information to be provided by the MID Region		May 2004	Secretariat

Item No.	Field	Description	Action	Status	Target Date	To be done by
1	2	3	4	5	6	7
		Final draft – all ROBEX centres (incl MID)	Send to TF members for coordination; Present at CNS/MET SG/8		June 2004	Secretariat
2004-7	**3.2 ICD**	Update information for RODB Nadi	Nadi RODB to provided updated information		April 2004	Nadi RODB
		Standardize the ICD with a "common" part and appendices	Remove 'common' part from current Appendices – describe differences for RODB's only		May 2004	Secretariat in coordination with RODBs
		Decide standardized 'reply' message	Decide is it necessary, is it possible, software changes required.		May 2004	Secretariat in coordination with RODBs
		Final draft	Send to TF members for coordination; Present at CNS/MET SG/8		July 2004	Secretariat, RODBs
2004-8	**3.3 DB & Catalogue**	Distribute DB from Brisbane to RODBs and ICAO	Finalize DB distribute to RODBs		April 2004	Australia
		- Complete DB OPMET data from ASIA/PAC & MID - Add Available OPMET from other Regions	RODBs to update data		June 2004	RODBs
		Use of DB on trial basis.	- RODBs to trial use of DB - OPMET/M TF/3 to review and prepare proposals for further use		February 2005	RODBs Secretariat

Item No.	Field	Description	Action	Status	Target Date	To be done by
1	2	3	4	5	6	7
4. Quality Management Procedures						
2004-9	**4.1 Monitoring exercises**	Continue monitoring trials against - ROBEX Tables - FASID Tables (ASIA/PAC, MID) - SUG Annex 1	RODBs to perform monitoring exercises as appropriate; RODBs to share data sets and monitoring results	Ongoing	2004	All RODBs
		Present monitoring results at CNS/MET SG/8	Bangkok to prepare a paper for CNS/MET SG/8 showing result of monitoring		July 2004	Bangkok RODB
		Decide performance indices & presentation styles	Paper for TF/3 meeting		End of 2004	RODBs to coordinate and decide
		Exchange operational data sets	Send data on CD or via FTP		May 2004	Brisbane RODB to coordinate
		Standardize monitoring procedures	Exchange information via e-mail and prepare proposal for TF/3 meeting		Late 2004	RODBs; TF members
2004-10	**4.2 ROBEX update procedures**	Revise APANPIRG conclusion regarding the use of EUR OPMET procedure	Revisit the EUR procedure and amend it according to the regional practice		July 2004	Secretariat
2004-11	**4.3 SIGMET monitoring procedures**	Develop procedure for SIGMET monitoring	To be developed base on the SIGMET study by the SIGMET Team			SIGMET Team

Item No.	Field	Description	Action	Status	Target Date	To be done by
1	2	3	4	5	6	7
5. Liaison with other groups						
2004-12	**5.1 Groups**	- ATN/T Task Force - MID CNS/MET SG - MID Bulletin Management Group - BMG - US NWS - Other ICAO Regions	MID pass to Secretariat resolution of meeting Request for Rapporteur to attend meeting Send report Send report Send report	Ongoing		Rapporteur, Secretariat
6. Administrative						
2004-13	**6.1 Improving efficiency of the TF**	Focal point ROBEX centres	Rapporteur to write State letter requesting nomination of focal person		April 2004	Rapporteur, Secretariat
		Use of WEB site - Report TF - Discussion Group	Investigate possibility of discussion email/web group	On-going		Rapporteur
		Reporting CNS/MET SG/8	Report to be prepared and presented		July 2004	Rapporteur
	6.2 Composition of the TF	Include Indonesia as a member of the group	Present proposal to CNS/MET SG/8		July 2004	Secretariat
		Invite India to join the group	Send invitation letter		December 2004	Secretariat

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ROBEX Exchange of METARs and TAFs compared with ASIA/PAC FASID Table

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
AMERICAN SAMOA (United States)						
PAGO PAGO/Pago Pago Intl	RS	NSTU	-	FTPS31 NFFN	-	NADI
AUSTRALIA						
ADELAIDE/Adelaide	RS	YPAD	SAAU31 YBBN	FTAU31 YBBN	-	BRISBANE
ALICE SPRINGS/Alice Springs	AS	YBAS	SAAU31 YBBN	FTAU31 YBBN	-	BRISBANE
BRISBANE/Brisbane	RS	YBBN	SAAU31 YBBN	FTAU31 YBBN	-	BRISBANE
BROOME/Broome	AS	YBRM	SAAU32 YBBN	FTAU33 YBBN	-	BRISBANE
CAIRNS/Cairns	RS	YBCS	SAAU31 YBBN	FTAU33 YBBN	-	BRISBANE
CHRISTMAS I./Christmas I.	RS	YPXM	SAAU31 YBBN	FTAU33 YBBN	-	BRISBANE
COCOS I./Cocos I.	RS	YPCC	SAAU31 YBBN	FTAU32 YBBN	-	BRISBANE
DARWIN/Darwin	RS	YPDN	SAAU31 YBBN	FTAU32 YBBN	-	BRISBANE
DUBBO/Dubbo	AS	YSDU	SAAU32 YBBN	FTAU33 YBBN	-	BRISBANE
HOBART/Hobart	RS	YMHB	SAAU32 YBBN	FTAU33 YBBN	-	BRISBANE
LEARMONTH/Learmonth	AS	YPLM	SAAU31 YBBN	FTAU33 YBBN	-	BRISBANE
MELBOURNE/Melbourne Intl	RS	YMML	SAAU31 YBBN	FTAU31 YBBN	-	BRISBANE
NORFOLK I./Norfolk I.	RS	YSNF	SAAU32 YBBN	FTAU33 YBBN	-	BRISBANE
PERTH/Perth Intl	RS	YPPH	SAAU31 YBBN	FTAU32 YBBN	-	BRISBANE
PORT HEDLAND/Port Hedland	RS	YPPD	SAAU32 YBBN	FTAU32 YBBN	-	BRISBANE
ROCKHAMPTON/Rockhampton	AS	YBRK	SAAU32 YBBN	FTAU33 YBBN	-	BRISBANE
SYDNEY/Kingsford Smith Intl	RS	YSSY	SAAU31 YBBN	FTAU31 YBBN	-	BRISBANE
TINDAL/Tindal	AS	YPTN	SAAU31 YBBN	FTAU32 YBBN	-	BRISBANE
TOWNSVILLE/Townsville	RS	YBTL	SAAU31 YBBN	FTAU32 YBBN	-	BRISBANE
BANGLADESH						
CHITTAGONG/Chittagong	RS	VGEG	SAAE31 VECC	FTBW31 VGEG	-	BANGKOK
DHAKA/Zia Intl	RS	VGZR	SAAE31 VECC	FTAS31 VTBB	-	BANGKOK
BHUTAN						
PARO/Paro	RS	VQPR	-	-	-	
BRUNEI DARUSSALAM						
BANDAR SERI BEGAWAN/ Brunei Intl	RS	WBSB	SAMS31 WMKK	FTSR32 WSSS	-	SINGAPORE

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
CAMBODIA						
PHNOM-PENH/Pochentong	RS	VDPP	SAAS31 VTBB	AS31 VTBB	-	BANGKOK
SIEM-REAP/Angkor	AS	VDSR	SAKP31 VDSR	-	-	BANGKOK
CANADA						
ABBOTSFORD/Abbotsford	AS	CYXX	-	-	-	
CALGARY/Calgary Intl	RS	CYYC	-	-	-	
COMOX/Comox	AS	CYQQ	-	-	-	
EDMONTON/Edmonton Intl	RS	CYEG	-	-	-	
VANCOUVER/Vancouver Intl	RS	CYVR	-	-	-	
VICTORIA/Victoria Intl	RNS	CYYJ	-	-	-	
CHILE						
ISLA DE PASCUA/Mataveri	RS	SCIP	-	-	-	
CHINA						
BEIJING/Capital	RS	ZBAA	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
CHANGSHA/Huanghua	RS	ZGHA	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
CHENGDU/Shuangliu	RS	ZUUU	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
CHONGQING/Jiangbei	RS	ZUCK	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
DALIAN/Zhoushuizi	RS	ZYTL	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
FUZHOU/Changle	RS	ZSFZ	-	-	-	
GAOXIONG/Gaoxiong	RS	RCKH	SAHK31 VHHH	FTHK31 VHHH	-	TOKYO
GUANGZHOU/Baiyun	RS	ZGGG	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
GUILIN/Liangjiang	RS	ZGKL	SACI32 ZBBBB	FTCI32 ZBBBB	-	TOKYO
HANGZHOU/Jianqiao	RS	ZSHC	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
HARBIN/Yanjiagang	RS	ZYHB	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
HEFEI/Luogang	AS	ZSOF	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
HOHHOT/Baita	RS	ZBHH	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
JINAN/Yaoqiang	RS	ZSJN	-	-	-	
KASHI/Kashi	AS	ZWAK	-	-	-	
KUNMING/Wujiaba	RS	ZPPP	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
LANZHOU/Zhongchuan	AS	ZLLL	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
NANJING/Lukou	RS	ZSNJ	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
NANNING/Wuxu	AS	ZGNN	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
QINGDAO/Liuting	RS	ZSQD	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
SANYA/Fenghuang	RS	ZGSA	-	-	-	

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
SHANGHAI/Hongqiao	RS	ZSSS	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
SHANGHAI/Pudong	RS	ZSPD	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
SHENYANG/Taoxian	RS	ZYTX	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
SHENZHEN/Huangtian	RS	ZGSZ	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
TAIBEI/Sungshan	AS	RCSS	SAHK31 VHHH	FTHK31 VHHH	-	TOKYO
TAIBEI/Taibei Intl	RS	RCTP	SAHK31 VHHH	FTHK31 VHHH	-	TOKYO
TAIYUAN/Wusu	AS	ZBYN	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
TIANJIN/Binhai	RS	ZBTJ	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
URUMQI/Diwopu	RS	ZWWW	SACI31 ZBBB	FTCI31 ZBBB	-	TOKYO
WUHAN/Tianhe	RS	ZHHH	SACI41 ZBBB	FTCI41 ZBBB	-	TOKYO
XIAMEN/Gaoqi	RS	ZSAM	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
XI'AN/Xianyang	RS	ZLXY	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
XICHANG/Qingshan	RNS	ZUXC	-	-	-	
Hong Kong, China						
HONG KONG/Hong Kong Intl	RS	VHHH	SAHK31 VHHH	FTHK31 VHHH	-	TOKYO
Macau, China						
MACAU	RS	VMMC	SAHK31 VHHH	FTHK31 VHHH	-	TOKYO
COOK ISLANDS						
AVARUA/Rarotonga Intl	RS	NCRG	-	FTNZ32 NZKL	-	
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA						
PYONGYANG/Sunan	RS	ZKPY	-	-	-	
FIJI						
NADI/Nadi Intl	RS	NFFN	-	FTPS31 NFFN	-	NADI
SUVA/Nausori	RS	NFSU	-	-	-	
FRENCH POLYNESIA						
RANGIROA/Rangiroa	AS	NTTG	-	-	-	
TAHITI/Faaa	RS	NTAA	-	FTNZ32 NZKL	-	
GUAM (United States)						
GUAM I./Agana NAS	RS	PGUM	-	-	-	
GUAM I./Anderson AFB	AS	PGUA	-	-	-	

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
INDIA						
AHMADABAD/Ahmadabad	AS	VAAH	SAIN31 VABB	FTIN31 VABB	-	BANGKOK
AMRITSAR/Amritsar	RS	VIAR	SAIN32 VABB	-	-	BANGKOK
CALCUTTA/Calcutta	RS	VECC	SAAE31 VECC	FTIN31 VABB	-	BANGKOK
CALICUT/Calicut	RS	VOCL	-	FTIN31 VABB	-	BANGKOK
CHENNAI/Chennai	RS	VOMM	SAIN31 VABB	FTIN32 VABB	-	BANGKOK
DELHI/Indira Gandhi Intl	RS	VIDP	SAIN32 VABB	FTIN31 VABB	-	BANGKOK
MUMBAI/Jawaharlal Nehru Intl	RS	VABB	SAIN31 VABB	FTIN31 VABB	-	BANGKOK
NAGPUR/Nagpur	AS	VANP	SAIN31 VABB	FTIN31 VABB	-	BANGKOK
PATNA/Patna	RS	VEPT	SAAE31 VABB	-	-	BANGKOK
TIRUCHCHIRAPPALLI/ Tiruchchirappalli	RS	VOTR	SAIN31 VABB	-	-	BANGKOK
TRIVANDRUM/Trivandrum	RS	VOTV	SAIN31 VABB	FTIN32 VABB	-	BANGKOK
VARANASI/Varanasi	RS	VIBN	SAIN32 VABB	-	-	BANGKOK
INDONESIA						
AMBON/Pattimura	RNS	WAPP	-	-	-	
BALIKPAPAN/Sepinggan	RS	WRLL	-	-	-	
BANJARMASIN/Syamsuddin Noor	AS	WRBB	-	-	-	
BATAM/Hang Nadim	AS	WIKB	-	-	-	
BIAK/Frans Kaisieppo	RS	WABB	SAID31 WIII	-	-	SINGAPORE
DENPASAR/Ngurah Rai (Bali Intl)	RS	WRRR	SAID31 WIII	FTSR31 WSSS	-	SINGAPORE
JAKARTA/Halim Perdanakusuma	RS	WIIH	SAID31 WIII	FTSR31 WSSS	-	SINGAPORE
JAKARTA/Soekarno Hatta Intl	RS	WIII	SAID31 WIII	FTSR31 WSSS	-	SINGAPORE
JAYAPURA/Sentani	RS	WAJJ	-	-	-	
KUPANG/Eltari	RS	WRKK	-	-	-	
MANADO/Sam Ratulangi	RS	WAMM	-	-	-	
MEDAN/Polonia	RS	WIMM	SAID31 WIII	FTSR32 WSSS	-	SINGAPORE
MERAUKE/Mopah	RNS	WAKK	-	-	-	
PADANG/Tabing	RS	WIMG	-	-	-	
PALEMBANG/Sultan Mahmud Badaruddin II	RNS	WIPP	-	-	-	
PEKANBARU/Simpang Tiga	RS	WIBB	-	-	-	
PONTIANAK/Supadio	RS	WIOO	-	-	-	
SURABAYA/Juanda	RS	WRSJ	SAID31 WIII	FTSR31 WSSS	-	SINGAPORE
TANJUNG PINANG/Kijang	RS	WIKN	-	-	-	
TARAKAN/Tarakan	RS	WRLR	-	-	-	
TIMIKA/Tembagapura	RNS	WABP	-	-	-	

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
UJUNG PANDANG/Hasanuddin	RNS	WAAA	SAID31 WIII	-	-	SINGAPORE
JAPAN						
FUKUOKA/Fukuoka	RS	RJFF	SAFE32 RJTD	FTJP32 RJTD	FCJP32 RJTD	TOKYO
HAKODATE/Hakodate	AS	RJCH	SAFE32 RJTD	FTJP31 RJTD	FCJP31 RJTD	TOKYO
HIROSHIMA/Hiroshima	RS	RJOA	-	FTJP32 RJTD	FCJP32 RJTD	TOKYO
KAGOSHIMA/Kagoshima	RS	RJFK	SAFE32 RJTD	FTJP32 RJTD	FCJP32 RJTD	TOKYO
KUMAMOTO/Kumamoto	RS	RJFT	-	FTJP32 RJTD	FCJP32 RJTD	TOKYO
NAGASAKI/Nagasaki	RS	RJFU	SAFE32 RJTD	FTJP32 RJTD	FCJP32 RJTD	TOKYO
NAGOYA/Nagoya	RS	RJNN	SAFE31 RJTD	FTJP32 RJTD	FCJP32 RJTD	TOKYO
NAHA/Naha	RS	ROAH	SAFE31 RJTD	FTJP31 RJTD	FCJP31 RJTD	TOKYO
NIIGATA/Niigata	RS	RJSN	-	FTJP32 RJTD	FCJP32 RJTD	TOKYO
OITA/Oita	RS	RJFO	-	FTJP32 RJTD	FCJP32 RJTD	TOKYO
OKAYAMA/Okayama	RS	RJOB	-	FTJP32 RJTD	FCJP32 RJTD	TOKYO
OSAKA/Kansai Intl	RS	RJBB	SAFE31 RJTD	FTJP31 RJTD	FCJP31 RJTD	TOKYO
OSAKA/Osaka Intl	RS	RJOO	SAFE31 RJTD	FTJP31 RJTD	FCJP31 RJTD	TOKYO
SAPPORO/New Chitose	RS	RJCC	SAFE32 RJTD	FTJP32 RJTD	FCJP32 RJTD	TOKYO
SENDAI/Sendai	RNS	RJSS	-	FTJP31 RJTD	FCJP31 RJTD	TOKYO
TAKAMATSU/Takamatsu	RS	RJOT	-	FTJP31 RJTD	FCJP31 RJTD	TOKYO
TOKYO/New Tokyo Intl	RS	RJAA	SAFE31 RJTD	FTJP31 RJTD	FCJP31 RJTD	TOKYO
TOKYO/Tokyo Intl	AS	RJTT	SAFE31 RJTD	FTJP31 RJTD	FCJP31 RJTD	TOKYO
JOHNSTON I. (United States)						
JOHNSTON I./Johnston Atoll	RS	PJON	-	-	-	
KIRIBATI						
KIRITIMATI/Christmas I.	RS	PLCH	-	-	-	
TARAWA/Bonriki Intl	RS	NGTA	-	-	-	
LAO PEOPLE'S DEMOCRATIC REPUBLIC						
VIENTIANE/Wattay	RS	VLVT	SAAS31 VTBB	FTAS31 VTBB	-	BANGKOK
MALAYSIA						
JOHOR BAHRU/Sultan Ismail	RS	WMKJ	-	FTSR31 WSSS	-	SINGAPORE
KOTA KINABALU/Kota Kinabalu Intl	RS	WBKK	SAMS31 WMKK	FTSR32 WSSS	-	SINGAPORE
KUALA LUMPUR/Kuala Lumpur Intl	RS	WMKK	SAMS31 WMKK	FTSR31 WSSS	-	SINGAPORE

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
KUANTAN/Kuantan	RS	WMKD	-	FTSR31 WSSS	-	SINGAPORE
KUCHING/Kuching	RS	WBGG	SAMS31 WMKK	FTSR32 WSSS	-	SINGAPORE
MALACCA/Malacca	RS	WMKM	-	-	-	
PENANG/Bayan Lepas	RS	WMKP	SAMS31 WMKK	FTSR31 WSSS	-	SINGAPORE
PULAU LANGKAWI/Pulau Langkawi	RS	WMKL	-	-	-	
TAWAU/Tawau	RS	WBKW	-	-	-	
MALDIVES						
GAN/Gan	AS	VRGN	-	-	-	
MALE/Hulule	RS	VRMM	SASB31 VCCC	-	-	BANGKOK
MARSHALL ISLANDS						
MAJURO ATOLL/Marshall I. Intl	RS	PKMJ	-	-	-	
MICRONESIA, FEDERATED STATES OF						
MOEN/Truk Intl	RS	PTKK	-	-	-	
PONAPE I./Ponape	RS	PTPN	-	-	-	
YAP I./Yap Intl	RS	PTYA	-	-	-	
MONGOLIA						
ULAN BATOR/Ulan Bator	RS	ZMUB	SACI32 ZBBB	FTCI32 ZBBB	-	TOKYO
MYANMAR						
YANGON/Yangon Intl	RS	VYYY	SAAS31 VTBB	FTAS31 VTBB	-	BANGKOK
NAURU						
NAURU I./Nauru	RS	ANAU	-	-	-	
NEPAL						
KATHMANDU/Tribhuvan Intl	RS	VNKT	SAAE31 VECC	FTIN32 VABB	-	BANGKOK
NEW CALEDONIA (France)						
NOUMEA/La Tontouta	RS	NWWW	-	FTPS31 NFFN	-	NADI
NEW ZEALAND						
AUCKLAND/Auckland Intl	RS	NZAA	SANZ31 NZKL	FTNZ31 NZKL	-	BRISBANE

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
CHRISTCHURCH/Christchurch Intl	RS	NZCH	SANZ31 NZKL	FTNZ31 NZKL	-	BRISBANE
WELLINGTON/Wellington Intl	RS	NZWN	SANZ31 NZKL	FTNZ31 NZKL	-	BRISBANE
NIUE (New Zealand)						
ALOFI/Niue Intl	RS	NIUE	-	-	-	
NORTHERN MARIANA ISLANDS (United States)						
ROTA/Rota Intl	RS	PGRO	-	-	-	
SAIPAN I. (OBYAN)/Saipan I. (Obyan) Intl	RS	PGSN	-	-	-	
PAKISTAN						
GWADAR/Gwadar	RS	OPGD	-	FTPK31 OPKC	-	BANGKOK
ISLAMABAD/Chaklala	RS	OPRN	SAPK31 OPKC	FTPK31 OPKC	-	BANGKOK
KARACHI/Quaid-E-Azam Intl	RS	OPKC	SAPK31 OPKC	FTPK31 OPKC	-	BANGKOK
LAHORE/Lahore	RS	OPLA	SAPK31 OPKC	FTPK31 OPKC	-	BANGKOK
NAWABSHAH/Nawabshah	AS	OPNH	SAPK31 OPKC	FTPK31 OPKC	-	BANGKOK
PESHAWAR/Peshawar	RS	OPPS	-	FTPK31 OPKC	-	BANGKOK
PALAU						
KOROR/Koror	RS	PTRO	-	-	-	
PAPUA NEW GUINEA						
KIETA/Kieta	RS	AYKT	-	-	-	
PORT MORESBY/Jacksons	RS	AYPY	SAPW31 AYPY	FTAU32 YBBN	-	
VANIMO/Vanimo	RS	AY--				
PHILIPPINES						
DAVAO/Francisco Bangoy Intl	RNS	RPWD	-	-	-	
LAOAG/Laoag Intl	AS	RPML	-	-	-	
LAPU-LAPU/Mactan Intl	RS	RPMT	-	-	-	
MANILA/Nimoy Aquino Intl	RS	RPMM	-	-	-	
OLONGAPO/Cubi Intl	RNS	RPMB	-	-	-	
ZAMBOANGA/Zamboanga Intl	AS	RPMZ	-	FTHK31 VHHH	-	TOKYO

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
REPUBLIC OF KOREA						
~~PUSAN/Kimhae Intl~~ BUSAN/Gimhae Intl	RS	RKPK	SAKO31 RKSI	FTKO31 RKSI	-	TOKYO
~~CHONGJU/Chongju Intl~~ CHEONGJU/Cheongju Intl	RS	RKTU	SAKO31 RKSI	FTKO31 RKSI	-	TOKYO
INCHEON/Incheon Intl	RS	RKSI	SAKO31 RKSI	FTKO31 RKSI	-	TOKYO
~~CHEJU/Cheju Intl~~ JEJU/Jeju Intl	RS	RKPC	SAKO31 RKSI	FTKO31 RKSI	-	TOKYO
SEOUL/~~Kimpo Intl~~ Gimpo Intl	~~RS~~ AS	RKSS	SAKO31 RKSI	FTKO31 RKSI	-	TOKYO
YANGYANG/Yangyang Intl	RS	RKNY	SAKO31 RKSI	FTKO31 RKSI	-	TOKYO
SAMOA						
APIA/Faleolo Intl	RS	NSAP	-	-	-	
SINGAPORE						
SINGAPORE/Changi	AS	WSSS	SAMS31 WMKK	FTSR31 WSSS	-	SINGAPORE
SINGAPORE/Paya Lebar	AS	WSAP	SAMS31 WMKK	FTSR31 WSSS	-	SINGAPORE
SINGAPORE/Seletar	RS	WSSL	-	-	-	
SOLOMON ISLANDS						
HONIARA/Henderson	RS	AGGH	-	-	-	
SRI LANKA						
COLOMBO/Katunayake	RS	VCBI	SASB31 VCCC	FTIN32 VABB	-	BANGKOK
MINNERIYA/Hingurakgoda (1997)	AS	VCCH	-	-	-	
THAILAND						
BANGKOK/Bangkok Intl	RS	VTBD	SAAS31 VTBB	FTAS31 VTBB	FCAS31 VTBB	BANGKOK
CHIANG MAI/Chiang Mai Intl	RS	VTCC	SAAS31 VTBB	FTAS32 VTBB	FCAS31 VTBB	BANGKOK
CHIANG RAI/Chiang Rai Intl	RS	VTCR	-	-	-	
KHON KAEN/Khon Kaen		VTUK	SATH33 VTBB	FTTH33 VTBB	-	BANGKOK
PHITSANULOK	RS	VTPP	SATH31 VTBB	FTTH31 VTBB	-	BANGKOK
PHUKET/Phuket Intl	RS	VTSP	SAAS31 VTBB	FTAS32 VTBB	-	BANGKOK
RAYONG/Utapao	RS	VTBU	SAAS31 VTBB	FTAS32 VTBB	-	BANGKOK
SONGKHLA/Hat Yai Intl	RS	VTSS	SAAS31 VTBB	FTAS32 VTBB	-	BANGKOK
SURAT THANI/Surat Thani	RS	VTSB	SATH32 VTBB	FTTH32 VTBB	-	BANGKOK
UBON RATCHATHANI	RS	VTUU	SATH33 VTBB	FTTH33 VTBB	-	BANGKOK

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
TONGA						
TONGATAPU/Fua'amotu Intl	RS	NFTF	-	-	-	
VAVA'U/Vava'u	RS	NFTV	-	-	-	
TUVALU						
FUNAFUTI/Funafuti Intl	RS	NGFU	-	-	-	
UNITED STATES						
ANCHORAGE/Anchorage Intl	RS	PANC	-	-	-	
ANCHORAGE/Elmendorf AFB	AS	PAED	-	-	-	
COLD BAY/Cold Bay	AS	PACD	-	-	-	
EVERETT/Snohomish County	AS	KPAE	-	-	-	
FAIRBANKS/Eielson AFB	AS	PAEI	-	-	-	
FAIRBANKS/Fairbanks Intl	RS	PAFA	-	-	-	
FRESNO/Fresno Air Terminal	AS	KFAT	-	-	-	
HILO/General Lyman Field	AS	PHTO	-	-	-	
HONOLULU/Barbers Points NAS	AS	PHNA	-	-	-	
HONOLULU/Honolulu Intl	RS	PHNL	-	-	-	
KAHULUI/Kahului	AS	PHOG	-	-	-	
KING SALMON/King Salmon	AS	PAKN	-	-	-	
LOS ANGELES/Los Angeles Intl	RS	KLAX	-	-	-	
OAKLAND/Metropolitan Oakland	AS	KOAK	-	-	-	
ONTARIO/Ontario Intl	AS	KONT	-	-	-	
PALMDALE/Palmdale P.F.T.I.	AS	KPMD	-	-	-	
PORTLAND/Portland Intl	AS	KPDX	-	-	-	
SACRAMENTO/Metropolitan	AS	KSMF	-	-	-	
SAN DIEGO/Lindbergh Field	AS	KSAN	-	-	-	
SAN FRANCISCO/San Francisco	RS	KSFO	-	-	-	
SAN JOSE/San Jose Intl	RS	KSJC	-	-	-	
SEATTLE BOEING FIELD/King County Intl	AS	KBFI	-	-	-	
SEATTLE/Seattle-Tacoma Intl	RS	KSEA	-	-	-	
SPOKANE/Spokane Intl	AS	KGEG	-	-	-	
STOCKTON/Metropolitan	AS	KSCK	-	-	-	
WASHINGTON/Dulles Intl	RS	KIAD	-	-	-	

Name Of the aerodrome	Use	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin	RODB
1	2	3	4	5	6	7
VANUATU						
PORT-VILA/Bauerfield	RS	NVVV	-	-	-	
SANTO/Pekoa	RS	NVSS	-	-	-	
VIET NAM						
DANANG/Danang	AS	VVDN	SAAS31 VTBB	FTAS32 VTBB	-	BANGKOK
HANOI/Noibai	RS	VVNB	SAAS31 VTBB	FTAS32 VTBB	-	BANGKOK
HO-CHI-MINH/Tan-Son-Nhut	RS	VVTS	SAAS31 VTBB	FTAS31 VTBB	-	BANGKOK
WALLIS ISLANDS (France)						
WALLIS/Hififo	RS	NLWW	-	-	-	

Explanation of The Table

Column

1 Name of the aerodrome or location where meteorological service is required in the ASIA/PAC FASID Table

2 Designation of aerodrome:

RS -- international scheduled air transport, regular use

RNS -- international non-scheduled air transport, regular use

RG -- international general aviation, regular use

AS -- international scheduled air transport, alternate use

3 ICAO location indicator of the aerodrome (Col.1)

4 Name of the monitored METAR (SA) bulletin which the ICAO location indicators (Col.3) contain

5 Name of the monitored TAF (FT) bulletin which the ICAO location indicators (Col.3) contain

6 Name of the monitored TAF (FC) bulletin which the ICAO location indicators (Col.3) contain

7 Name of Regional OPMET Data Bank (RODB) responsible for the provision of the ROBEX SA bulletin (Col.4) and ROBEX FT bulletin (Col.5)

Additional ROBEX Exchange of METARs and TAFs
(All the aerodromes are not listed in ASIA/PAC FASID Table)

Name Of the aerodrome	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin
1	2	3	4	5
Egypt-Luxor	HELX	**AF32 OEJD**	-	-
Sudan-Khartoum (Civil aviation dept)	HSSS	AF32 OEJD	-	-
Cairo	HECA	AF32 OEJD	-	-
Myanmar-Mandalay	VYMD	AS31 VTBB	-	-
Kununurra	YPKU	AU31 YBBN	AU32 YBBN	-
Canberra	YSCB	AU32 YBBN	AU32 YBBN	-
Coolangatta	YBCG	AU32 YBBN	AU32 YBBN	-
Avalon	YMAV	AU32 YBBN	AU32 YBBN	-
Kalgoorue	YPKG	AU32 YBBN	AU32 YBBN	-
Richmond	YSRI	AU32 YBBN	AU33 YBBN	-
Williamtown	YWLM	AU32 YBBN	AU33 YBBN	-
Launceston	YMLT	AU32 YBBN	AU33 YBBN	-
Pearce	YPEA	AU32 YBBN	AU32 YBBN	-
Curtin	YCIN	AU32 YBBN	AU33 YBBN	-
Forrest	YFRT	AU32 YBBN	AU33 YBBN	-
Gove	YPGV	AU32 YBBN	AU33 YBBN	-
Amberley	YAMB	AU32 YBBN	AU32 YBBN	-
Hamilton Island	YBHM	AU32 YBBN	AU33 YBBN	-
Mountisa	YBMA	AU32 YBBN	AU33 YBBN	-
Bahrain	OBBI	BN31 OBBI	BN31 OBBI	-
Saudi arabia-Dammam	OEDF	SD31 OEJD	SD31 OEJD	-
Dharan	OEDR	BN31 OBBI	SD31 OEJD	-
Qatar-DOHA	OTBD	BN31 OBBI	BN31 OBBI	-
Kuwait	OKBK	BN31 OBBI	BN31 OBBI	-
Jeddah	OEJN	SD31 OEJD	SD31 OEJD	-
Madinah	OEMA	SD31 OEJD	SD31 OEJD	-
Riyadh	OERY	SD31 OEJD	-	-
Yemen-Sanaa	OYSN	SD31 OEJD	SD31 OEJD	-
Riyadh	OERK	SD31 OEJD	SD31 OEJD	-
Bahrain	OBBI	BN31 OBBI	BN31 OBBI	-
United Arab Emirates Abu Dhabi	OMAA	BN32 OBBI	BN32 OBBI	-
Sharjah	OMSJ	BN32 OBBI	BN32 OBBI	-
Oman-Muscat	OOMS	BN32 OBBI	BN32 OBBI	-
Rasal	OMRK	BN32 OBBI	BN32 OBBI	-
Fujairah	OMFJ	BN32 OBBI	BN32 OBBI	-
Alain	OMAL	BN32 OBBI	BN32 OBBI	-
Dubai	OMDB	BN32 OBBI	BN32 OBBI	-
Salalah	OOSA		BN32 OBBI	-
China- Shijiazhuang	ZBSJ	CI31 ZBBB	CI31 ZBBB	-
Shantou	ZGOW	CI32 ZBBB	CI32 ZBBB	-
Kashi	ZWSH	CI41 ZBBB	CI41 ZBBB	-

Name Of the aerodrome	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin
1	2	3	4	5
Ninbo	ZSNB	CI41 ZBBB	-	-
Nanchang	ZSCN	CI41 ZBBB	-	-
Xinzhu	ZSWY	CI41 ZBBB	-	-
Guilin	ZGKL	CI32 ZBBB	CI32 ZBBB	-
Wenzhou	ZSWZ	CI41 ZBBB	-	-
Haikou	ZJHK	CI41 ZBBB	CI41 ZBBB	-
Tunxi	ZSTX	CI41 ZBBB	-	-
Sanya	ZJSY	CI41 ZBBB	CI41 ZBBB	-
Changchun	ZYCC	CI41 ZBBB	CI41 ZBBB	-
Cyprus-Larnak	LCLK	-	CY31 LCLK	-
Pafo/Intl	LCPH	-	CY31 LCLK	-
Germany-Berlin/Schonefeld	EDDB	-	DL32 EDZO	-
Dresden	EDDC	-	DL32 EDZO	-
Erfurt	EDDE	-	DL32 EDZO	-
Munster/Osnabruck	EDDG	-	DL32 EDZO	-
Berlin-Tempelhof	EDDI	-	DL32 EDZO	-
Leipzig/Halle	EDDP	-	DL32 EDZO	-
Saarbrucken	EDDR	-	DL32 EDZO	-
Bremen	EDDW	-	DL32 EDZO	-
Philippines-Manila/Nnoy Aquino Intl	RPLL	HK31 VHHH	HK31 VHHH	-
Lapulapu/Mactan,Cebu	RPVM	HK31 VHHH	HK31 VHHH	-
Davao/Francisco Bangoy Intl	RPMD	HK31 VHHH	HK31 VHHH	-
Subic Bay, Subic Bay Intl	RPLB	HK31 VHHH	HK31 VHHH	-
India-Hyderabad	VOHY	IN31 VABB	-	-
Jaipur	VIJP	IN32 VIDP	IN31 VABB	-
Lucknow	VILK	IN32 VIDP	IN31 VABB	-
Iran-Tehran/Mehrabad Intl	OIII	IR31 OIII	IR31 OIII	-
Zahedan Intl	OIZH	IR31 OIII	IR31 OIII	-
Mashhad/Shahid Hasheminejad Intl	OIMM	IR31 OIII	IR31 OIII	-
Esfahan/Shahid Beneshti Intl	OIFM	IR31 OIII	IR31 OIII	-
Shiraz/Shahid Dastghaib Intl	OISS	IR31 OIII	IR31 OIII	-
Bandar Abbass Intl	OIKB	IR31 OIII	IR31 OIII	-
Ahwaz	OIAW	IR31 OIII	IR31 OIII	-
Kerman	OIKK	IR31 OIII	IR31 OIII	-
Tabriz Intl	OITT	IR31 OIII	IR31 OIII	-
Afghanistan-Kandahar	OAKN	-	PK31 OPKC	-
Kabulad	OAKB	-	PK31 OPKC	-
Bandar Abbass Intl	OIKB	IR31 OIII	IR31 OIII	-
Daegu	RKTN	KO31 RKSI	KO31 RKSI	-
Cambodia-Siem Riap	VDSR	KP31 VDSR	-	-
Lebanon-Beirut/Beirut Intl	OLBA	ME31 OLBA	ME31 OLBA	-
Syrian Arab Republic-damascus	OSDI	ME31 OLBA	ME31 OLBA	-
Jordan-Amman	OJAM	ME31 OLBA	ME31 OLBA	-
Amman	OJAI	ME31 OLBA	ME31 OLBA	-
Aleppo	OSAP	ME31 OLBA	ME31 OLBA	-

Name Of the aerodrome	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin
1	2	3	4	5
Bassel Al Assad	OSLK	ME31 OLBA	-	-
Aqaba	OJAQ	ME31 OLBA	ME31 OLBA	-
Malaysia-Subang	WMSA	-	-	-
Sandakan	WBKS	-	-	-
Netherlands-Denhelder	EHKD	-	-	-
Enshede	EHTW	-	-	-
Newzealand-Ohakea(mil)	NZOH	-	-	-
Austria-Wien-Schwechat	LOWW	-	OS31 LOWN	-
Linz	LOWL	-	OS31 LOWN	-
Salzburg	LOWS	-	OS31 LOWN	-
Innsbruck	LOWI	-	OS31 LOWN	-
Graz	LOWG	-	OS31 LOWN	-
Klagenfurt	LOWK	-	OS31 LOWN	-
Saudi Arabia-Jedda	OEJN	SD31 OEJD	SD31 OEJD	-
Madinah	OEMA	SD31 OEJD	SD31 OEJD	-
Riyadh/King Khaled Intl	OERK	SD31 OEJD	SD31 OEJD	-
Riyadh	OERY	SD31 OEJD	-	-
Dhahran	OEDR	SD31 OEJD BN31 OBBI	SD31 OEJD BN31 OBBI	-
Yemen-Sanaa	OYSN	SD31 OEJD	SD31 OEJD	-
Saudi Arabia-Dammam	OEDF	SD31 OEJD BN31 OBBI	SD31 OEJD BN31 OBBI	-
Yemen-Aden	OYAA	SD31 OEJD	SD31 OEJD	-
Dammam	OEDF	SD31 OEJD BN31 OBBI	SD31 OEJD BN31 OBBI	-
Dhahran	OEDR	SD31 OEJD BN31 OBBI	SD31 OEJD BN31 OBBI	-
Jeddah	OEJN	SD31 OEJD	SD31 OEJD	-
Madinah	OEMA	SD31 OEJD	SD31 OEJD	-
Riyadh	OERK	SD31 OEJD	SD31 OEJD	-
Riyadh	OERY	SD31 OEJD	-	-
Switzerland-Zurich Flughaffn	LSZH	-	SW31 LSSW	-
Geneve	LSGG	-	SW31 LSSW	-
Chiang Rai	VTCT	TH31 VTBB	FT31 VTBB	-
Nan	VTCN	TH31 VTBB	-	-
Phrae	VTCP	TH31 VTBB	-	-
Mae Hong Son	VTCH	TH31 VTBB	-	-
Hua Hin	VTPH	TH31 VTBB	-	-
Tak-Mae Sot	VTPM	TH31 VTBB	-	-
Sukhothai	VTPO	TH31 VTBB	-	-
Lampang	VTCL	TH31 VTBB	-	-
Phetchabun	VTPB	TH31 VTBB	-	-
Tak	VTPT	TH31 VTBB	-	-
Samui	VTSM	TH32 VTBB	TH32 VTBB	-
Nakhon Si Thamarat	VTSF	TH32 VTBB	TH32 VTBB	-

Name Of the aerodrome	ICAO Loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	ROBEX FC bulletin
1	2	3	4	5
Narathiwat	VTSC	TH32 VTBB	TH32 VTBB	-
Pattani	VTSK	TH32 VTBB	TH32 VTBB	-
Trang	VTST	TH32 VTBB	TH32 VTBB	-
Ranong	VTSR	TH32 VTBB	-	-
Krabi	VTSG	TH32 VTBB	TH32 VTBB	-
Chumphon	VTSE	TH32 VTBB	TH32 VTBB	-
Trat/Khao Saming	VTBO	TH33 VTBB	-	-
Sakon Nakhon/Ban Khai	VTUI	TH33 VTBB	TH33 VTBB	-
Loei	VTUL	TH33 VTBB	TH33 VTBB	-
Buri Ram	VTUO	TH33 VTBB	TH33 VTBB	-
Nakhon Phanom	VTUW	TH33 VTBB	TH33 VTBB	-
Nakhon ratchasima	VTUQ	TH33 VTBB	TH33 VTBB	-
Roi Et	VTUV	TH33 VTBB	TH33 VTBB	-
Surin	VTUJ	TH33 VTBB	TH33 VTBB	-
Udon Thani	VTUD	TH33 VTBB	TH33 VTBB	-
Izmir	LTBJ	-	TU31 LTAA	-
Bursa/Yenisehir	LTBR	-	TU31 LTAA	-
Mugla	LTBS	-	TU31 LTAA	-
Tekird	LTBU	-	TU31 LTAA	-
Trabzon	LTCG	-	TU31 LTAA	-
Isparta	LTFC	-	TU31 LTAA	-
Milas	LTFE	-	TU31 LTAA	-
Nevsehir	LTAZ	-	TU31 LTAA	-
Istanbul/Sabiha Gokcen	LTFJ	-	TU31 LTAA	-
Samsun/Carsamba	LTFH	-	TU31 LTAA	-
Manchester	EGCC	-	UK31 EGGY	-
London Gatwick	EGKK	-	UK31 EGGY	-
Glasgow	EGPF	-	UK31 EGGY	-
Glassglow Prestwick	EGPK	-	UK31 EGGY	-
London Stansted	EGSS	-	UK31 EGGY	-

Explanation of The Table

Column

1 Name of the aerodrome or location, which is not listed in ASIA/PAC FASID Table

2 ICAO location indicator of the aerodrome (Col.1)

3 Name of the monitored METAR (SA) bulletin which the ICAO location indicators (Col.2) contain

4 Name of the monitored TAF (FT) bulletin which the ICAO location indicators (Col.2) contain

5 Name of the monitored TAF (FC) bulletin which the ICAO location indicators (Col.2) contain

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INTERNATIONAL CIVIL AVIATION ORGANIZATION

DRAFT

ROBEX HANDBOOK

Twelfth Edition — 2004

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TABLE OF CONTENTS

APPENDICES

1. INTRODUCTION

1.1 The Regional Operational Meteorological (OPMET) Bulletin Exchange (ROBEX) scheme was established by the MID/SEA COM/MET Regional Planning Group at its first meeting, July 1972, Bangkok. The scheme became operational in 1974 and has since been successfully serving the ASIA/PAC and MID ICAO Regions in the exchange of the required OPMET information.

1.2 ROBEX scheme was intended initially only for METAR exchange; AIREP and TAF exchanges were added to the scheme at a later stage. The operation of the ROBEX scheme included exchange of OPMET bulletins between the originating tributary offices (TO) and the bulletin compiling centres, which, according to their functions and responsibilities, were classified as Main Collection Centres (MCC) or Sub-collection Centres (SCC), or TAF Collection Centres (TCC). The operational exchange has been carried out according to agreed transmission schedules; the bulletin contents were specified in the ROBEX Handbook.

1.3 Based on COM facilities of very limited capacity in the early seventies, the ROBEX scheme was strictly planned to accommodate only those OPMET exchanges considered vital for the flight operations. Over the years, the COM facilities have been improving considerably and the ROBEX scheme has been developing accordingly.

1.4 Recently, it has been identified that significant changes in the scheme were needed in order to make it compatible with the existing COM environment and satisfy the evolving user requirements. In view of this, APANPIRG adopted a number of conclusions that called for further development of the ROBEX scheme according to the new operational requirements.

1.5 The ROBEX Handbook is the main guidance material aimed at providing detail on the procedures for OPMET exchange under the ROBEX scheme. The Handbook defines the responsibilities and the procedures to be followed by the ROBEX centres. It defines also the content and the format of the ROBEX bulletins.

1.6 The ROBEX Handbook is prepared and kept up-to-date by the ICAO Office, Bangkok in consultation with the ICAO Office, Cairo.

2. ROBEX SCHEME – GENERAL

2.1 Objective

2.1.1 The main purpose of the Regional Operational Meteorological (OPMET) Bulletin Exchange (ROBEX) Scheme is to:

- ensure **the most efficient exchange of OPMET information within the ASIA/PAC and MID Regions as well as with the other ICAO regions** to meet the requirements by the users of OPMET information; and

- ensure the implementation of the OPMET-related SARPs in Annex 3 and Annex 10, and the relevant provisions of the ASIA/PAC and MID Air Navigation Plans (ANP) in a highly efficient and standardized way.

2.2 Structure

2.2.1 The above objective is achieved by implementing a number of ROBEX collecting and disseminating centres (ROBEX centres), regional OPMET data banks (RODB), and inter-regional OPMET gateways (IROG). At present, this structure is part of a larger global OPMET exchange, which should ensure seamless exchange of the required meteorological information to fulfill the needs of the aviation users in conducting their activities.

2.3 Products

2.3.1 The ROBEX scheme produces and delivers to the aviation users the required OPMET information in predefined **bulletins**. The scheme should handle all types of OPMET information in alphanumeric bulletin form and should provide facilities and services for scheduled and non-scheduled delivery to the OPMET information to the users.

2.4 Management

2.4.1 Monitoring of the OPMET exchange under the ROBEX Scheme, planning for improvements and preparation of proposals for any changes of the Scheme, that may become necessary, are carried out by the ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG) and the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG). In order to achieve these tasks, the ROBEX implementation status and planning is part of the agenda of the CNS/MET sub-groups of the PIRGs.

Note: When necessary, supplementary expert groups can be established by APANPIRG to deal with OPMET specific issues, e.g., the OPMET Management Task Force.

2.4.2 Any amendments to the ROBEX scheme desirable and necessary due to changes in the operational requirements for OPMET data or to developments of the AFS system, ~~shall~~ should be coordinated with the ICAO Asia and Pacific Office, Bangkok and/or the ICAO Middle East Office, Cairo.

2.5 Documentation

2.5.1 The ROBEX Handbook is the main guidance material related to the ROBEX scheme. It ~~shall~~ should be kept up-to-date by the ICAO Asia and Pacific Office, Bangkok.

2.5.2 The RODB Interface Control Document (ICD) is a supplementary document, which provides users with guidance on the interrogation procedures and the content of the RODBs. This document ~~shall~~ should also be kept up-to date by the ICAO Asia and Pacific Office, Bangkok.

3 OPMET INFORMATION AND OPMET EXCHANGES

3.1 OPMET data types

3.1.1 Since there is no internationally agreed definition of OPMET (operational meteorological) information, for the purpose of this Handbook the following data types, covered by ROBEX, are considered:

Data type	Abbreviated name	WMO data type designator
Aerodrome reports	METAR SPECI	SA SP
Aerodrome forecasts	TAF: 18 and 24-hour 9 and 12 hour	FT FC
SIGMET information	SIGMET SIGMET for TC SIGMET for VA	WS WC WV
Volcanic ash and tropical cyclone advisories	VAA TCA	FV FK
Air-reports	AIREP	UA
Administrative	ADMIN	NO

3.2 OPMET bulletins

3.2.1 The exchange of OPMET data is carried out through bulletins containing one or more meteorological messages (METAR, SPECI, TAF or other OPMET information). An OPMET bulletin contains messages of the same type.

3.2.2 The format of OPMET bulletins is determined by:

- ICAO Annex 10, Aeronautical telecommunications, as regards the AFTN envelope of the bulletin;
- WMO Manual on the Global telecommunication System, WMO-No.386, as regards the WMO abbreviated heading of the bulletin, which provides information on data type, originator and time of issuance of the bulletin;
- ICAO Annex 3 and WMO-No.306, Manual on Codes, as regards the format/coding of the message(s) included in the bulletin.

3.3 Types of OPMET exchange

3.3.1 ***Regional exchange – ROBEX scheme***

3.3.1.1 The ROBEX scheme covers the exchange of OPMET information in the ASIA, PAC and MID ICAO regions. It includes several types of exchanges as described below.

3.3.1.1.1 *Regular Exchange under ROBEX*. This is a scheduled exchange that encompasses collection of messages from the originating stations, compiling of bulletins and their dissemination according to predetermined distribution schemes. The collection and

distribution is carried out at fixed times and the bulletin content is defined in the current Handbook.

Note: Five or more flights per week is considered the criterion warranting regular exchanges of METAR and TAF bulletins. A new requirement from the airlines is that all aerodromes listed in the AOP Table of the regional ANPs should be included in the regular exchange of METAR and TAF.

3.3.1.1.2 *Non-regular exchange.* This includes:

a) *Exchange on request (request-reply service)*. The RODBs store OPMET data and make them available on request.

b) *Exchange of non-routine reports:* SPECI; TAF AMD; SIGMET; TCA and VCA; ADMIN messages.

3.3.2 ***Inter-regional OPMET exchange***

3.3.2.1 The exchange of OPMET data between the ASIA/PAC and the other ICAO Regions is carried out via designated centres, which serve as Inter-regional OPMET Gateways (IROG). An IROG is set up for sending/receiving specified OPMET data between ASIA/PAC and every other ICAO region from/to which OPMET data is required.

Note: The old name of these centres is ODREP.

3.3.2.2 The inter-regional OPMET exchange via IROGs is carried out through the ground segment of the AFS (currently, through the AFTN).

3.3.3 ***Exchange of OPMET information through the satellite segment of the AFS***

3.3.3.1 The three satellite broadcasts provided by the United Kingdom (Satellite Distribution System for Aeronautical Information Relating to Air Navigation - SADIS) and the United States (International Satellite Communication System – ISCS/1 and ISCS/2), form another type of OPMET exchange, which is global in nature and is intended to cover the emerging requirement for global access to all available OPMET data.

3.3.3.2 All ASIA/PAC and MID OPMET data handled by the ROBEX scheme should be relayed to the SADIS and ISCS service providers for uplink through SADIS and ISCS.

3.3.4 ***Other OPMET exchanges***

3.3.4.1 Where OPMET exchanges described in the above paragraphs are not sufficient, direct AFTN addressing from an originating station to an end user can be utilized, if so agreed between the parties concerned, to fulfill the requirements set by FASID Table MET 2.

4 COMPOSITION OF ROBEX

4.1 ROBEX scheme involves a number of aeronautical meteorological stations, aeronautical telecommunication stations, aerodrome meteorological offices and other operational units. The following operational units ~~shall~~ should be considered as components of the ROBEX scheme:

4.1.1 ***Originating station*** – an aeronautical meteorological station or an aerodrome meteorological office, or a forecasting office, or a MWO, or a TCAC, or a VAAC. The duties and responsibilities of these originating stations ~~shall~~ should be defined by the State's meteorological authority.

4.1.2 ***National OPMET center (NOC).*** Normally, a NOC is associated with the State's national AFTN centre/switch. The role of the NOC is to collect all OPMET messages generated by the originating stations and to send them to the responsible ROBEX bulletin compiling center (ROBEX BCC). Many NOCs serve as ROBEX BCCs. The responsibility of a NOC for the dissemination of OPMET data within its own State is beyond the planning responsibilities of ICAO.

4.1.3 ***ROBEX bulletin compiling centre (BCC), or, in brief, ROBEX centre.***

4.1.3.1 ROBEX centres are responsible for collection of OPMET messages from the originating stations or NOCs in their area of responsibility and for compiling these messages into ROBEX bulletins. FASID Tables MET 4A and MET 4B determine the areas of responsibility (or, collection areas) of the ROBEX centres (for METAR/SPECI, AIREP and TAF, respectively) *to be revised*.

4.1.3.2 The ROBEX centres are responsible for the transmission of the bulletins compiled by them to:

- other ROBEX centres, according to predefined distribution lists, specific for each bulletin;
- ASIA/PAC RODBs;
- NOCs or other COM or MET offices in the States in their area of responsibilities, as agreed between the ROBEX centre and the States' authorities concerned.

Note: The older ROBEX scheme involved separate compiling centres for METAR and TAF (METAR Collection Centres MCC, and TAF Collection Centres – TCC). In some cases, METAR from one aerodrome were compiled by one center (MCC), and the TAF from the same aerodrome – by another center (TCC). The evolution of ROBEX should be towards unified ROBEX centers, which would be responsible for collecting/distributing of all OPMET data types within their area of responsibility (AOR).

4.1.4 ***Regional OPMET Data Banks (RODB)***

4.1.4.1 APANPIRG Conclusions 4/35 and 5/21 (1994) designated five centres, namely, Bangkok, Brisbane, Nadi, Singapore and Tokyo to serve as Regional OPMET Data Banks. FASID Table MET 4C reflects the requirements for the operation of the ASIA/PAC OPMET data banks to support the ROBEX Scheme.

4.1.4.2 The **main responsibilities** of the RODBs are defined, as follows:

- to support the ROBEX Scheme to facilitate a regular exchange of OPMET information based on predetermined distribution within the ASIA/PAC Regions;

- to operate as Inter-regional OPMET Gateway (IROG) with responsibility of exchanging the OPMET information between stations within the ASIA/PAC Regions and in adjacent Region(s); and

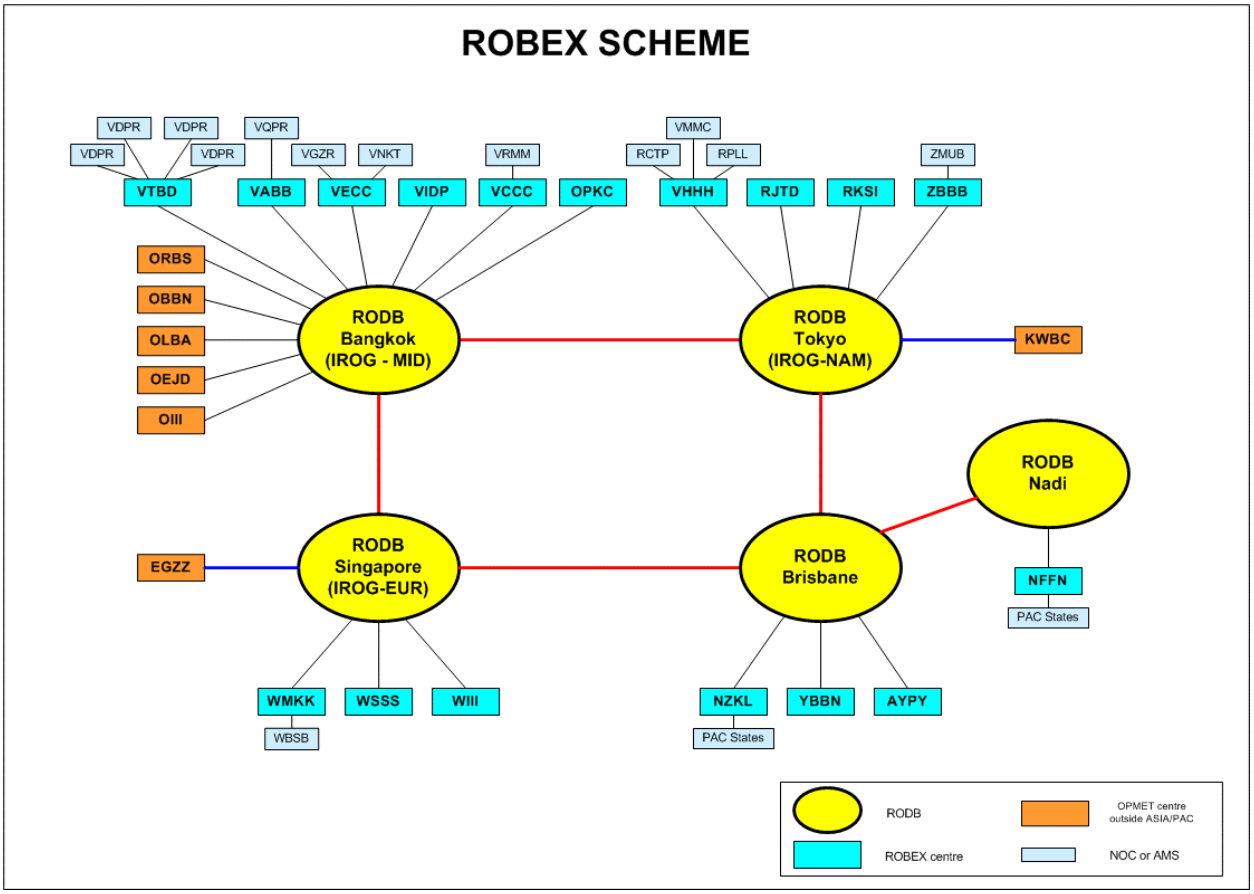
- to provide request/response facilities for users to obtain non-regular or occasional information.

Note. — The interrogation procedures applicable to the OPMET data banks and data banks catalogues are provided in the "ASIA/PAC Regional Interface Control Document (ICD) - OPMET Data Bank Access Procedures"*, published by the ICAO Asia and Pacific Office, Bangkok.*

4.1.5 ***Inter-regional OPMET Gateways (IROG).*** The Inter-regional OPMET Gateways in ASIA/PAC Region are the designated RODBs. Each RODB is assigned responsibility for exchange of OPMET information with the other ICAO Regions, as shown, together with the IROGs for MID Region in the ~~T~~table ~~...~~ in p. 11.1.

4.1.6 ***Support to SADIS and ISCS satellite broadcasts.*** The ROBEX scheme through the RODBs and IROGs should facilitate the global exchange of the OPMET data through the SADIS and ISCS satellite broadcasts. In order to achieve this, close liaison should be maintained between the IROGs responsible foe providing the ASIA/PAC OPMET data to the corresponding SADIS and ISCS gateways and any systematic shortfalls of data should be reported to the relevant ICAO regional office.

4.2 The overall structure of the ROBEX scheme is presented below.


ROBEX SCHEME
VDPR
VDPR
VDPR
VDPR
VQPR
VGZR
VNKT
VRMM
VMMC
RCTP
RPLL
ZMUB
VTBD
VABB
VECC
VIDP
VCCC
OPKC
VHHH
RJTD
RKSI
ZBBB
ORBS
OBBN
OLBA
OEJD
OIII
RODB Bangkok (IROG - MID)
RODB Tokyo (IROG-NAM)
KWBC
RODB Nadi
EGZZ
RODB Singapore (IROG-EUR)
RODB Brisbane
NFFN
PAC States
WMKK
WSSS
WIII
WBSB
NZKL
YBBN
AYPY
PAC States
RODB
ROBEX centre
OPMET centre outside ASIA/PAC
NOC or AMS

5 COMMUNICATIONS - GENERAL

5.1 According to Annex 3 (cf. p. 11.1.10), "the telecommunication facilities used for the exchange of operational meteorological information should be the aeronautical fixed service". The use of AFS for the OPMET exchange encompasses two components:

- use of terrestrial AFTN circuits; and
- use of satellite distribution systems – SADIS and ISCS.

5.2 In the ROBEX scheme AFTN circuits are used for the collection of the OPMET messages by the ROBEX centres, and for regional and inter-regional exchanges of OPMET bulletins. The access to the regional OPMET data banks (request-reply service provided by the RODBs) is also through the AFTN. OPMET bulletins transmitted via AFTN ~~shall~~ should be encapsulated in the text part of the AFTN message format (cf. Annex 3, p. 11.1.10, 11.2.5).

5.3 The requirements for the transit times of the AFTN messages and bulletins containing OPMET information are given in p. 11.1.11 of Annex 3.

~~5.3~~5.4 OPMET bulletins transmitted via AFTN ~~shall~~ should use the following **priority indicators**:

- SIGMET, SPECIAL AIREP (special air-reports), VAA, TCA and TAF AMD – priority indicator **FF** (for flight safety messages) (cf. Annex 10 Vol. II, p. 4.4.1.1.3);

- TAF, METAR and SPECI – priority indicator **GG** (meteorological messages) (cf. Annex 10 Vol. II, p. 4.4.1.1.4).

~~5.4~~5.5 SADIS and ISCS satellite broadcasts are used by the authorized users in the States for receiving global OPMET data.

~~5.5~~5.6 Use of Internet.

~~5.5.1~~5.6.1 The MET Divisional Meeting, 2002, recommended that Internet could be used as a back up to the dedicated internationally agreed circuits for exchange of meteorological data. An internet-based ftp back-up service to the SADIS has been operational since 2002.

~~5.5.2~~5.6.2 In the future, it is intended that the RODBs should also provide internet-based back-up facilities for retrieval of OPMET information.

5.6 Transition to Aeronautical Telecommunication Network (ATN)

5.6.1 In accordance with Conclusion 12/14 adopted by the Twelfth Meeting of APANPIRG held in 2001, the transition from AFTN to ground/ground element of Aeronautical Telecommunication Network (ATN) in the Asia and Pacific regions is expected to be completed by the end of 2005. The ground/ground application – AMHS, will be gradually employed to replace AFTN switches by States in the region. During the transition period, the conventional messages, exchanged through AFTN, including OPMET messages, will be continually supported by address conversion to AMHS format and vice versa. No changes would be made to the format and contents of text part of

AFTN messages carried over by AMHS. Inter-regional exchanges of OPMET bulletins will be via AFTN during the transition period through AMHS/AFTN gateway.

6. METAR/SPECI EXCHANGE

6.1 General

6.1.1 Hourly METAR reports ~~shall~~ should be prepared by all international aerodromes listed in FASID Table MET 1A. METARs ~~shall~~ should be issued on half-hour intervals for those aerodromes, included in the VOLMET broadcast, D-VOLMET, or on the discretion by the State.

6.1.2 METARs from all international aerodromes listed in FASID Table MET 1A ~~shall~~ should be included in the regular ROBEX exchange. In addition, METARs from a number of domestic aerodromes, required by the users, should also be included in the regular ROBEX exchange, if so agreed by the States concerned.

Note: SADIS User Guide (SUG) Annex 1 presents the requirements for OPMET data (METAR and TAF) by ~~airlines~~aviation users. For the domestic airports included in SUG Annex 1 States are consulted on their agreement for providing these additional aerodromes. Once agreed, the States should provide the required OPMET information on a continuous basis.

6.1.3 The list of ASIA/PAC METAR bulletins included in the ROBEX scheme, with their compiling ROBEX centre, bulletin identification number, and bulletin content is given in Appendix A.

6.1.4 The official hour of observation to be included in the METAR bulletin is indicated in the table in Appendix A.

6.1.5 SPECI reports ~~shall~~ should be disseminated in the same way as the METAR reports originated by the same aerodrome.

6.1.6 Exchange of METAR/SPECI messages outside ROBEX scheme, if necessary to meet requirements set in FASID Table MET 2A, should be carried out by direct AFTN addressed messages.

6.2 Responsibilities of the originating stations and NOCs

6.2.1 The originating stations (aeronautical meteorological stations) and/or NOCs ~~shall~~ should prepare METAR messages for the observation times indicated in Appendix A and send them to their responsible ROBEX center.

6.2.2 SPECI messages ~~shall~~ should be prepared between the regular observation times, according to the established national procedures, and sent with no delay to the responsible ROBEX centre.

6.2.3 In preparing METAR and SPECI messages the originating stations ~~shall~~ should follow strictly the WMO METAR and SPECI code forms (FM 15-XII METAR and FM 16-XII SPECI, WMO – No. 306, Manual on Codes, Volume I.1, Part A – Alphanumeric Codes), and Annex 3, Chapter 4, and Appendix 2, Technical specifications for local routine reports, local special reports and reports in the METAR/SPECI code forms.

6.2.4 METAR messages ~~shall~~ should be sent to the responsible ROBEX centre before the cut-off time specified by the ROBEX centre, to allow for timely compilation of the METAR bulletin. If, for some reason, a METAR message has not been sent before the cut-off

time, the originating station/NOC ~~shall~~ should send it as soon as possible after that, as a delayed message. The originating stations/NOCs ~~shall~~ should follow strictly the schedules specified for METAR messages and keep to a minimum the number of delayed messages.

6.2.5 METAR and SPECI messages should be quality controlled by the originating stations/NOCs and, when necessary, a corrected message should be sent immediately after an error in an already transmitted message had been identified.

Note: Procedures applying to the corrected and delayed messages are given in Appendix … .

6.3 Responsibilities of the ROBEX centres

6.3.1 ROBEX centres ~~shall~~ should collect all METAR messages originated from the aerodromes in their area of responsibility and compile METAR bulletins, according to Appendix A. The content and order of stations in each bulletin should be kept fixed until a bulletin change is requested and coordinated according to the established procedure.

6.3.2 ROBEX centers should determine a cut-off time for the reception of METARs from the stations in their area of responsibility. At the cut-off time, the ROBEX centre ~~shall~~ should compile METAR bulletin(s) containing all prescribed aerodromes, indicating any missing METAR with "NIL".

6.3.3 At the scheduled transmission times ROBEX centres ~~shall~~ should transmit the compiled METAR bulletins to other ROBEX centres and RODBs according to the distribution lists as specified for each METAR bulletin in Appendix A. METAR bulletins ~~shall~~ should be filed for transmission not later than 5 minutes after the observation time.

6.3.4 ROBEX centres ~~shall~~ should transmit the METAR bulletins compiled by them, as well as bulletins received from other ROBEX centres, as necessary, to the NOCs and/or other offices in the States in their area of responsibility, as agreed between the ROBEX centre and the meteorological authorities of the States concerned.

6.3.5 A SPECI report when received by a ROBEX centre ~~shall~~ should be sent as a SPECI bulletin to the same addresses, to which METAR reports from the issuing aerodrome are sent. Normally, a SPECI bulletin should contain a single SPECI message.

6.3.6 The WMO heading of the SPECI bulletin ~~shall~~ should be constructed in the same way as the WMO heading of the METAR bulletin, which contains the aerodrome, for which the SPECI is issued, by using SP data type designator instead of SA. For example, the SPECI bulletin heading for the aerodrome with location indicator ZGGG, which is included in the METAR bulletin with WMO heading SACI31 ZBBB, should be SPCI31 ZBBB.

6.3.7 A METAR message received by the ROBEX centre after the scheduled transmission of the corresponding bulletin is a delayed METAR. The ROBEX centre ~~shall~~ should send a delayed bulletin as soon as one or more delayed messages are received or at specified times after the scheduled bulletin time (e.g., the first delayed bulletin (RRA) issued 10 minutes after the regular time; the second delayed bulletin (RRB) issued 20 minutes after the regular time, etc.).

6.3.8 As soon as a corrected METAR or SPECI message is received from a station the ROBEX centre ~~shall~~ should transmit it as a correction bulletin to all recipients. Corrected METAR bulletins should, as a rule, contain a single aerodrome.

6.4 Format and content of METAR bulletins

6.4.1 Each METAR message in a METAR bulletin ~~shall~~ should start with the code word METAR followed by the ICAO location indicator (CCCC) of the aerodrome and the date/time group (YYGGggZ), indicating the official time of observation. Corrected METAR messages, ~~shall~~ should start with METAR COR.

6.4.2 The following is an example of the format to be applied in preparing a METAR bulletin by the ROBEX centre:

Parts of Message	**ROBEX SA Bulletin**
AFTN header	
Priority Indicator and Address	GG VTBBYPYX
Date and Time of filing and Originator	271304 ZBBBYPYX
WMO Abbreviated Heading	SACI31 ZBBB 271300
METAR messages	METAR ZBAA 271300Z ..…… = METAR ZBTJ 271300Z …….= …..
AFTN Normal Ending	NNNN

Note: The inclusion of the code name METAR in front of each message in the METAR bulletin becomes a standard from the applicability date of Amendment 73 of Annex 3.

6.4.2 The rules related to the use of the BBB group in the WMO abbreviated heading, in regard to delayed or corrected bulletins, are given in Appendix ~~…~~ F.

6.4.3 For METARs, which are not available at the time of compilation of the bulletin, the code word NIL ~~shall~~ should be inserted following the date/time group indicating the time of the observation.

Example: METAR ZBTJ 271200Z NIL=

6.5 Format and content of SPECI bulletins

6.5.1 A SPECI message included in a SPECI bulletin ~~shall~~ should start with the code word SPECI followed by the ICAO location indicator (CCCC) of the aerodrome and a date/time group (YYGGggZ) indicating the time of the observation of the meteorological conditions for which the SPECI is issued. Corrected SPECI messages, ~~shall~~ should start with SPECI COR.

6.5.2 The following is an example of the format to be applied in preparing a SPECI bulletin by the ROBEX centre:

Parts of Message	**ROBEX SP Bulletin**
AFTN header	
Priority Indicator and Address	GG VTBBYPYX
Date and Time of filing and Originator	081647 ZBBBYPYX
WMO Abbreviated Heading	SPCI31 ZBBB 081645
SPECI messages	SPECI ZBAA 081645Z ..…… =
AFTN Normal Ending	NNNN

7. TAF EXCHANGE

7.1 General

7.1.1 Terminal aerodrome forecast (TAF) ~~shall~~ should be prepared by the aerodrome meteorological offices (AMO) or other meteorological offices, designated for provision of TAF by the State's meteorological authority, for all international aerodromes, for which TAF is required according to FASID Table MET 1A of ASIA/PAC and MID ANP .

7.1.2 TAFs from all required international aerodromes listed in FASID Table MET 1A ~~shall~~ should be included in the regular ROBEX exchange. In addition, TAFs from a number of other (incl., domestic) aerodromes, required by the users, should also be included in the regular ROBEX exchange, if so agreed by the States concerned. TAFs for international aerodromes not included in the regular exchange should be available on request from the RODBs.

Note: The recent requirement by airlines is that TAF for all international aerodromes listed in ASIA/PAC and MID FASID Table MET 1A should be available through regular exchange and through the satellite distribution systems SADIS and ISCS.

7.1.3 Those TAFs exchanges, which are not covered by the ROBEX Scheme, but required operationally, as indicated in Table MET 2 of the ASIAPAC and MID ANP, should be met by means of direct-addressed AFTN messages.

7.1.4 The ROBEX scheme covers the exchange of 18 or 24-hour TAFs (so called "long TAFs" with WMO data designator – FT), to fulfill the requirements set in FASID Table MET 1A of the Air Navigation Plan.

7.1.5 "Short" TAFs with 9- or 12-hour period of validity (WMO data designator - FC), where issued by States in the ASIA/PAC and MID regions, should also be included in the ROBEX exchange.

7.2 Responsibilities and Procedures to be followed by the originating aerodrome meteorological offices (AMO) and NOCs

7.2.1 TAFs should be sent by the originating station or NOC to the responsible ROBEX centre not later than 30 minutes before the filing time for the corresponding TAF bulletin, as specified in Appendix B.

7.2.2 Aerodrome meteorological offices in preparing their TAFs ~~shall~~ should follow strictly the TAF code format (cf. Manual on Codes, Vol. I, WMO - No. 306) and the provisions of Annex 3 (Chapter 6 and the template shown in Appendix 4).

7.2.3 TAFs should be monitored by the originating AMOs and amended TAF issued according to the established criteria. Amended TAFs ~~shall~~ should be sent by the originating station to the responsible ROBEX centre with no delay. The optional group BBB should then be used in the WMO abbreviated heading in accordance with Appendix … , to indicate amended TAF.

7.2.4 TAF messages should be quality controlled by the originating meteorological offices and, when necessary, a corrected message should be sent immediately after an error in an already transmitted message had been identified.

7.3 Responsibilities and Procedures to be followed by the ROBEX centres

7.3.1 ROBEX centres ~~shall~~ should collect TAFs from the AMOs and/or NOCs in their area of responsibility according to Appendix B. The areas of responsibility, as far as practicable, should group together aerodromes and their alternates. ROBEX centres should ensure that TAFs within their area of responsibility have common periods of validity.

7.3.2 If necessary, ROBEX centres should prepare two or more separate TAF bulletins using different “ii” values (e.g., "31" and "32”) in the WMO heading. The content of the ROBEX TAF bulletins, is specified in Appendix B.

7.3.3 ROBEX centres ~~shall~~ should establish a cut-off time for reception of TAFs from AMOs and/or NOCs in their area of responsibility, e.g., at 15 minutes before the filing/transmission times specified in Appendix B. TAFs received after the cut-off time, which have at least 6-hour validity left, should be included in one or more bulletins of delayed TAFs.

7.3.4 At the cut-of time ROBEX centres ~~shall~~ should compile TAF bulletin(s) containing all prescribed aerodromes, indicating any missing TAF with “NIL”. The filing time for 18 and 24 hr TAFs ~~shall~~ should be two hours before the start of the validity period, and for 9 and 12-hr TAFs – one hour before the start of validity period.

7.3.5 ROBEX centres ~~shall~~ should transmit the compiled TAF bulletins to other ROBEX centres and all RODBs according to the distribution lists as specified for each TAF bulletin in Appendix B.

7.3.6 ROBEX centres ~~shall~~ should transmit the TAF bulletins compiled by them, as well as TAF bulletins received from other ROBEX centres, as necessary, to the NOCs and/or other offices in the States in their area of responsibility, as agreed between the ROBEX centre and the meteorological authorities of the States concerned.

7.3.7 A TAF message received by the ROBEX centre after the scheduled transmission of the corresponding bulletin is a delayed TAF. The ROBEX centre ~~shall~~ should send a delayed TAF bulletin as soon as one or more delayed messages are received or at specified times after the scheduled bulletin time.

7.3.8 Amended TAF received from an AMO or NOC ~~shall~~ should be distributed with no delay as an amended TAF bulletin to all recipients in the distribution list for the TAF bulletin, to which the originating aerodrome belongs.

7.4 Format and content of TAF bulletins

7.4.1 Issuance and period of validity:

7.4.1.1 18 and 24 hour TAFs ~~shall~~ should be issued at intervals of six hours, with the period of validity beginning at one of the main synoptic hours (00, 06, 12, 18 UTC), as shown in the table below.

7.4.1.2 9 and 12 hour TAFs ~~shall~~ should be issued at intervals of three hours, with the period of validity beginning at one of the synoptic hours (00, 03, 06, 09, 12, 15, 18 and 21 UTC), as shown in the table below.

7.4.1.3 Period of validity of TAFs should be common for all TAFs in a ROBEX TAF bulletin and should be established in consultation with the ROBEX centres concerned (Appendix E, Col. 1).

Synoptic hours (UTC)	18-hr TAF		24-hr TAF		9-hr TAF		12-hr TAF	
	Period of validity	Filing time	Period of validity	Filing time	Period of validity	Filing time	Period of validity	Filing time
00	00-18	22 (-1)	00-24	22 (-1)	00-09	23 (-1)	00-12	23 (-1)
03					03-12	02	03-15	02
06	06-24	04	06-06	04	06-15	05	06-18	05
09					09-18	08	09-21	08
12	12-06	10	12-12	10	12-21	11	12-24	11
15					15-24	14	15-03	14
18	18-12	16	18-18	16	18-03	17	18-06	17
21					21-06	20	21-09	20

7.4.2 Each TAF message in a TAF bulletin ~~shall~~ should start with the code word TAF followed by the ICAO location indicator (CCCC) of the aerodrome and the date/time group (YYGGggZ), indicating the official time of issuance. Corrected METAR messages, ~~shall~~ should start with TAF COR. Amended forecasts ~~shall~~ should start with TAF AMD.

7.4.3 The use of the BBB group in the WMO heading for delayed, corrected, or amended TAFs is described in Appendix … .

7.4.4 The following is an outline of the format to be applied by a ROBEX centre in preparing a TAF bulletin, containing “long” TAFs (18 or 24 hr) :

Parts of Message	**ROBEX FT Bulletin**
AFTN header	
Priority Indicator and Address	GG YBBBYPYX
Date and Time of filing and Originator	271004 ZBBBYPYX
WMO Abbreviated Heading	FTCI31 ZBBB 271000
TAF messages	TAF ZBAA 271000Z 271212..…= TAF ZBTJ 271000Z 271212…….= …..
AFTN Normal Ending	NNNN

7.4.5 The following is an outline of the format to be applied by a ROBEX centre in preparing a TAF bulletin, containing “short” TAFs (9 or 12 hr):

Parts of Message	**ROBEX FC Bulletin**
AFTN header	
Priority Indicator and Address	GG YBBBYPYX
Date and Time of filing and Originator	271004 ZBBBYPYX
WMO Abbreviated Heading	FCCI31 ZBBB 271100
TAF messages	TAF ZBAA 271100Z 271221..…= TAF ZBTJ 271100Z 271221…….= …..
AFTN Normal Ending	NNNN

7.4.6 A missing TAF in a TAF bulletin ~~shall~~ should be indicated with “NIL”, as shown in the following example:

TAF VTBD 281000Z NIL=

7.4.7 A cancelled TAF in a TAF bulletin ~~shall~~ should be indicated with “CNL”, as shown in the following example:

TAF VTBD 281000Z 281212 CNL=

8 EXCHANGE OF SIGMET AND ADVISORIES

8.1 SIGMET ~~shall~~ should be prepared by the meteorological watch offices (MWO) designated by the State's meteorological authority, as required by the FASID Table MET 1B of ASIA/PAC and MID ANPs. The MWOs should arrange for disseminating the SIGMET to MWOs and ACCs in the adjacent FIRs as required (cf. ASIA/PAC Regional SIGMET Guide, third edition, 2003, para. 3.5.3).

8.2 SIGMET messages ~~shall~~ should be distributed to all RODBs, either directly or through the responsible ROBEX centre. The RODBs ~~shall~~ should make SIGMET messages available on request. In order to facilitate that, the originating MWOs should use fixed WMO headings for their SIGMET bulletins as given in Appendix … .

8.3 The dissemination of SIGMET to other users/States as required by FASID Table MET 2A should be arranged through the responsible ROBEX centre.

~~8.3~~8.4 SIGMET messages ~~shall~~ should be distributed to other ICAO regions and made available for uplink through SADIS and ISCS. This distribution should be through the corresponding IROGs.

~~8.4~~8.5 Detailed information on the format of the SIGMET messages is provided in the ASIA/PAC Regional SIGMET Guide, third edition, 2003.

~~8.5~~8.6 Tropical cyclone advisories (TCA) and volcanic ash advisories (VAA) ~~shall~~ should be issued by the designated tropical cyclone and volcanic ash advisory centres (TCAC and VAAC), as indicated in the FASID Table MET 3A and MET 3B.

~~8.6~~8.7 The TCACs and VAACs ~~shall~~ should send directly the advisories to all RODBs. The RODBs ~~shall~~ should make TCAs and VAAs messages available on request. In order to facilitate that, the originating TCACs and VAACs should use fixed WMO headings for their TCA and VAA bulletins as given in Appendix … .

9 AIREP EXCHANGE (needs to be reviewed and further developed)

9.1 Each ROBEX centre ~~shall~~ should collect AIREPs from the MWOs and other sources within its area of responsibility as shown in Appendix D.

9.2 A cut-off time for the reception of AIREPs at the ROBEX centre from MWOs should be determined taking into account experience gained.

9.3 Once every hour, at a fixed time specified in Appendix D Col. 3, each ROBEX centre ~~shall~~ should prepare AIREP bulletin containing all ~~special~~ air-reports which have become available during the preceding hour and disseminate them to the associated ROBEX centres, indicated in Appendix D Col. 4, and to the responsible RODB.

9.4 If no AIREPs are available at the bulletin preparation time, there is no need to send a "NIL" message.

9.5 Each ROBEX centre should distribute its own AIREP bulletins and those received from other ROBEX centres, to the aeronautical meteorological offices in the area of responsibility as agreed with the meteorological authorities concerned.

9.6 The correction procedure is also applicable to AIREPs.

9.8 A sample of AIREP ROBEX bulletin is given below:

GG WMZZYPYR YBZZSSGX VTBBYPXX AYPPYMYX VHZZYPXX VABBYPYX VCZZCXBX WSSSYMYX RJAAYPYX

270805 WIZZYPYX

UAID31 WIII 270800
ARS ARS BAW298 57N030W/0735 F360 57N020W/0812 NEXT GOMUP -MOD TO SEV TURB 70 MILES WEST OF 30W EIAA RB TCBGKQ=

NNNN

10 REGIONAL OPMET DATA BANKS (RODB)

10.1 The ASIA/PAC Regional OPMET Data Banks and the AFTN addresses to be used for direct access to the banks are shown below:

RODB	AFTN ADDRESS	ROBEX CENTRES IN THE AREA OF RESPONSIBILITY
Bangkok	VTBBYZYX	Bangkok/VTBB Calcutta/VECC Colombo/VCCC Delhi/VIDP Karachi/OPKC Mumbai/VABB Baghdad/ORBS Bahrain/OBBN Beirut/OLBA Jeddah/OEJD Tehran/OIII
Brisbane	YBBBYZYX	Brisbane/YBBN Port Moresby/AYPY Wellington/NZKL
Nadi	NFFNYZYX	Nadi/NFFN
Singapore	WSSSYZYX	Jakarta/WIII Kuala Lumpur/WMKK Singapore/WSSS
Tokyo	RJTDYZYX	Beijing/ZBBB Hong Kong/VHHH Seoul/RKSI Tokyo/RJTD

10.2 **Responsibilities:**

10.2.1 Collect OPMET bulletins from the ROBEX centres in the area of responsibility and store them in a data base.

10.2.2 Handle all type of OPMET bulletins, as described in p. 3.1.1.

10.2.3 Provide facilities for “request-reply” service to the authorized users.

10.2.4 Maintain catalogue of bulletins and introduce changes to the bulletins when necessary and according to the established procedures.

10.2.5 Quality control the incoming bulletins and inform the ROBEX centres on any deficiencies.

10.2.6 Monitor the OPMET traffic by carrying out regular tests on the availability and timeliness of the bulletins; report to the ICAO Regional Office on the results.

10.3 The interrogation procedures applicable to the designated RODBs and the OPMET information stored are presented in the ASIA/PAC Regional Interface Control Document (ICD) for OPMET Data Access Procedures.

10.4 Guidance on the management and quality control is provided in paragraph … of this Handbook.

11 INTER-REGIONAL OPMET EXCHANGE

11.1 Inter-regional OPMET Gateways (IROG) are designated in the MID and ASIA/PAC Regions for the purpose of exchanging OPMET data between MID and ASIA/PAC and the other ICAO Regions, as shown in the table below.

ROBEX IROG	**For exchange of OPMET data between Regions**
Beirut	MID and EUR
Jeddah	MID and AFI MID and ASIA/PAC
Bangkok	ASIA/PAC and MID ASIA and AFI
Brisbane	ASIA/PAC and SAM PAC and AFI
Nadi	S.PAC and NAM
Singapore	ASIA/PAC and EUR
Tokyo	ASIA/PAC and NAM

11.2 Detailed OPMET distribution arrangements should be developed by each IROG in coordination with users and originators concerned. Such arrangements should be based on the requirements indicated in Table MET 2 of the relevant Air Navigation Plans, and on the basic operational requirements and planning criteria for exchanges of operational meteorological information. (to be reviewed)

11.3 IROGs should arrange for relaying all ROBEX bulletins to a corresponding region in the other ICAO regions. In particular:

11.3.1 *Bangkok IROG* should relay all ASIA/PAC bulletins to the … IROG at MID Region, and should receive and store all required OPMET bulletins from MID Region.

11.3.2 *Singapore IROG* should relay all ASIA/PAC bulletins to the London IROG at EUR Region, and should receive and store all required OPMET bulletins from EUR Region.

11.3.3 *Tokyo IROG* should relay all ASIA/PAC bulletins to the Washington IROG at NAM Region, and should receive and store all required OPMET bulletins from NAM Region.

11.4 The following principles are applied to IROGs:

a) IROGs should have reliable and efficient AFTN connection into the regions for which they have exchange responsibilities, with adequate capacity to handle the OPMET data flow between the regions;

b) IROGs should be associated with AFTN relay centres capable of handling efficiently the volume of traffic anticipated;

c) IROGs should be capable of handling all OPMET data types, as described in p.3.1.1.

11.5 In order to avoid duplication of the OPMET traffic and information, all inter-regional OPMET exchange should be directed through the IROGs, and direct addressing from the originator or ROBEX centre to recipients in the other ICAO Regions should be avoided, except when bilateral or other agreements require such direct exchanges.

12 MANAGEMENT OF OPMET EXCHANGE UNDER THE ROBEX SCHEME

12.1 OPMET bulletins management

TO BE DEVELOPED

12.2 Quality control

TO BE DEVELOPED

APPENDIX A

ROBEX COLLECTION AND DISSEMINATION OF METAR BULLETINS

Explanation of Table

Col. 1: Name and ICAO location indicator of the ROBEX Centre compiling the bulletin.

Col. 2: Description of the METAR Bulletin

Col. 3: Official observation time of the bulletin

Col. 4: Distribution of the bulletin to other ROBEX centres and RODBs
Note: The RODB responsible for storing the bulletin is in ***bold***

ROBEX Collection and Dissemination of METAR Bulletins

1		2			3	4	
ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
ASIA/PAC REGION							
Bangkok	VTBD	**SAAS31**	VTBD	BANGKOK/Bangkok Intl	HH +30	**BANGKOK**	VTBBYPYX
			VTCC	CHIANG MAI/Chiang Mai Intl	(HH +00)	BRISBANE	YBZZSQJX
			VTBU	RAYONG/U-Tapao Intl		SINGAPORE	WSZZYPYM
			VTSS	SONGKHLA/Hat Yai Intl		TOKYO	RJAAYPYX
			VTSP	PHUKET/Phuket Intl		Calcutta	VECCYPYX
			VLVT	VIENTIANE/Wattay		Colombo	VCCCYPYX
			VYMD	MANDALAY/Mandalay		Delhi	VIDPYPYX
			VYYY	YANGON/ Yangon Intl		Hong Kong	VHZZYPYX
			VVTS	HO-CHI-MINH/Tan-Son Nhat		Jakarta	WIZZMCMC
			VVNB	HANOI/Noibai		Kuala Lumpur	WMZZYPYR
			VVDN	DANANG/Danang		Mumbai	VABBYPYX
			VDPP	PHNOM PENH/Pochentong		Incheon	RKSIYPYX
			VDSR	SIEM REAP/Siem Reap			
Beijing	ZBBB	**SACI31**	ZBAA	BEIJING/Capital	HH + 00	BANGKOK	VTBBYPYX
			ZBTJ	TIANJING/Binhai	(HH + 30)	BRISBANE	YBZZSQJX
			ZBYN	TAIYUAN/Wusu		SINGAPORE	WSZZYPYM
			ZGGG	GUANGZHOU/Baiyun		**TOKYO**	RJAAYPYX
			ZSHC	HANGZHOU/Xiaoshan		Hong Kong	VHZZYPYX
			ZSPD	SHANGHAI/Pudong		Jakarta	WIZZMZBB
			ZSSS	SHANGHAI/Hongqiao		Karachi	OPZZYPYX
			ZWWW	URUMQI/Diwopu		Mumbai	VABBYPYX
			ZYTL	DALIAN/Zhoushuzi		Incheon	RKSIYPYX
			ZYTX	SHENYANG/Taoxian		Ulan Bator	ZMUBYMYX
		SACI32	ZGKL	GUILIN/Liangjang	HH + 00	BANGKOK	VTBBYPYX
			ZGNN	NANNING/Wuxu		BRISBANE	YBZZSQJX
			ZGOW	SHANTOU/Shantou		SINGAPORE	WSZZYPYM
			ZGSZ	SHENZHEN/Baoan		**TOKYO**	RJAAYPYX
			ZLXY	XIAN/Xianyang		Hong Kong	VHZZYPYX
			ZMUB	ULAANBAATOR/Bryant-Ukhaa		Jakarta	WIZZMZBB
			ZPPP	KUNMING/Wujiaba		Kuala Lumpur	WMZZYPYX
			ZSAM	XIAMEN/Gaoqi		Incheon	RKSIYPYX
			ZSQD	QINGDAO/Liuting		Wellington	NZZZYPYX
			ZUUU	CHENGDU/Shuangliu			

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
		SACI41	ZBHH	HOHHOT/Baita	HH + 00	BANGKOK	VTBBYPYX
			ZGHA	CHANGSHA/Huanghua		BRISBANE	YBZZSQJX
			ZHHH	WUHAN/Tianhe		SINGAPORE	WSZZYPYM
			ZJHK	HAIKOU/Meilan		**TOKYO**	RJAAYPYX
			ZJSY	SANYA/Fenghuang		Hong Kong	VHZZYPYX
			ZLLL	LANZHOU/Zhongchuan		Jakarta	WIZZMZBB
			ZSNJ	NANJING/Lukou		Karachi	OPZZYPYX
			ZSOF	HEFEI/Luogang		Mumbai	VABBYPYX
			ZUCK	CHONGQING/Jiangbei		Incheon	RKSIYPYX
			ZWSH	KASHI		Ulan Bator	ZMUBYMYX
			ZYCC	CHANGCHUN/Dafangshen		Wellington	NZZZYPYX
			ZYHB	HARBIN/Yanjiangang			
Brisbane	YBBN	**SAAU31**	YSSY	SYDNEY/Kingsford Smith Intl	HH + 00	BANGKOK	VTBBYPYX
			YMML	MELBOURNE/Melbourne Intl	(HH + 30)	**BRISBANE**	YBZZSQJX
			YBBN	BRISBANE/Brisbane		SINGAPORE	WSZZYPYM
			YPAD	ADELAIDE/Adelaide		TOKYO	RJAAYPYX
			YPDN	DARWIN/Darwin		Hong Kong	VHZZYPYX
			YPPH	PERTH/Perth int		Incheon	RKSIYPYX
			YBCS	CAIRNS/Cairns		Jakarta	WIZZMIMI
			YBAS	ALICE SPRINGS/Alice Springs		Nadi	NFFNYPYX
			YPLM	LEARMONTH/Learmonth		Port Moresby	AYPYYMYX
			YBTL	TOWNSVILLE/Townsville		Wellington	NZZZYPYX
			YPTN	TINDAL /Tindal RAAF		Bangkok	
		SAAU32	YSCB	CANBERRA/Canberra*	HH + 00	BANGKOK	VTBBYPYX
			YBCG	COOLANGATTA/Coolangatta*	(HH + 30)	**BRISBANE**	YBZZSQJX
			YMAV	AVALON/Avalon*		SINGAPORE	WSZZYPYM
			YBRK	ROCKHAMPTON/Rockhampton*		TOKYO	RJAAYPYX
			YPKG	KLAGOORLIE/Kalgoorlie*		Jakarta	WIZZMIMI
			YPPD	PORT HEDLAND/Port Hedland*		Nadi	NFFNYPYX
			YBRM	BROOME/Broome*		Port Moresby	AYPYYMYX
			YSNF	NORFOLK ILS/Norfolk Isl*		Seoul	RKSSYPYX
			YSDU	DUBBO/Dubbo		Wellington	NZZZYPYX
			YSRI	RICHMOND/Richmond *			
			YWLM	WILLIAMTOWN/Williamtown *			
			YMLT	LAUNCESTON/Launceston*			
			YMHB	HOBART/Hobart*			
			YPEA	PEARCE/Pearce			
Colombo	VCCC	**SASB31**	VCBI	COLOMBO/Katunayake	HH +50	**BANGKOK**	VTBBYPYX

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
			VRMM	MALE/Male Intl	(HH + 20)	BRISBANE	YBZZSQJX
						SINGAPORE	WSZZYPYM
						TOKYO	RJAAYPYX
						Hong Kong	VHZZYPYX
						Kuala Lumpur	WMZZYPYR
						Mumbai	VABBYPYX
Delhi	VIDP	**SAIN32**	VIDP	DELHI/Indira Gandhi Intl	HH + 30	**BANGKOK**	VTBBYPYX
			VILK	LUCKNOW	(HH + 00)	BRISBANE	YBZZSQJX
			VIBN	VARANASI/Varanasi		SINGAPORE	WSZZYPYM
			VIAR	AMRITSAR/Amritsar		TOKYO	RJAAYPYX
						Calcutta	VECCYPYX
						Hong Kong	VHZZYPYX
						Karachi	OPZZYPYX
						Mumbai	VABBYPYX
Hong Kong	VHHH	**SAHK31**	VHHH	HONG KONG/Hong Kong Intl	HH + 00	BANGKOK	VTBBYPYX
			RCTP	TAIBEI/Taibei Intl	(HH + 30)	BRISBANE	YBZZSQJX
			RCKH	GAOXIONG/Gaoxiong		SINGAPORE	WSZZYPYM
			RCSS	TABEI/Sungshan		**TOKYO**	RJAAYPYX
			VMMC	MACAU/Macau Intl		Beijing	ZBBBYPYX
			RPLL	MANILA/Ninoy Aquino Intl*		Guangshou	ZGGGYPYX
			RPVM	LAPU LAPU/Mactan Cebu Intl*		Kuala Lumpur	WMZZYPYR
			RPMD	DAVAO/Francisco Bangoy Intl		Incheon	RKSIYPYX
			RPLB	SUBIC BAY/Subic Bay Intl		Wellington	NZZZYPYX
Jakarta	WIII	**SAID31**	WAAA	UJUNG PANDANG/Hasanuddin	HH + 00	BANGKOK	VTBBYPYX
			WABB	BIAK/Frans Kaisieppo	(HH + 30)	BRISBANE	YBZZSQJX
			WIIH	JAKARTA/Halim		**SINGAPORE**	WSZZYPYM
			WIII	JAKARTA/Soekarno-Hatta		TOKYO	RJAAYPYX
			WIKB	BATAM/Hang Nadim		Hong Kong	VHZZYPYX
			WIMM	MEDAN/Polonia		Kuala Lumpur	WMZZYPYR
			WRRR	DENPASAR*		Wellington	NZZZYPYX
			WRSJ	SURABAYA/Juanda			
		SAID32	WAMM	MANADO/Sam Ratulangi	HH + 00		
			WIBB	PEKAN BARU/Simpangtiga			
			WIKN	TANJUNG PINNAG/Kijang			
			WIMG	PADANG/Tabing			
			WIOO	PONTIANAK/Supadio			
			WIPP	PALEMBANG/Sultan Mahmud Badaruddin II			

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
			WRBB	BANJARMASIN/Syamsudin Noor			
			WRLL	BALIKPAPAN/Sepinggan			
			WRRA	MATARAM/Selaparang			
		SAID33	WABP	TIMIKA/Tembegapura	HH + 00		
			WAJJ	JAYAPURA/Sentani			
			WAKK	MERAUKE/Mopah			
			WAPP	AMBON/Pattimura			
			WIIS	SEMARANG/Achmad Yani			
			WIIT	BANDAR LAMPUNG/Branti			
			WRKK	KUPANG/El-Tari			
			WRLR	TARAKEN			

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
Kolkata	VECC	**SAAE31**	VECC	CALCUTTA/Netaji Subhash Chandra Bose Intl	HH + 50	**BANGKOK**	VTBBYPYX
			VEPT	PATNA/Patna		BRISBANE	YBZZSQJX
			VGZR	DHAKA/Zia Intl		SINGAPORE	WSZZYPYM
			VGEG	CHITTAGONG/M. A. Hannan Intl		TOKYO	RJAAYPYX
			VNKT	KATHMANDU/Tribhuvan Intl*		Colombo	VCCCYPYX
						Delhi	VIDPYPYX
						Hong Kong	VHZZYPYX
						Karachi	OPZZYPYX
						Mumbai	VABBYPYX
Karachi	OPKC	**SAPK31**	OPKC	KARACHI/Quaid-E-Azam Intl	HH +50	**BANGKOK**	VTBBYPYX
			OPRN	ISLAMABAD/Chaklala	(HH +20)	BRISBANE	YBZZSQJX
			OPLA	LAHORE/Lahore		SINGAPORE	WSZZYPYM
			OPNH	NAWABSHAH		TOKYO	RJAAYPYX
			OPGD	GAWADAR		Abu Dhabi	OMZZYPYX
			OPPS	PESHAVAR		Bahrain	OBZZYPYX
						Beijing	ZBBBYPYX
						Calcutta	VECCYPYX
						Delhi	VIDDYPYX
						Hong Kong	VHZZYPYX
						Mumbai	VABBYPYX
						Tehran	OIZZYPYX
Kuala Lumpur	WMKK	**SAMS31**	WMKK	KUALA LUMPUR/Kuala Lumpur Intl	HH + 30	BANGKOK	VTBBYPYX
			WSSS	SINGAPORE/Changi	(HH + 10)	BRISBANE	YBZZSQJX
			WSAP	SINGAPORE/Paya Lebar		**SINGAPORE**	WSZZYPYM
			WMKP	PENANG/Bayan Lepas		TOKYO	RJAAYPYX
			WBKK	KOTA KINABALU/Kota Kinabalu Intl		Colombo	VCCCYPYX
			WBGG	KUCHING/Kuching		Hong Kong	VHZZYPYX
			WBSB	BANDAR SERI BEGAWAN /Brunei Intl		Jakarta	WIZZMBMB
						Manila	RPLLYPYX
						Mumbai	VABBYPYX
						Incheon	RKSIYPYX
						Wellington	NZZZYPYX

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
Mumbai	VABB	**SAIN31**	VABB	MUMBA/Jawaharlal Nehru Intl	HH + 40	**BANGKOK**	VTBBYPYX
			VOMM	CHENNAI/Chennai	(HH + 10)	BRISBANE	YBZZSQJX
			VOTR	TIRUCHCHIRAPPALLI		SINGAPORE	WSZZYPYM
			VOTV	TRIVANDRUM/Trivandrum Intl		TOKYO	RJAAYPYX
			VAAH	AHMADABAD/Ahmadabad		Abu Dhabi	OMZZYPYX
			VOHY	HYDERABAD		Bahrain	OBZZYPYX
			VANP	NAGPUR		Brisbane	YBZZSPVX
						Calcutta	VECCYPYX
						Colombo	VCCCYPYX
						Delhi	VIDPYPYX
						Hong Kong	VHZZYPYX
						Karachi	OPZZYPYX
						Tehran	OIZZYPYX
Port Moresby	AYPY	**SAPW31**	AYPY	PORT MORESBY/Jacksons	HH + 00	BANGKOK	VTBBYPYX
			AYMD	MADANG	(HH + 30)	**BRISBANE**	YBZZSQJX
			AYWK	WEWAK		SINGAPORE	WSZZYPYM
						TOKYO	RJAAYPYX
						Beijing	ZBBBYPYX
						Hong Kong	WSZZYPYM
						Wellington	NZZZYPYX
Incheon	RKSI	**SAKO31**	RKSI	SEOUL/Incheon Intl	HH + 00	BANGKOK	VTBBYPYX
			RKSS	SEOUL/Gimpo Intl	(HH + 30)	BRISBANE	YBZZSQJX
			RKPC	JEJU/Jeju Intl		SINGAPORE	WSZZYPYM
			RKPK	BUSAN/Gimhae Intl		**TOKYO**	RJAAYPYX
			RKTU	CHEONGJU/Cheongju Intl		Beijing	ZBBBYPYX
			RKNY	YANGYANG/Yangyang Intl		Hong Kong	WSZZYPYM
			RKTN	DAEGU/Daegu Intl		Singapore	WSZZYPYM
						Tokyo	RJAAYPYX
						Wellington	NZZZYPYX
						Mumbai	VABBYPYX

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
Tokyo	RJTD	**SAFE31**	RJAA	TOKYO/New Tokyo Intl	HH + 00	BANGKOK	VTBBYPYX
			RJTT	TOKYO/Tokyo Intl	(HH + 30)	BRISBANE	YBZZSQJX
			ROAH	NAHA/Naha		SINGAPORE	WSZZYPYM
			RJOO	OSAKA/Osaka Intl		**TOKYO**	RJAAYPYX
			RJBB	OSAKA/Kansai Intl		Beijing	ZBBBYPYX
			RJNN	NAGOYA/Nagoya		Guam	PGUMCOAX
						Hong Kong	VHZZYPYX
						Incheon	RKSIYPYX
						Nadi	NFZZRCXX
						Wellington	NZZZYPYX
		SAFE32	RJCC	SAPPORO/New Chitose	HH + 00	BANGKOK	VTBBYPYX
			RJFF	FUKUOKA/Fukuoka	(HH + 30)	BRISBANE	YBZZSQJX
			RJFK	KAGOSHIMA/Kagoshima		SINGAPORE	WSZZYPYM
			RJCH	HAKODATE/Hakodate		**TOKYO**	RJAAYPYX
			RJFU	NAGASAKI/Nagasaki		Beijing	ZBBBYPYX
						Guam	PGUMCOAX
						Hong Kong	VHZZYPYX
						Incheon	RKSIYPYX
						London	EGZZMASI
						Nadi	NFZZRCXX
						Wellington	NZZZYPYX
Wellington	NZKL	**SANZ31**	NZWN	WELLINGTON/Wellington Intl	HH + 00	BANGKOK	VTBBYPYX
			NZAA	AUCKLAND/Auckland Intl		**BRISBANE**	YBZZSQJX
			NZCH	CHRISTCHURCH/Christchurch Intl		SINGAPORE	WSZZYPYM
						TOKYO	RJAAYPYX
						Beijing	ZBBBYPYX
						Hong Kong	VHZZYPYX
						Incheon	RKSIYPYX
						Jakarta	WIZZYPYX
						Nadi	NFFNYPYX
						Port Moresby	AYPYYMYX

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
MID REGION							
Baghdad*	ORBS	SAAW31	ORBS	BAGHDAD/Saddam Intl*	HH + 50	**BANGKOK**	VTBBYPYX
			ORMM	BASRAH/Basrah Intl	(HH + 20)	BRISBANE	YBBBYZYX
						SINGAPORE	WSZZYPYM
						TOKYO	RJAAYPYX
						Bahrain	OBZZYPYX
						Beirut	OLLYPYX
						Jeddah	OEJDYPYX
						Tehran	OIZZYPYX
Bahrain	OBBI	SABN31	OBBI	BAHRAIN/Intl	HH +50	**BANGKOK**	VTBBYPYX
			OEDF	DAMMAM/King Fahd Intl		BRISBANE	YBBBYZYX
			OEDR	DHAHRAN/King Abdul Aziz Air base		SINGAPORE	WSZZYPYM
			OTBD	DOHA/Intl		TOKYO	RJAAYPYX
			OKBK	KUWAIT/Intl		Abu Dhabi	OMAMYMYX
			(OOSA)	(SALALAH)		Baghdad	ORBSYPYX
						Beirut	OLLLYPYX
						Hong Kong	VHZZYPYX
						Jeddah	OEZZYPYX
						Karachi	OPZZYPYX
						Mumbai	VABBYPYX
						Tehran	OIZZYPYX
						Wellington	NZZZYPYX
		SABN32	OMAA	ABU DHABI/Abu Dabi Intl	HH + 00	**BANGKOK**	VTBBYPYX
			OMAL	AL AIN		BRISBANE	YBBBYZYX
			OMDB	DUBAI/Dubai Intl		SINGAPORE	WSZZYPYM
			OMFJ	FUJEIRAH/Fujeirah Intl		TOKYO	RJAAYPYX
			OMRK	RAS AL KHAIMAH/Ras Al Kahimah		Abu Dhabi	OMAMYMYX
			OMSJ	SHARJAH/Intl		Baghdad	ORBSYPYX
				MUSCAT/Seeb Intl		Beirut	OLLLYPYX
						Hong Kong	VHZZYPYX
						Jeddah	OEZZYPYX
						Karachi	OPZZYPYX
						Mumbai	VABBYPYX
						Tehran	OIZZYPYX
						Wellington	NZZZYPYX

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
Beirut*	OLBA	SALB31	OLBA	BEIRUT/Beirut Intl*	HH + 00	**BANGKOK**	VTBBYPYX
			OSDI	DAMASCUS/Damascus Intl*	(HH + 30)	BRISBANE	YBBBYZYX
			OJAM	AMMAN/Marka Intl*		SINGAPORE	WSZZYPYM
			OJAI	AMMAN/Qeen Alia Intl*		TOKYO	RJAAYPYX
						Abu Dhabi	OMZZYPYX
						Baghdad	ORBSYMYX
						Bahrain	OBZZYPYX
						Jeddah	OEJDYPYX
Jeddah*	OEJD	SADS31	OEDF	DAMMAM/King Fahd Intl	HH + 50	**BANGKOK**	VTBBYPYX
			OEDR	DHAHRAN/King Abdul Aziz Air Base		BRISBANE	YBBBYZYX
			OEJN	JEDDAH/King Abdul Aziz Intl		SINGAPORE	WSZZYPYM
			OEMA	MADINAH/Prince Mohammad Bin Abdul Aziz		TOKYO	RJAAYPYX
			OERK	RIYADH/King Khaled Intl		Abu Dhabi	OMZZYPYX
			OERY	RIYADH		Baghdad	ORBBYMYX
			OYSN	SANA'A/Sana'a Intl		Bahrain	OBZZYPYX
						Beirut	OLLLYPYX
Tehran*	OIII	SAIR31	OIII	THERAN/Mehrabad Intl*	HH + 00	**BANGKOK**	VTBBYPYX
			OIFM	ESFAHAN/Shahid Behesti*	(HH + 30)	BRISBANE	YBBBYZYX
			OISS	SHIRAZ/Shahid Dastghaib Intl		SINGAPORE	WSZZYPYM
			OIZH	ZAHEDAN/Zahedan Intl		TOKYO	RJAAYPYX
			OIKB	BANDAR ABBAS/Bandar Abbas Intl		Abu Dhabi	OMZZYPYX
			OIMM	MASHHAD/Shahid Hashemi Nejad Intl		Baghdad	ORBSYMYX
			OIAW	AHWAZ		Bahrain	OBZZYPYX
			OIKK	KERMAN		Beirut	OLLLYPYX
			OITT	TABRIZ/Tabriz Intl		Delhi	VIDPYPYX
						Karachi	OPZZYPYX
						Mumbai	VABBYPYX

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ROBEX Centre		**METAR Bulletin**			**Bul. Time**	**DISSEMINATION TO**	
Name	**CCCC**	**BUL No.**	**CCCC**	**Aerodrome**		**RODB/ROBEX C.**	**AFTN Address**
		SAIR32	OAKB	KABUL/Kabul	HH + 00	**BANGKOK**	VTBBYPYX
			OAKN	KANDAHAR/Kandahar		BRISBANE	YBBBYZYX
						SINGAPORE	WSZZYPYM
						TOKYO	RJAAYPYX
						Abu Dhabi	OMZZYPYX
						Baghdad	ORBSYMYX
						Bahrain	OBZZYPYX
						Beirut	OLLLYPYX
						Delhi	VIDPYPYX
						Karachi	OPZZYPYX
						Mumbai	VABBYPYX

APPENDIX B

ROBEX Collection and Dissemination of TAF Bulletins
Table B-1 : FT TAF (18- and 24-hour)

Explanation of the Table

Col. 1: Name and ICAO location indicator of the ROBEX Centre compiling the bulletin

Col. 2: Description of the TAF Bulletin

Col. 3: Distribution of the bulletin to other ROBEX Centres and RODBs

Note : The RODB responsible for storing the bulletin is in bold

ROBEX Collection and Dissemination of TAF (FT) Bulletins

1		2					3	
ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Bangkok	VTBD	**FTAS31**	VTBD	BANGKOK/Bangkok Intl	0400	0600	**BANGKOK**	VTBBYPYX
			VYYY	YANGON/ Yangon Intl	1000	1200	BRISBANE	YBZZYPYX
			VGZR	DHAKA/Zia Intl	1600	1800	SINGAPORE	WSZZYPYM
			VLVT	VIENTIANE/Wattay	2200	0000	TOKYO	RJAAYPYX
			VVTS	HO-CHI-MINH/Tan-Son Nhat			Abu Dhabi	OMZZYPYX
			VDPP	PHNOM PENH/Pochentong			Bahrain	OBZZYPYX
							Beijing	ZBBBYPYX
							Beirut	OLLLYPYX
							Hong Kong	VHZZYPYX
							Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Kuala Lumpur	WMZZYPYR
							Mumbai	VABBYPYX
							Incheon	RKSIYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYA
		FTAS32	VTBU	RAYONG/U-Tapao Intl	0400	0600	**BANGKOK**	VTBBYPYX
			VTCC	CHIANG MAI/Chiang Mai Intl	1000	1200	BRISBANE	YBZZYPYX
			VTSS	SONGKHLA/Hat Yai Intl	1600	1800	SINGAPORE	WSZZYPYM
			VTSP	PHUKET/Phuket Intl	2200	0000	TOKYO	RJAAYPYX
			VVNB	HANOI/Noibai			Bahrain	OBZZYPYX
			VVDN	DANANG/Danang			Beijing	ZBBBYPYX
							Beirut	OLLLYPYX
							Hong Kong	VHZZYPYX
							Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Kuala Lumpur	WMZZYPYR
							Mumbai	VABBYPYX
							Incheon	RKSIYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYA

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Beijing	ZBBB	**FTCI31**	ZBAA	BEIJING/Capital	0500	0600	BANGKOK	VTBBYPYX
			ZBTJ	TIANJING/Binhai	1100	1200	BRISBANE	YBZZYPYX
			ZBYN	TAIYUAN/Wusu	1700	1800	SINGAPORE	WSZZYPYM
			ZGGG	GUANGZHOU/Baiyun	2300	0000	**TOKYO**	RJAAYPYX
			ZSSS	SHANGHAI/Hongqiao			Hong Kong	VHZZYPYX
			ZSHC	HANGZHOU/Xiaoshan			Karachi	OPZZYPYX
			ZYTX	SHENYANG/Taoxian			Mumbai	VABBYPYX
			ZYTL	DALIAN/Zhoushuzi			Incheon	RKSIYPYX
			ZWWW	URUMQI/Diwopu			Ulan Bator	XMUBYMYX
			ZSPD	SHANGHAI/Pudong			Wellington	NZZZYPYA
		FTCI32	ZPPP	KUNMING/Wujiaba	0500	0600	BANGKOK	VTBBYPYX
			ZGNN	NANNING/Wuxu	1100	1200	BRISBANE	YBZZYPYX
			ZGOW	SHANTOU/Shantou	1700	1800	SINGAPORE	WSZZYPYM
			ZGSZ	SHENZHEN/Baoan	2300	0000	**TOKYO**	RJAAYPYX
			ZSAM	XIAMEN/Gaoqi			Hong Kong	VHZZYPYX
			ZSQD	QINGDAO/Liuting			Jakarta	WIZZYPYX
			ZUUU	CHENGDU/Shuangliu			Karachi	OPZZYPYX
			ZLXY	XIAN/Xianyang			Kuala Lumpur	WMZZYPYR
			ZMUB	ULAANBAATOR/Bryant-Ukhaa			Mumbai	VABBYPYX
			ZGKL	GUILIN/Liangjang			Wellington	NZZZYPYA
		FTCI41	ZBHH	HOHHOT/Baita	0500	0600	BANGKOK	VTBBYPYX
			ZGHA	CHANGSHA/Huanghua	1100	1200	BRISBANE	YBZZYPYX
			ZJHK	HAIKOU/Meilan	1700	1800	SINGAPORE	WSZZYPYM
			ZHHH	WUHAN/Tianhe	2300	0000	**TOKYO**	RJAAYPYX
			ZSOF	HEFEI/Luogang			Hong Kong	VHZZYPYX
			ZSNJ	NANJING/Lukou			Jakarta	WIZZYPYX
			ZUCK	CHONGQING/Jiangbei			Karachi	OPZZYPYX
			ZLLL	LANZHOU/Zhongchuan			Mumbai	VABBYPYX
			ZYHB	HARBIN/Yanjiangang			Incheon	RKSIYPYX
			ZYCC	CHANGCHUN/Dafangshen			Ulan Bator	ZMUBYMYX
			ZWSH	KASHI			Wellington	NZZZYPYX

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Brisbane	YBBN	**FTAU31**	YSSY	SYDNEY/Kingsford Smith Intl	0500	0600	BANGKOK	VTBBYPYX
			YPAD	ADELAIDE/Adelaide	1100	1200	**BRISBANE**	YBZZYPYX
			YBBN	BRISBANE/Brisbane	1700	1800	SINGAPORE	WSZZYPYM
			YMML	MELBOURNE/Melbourne Intl	2300	0000	TOKYO	RJAAYPYX
			YBCS	CAIRNS/Cairns			Beijing	ZBBBYPYX
			YPPH	PERTH/Perth			Hong Kong	VHZZYPYX
			YPDN	DARWIN/Darwin			Jakarta	WIZZYPYX
			YBAS	ALICE SPRINGS/Alice Springs			Manila	RPLLYPYX
			YPTN	TINDAL/Tindal			Mumbai	VABBYPYX
			YPXM	CHRISTMAS ISLAND/Christmas Island			Nadi	NFZZRFXX
							Port Moresby	AYPYYMYX
							Wellington	NZZZYPYX
		FTAU32	YSCB	CANBERRA/Canberra	0500	0600	BANGKOK	VTBBYPYX
			YBCG	COOLANGATTA/Coolangatta	1100	1200	**BRISBANE**	YBZZYPYX
			YMAV	AVALON/Avalon	1700	1800	SINGAPORE	WSZZYPYM
			YBTL	TOWNSVILLE/Townsville	2300	0000	TOKYO	RJAAYPYX
			YBRK	ROCKHAMPTON/Rockhampton			Hong Kong	VHZZYPYX
			YPLM	LEARMOUNTH/Learmounth			Jakarta	WIZZYPYX
			YPKG	KALGOORLIE/Kalgoorlie			Manila	RPLLYPYX
			YPPD	PORT HEDLAND/Port Hedland			Mumbai	VABBYPYX
			YPEA	PEARCE/Perace RAAF			Nadi	NFZZRFXX
			YPCC	COCOS ISLAND/Cocos Island			Wellington	NZZZYPYX

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Hong Kong	VHHH	**FTHK31**	VHHH	HONG KONG/Hong Kong Intl	0400	0600	BANGKOK	VTBBYPYX
			RCTP	TAIBEI/Taibei Intl	1000	1200	BRISBANE	YBZZYPYX
			RCKH	GAOXIONG/Gaoxiong	1600	1800	SINGAPORE	WSZZYPYM
			RCSS	TABEI/Sungshan	2200	0000	**TOKYO**	RJAAYPYX
			VMMC	MACAU/Macau Intl			Abu Dhabi	OMZZYPYX
			RPLL	MANILA/Ninoy Aquino Intl			Bahrain	OBZZYPYX
			RPVM	LAPU LAPU/Mactan Cebu Intl			Beijing	ZBBYPYX
			RPMD	DAVAO/Francisco Bangoy Intl			Beirut	OLLLYPYX
			RPLB	SUBIC BAY/Subic Bay Intl			Karachi	OPZZYPYX
			RPMZ	ZAMBOANGA/Zamboanga Intl			Mumbai	VABBYPYX
			RPLI	LAOAG/Laoag Intl			Incheon	RKSIYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYA
Karachi	OPKC	**FTPK31**	OPKC	KARACHI/Quaid-E-Azam Intl	0400	0600	**BANGKOK**	VTBBYPYX
			OPRN	ISLAMABAD/Chaklala	1000	1200	BRISBANE	YBZZYPYX
			OPLA	LAHORE/Lahore	1600	1800	SINGAPORE	WSZZYPYM
			OPNH	NAWABSHAH/Nawabshah	2200	0000	TOKYO	RJAAYPYX
			OPPS	PESHAVAR			Abu Dhabi	OMZZYPYX
			OPGD	GAWADAR			Bahrain	OBZZYPYX
							Beijing	ZBBYPYX
							Beirut	OLLLYPYX
							Hong Kong	VHZZYPYX
							Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Tehran	OIIIYPYX
Mumbai	VABB	**FTIN31**	VABB	MUMBAI/Jawaharlal Nehru Intl	0400	0600	**BANGKOK**	VTBBYPYX
		(FTAS31	VAAH	AHMADABAD/Ahmadabad	1000	1200	BRISBANE	YBZZYPYX
		currently used	VECC	CALCUTTA/Calcutta	1600	1800	SINGAPORE	WSZZYPYM
		instead; to be	VCBI	COLOMBO/Katunayake	2200	0000	TOKYO	RJAAYPYX
		corrected)	VIDP	DELHI/Indira Gandhi Intl			Abu Dhabi	OMZZYPYX
			VILK	LUCKNOW*			Bahrain	OBZZYPYX
			VOMM	CHENNAI/Chennai			Beijing	ZBBYPYX
			VOTV	TRIVANDRUM/Trivandrum			Beirut	OLLLYPYX
			VANP	NAGPUR/Nagpur			Hong Kong	VHZZYPYX
			VNKT	KATHMANDU/Tribhuvan Intl			Jeddah	OEJDYPYX

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
							Karachi	OPZZYPYX
							Tehran	OIIIYPYX
Nadi	NFFN	**FTPS31**	NFFN	NADI/Intl	0400	0600	BANGKOK	VTBBYPYX
			NWWW	NOUMEA/La Tontouta	1000	1200	BRISBANE	YBZZYPYX
			NSTU	PAGO PAGO/Intl, Tutuila I.	1600	1800	SINGAPORE	WSZZYPYM
							NADI	NFZZRFXX
					2200	0000	TOKYO	RJAAYPYX
							Hong Kong	VHZZYPYX
							Wellington	NZZZYPYA
Incheon	RKSI	**FTKO31**	RKSI	SEOUL/Incheon Intl	0500	0600	BANGKOK	VTBBYPYX
			RKSS	SEOUL/Gimpo Intl	1100	1200	BRISBANE	YBZZYPYX
			RKPC	JEJU/Jeju Intl	1700	1800	SINGAPORE	WSZZYPYM
			RKPK	BUSAN/Gimhae Intl	2300	0000	**TOKYO**	RJAAYPYX
			RKTU	CHEONGJU/Cheongju Intl			Hong Kong	VHZZYPYX
			RKNY	YANGYANG/Yangyang Intl			Karachi	OPZZYPYX
			RKTN	DAEGU/Daegu Intl			Wellington	NZZZYPYX
Singapore	WSSS	**FTSR31**	WSSS	SINGAPORE/Changi	0430	0600	BANGKOK	VTBBYPYX
			WSAP	SINGAPORE/Paya Lebar	1030	1200	BRISBANE	YBZZYPYX
			WMKK	KUALA LUMPUR/Kuala Lumpur Intl	1630	1800	**SINGAPORE**	WSZZYPYM
			WRRR	DENPASAR/Ngurah Rai (Bali Intl)	2230	0000	TOKYO	RJAAYPYX
			WMKJ	JOHOR BAHRU/Sultan Ismail			NADI	NFZZRFXX
			WMKP	PENANG/Bayan Lepas			Abu Dhabi	OMZZYPYX
			WRSJ	SURABAYA/Juanda			Bahrain	OBZZYPYX
			WIIH	JAKARTA/Halim			Beijing	ZBBBYPYX
			WIII	JAKARTA/Soekarno-Hatta			Beirut	OLLLYPYX
			WMSA	SUBANG/Sultan Abdul Aziz Shah			Colombo	VCCCYPYX
							Hong Kong	VHZZYPYX
							Karachi	OPZZYPYX
							Manila	RPLLYPYX
							Mumbai	VABBYPYX
							Incheon	RKSIYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYA

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
		FTSR32	WBSB	BANDAR SERI BEGAWAN /Brunei Intl	0430	0600	BANGKOK	VTBBYPYX
			WBKK	KOTA KINABALU/Kota Kinabalu Intl	1030	1200	BRISBANE	YBZZYPYX
			WBGG	KUCHING/Kuching	1630	1800	**SINGAPORE**	WSZZYPYM
			WIMM	MEDAN/Polonia	2230	0000	TOKYO	RJAAYPYX
							Beirut	OLLLYPYX
							Hong Kong	VHZZYPYX
							Manila*	RPLLYMYX
							Mumbai	VABBYPYX
							Wellington	NZZZYPYX
Tokyo	RJTD	**FTJP31**	RJAA	TOKYO/New Tokyo Intl	0300	1200	BANGKOK	VTBBYPYX
			RJTT	TOKYO/Tokyo Intl	0900	1800	BRISBANE	YBZZYPYX
			ROAH	NAHA/Naha	1500	0000	SINGAPORE	WSZZYPYM
			RJOO	OSAKA/Osaka Intl	2100	0600	**TOKYO**	RJAAYPYX
			RJCH	HAKODATE/Hakodate			Beijing	ZBBBYPYX
			RJBB	OSAKA/Kansai Intl			Beirut	OLLLYPYX
			RJSS	SENDAI/Sendai			Brasilia	SBBRYZYX
							Colombo	VCBIYMYX
							Guam	PGUMCOAX
							Hong Kong	VHZZYPXX
							Mumbai	VABBYPYX
							Nadi	NFZZRAXX
							Saipan	PGSNYMYX
							Seoul	RKSIYPYX
							Washington	KWBCYMYX
							Wellington	NZZZYPYA
		FTJP32	RJFF	FUKUOKA/Fukuoka	0300	1200	BANGKOK	VTBBYPYX
			RJNN	NAGOYA/Nagoya	0900	1800	BRISBANE	YBZZYPYX
			RJCC	SAPPORO/New Chitose	1500	0000	SINGAPORE	WSZZYPYM
			RJFK	KAGOSHIMA/Kagoshima	2100	0600	**TOKYO**	RJAAYPYX
			RJSN	NIIGATA/Niigata			Beijing	ZBBBYPYX
			RJFU	NAGASAKI/Nagasaki			Beirut	OLLLYPYX
			RJFT	KUMAMOTO/Kumamoto			Hong Kong	VHZZYPXX
			RJOA	HIROSHIMA/Hiroshima			Mumbai	VABBYPYX
			RJOB	OKAYAMA/Okayama			Seoul	RKSIYPYX
			RJOT	TAKAMATSU/Takamatsu			Wellington	NZZZYPYA

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
			RJFO	OITA/Oita			Colombo	VCBIYMYX
			RJNT	TOYAMA/Toyama			Nadi	NFZZRAXX
			RJNK	KANAZAWA/Komatsu			Washington	KWBCYMYX
							Saipan	PGSNYMYX
							Guam	PGUMCOAX
							Brasilia	SBBRYZYX
Wellington	NZKL	**FTNZ31**	NZWN	WELLINGTON/Wellington Intl		1200	BANGKOK	VTBBYPYX
			NZAA	AUCKLAND/Auckland Intl		1800	**BRISBANE**	YBZZYPYX
			NZCH	CHRISTCHURCH/Christchurch Intl		0000	SINGAPORE	WSZZYPYM
						0600	TOKYO	RJAAYPYX
							Beijing	ZBBBYPYX
							Nadi	NFZZRFYX
							Port Moresby	AYPPYMYX
							Hong Kong	VHZZYPYX
		FTNZ32	~~NCRG~~	~~AVARUA/Rarotonga Intl~~				
			NTAA	TAHITI/Faaa				
			NTTO	HAO/Hao				
MID REGION								
Bahrain	OBBI	**FTBN31**	OBBI	BAHRAIN/Intl	0300	0600	**BANGKOK**	VTBBYPYX
			OEDR	DHAHRAN/King AbdulAziz Air base	0900	1200	BRISBANE	YBZZYPYX
			OTBD	DOHA/Intl	1500	1800	SINGAPORE	WSZZYPYM
			OKBK	KUWAIT/Intl	2100	0000	TOKYO	RJAAYPYX
							Baghdad	ORBSYMYX
							Beijing	ZBBBYPYX
							Beirut	OLLLYPYX
							Hong Kong	VHZZYPYX
							Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Mumbai	VABBYPYX
							Seoul	RKSSYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYX
		FTBN32	OMAA	ABU DHABI/Abu Dabi Intl	0300	0600	**BANGKOK**	VTBBYPYX

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
			OMDB	DUBAI/Dubai Intl	0900	1200	BRISBANE	YBZZYPYX
			OMSJ	SHARJAH/Intl	1500	1800	SINGAPORE	WSZZYPYM
			OOMS	MUSCAT/Seeb Intl	2100	0000	TOKYO	RJAAYPYX
			OMRK	RAS AL KHAIMAH/Ras Al Kahimah			Baghdad	ORBSYMYS
			OMFJ	FUJEIRAH/Fujeirah Intl			Beijing	ZBBBYPYX
			OOSA	SALALAH			Beirut	OLLLYPYX
			OMAL	AL AIN			Hong Kong	VHZZYPYX
							Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Mumbai	VABBYPYX
							Seoul	RKSSYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYX
Beirut	OLBA	**FTME31**	OLBA	BEIRUT/Beirut Intl	0400	0600	**BANGKOK**	VTBBYPYX
			OJAM	AMMAN/Marka Intl	1000	1200	BRISBANE	YBZZYPYX
			OJAI	AMMAN/Qeen Alia Intl	1600	1800	SINGAPORE	WSZZYPYM
			ORBS	BAGHDAD/Saddam Intl	2200	0000	TOKYO	RJAAYPYX
			ORMM	BASRAH/Basrah Intl			Abu Dhabi	OMZZYPYX
			OSDI	DAMASCUS/Damascus Intl			Bahrain	OBZZYPYX
							Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Mumbai	VABBYPYX
							Tehran	OIIIYPYX
Jeddah	OEJD	**FTSD31**	OEJN	JEDDAH/King Abdul Aziz Intl	0400	0600	**BANGKOK**	VTBBYPYX
			OEMA	MADINAH/Pr. Mohammad Bin Abdul Aziz	1000	1200	BRISBANE	YBZZYPYX
			OERK	RIYADH/King Khaled Intl	1600	1800	SINGAPORE	WSZZYPYM
			OEDR	DHAHRAN/King Abdul Aziz Air Base	2200	0000	TOKYO	RJAAYPYX
			OYSN	SANA'A/Sana'a Intl			Abu Dhabi	OMZZYPYX
			OYAA	ADEN/Aden Intl			Bahrain	OBZZYPYX
							Beirut	OLLLYPYX
							Hong Kong	VHZZYPYX
							Karachi	OPZZYPYX
							Mumbai	VABBYPYX
							Tehran	OIIIYPYX

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**TTAAii**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Tehran	OIII	**FTIR31**	OIII	THERAN/Mehrabad Intl	0400	0600	**BANGKOK**	VTBBYPYX
			OIFM	ESFAHAN/Shahid Behesti	1000	1200	BRISBANE	YBZZYPYX
			OISS	SHIRAZ/Shahid Dastghaib Intl	1600	1800	SINGAPORE	WSZZYPYM
			OIZH	ZAHEDAN/Zahedan Intl	2200	0000	TOKYO	RJAAYPYX
			OIKB	BANDAR ABBAS/Bandar Abbas Intl			Abu Dhabi	OMZZYPYX
			OIMM	MASHHAD/Shahid Hashemi Nejad Intl			Bahrain	OBZZYPYX
			OIAW	AHWAZ			Beijing	ZBBBYPYX
			OIKK	KERMAN			Beirut	OLLLYPYX
			OITT	TABRIZ/Tabriz Intl			Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Mumbai	VABBYPYX

TAF BULLETINS (FC)

Table B-2 : FC TAF (9- and 12-hour)

Note: The ROBEX centres included in this table are those that indicated that FC TAF is issued and agreed on its inclusion in the ROBEX exchange. Some of the centres did not specify the bulletins for FC TAF; this and any other relevant information will be added to the table upon receipt from the responsible ROBEX centres.

Explanation of the Table

Col. 1: Name of ICAO location indicator of the ROBEX Centre compiling the

Col. 2: Description of the TAF Bulletin

Col. 3: Distribution of the bulletin to other ROBEX Centres and RODBs

Note : The RODB responsible for storing the bulletin is in bold

ROBEX Collection and Dissemination of Short (9- and 12-hr) TAF Bulletins (FC)

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**Bul No.**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Bangkok	**VTBD**	**FCAS31**	VTBD	BANGKOK/Bangkok Intl	2300	0000	**BANGKOK**	VTBBYPYX
		(To be	VTCC	Chiang Mai	0200	0300	BRISBANE	YBZZYPYX
		changed			0500	0600	SINGAPORE	WSZZYPYM
		to FCTH31)			0800	0900	TOKYO	RJAAYPYX
					1100	1200	Abu Dhabi	OMZZYPYX
					1400	1500	Bahrain	OBZZYPYX
					1700	1800	Beijing	ZBBBYPYX
					2000	2100	Beirut	OLLLYPYX
							Hong Kong	VHZZYPYX
							Jeddah	OEJDYPYX
							Karachi	OPZZYPYX
							Kuala Lumpur	WMZZYPYR
							Mumbai	VABBYPYX
							Incheon	RKSIYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYA
Beijing	**ZBBB**	**FCCI31**	ZBAA	BEIJING/Capital	2300	0000	BANGKOK	VTBBYPYX
			ZGGG	GUANGZHOU/Baiyun	0200	0300	BRISBANE	YBZZYPYX
			ZSSS	SHANGHAI/Hongqiao	0500	0600	SINGAPORE	WSZZYPYM
			ZYTX	SHENYANG/Taoxian	0800	0900	**TOKYO**	RJAAYPYX
			ZWWW	URUMQI/Diwopu	1100	1200	Hong Kong	VHZZYPYX
			ZSPD	SHANGHAI/Pudong	1400	1500	Karachi	OPZZYPYX
			ZPPP	KUNMING/Wujiaba	1700	1800	Mumbai	VABBYPYX
			ZGSZ	SHENZHEN/Baoan	2000	2100	Incheon	RKSIYPYX
			ZHHH	WUHAN/Tianhe			Ulan Bator	XMUBYMYX
			ZLLL	LANZHOU/Zhongchuan			Wellington	NZZZYPYA
			ZJSY	SANYA				

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ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**Bul No.**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Brisbane	**YBBN**	**FCAU31**	YBRM	BROOME/Broome	0500	0600	BANGKOK	VTBBYPYX
			YSNF	NORFOLK ISLAND/Norfolk Island	1100	1200	**BRISBANE**	YBZZYPYX
			YSDU	DUBBO/Dubbo	1700	1800	SINGAPORE	WSZZYPYM
			YSRI	RICHMOND/Richmond RAAF	2300	0000	TOKYO	RJAAYPYX
			YWLM	WILLIAMTOWN/Williamtown RAAF			Beijing	ZBBBYPYX
			YMLT	LAUNCESTON/Launceston			Hong Kong	VHZZYPYX
			YMHB	HOBART/Hobart			Jakarta	WIZZYPYX
			YBHM	HAMILTON ISLAND			Manila	RPLLYPYX
			YBMA	MOUNT ISA			Mumbai	VABBYPYX
			YAMB	AMBERLEY			Nadi	NFZZRFXX
			YPGV	GOVE			Port Moresby	AYPYYMYX
			YFRT	FORREST			Wellington	NZZZYPYX
			YCIN	CURTIN/DERBY				
Hong Kong	**VHHH**	**FCHK31**	VHHH	HONG KONG/Hong Kong Intl	2300	0000	BANGKOK	VTBBYPYX
					0200	0300	BRISBANE	YBZZYPYX
					0500	0600	SINGAPORE	WSZZYPYM
					0800	0900	**TOKYO**	RJAAYPYX
					1100	1200	Abu Dhabi	OMZZYPYX
					1400	1500	Bahrain	OBZZYPYX
					1700	1800	Beijing	ZBBYPYX
					2000	2100	Beirut	OLLLYPYX
							Karachi	OPZZYPYX
							Mumbai	VABBYPYX
							Incheon	RKSIYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYA
Karachi	**OPKC**	**TBD**						
Mumbai	**VABB**	**TBD**						

1		2					3	
ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**Bul No.**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
Nadi	**NFFN**	**FCPS31**	NFFN	NADI/ Intl	2300	0000	BANGKOK	VTBBYPYX
			NFNA	NAUSORI/ Intl	0200	0300	BRISBANE	YBZZYPYX
			NFTF	FUA'AMOTU/ Intl	0500	0600	SINGAPORE	WSZZYPYM
			NSFA	FALEOLO/ Intl	0800	0900	**NADI**	NFZZRFXX
			NCRG	RAPOTONGA INTL	1100	1200	TOKYO	RJAAYPYX
			NIUE	NIUE INTL	1400	1500	Hong Kong	VHZZYPYX
			NLWW	WALLIS-HIHIFO	1700	1800	Wellington	NZZZYPYA
					2000	2100		
Incheon	**RKSI**							
Singapore	**WSSS**	**FCSR31**	WSSS	SINGAPORE/Changi	2300	0000	BANGKOK	VTBBYPYX
					0200	0300	BRISBANE	YBZZYPYX
					0500	0600	**SINGAPORE**	WSZZYPYM
					0800	0900	TOKYO	RJAAYPYX
					1100	1200	Abu Dhabi	OMZZYPYX
					1400	1500	Bahrain	OBZZYPYX
					1700	1800	Beijing	ZBBBYPYX
					2000	2100	Beirut	OLLLYPYX
							Colombo	VCCCYPYX
							Hong Kong	VHZZYPYX
							Karachi	OPZZYPYX
							Manila	RPLLYPYX
							Mumbai	VABBYPYX
							Nadi	NFZZRFXX
							Incheon	RKSIYPYX
							Tehran	OIIIYPYX
							Wellington	NZZZYPYA
Tokyo	**RJTD**	**FCJP31**	RJAA	TOKYO/New Tokyo Intl	2300	0000	BANGKOK	VTBBYPYX
			RJTT	TOKYO/Tokyo Intl	0200	0300	BRISBANE	YBZZYPYX
			ROAH	NAHA/Naha	0500	0600	SINGAPORE	WSZZYPYM
			RJOO	OSAKA/Osaka Intl	0800	0900	**TOKYO**	RJAAYPYX
			RJCH	HAKODATE/Hakodate	1100	1200	Beijing	ZBBBYPYX
			RJBB	OSAKA/Kansai Intl	1400	1500	Beirut	OLLLYPYX
			RJSS	SENDAI/Sendai	1700	1800	Hong Kong	VHZZYPXX

1		2					3	
ROBEX Centre		**TAF Bulletin**					**Dissemination**	
Name	**CCCC**	**Bul No.**	**CCCC**	**Aerodrome**	**Filing time**	**Start of v.**	**RODB/ROBEX Centre**	**AFTN address**
					2000	2100	Mumbai	VABBYPYX
							Seoul	RKSIYPYX
							Wellington	NZZZYPYA
							Colombo	VCBIYMYX
							Nadi	NFFNYPYX
							Washington	KWBCYMYX
							Saipan	PGSNYMYX
							Guam	PGUMCOAX
							Brasilia	SBBRYZYX
		FCJP32	RJFF	FUKUOKA/Fukuoka	2300	0000	BANGKOK	VTBBYPYX
			RJNN	NAGOYA/Nagoya	0200	0300	BRISBANE	YBZZYPYX
			RJCC	SAPPORO/New Chitose	0500	0600	SINGAPORE	WSZZYPYM
			RJFK	KAGOSHIMA/Kagoshima	0800	0900	**TOKYO**	RJAAYPYX
			RJSN	NIIGATA/Niigata	1100	1200	Beijing	ZBBBYPYX
			RJFU	NAGASAKI/Nagasaki	1400	1500	Beirut	OLLLYPYX
			RJFT	KUMAMOTO/Kumamoto	1700	1800	Hong Kong	VHZZYPXX
			RJOA	HIROSHIMA/Hiroshima	2000	2100	Mumbai	VABBYPYX
			RJOB	OKAYAMA/Okayama			Seoul	RKSIYPYX
			RJOT	TAKAMATSU/Takamatsu			Wellington	NZZZYPYA
			RJFO	OITA/Oita			Colombo	VCBIYMYX
			RJNT	TOYAMA/Toyama			Nadi	NFFNYPYX
			RJNK	KANAZAWA/Komatsu			Washington	KWBCYMYX
							Saipan	PGSNYMYX
							Guam	PGUMCOAX
							Brasilia	SBBRYZYX
Jakarta		**FCID31**	WRSJ	SURABAYA/Juanda			BANGKOK	VTBBYPYX
			WIIH	JAKARTA/Halim			BRISBANE	YBZZSQJX
			WIII	JAKARTA/Soekarno-Hatta			**SINGAPORE**	WSZZYPYM
			WIMM	MEDAN/Polonia			TOKYO	RJAAYPYX
			WAAA	UJUNG PANDANG/Hasanuddin			Hong Kong	VHZZYPYX
			WRRR	DENPASAR/Ngurah Rai (Bali Intl)			Kuala Lumpur	WMZZYPYR
			WABB	BIAK/Frans Kaisieppo			Wellington	NZZZYPYX
			WIKB	BATAM/Hang Nadim				

APPENDIX C

ROBEX Collection and Dissemination of TAF and METAR vs. FASID Table MET 1A

Explanation of the Table

Col. 1: Name of the aerodrome

Col. 2: Use of the aerodrome:

Col. 3: ICAO location indicator

Col. 4: ROBEX METAR (SA) bulletin in which the aerodrome is included

Col. 5: ROBEX TAF (FT) bulletin in which the aerodrome is included

Col. 6: RODB responsible for the aerodrome/bulletin

ROBEX Exchange of METAR and TAF compared with ASIA/PAC ANP Table AOP1 (FASID Table MET 1A)

Name of the aerodrome	Use	ICAO loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	RODB
1	2	3	4	5	6
AFGHANISTAN					
KABUL/Kabul	RS	OAKB			Bangkok
KANDAHAR/Kandahar	AS	OAKN			
AMERICAN SAMOA(United States)					
PAGO PAGO/Pago Pago Intl	RS	NSTU		FTPS31 NFFN	Nadi
AUSTRALIA					
ADELAIDE/Adelaide	RS	YPAD	SAAU31 YBBN	FTAU31 YBBN	Brisbane
ALICE SPRINGS/Alice Springs	AS	YBAS	SAAU31 YBBN	FTAU31 YBBN	
BRISBANE/Brisbane	RS	YBBN	SAAU31 YBBN	FTAU31 YBBN	
CAIRNS/Cairns	RS	YBCS	SAAU31 YBBN	FTAU31 YBBN	
CHRISTMAS I./Christmas I.	RS	YPXM	SAAU31 YBBN	FTAU31 YBBN	
COCOS I./Cocos I.	RS	YPCC	SAAU32 YBBN	FTAU32 YBBN	
DARWIN/Darwin	RS	YPDN	SAAU31 YBBN	FTAU32 YBBN	
HOBART/Hobart	RS	YMHB	SAAU32 YBBN	FTAU33 YBBN	
MELBOURNE/Melbourne Intl	RS	YMML	SAAU31 YBBN	FTAU31 YBBN	
NORFOLK I./Norfolk I.	RS	YSNF	SAAU32 YBBN	FTAU33 YBBN	
PERTH/Perth Intl	RS	YPPH	SAAU31 YBBN	FTAU32 YBBN	
PORT HEDLAND/Port Hedland	RS	YPPD	SAAU32 YBBN	FTAU32 YBBN	
ROCKHAMPTON/Rockhampton	AS	YBRK	SAAU32 YBBN	FTAU32 YBBN	
SYDNEY/Kingsford Smith Intl	RS	YSSY	SAAU31 YBBN	FTAU31 YBBN	
TINDAL/Tindal	AS	YPTN	SAAU31 YBBN	FTAU32 YBBN	
TOWNSVILLE/Townsville	RS	YBTL	SAAU31 YBBN	FTAU32 YBBN	
*AVALON**		YMAV	SAAU32 YBBN	FTAU32 YBBN	
BROOME/Broome		YBRM	SAAU32 YBBN	FTAU33 YBBN	
*CANBERRA**		YSCB	SAAU32 YBBN	FTAU32 YBBN	
*COOLANGATA**		YBCG	SAAU32 YBBN	FTAU32 YBBN	
DUBBO/Dubbo		YSDU	SAAU32 YBBN	FTAU33 YBBN	
*KLAGOORLIE**		YPKG	SAAU32 YBBN	FTAU32 YBBN	
*LAUNCESTON**		YMLT	SAAU32 YBBN	FTAU33 YBBN	
LEARMONTH/Learmonth		YPLM	SAAU31 YBBN	FTAU32 YBBN	
*PEARCE**		YPEA	SAAU32 YBBN	FTAU32 YBBN	
*RICHMOND**		YSRI	SAAU32 YBBN	FTAU33 YBBN	
*WILLIAMTOWN**		YWLM	SAAU32 YBBN	FTAU33 YBBN	
BANGLADESH					
CHITTAGONG/Chittagong	RS	VGEG	SAAE31 VECC		Bangkok
DHAKA/Zia Intl	RS	VGZR	SAAE31 VECC	FTAS31 VTBB	
BHUTAN					
PARO/Paro	RS	VQPR			
BRUNEI DARUSSALAM					
BANDAR SERI BEGAWAN/ Brunei Intl	RS	WBSB	SAMS31 WMKK	FTSR32 WSSS	Singapore
CAMBODIA					
PHNOM-PENH/Pochentong	RS	VDPP	SAAS31 VTBD	FTAS31 VTBB	Bangkok
SIEM-REAP/Angkor	AS	VDSR	SAAS31 VTBD		

Name of the aerodrome	Use	ICAO loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	RODB
1	2	3	4	5	6
CANADA					Tokyo
ABBOTSFORD/Abbotsford	AS	CYXX			
CALGARY/Calgary Intl	RS	CYYC			
COMOX/Comox	AS	CYQQ			
EDMONTON/Edmonton Intl	RS	CYEG	**Not required for regular ROBEX exchange, but to be available on request through Tokyo RODB**		
VANCOUVER/Vancouver Intl	RS	CYVR			
VICTORIA/Victoria Intl	RNS	CYYJ			
CHILE					
ISLA DE PASCUA/Mataveri	RS	SCIP			
CHINA					
BEIJING/Capital	RS	ZBAA	SACI31 ZBBB	FTCI31 ZBBB	Tokyo
CHANGSHA/Huanghua	RS	ZGHA	SACI41 ZBBB	FTCI41 ZBBB	
CHENGDU/Shuangliu	RS	ZUUU	SACI32 ZBBB	FTCI32 ZBBB	
CHONGQING/Jiangbei	RS	ZUCK	SACI41 ZBBB	FTCI41 ZBBB	
DALIAN/Zhoushuizi	RS	ZYTL	SACI31 ZBBB	FTCI31 ZBBB	
FUZHOU/Changle	RS	ZSFZ			
GAOXIONG/Gaoxiong	RS	RCKH	SAHK31 VHHH	FTHK31 VHHH	
GUANGZHOU/Baiyun	RS	ZGGG	SACI31 ZBBB	FTCI31 ZBBB	
HAIKOU/Meilan*		ZJHK	SACI41 ZBBB	FTCI41 ZBBB	
GUILIN/Liangjiang	RS	ZGKL	SACI32 ZBBB	FTCI32 ZBBB	
HANGZHOU/Jianqiao	RS	ZSHC	SACI31 ZBBB	FTCI31 ZBBB	
HARBIN/Yanjiagang	RS	ZYHB	SACI41 ZBBB	FTCI41 ZBBB	
HEFEI/Luogang	AS	ZSOF	SACI41 ZBBB	FTCI41 ZBBB	
HOHHOT/Baita	RS	ZBHH	SACI41 ZBBB	FTCI41 ZBBB	
JINAN/Yaoqiang	RS	ZSJN			
KASHI/Kashi	AS	ZWSH	SACI41 ZBBB	FTCI41 ZBBB	
KUNMING/Wujiaba	RS	ZPPP	SACI32 ZBBB	FTCI32 ZBBB	
LANZHOU/Zhongchuan	AS	ZLLL	SACI41 ZBBB	FTCI41 ZBBB	
NANJING/Lukou	RS	ZSNJ	SACI41 ZBBB	FTCI41 ZBBB	
NANNING/Wuxu	AS	ZGNN	SACI32 ZBBB	FTCI32 ZBBB	
QINGDAO/Liuting	RS	ZSQD	SACI32 ZBBB	FTCI32 ZBBB	
SANYA/Fenghuang	RS	ZJSY	SACI41 ZBBB		
SHANGHAI/Hongqiao	RS	ZSSS	SACI31 ZBBB	FTCI31 ZBBB	
SHANGHAI/Pudong	RS	ZSPD	SACI31 ZBBB	FTCI31 ZBBB	
*SHANTOU**		ZGOW	SACI32 ZBBB	FTCI32 ZBBB	
SHENYANG/Taoxian	RS	ZYTX	SACI31 ZBBB	FTCI31 ZBBB	
SHENZHEN/Huangtian	RS	ZGSZ	SACI32 ZBBB	FTCI32 ZBBB	
TAIBEI/Sungshan	AS	RCSS	SAHK31 VHHH	FTHK31 VHHH	
TAIBEI/Taibei Intl	RS	RCTP	SAHK31 VHHH	FTHK31 VHHH	
TAIYUAN/Wusu	AS	ZBYN	SACI31 ZBBB	FTCI31 ZBBB	
TIANJIN/Binhai	RS	ZBTJ	SACI31 ZBBB	FTCI31 ZBBB	
URUMQI/Diwopu	RS	ZWWW	SACI31 ZBBB	FTCI31 ZBBB	
WUHAN/Tianhe	RS	ZHHH	SACI41 ZBBB	FTCI41 ZBBB	
XIAMEN/Gaoqi	RS	ZSAM	SACI32 ZBBB	FTCI32 ZBBB	
XI'AN/Xianyang	RS	ZLXY	SACI32 ZBBB	FTCI32 ZBBB	
XICHANG/Qingshan	RNS	ZUXC			
Hong Kong, CHINA					
HONG KONG/Hong Kong Intl	RS	VHHH	SAHK31 VHHH	FTHK31 VHHH	Tokyo
Macau, CHINA					
MACAU/Macau Intl	RS	VMMC	SAHK31 VHHH	FTHK31 VHHH	Tokyo
COOK ISLANDS					
AVARUA/Rarotonga Intl	RS	NCRG			Brisbane

Name of the aerodrome	Use	ICAO loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	RODB
1	2	3	4	5	6
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA					
PYONGYANG/Sunan	RS	ZKPY			
FIJI					
NADI/Nadi Intl	RS	NFFN		FTPS31 NFFN	Nadi
SUVA/Nausori	RS	NFSU			
FRENCH POLYNESIA					
RANGIROA/Rangiroa	AS	NTTG			
TAHITI/Faaa	RS	NTAA			Brisbane
GUAM(United States)					
GUAM I./Agana NAS	RS	PGUM	SAPA41 KWBC	FTPQ31 PGUM	Tokyo
GUAM I./Anderson AFB	AS	PGUA			
INDIA					
AHMADABAD/Ahmadabad	AS	VAAH	SAIN31 VABB	FTAS31 VABB	Bangkok
AMRITSAR/Amritsar	RS	VIAR	SAIN32 VIDP		
CALCUTTA/Calcutta	RS	VECC	SAAE31 VECC	FTAS31 VABB	
CALICUT/Calicut	RS	VOCL			
CHENNAI/Chennai	RS	VOMM	SAIN31 VABB	FTAS32 VABB	
COCHIN/Cochin Intl		VOCI		FTAS32 VABB	
DELHI/Indira Gandhi Intl	RS	VIDP	SAIN32 VIDP	FTAS31 VABB	
JAIPUR		VIJP		FTAS31 VABB	
*HYDERABAD**		VOHY	SAIN31 VABB		
*LUCKNOW**		VILK		FTAS31 VABB	
MUMBAI/Jawaharlal Nehru Intl	RS	VABB	SAIN31 VABB	FTAS31 VABB	
NAGPUR/Nagpur	AS	VANP	SAIN31 VABB	FTAS31 VABB	
PATNA/Patna	RS	VEPT	SAIN31 VABB		
TIRUCHCHIRAPPALLI/Tiruchchirappalli	RS	VOTR	SAIN31 VABB		
TRIVANDRUM/Trivandrum	RS	VOTV	SAIN31 VABB	FTAS32 VABB	
VARANASI/Varanasi	RS	VIBN	SAIN32 VIDP		
INDONESIA					
AMBON/Pattimura	RNS	WAPP	SAID33 WIII		Singapore
BALIKPAPAN/Sepinggan	RS	WRLL	SAID32 WIII		
BANJARMASIN/Syamsuddin Noor	AS	WRBB	SAID32 WIII		
BATAM/Hang Nadim	AS	WIKB	SAID31 WIII		
BIAK/Frans Kaisieppo	RS	WABB	SAID31 WIII		
DENPASAR/Ngurah Rai (Bali Intl)	RS	WRRR	SAID31 WIII	FTSR31 WSSS	
JAKARTA/Halim Perdanakusuma	RS	WIIH	SAID31 WIII	FTSR31 WSSS	
JAKARTA/Soekarno Hatta Intl	RS	WIII	SAID31 WIII	FTSR31 WSSS	
JAYAPURA/Sentani	RS	WAJJ	SAID33 WIII		
KUPANG/Eltari	RS	WRKK	SAID33 WIII		
MANADO/Sam Ratulangi	RS	WAMM	SAID32 WIII		
MATARAM/Selaparang		WRRA	SAID32 WIII		
MEDAN/Polonia	RS	WIMM	SAID31 WIII	FTSR32 WSSS	
MERAUKE/Mopah	RNS	WAKK	SAID33 WIII		
PADANG/Tabing	RS	WIMG	SAID32 WIII		
PALEMBANG/Sultan Mahmud Badaruddin II	RNS	WIPP	SAID32 WIII		
PEKANBARU/Simpang Tiga	RS	WIBB	SAID32 WIII		
PONTIANAK/Supadio	RS	WIOO	SAID32 WIII		
SURABAYA/Juanda	RS	WRSJ	SAID31 WIII	FTSR31 WSSS	
TANJUNG PINANG/Kijang	RS	WIKN	SAID32 WIII		
TARAKAN/Tarakan	RS	WRLR	SAID33 WIII		
TIMIKA/Tembagapura	RNS	WABP	SAID33 WIII		
UJUNG PANDANG/Hasanuddin	RNS	WAAA	SAID31 WIII		

Name of the aerodrome	Use	ICAO loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	RODB
1	2	3	4	5	6
JAPAN					
FUKUOKA/Fukuoka	RS	RJFF	SAFE32 RJTD	FTJP32 RJTD	Tokyo
HAKODATE/Hakodate	AS	RJCH	SAFE32 RJTD	FTJP31 RJTD	
HIROSHIMA/Hiroshima	RS	RJOA		FTJP32 RJTD	
KAGOSHIMA/Kagoshima	RS	RJFK	SAFE32 RJTD	FTJP32 RJTD	
KANAZAWA/Komatsu*		RJNK		FTJP32 RJTD	
KUMAMOTO/Kumamoto	RS	RJFT		FTJP32 RJTD	
NAGASAKI/Nagasaki	RS	RJFU	SAFE32 RJTD	FTJP32 RJTD	
NAGOYA/Nagoya	RS	RJNN	SAFE31 RJTD	FTJP32 RJTD	
NAHA/Naha	RS	ROAH	SAFE31 RJTD	FTJP31 RJTD	
NIIGATA/Niigata	RS	RJSN		FTJP32 RJTD	
OITA/Oita	RS	RJFO		FTJP32 RJTD	
OKAYAMA/Okayama	RS	RJOB		FTJP32 RJTD	
OSAKA/Kansai Intl	RS	RJBB	SAFE31 RJTD	FTJP31 RJTD	
OSAKA/Osaka Intl	RS	RJOO	SAFE31 RJTD	FTJP31 RJTD	
SAPPORO/New Chitose	RS	RJCC	SAFE32 RJTD	FTJP32 RJTD	
SENDAI/Sendai	RNS	RJSS		FTJP31 RJTD	
TAKAMATSU/Takamatsu	RS	RJOT		FTJP32 RJTD	
TOKYO/New Tokyo Intl	RS	RJAA	SAFE31 RJTD	FTJP31 RJTD	
TOKYO/Tokyo Intl	AS	RJTT	SAFE31 RJTD	FTJP31 RJTD	
TOYAMA/Toyama*		RJNT		FTJP32 RJTD	
JOHNSTON I.(United States)					
JOHNSTON I./Johnston Atoll	RS	PJON			
KIRIBATI					
KIRITIMATI/Christmas I.	RS	PLCH			
TARAWA/Bonriki Intl	RS	NGTA			
LAO PEOPLE'S DEMOCRATIC REPUBLIC					
VIENTIANE/Wattay	RS	VLVT	SAAS31 VTBD	FTAS31 VTBB	Bangkok
MALAYSIA					
JOHOR BAHRU/Sultan Ismail	RS	WMKJ		FTSR31 WSSS	Singapore
KOTA KINABALU/Kota Kinabalu Intl	RS	WBKK	SAMS31 WMKK	FTSR32 WSSS	
KUALA LUMPUR/Kuala Lumpur Intl	RS	WMKK	SAMS31 WMKK	FTSR31 WSSS	
KUANTAN/Kuantan	RS	WMKD			
KUCHING/Kuching	RS	WBGG	SAMS31 WMKK	FTSR32 WSSS	
MALACCA/Malacca	RS	WMKM			
PENANG/Bayan Lepas	RS	WMKP	SAMS31 WMKK	FTSR31 WSSS	
PULAU LANGKAWI/Pulau Langkawi	RS	WMKL			
TAWAU/Tawau	RS	WBKW			
MALDIVES					
GAN/Gan	AS	VRMG			Bangkok
MALE/Hulule	RS	VRMM	SASB31 VCCC		
MARSHALL ISLANDS					
MAJURO ATOLL/Marshall I. Intl	RS	PKMJ			
MICRONESIA, FEDERATED STATES OF					
MOEN/Truk Intl	RS	PTKK			
PONAPE I./Ponape	RS	PTPN			
YAP I./Yap Intl	RS	PTYA			
MONGOLIA					
ULAN BATOR/Ulan Bator	RS	ZMUB	SACI41 ZBBB	FTCI32 ZBBB	Tokyo

Name of the aerodrome	Use	ICAO loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	RODB
1	2	3	4	5	6
MYANMAR					
YANGON/Yangon Intl	RS	VYYY	SAAS31 VTBD	FTAS31 VTBB	Bangkok
NAURU					
NAURU I./Nauru	RS	ANAU			
NEPAL					
KATHMANDU/Tribhuvan Intl	RS	VNKT	SAAE32 VECC	FTAS32 VABB	Bangkok
NEW CALEDONIA (France)					
NOUMEA/La Tontouta	RS	NWWW	SANC01 NWWW	FTPS31 NFFN	Nadi
NEW ZEALAND					
AUCKLAND/Auckland Intl	RS	NZAA	SANZ31 NZWN	FTNZ31 NZKL	Brisbane
CHRISTCHURCH/Christchurch Intl	RS	NZCH	SANZ31 NZWN	FTNZ31 NZKL	
WELLINGTON/Wellington Intl	RS	NZWN	SANZ31 NZWN	FTNZ31 NZKL	
NIUE(New Zealand)					
ALOFI/Niue Intl	RS	NIUE			
NORTHERN MARIANA ISLANDS (United States)					
ROTA/Rota Intl	RS	PGRO			
SAIPAN I. (OBYAN)/Saipan I. (Obyan) Intl	RS	PGSN			
PAKISTAN					
GWADAR/Gwadar	RS	OPGD			Bangkok
ISLAMABAD/Chaklala	RS	OPRN	SAPK31 OPKC	FTPK31 OPKC	
KARACHI/Quaid-E-Azam Intl	RS	OPKC	SAPK31 OPKC	FTPK31 OPKC	
LAHORE/Lahore	RS	OPLA	SAPK31 OPKC	FTPK31 OPKC	
NAWABSHAH/Nawabshah	AS	OPNH	SAPK31 OPKC	FTPK31 OPKC	
PESHAWAR/Peshawar	RS	OPPS		FTPK31 OPKC	
PALAU					
KOROR/Koror	RS	PTRO			
PAPUA NEW GUINEA					
~~KIETA/Kieta~~	~~RS~~	~~AYKT~~			Brisbane
PORT MORESBY/Jacksons	RS	AYPY	SAPW31 AYPY	FTAU32 YBBN	
VANIMO/Vanimo	RS	AYVN	SAPW31 AYPY		
PHILIPPINES					
DAVAO/Francisco Bangoy Intl	RNS	RPMD	SAHK31 VHHH	FTHK31 VHHH	Tokyo
LAOAG/Laoag Intl	AS	RPLI	SAHK31 VHHH	FTHK31 VHHH	
LAPU-LAPU/Mactan Intl	RS	RPVM	SAHK31 VHHH	FTHK31 VHHH	
MANILA/Nimoy Aquino Intl	RS	RPLL	SAHK31 VHHH	FTHK31 VHHH	
OLONGAPO/Cubi Intl	RNS	RPMB			
SUBIC BAY*		RPLB	SAHK31 VHHH	FTHK31 VHHH	
ZAMBOANGA/Zamboanga Intl	AS	RPMZ	SAHK31 VHHH	FTHK31 VHHH	
REPUBLIC OF KOREA					
BUSAN/Gimhae Intl	RS	RKPK	SAKO31 RKSI	FTKO31 RKSI	Tokyo
CHEONGJU/Cheongju Intl	RS	RKTU	SAKO31 RKSI	FTKO31 RKSI	
DAEGU/Daegu Intl	RS	RKTN	SAKO31 RKSI	FTKO31 RKSI	
SEOUL/Incheon Intl	RS	RKSI	SAKO31 RKSI	FTKO31 RKSI	
JEJU/Jeju Intl	RS	RKPC	SAKO31 RKSI	FTKO31 RKSI	
SEOUL/Gimpo Intl	AS	RKSS	SAKO31 RKSI	FTKO31 RKSI	
YANGYANG/Yangyang Intl	RS	RKNY	SAKO31 RKSI	FTKO31 RKSI	

Name of the aerodrome	Use	ICAO loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	RODB
1	2	3	4	5	6
SAMOA					
APIA/Faleolo Intl	RS	NSAP			
SINGAPORE					
SINGAPORE/Changi	AS	WSSS	SAMS31 WMKK	FTSR31 WSSS	Singapore
SINGAPORE/Paya Lebar	AS	WSAP		FTSR31 WSSS	
SINGAPORE/Seletar	RS	WSSL			
SOLOMON ISLANDS					
HONIARA/Henderson	RS	AGGH			
SRI LANKA					
COLOMBO/Katunayake	RS	VCBI	SASB31	FTAS32 VABB	Bangkok
MINNERIYA/Hingurakgoda (1997)	AS	VCCH			
THAILAND					
BANGKOK/Bangkok Intl	RS	VTBD	SAAS31 VTBB	FTAS31 VTBB	Bangkok
CHIANG MAI/Chiang Mai Intl	RS	VTCC	SAAS31 VTBB	FTAS32 VTBB	
CHIANG RAI/Chiang Rai Intl	RS	VTCR			
KHON KAEN/Khon Kaen		VTUK			
PHITSANULOK	RS	VTPP			
PHUKET/Phuket Intl	RS	VTSP	SAAS31 VTBB	FTAS32 VTBB	
RAYONG/Utapao Intl	RS	VTBU	SAAS31 VTBB	FTAS32 VTBB	
SONGKHLA/Hat Yai Intl	RS	VTSS	SAAS31 VTBB	FTAS32 VTBB	
SURAT THANI/Surat Thani	RS	VTSB			
UBON RATCHATHANI	RS	VTUU			
TONGA					
TONGATAPU/Fua'amotu Intl	RS	NFTF			
VAVA'U/Vava'u	RS	NFTV			
TUVALU					
FUNAFUTI/Funafuti Intl	RS	NGFU			
UNITED STATES					Tokyo
ANCHORAGE/Anchorage Intl	RS	PANC			
ANCHORAGE/Elmendorf AFB	AS	PAED			
COLD BAY/Cold Bay	AS	PACD			
EVERETT/Snohomish County	AS	KPAE			
FAIRBANKS/Eielson AFB	AS	PAEI			
FAIRBANKS/Fairbanks Intl	RS	PAFA			
FRESNO/Fresno Air Terminal	AS	KFAT			
HILO/General Lyman Field	AS	PHTO			
HONOLULU/Barbers Points NAS	AS	PHNA			
HONOLULU/Honolulu Intl	RS	PHNL			
KAHULUI/Kahului	AS	PHOG			
KING SALMON/King Salmon	AS	PAKN			
LOS ANGELES/Los Angeles Intl	RS	KLAX	**Not required for regular ROBEX exchange, but to be available on request through Tokyo RODB**		
OAKLAND/Metropolitan Oakland	AS	KOAK			
ONTARIO/Ontario Intl	AS	KONT			
PALMDALE/Palmdale P.F.T.I.	AS	KPMD			
PORTLAND/Portland Intl	AS	KPDX			
SACRAMENTO/Metropolitan	AS	KSMF			
SAN DIEGO/Lindbergh Field	AS	KSAN			
SAN FRANCISCO/San Francisco	RS	KSFO			
SAN JOSE/San Jose Intl	RS	KSJC			
SEATTLE BOEING FIELD/King County Intl	AS	KBFI			
SEATTLE/Seattle-Tacoma Intl	RS	KSEA			
SPOKANE/Spokane Intl	AS	KGEG			

Name of the aerodrome	Use	ICAO loc.ind.	ROBEX SA bulletin	ROBEX FT bulletin	RODB
1	2	3	4	5	6
STOCKTON/Metropolitan	AS	KSCK			
WASHINGTON/Dulles Intl	RS	KIAD			
VANUATU					
PORT-VILA/Bauerfield	RS	NVVV			
SANTO/Pekoa	RS	NVSS			
VIET NAM					
DANANG/Danang	AS	VVDN	SAAS31	FTAS32 VTBD	Bangkok
HANOI/Noibai	RS	VVNB	SAAS31	FTAS32 VTBD	
HO-CHI-MINH/Tan-Son-Nhut	RS	VVTS	SAAS31	FTAS31 VTBD	
WALLIS ISLANDS(France)					
WALLIS/Hififo	RS	NLWW			

* Aerodrome required for ROBEX exchange but not in FASID Table MET 1A

APPENDIX D

COLLECTION AND DISSEMINATION OF AIREP BULLETINS

(*Note: to be reviewed and updated by the AIREP Team of OPMET/M Task Force of the CNS/MET Sub-group of APANPIRG)*

Explanation of the Table

Col. 1: Name of ICAO location indicator of the ROBEX Centre compiling the bulletin.

Col. 2: Stations forming the ROBEX Centre, whose AIREPs should be sent to the associated ROBEX Centre (Col. 1) for inclusion into Bulletins.

Col. 3: Times at which ROBEX Centre in Col. 1 should prepare AIREP Bulletins for further dissemination.

Col. 4: Addressees to be used by the MCCs in Col. 1 for the distribution of its own AIREP bulletins. Bulletins received from other MCCs are to be distributed to the stations comprising the MCA (Col. 2), if required operationally.

Col. 5: Self-explanatory.

ROBEX Centre		**Preparation**	**AIREP Bulletins Disseminated to the following ROBEX Centre**		**Remarks**
1	2	3	4		5
Baghdad	Baghdad	See Remarks Col. 5	Abu Dhabi Bahrain Beirut Mumbai Delhi Karachi Tehran	OMZZYPYX* OBZZYPYX OLLLYPYX VABBYPYX VIDPYPYX OPZZYPYX OIZZYPYX	No AIREPs received
Bahrain	Bahrain Dubai Sharjah Abu Dhabi Doha Muscat Dhahran Kuwait Ras-al-Khaimah Fujeirah Al Ain	See Remarks Col. 5	Tehran Bombay Delhi Baghdad Beirut Karachi Jeddah Singapore	OIZZYPYX VABBYPYX VIDPYPYX ORBSYMYX OLLLYPYX OPZZYPYX OEJDYPYX WSSSYMYX*	AIREPs sent individually as received
Bangkok	Bangkok Chiang Mai U-Tapao Songkhla Phuket Vientiane Yangon Ho-Chi-Minh Hanoi	H + 2	Beijing Calcutta Hong Kong Mumbai Delhi Jakarta Tokyo Kuala Lumpur Colombo Singapore	ZBBBYPYX VECCYPYX VHZZYPYX VABBYPYX VIDPYPYX WIZZMCMC RJAAYPYX WMZZYPYR VCCCYPYX WSSSYMYX*	
Beijing	Beijing Dalian Guangzhou Hangzhou Shanghai Taiyuan Tianjin Urumqi	H + 00	Bangkok Calcutta Delhi Hong Kong Tokyo	VTBBYPYX VECCYPYX VIDPYPYX VHZZYPYX RJAAYPYX	
Beirut	Beirut Damascus Amman/Marka Amman/Q.A	H + 20	Tehran Bahrain Baghdad Jeddah Abu Dhabi	OIZZYPYX OBZZYPYX ORBSYMYX OEJDYPYX OMZZYPYX	

ROBEX Centre		Preparation	AIREP Bulletins Disseminated to the following ROBEX Centre		Remarks
1	2	3	4		5
Brisbane	Sydney Melbourne Brisbane Townsville Darwin Alice Springs Adelaide Perth	H + 50	Jakarta Kuala Lumpur Hong Kong Singapore Tokyo	WIZZMGMG WMZZYPYR VHZZYPYX WSSSYMYX* RJAAYPYX	
Calcutta	Calcutta Patna Dhaka Chittagong Kathmandu	H + 00	Beijing Tehran Bangkok Hong Kong Mumbai Delhi Kuala Lumpur Singapore	ZBBBYPYX OIZZYPYX VTBBYPYX VHZZYPYX VABBYPYX VIDPYPYX WMZZYPYR WSSSYMYX*	
Colombo	Colombo Male	H + 40	Bangkok Mumbai Calcutta Delhi Jakarta Kuala Lumpur Karachi Singapore	VTBBYPYX VABBYPYX VECCYPYX VIDPYPYX WIZZMBMB WMZZYPYR OPZZYPYX WSSSYMYX*	
Delhi	Delhi Lucknow Varanasi Amritsar	H + 45	Beijing Tehran Bahrain Mumbai Calcutta Bangkok Kuala Lumpur Karachi Singapore Abu Dhabi	ZBBBYPYX OIZZYPYX OBZZYPYX VABBYPYX VECCYPYX VTBBYPYX WMZZYPYR OPZZYPYX WSSSYMYX* OMZZYPYX*	
Hong Kong	Hong Kong Taibei Gaoxiong Manila Lapu Lapu	H + 45	Beijing Brisbane Bangkok Kuala Lumpur Tokyo Singapore	ZBBBYPYX YBZZSSYX VTBBYPYX WMZZYPYR RJAAYPYX WSSSYMYX*	Transmission at H + 55

ROBEX Centre		Preparation	AIREP Bulletins Disseminated to the following ROBEX Centre		Remarks
1	2	3	4		5
Jakarta	Jakarta Medan Surabaya Bali Ujung Pandang Biak	H + 20	Brisbane Bangkok Hong Kong Mumbai Kuala Lumpur Port Moresby Colombo Singapore Tokyo	YBZZSSGX VTBBYPYX VHZZYPYX VABBYPYX WMZZYPYR AYPYYMYX VCCCYPYX WSSSYMYX* RJAAYPYX	
Jeddah	Jeddah Madinah Riyadh Sana'a		Bahrain Baghdad Beirut Mumbai Karachi Tehran Abu Dhabi	OBZZYPYX ORBSYMYX OLLLYPYX VABBYPYX OPZZYPYX OIZZYPYX OMZZYPYX*	Bulletins not prepared as practically no AIREPs received
Karachi	Karachi	H + 35	Tehran Bahrain Calcutta Mumbai Delhi Baghdad Jeddah Colombo Abu Dhabi	OIZZYPYX OBZZYPYX VECCYPYX VABBYPYX VIDPYPYX ORBSYMYX OEJDYPYX VCCCYPYX OMZZYPYX	
Kuala Lumpur	Kuala Lumpur Singapore Penang Kota Kinabalu Kuching Brunei	H + 30	Brisbane Calcutta Bangkok Hong Kong Mumbai Delhi Jakarta Tokyo Colombo Singapore	YBZZSTHX VECCYPYX VTBBYPYX VHZZYPYX VABBYPYX VIDPYPYX WIZZMBMB RJAAYPYX VCCCYPYX WSSSYMYX*	
Mumbai	Mumbai Chennai Triruchchirapalli Trivandrum Ahmadabad	H + 55	Tehran Bahrain Calcutta Delhi Bangkok Hong Kong Jakarta	OIZZYPYX OBZZYPYX VECCYPYX VIDPYPYX VTBBYPYX VHZZYPYX WIZZMCMC	

ROBEX Centre		Preparation	AIREP Bulletins Disseminated to the following ROBEX Centre		Remarks
1	2	3	4		5
			Baghdad Kuala Lumpur Karachi Jeddah Colombo Singapore Abu Dhabi	ORBSYMYX WMZZYPYR OPZZYPYX OEJDYPYX VCCCYPYX WSSSYMYX* OMZZYPYX*	
Port Moresby	Port Moresby Madang Wewak	H + 55	Jakarta Hong Kong Tokyo Brisbane	WIZZMIMI VHZZYPYX RJAAYPYX YBZZSPOX	
Tehran	Tehran Zahedan Mashhad Esfahan Shiraz Bandar Abbas Kandahar Kabul Ahwaz Kerman Tabris	H + 10	Bahrain Calcutta Mumbai Delhi Baghdad Beirut Karachi Jeddah Abu Dhabi	OBZZYPYX VECCYPYX VABBYPYX VIDPYPYX ORBSYMYX OLLLYPYX OPZZYPYX OEJDYPYX OMZZYPYX*	
Tokyo	New Tokyo Tokyo Naha Osaka Kansai Sapporo Nagoya Fukuoka Kagoshima Seoul Gimhae Jeju Hakodate		Beijing Hong Kong Bangkok Kuala Lumpur Jakarta Port Moresby Brisbane	ZBBBYPYX VHZZYPYX VTBBYPYX WMZZYPYR WIZZMGMG AYPYYMYX YBZZSPRX	

* Not a MCC, but inserted on account of AFTN routing

APPENDIX E

WMO SIGMET HEADINGS USED BY ASIA/PAC METEOROLOGICAL WATCH OFFICES

Explanation of the Table

Col. 1: MWO location

Col. 2: MWO location indicator

Col. 3: WMO heading for SIGMET

Col. 4: WMO heading for SIGMET for tropical cyclone

Col. 5: WMO heading for SIGMET for volcanic ash

Col. 6: ICAO location indicator for the FIR/ACC served

Col. 7: Self-explanatory

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						
ADELAIDE/Adelaide	YPRM	WSAU31	WCAU31	WVAU31	YMMM	
BRISBANE/Brisbane	YBRF	WSAU31	WCAU31	WVAU31	YBBB	
					YMMM	
DARWIN/Darwin	YDRM	WSAU31	WCAU31	WVAU31	YBBB	
					YMMM	
HOBART/Hobart	YMHF	WSAU31	WCAU31	WVAU31	YMMM	
MELBOURNE/Melbourne	YMRF	WSAU31	WCAU31	WVAU31	YBBB	
					YMMM	
PERTH/Perth	YPRF	WSAU31	WCAU31	WVAU31	YBBB	
					YMMM	
SYDNEY/Sydney	YSRF	WSAU31	WCAU31	WVAU31	YBBB	
					YMMM	
TOWNSVILLE	YBTL	WSAU31	WCAU31	WVAU31	YBBB	
BANGLADESH						
DHAKA/Zia Intl	VGZR	WSBW20, 21, 31	WCBW20, 31		VGFR	
CAMBODIA						
PHNOM-PENH/Pochentong	VDPP				VDPP	MWO not established
CHINA						
BEIJING/Capital	ZBAA	WSCI33			ZBPE	
CHENGDU/Shuangliu	ZUUU	WSCI36				
GUANGZHOU/Baiyun	ZGGG	WSCI35			ZGZU	
KUNMING/Wujiaba	ZPPP	WSCI36			ZPKM	
LANZHOU/Chongchuan	ZLLL	WSCI37			ZLHW	
SHANGHAI/Hongqiao	ZSSS	WSCI34			ZSHA	
SHENYANG/Taoxian	ZYTX	WSCI38			ZYSH	
TAIBEI/Taibei Intl	RCTP	WSCI31	WCCI31	WVCI31	RCTP	
URUMQI/Diwopu	ZWWW	WSCI39			ZWUQ	
WUHAN/Tianhe	ZHHH	WSCI35			ZHWH	
HONG KONG/Hong Kong Intl	VHHH	WSSS20	WCSS20	WVSS20	VHHK	
				WVSS01		To be checked
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA						
PYONGYANG/Sunan	ZKPY				ZKKK	No SIGMET issued

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
FIJI						
NADI/Nadi Intl	NFFN	WSFJ01,02, …	WCFJ01,02, …	WVFJ01,02, …	NFFF	
FRENCH POLYNESIA						
TAHITI/Faaa	NTAA	WSPF21,22	WCPF21	WVPF21	NTTT	
GUAM (United States)						
GUAM I./Agana NAS	PGUM	WSPQ31-35	WCPN31 WCPQ31-35 WCPS31		KZOA	
INDIA						
CALCUTTA/Calcutta	VECC	WSIN31	WCIN31		VECF	
CHENNAI/Chennai	VOMM	WSIN31	WCIN31		VOMF	
DELHI/Indira Ghandi Intl	VIDP	WSIN31	WCIN31		VIDF	
MUMBAI/Jawaharlal Nehru Intl	VABB	WSIN31	WCIN31		VABF	
INDONESIA						
BIAK/Frans Kaisieppo	WABB	WSID23	WCID23	WVID23	WABZ	
DENPASAR/Ngurah Rai (Bali Intl)	WRRR	WSID22	WCID22	WVID22	WRRZ	
JAKARTA/Soekarno-Hatta Intl	WIII	WSID20	WCID20	WVID20	WIIZ	
UJUNG PANDANG/Hasanuddin	WAAA	WSID21	WCID21	WVID21	WAAZ	
JAPAN						
TOKYO/New Tokyo Intl	RJAA	WSJP31	WCJP31	WVJP31	RORG RJTG	
LAO PEOPLE'S DEMOCRATIC REPUBLIC						
VIENTIANE/Wattay	VLVT	WSLA31		WVLA31	VLVT	Not confirmed
MALAYSIA						
KOTA KINABALU/Kota Kinabalu Intl	WBKK	-	-	-	WBFC	
KUALA LUMPUR/Kuala Lumpur Intl	WMKK	WSMS31	WCMS31	WVMS31	WMFC	
MALDIVES						
MALE/Hulule	VRMM	WSMV31			VRMM	
MONGOLIA						
ULAN BATOR/Ulan Bator	ZMUB	WSMO31			ZMUB	Not confirmed
MYANMAR						
YANGON/Yangon Intl	VYYY	WSBM31	WCBM31		VYYY	Not confirmed

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
NAURU NAURU I./Nauru	ANAU				ANAU	No Information
NEPAL KATHMANDU/Tribhuvan Intl	VNKT	WSNP31			VNSM	Not confirmed
NEW ZEALAND NEW ZEALAND/Wellington ~~Intl~~*	NZKL	WSNZ21 WSPS21	WCNZ21 WCPS21	WVNZ21 WVPS21	NZZO NZZC	
NORTHERN MARIANA ISLANDS (United States) SAIPAN I. (OBYAN)/Saipan I.(Obyan) Intl	PGSN					No Information
PAKISTAN KARACHI/Quaid-E-Azam Intl LAHORE/Lahore	OPKC OPLA	WSPK31 WSPK31	WCPK31		OPKR OPLR	
PAPUA NEW GUINEA PORT MORESBY/Jacksons	AYPY	WSNG20	WCNG20	WVNG20 WVNG01	AYPY	
PHILIPPINES MANILA/Ninoy Aquino Intl	RPLL	WSPH31	WCPH31	WVPH31	RPHI	
REPUBLIC OF KOREA INCHEON/Incheon Intl	RKSI	WSKO31	WCKO31	WVKO31	RKRR	
SINGAPORE SINGAPORE/Singapore Changi	WSSS	WSSR20	WCSR20	WVSR20	WSJC	
SOLOMON ISLANDS HONIARA/Henderson	AGGH				AGGG	No Information
SRI LANKA COLOMBO/Katunayake	VCBI	WSSB31	WCSB31		VCBI	
THAILAND BANGKOK/Bangkok Intl	VTBD	WSTH31	WCTH31	WVTH31	VTBB	

* Operational monitoring coverage south of 60°S is limited due to the lack of information

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
UNITED STATES						
ANCHORAGE/Anchorage Intl	PANC	WSPN01 WSPN31 WSPN41		WVAK20-24	PZAN	
HONOLULU/Honolulu Intl	PHFO		WCPA31-35 WCPS31		KZOA	
(JUNEAU, Alaska)	*PAJN*	*WSPN01*			*PZAN*	
(KANSAS CITY/Missouri) (National Aviation Weather Advisory Unit)	KKCI	WSPN01-15			KZOA	
???	*PAWU*	*WSPN47,48*	*WCAK31-35*	*WVAK21-25*		
VIET NAM						
Gialam MWO	VVGL	WSVS31	WCVS31	WVVS31	VVNB VVTS	

APPENDIX F

WMO ABBREVIATED HEADING

(for use in ROBEX Messages/Bulletins)

1. Each ROBEX bulletin should have a WMO abbreviated heading in accordance with WMO No. 386, Manual on the Global Telecommunication System, Part II – Operational Procedures for the GTS. The symbolic form of the WMO abbreviated heading is as follows:

$T_1T_2A_1A_2$ii CCCC YYGGgg (BBB)

2. Explanation of the symbols

2.1. **$T_1T_2A_1A_2$ii –** This group is used in accordance with WMO No. 386, Manual on the Global Telecommunication System, Part II – Operational Procedures for the GTS, Attachment II-5.

2.1.1 **T_1T_2** - Data type designator, used for OPMET data as follows:

Data type	Abbreviated name	WMO data type designator T_1T_2
Aerodrome reports	METAR SPECI	SA SP
Aerodrome forecasts	TAF: 18 and 24-hour 9 and 12 hour	FT FC
SIGMET information	SIGMET SIGMET for TC SIGMET for VA	WS WC WV
Volcanic ash and tropical cyclone advisories	VAA TCA	FV FK
Air-reports	AIREP	UA
Administrative	ADMIN	NO

2.1.2 **A_1A_2** - Geographical designator, composed of two letters, according to WMO No. 386, Manual on the Global Telecommunication System, Part II – Operational Procedures for the GTS, Attachment II-5, Table C1. The following principles shall apply:

a) For ROBEX bulletins containing OPMET data from a single State or territory, the A_1A_2 designator should be chosen from Table C1, Part I – Country or territory designators;

b) For ROBEX bulletins containing OPMET data from more than one State or territory, a suitable A_1A_2 designator should be chosen from Table C1, Part II – Area Designators;

c) The part of the Table C1, Part II – Area Designators, which is relevant to the ROBEX scheme is reproduced bellow.

A_1A_2	**Country or territory**
AE	Southeast Asia
AF	Africa
AH	Afghanistan
AK	Alaska
AS	Asia
AU	Australia
AW	Near East
AX	Arabian Sea area
BD	Brunei Darussalam
BM	Myanmar
BN	Bahrain
BW	Bangladesh
CI	China
EC	East China Sea area
ER	United Arab Emirates
FE	Far East
GM	Guam Islands
HK	Hong Kong, China
ID	Indonesia
IN	India
IO	Indian Ocean area
IQ	Iraq
IR	Islamic Republic of Iran
JD	Jordan
JP	Japan
KB	Kiribati
KO	Republic of Korea
KP	Cambodia
KR	Democratic People's Republic of Korea
KU	Cook Islands
KW	Kuwait
LA	Lao People's Democratic Republic
LB	Lebanon
ME	Eastern Mediterranean area
MH	Marshall Islands

A_1A_2	**Country or territory**
MS	Malaysia
MU	Macao
MV	Maldives
NC	New Caledonia
NG	Papua New Guinea
NP	Nepal
NV	Vanuatu
NW	Nauru Island
NZ	New Zealand
OC	Oceania
OM	Oman
PA	Pacific area
PF	French Polynesia
PH	Philippines
PK	Pakistan
PN	North Pacific area
PQ	Western North Pacific
PS	South Pacific area
PW	Western Pacific area
PZ	Eastern Pacific area
QT	Qatar
SB	Sri Lanka
SD	Saudi Arabia
SJ	Sea of Japan area
SO	Solomon Islands
SR	Singapore
SS	South China Sea area
SY	Syrian Arab Republic
TH	Thailand
TM	Timor
TO	Tonga
TV	Tuvalu
US	United States of America
VS	Vietnam
YE	Republic of Yemen
ZM	Western Samoa

2.1.3 **ii** - series number of the bulletin. It shall be a number with two digits used to differentiate two or more bulletins with the same TTAA issued by an originator or a compiler of bulletins. "ii" will be unique to each bulletin.

2.1.3.1 The rules of assigning "ii" to bulletins are as fiollows:

- Bulletins containing reports prepared at the main synoptic hours for the stations included in the Regional Basic Synoptic Networks or stations included in the Regional Basic Climatological Networks shall be compiled into bulletins with ii in the series 01 to 19

- Bulletins containing "additional" data as defined in Resolution 40 (Cg-XIII) shall be compiled into bulletins with ii above 19.

2.1.3.2 For most of the ROBEX bulletins "ii" should be selected from the set "20 – 39". In case of METAR/TAF bulletins, ROBEX centres issuing only one bulletin should use "31", whilst ROBEX centres issuing more than one bulletin should use "31", "32", etc. AIREP bulletins should bear "31". SIGMET and advisory messages, which are required globally, may use ii numbers of the set "01 – 19" or "20 – 39".

2.2. **CCCC** - ICAO location indicator, according to Location Indicators, ICAO Doc 7910, of the ROBEX centre preparing the ROBEX Bulletin, or of the originator (aeronautical meteorological station, aerodrome meteorological office or NOC).

2.3. **YYGGgg –** Date-time group. To be used as follows:

2.3.1 YY - Day of the month.

2.3.2 GGgg - Hours and minutes

- For METAR bulletins/messages: the standard time of observation in UTC.

- For TAF bulletins: the full hour in UTC (the last two digits shall be 00) preceding the transmission time.

- For all other bulletin/messages - the time of compilation in UTC.

2.4. **BBB -** Optional group indicating an amended, corrected or delayed bulletin.

2.4.1 An abbreviated heading defined by TTAAii CCCC YYGGgg shall be used only once. Consequently, if this abbreviated heading has to be used again for an addition, a correction or an amendment, it shall be mandatory to add an appropriate BBB indicator, which shall be added after the date-time group. The indicator BBB shall be used as defined below:

- RRx – for delayed routine meteorological messages/bulletins;
- CCx – for corrections to previously relayed messages/bulletins;
- AAx – for amendments to TAF messages/bulletins;
- Pxx – for segmenting a large set of information into several bulletins.

The "x" above is an alphabetic character of A through X, indicating the sequential number of the irregular bulletin of certain type. For instance, for amended TAFs, AAA is used for the first amendment, AAB for the second, AAC for the third, etc; for delayed METARs or TAFs, RRA is used for the first delayed message, RRB for the second, etc.; and, for corrections to any OPMET bulletin, CCA is used for the first correction, CCB for the second, etc.

2.4.2 The current limitation of the AFTN regarding the length of the bulletins is up to 1500 characters. Bulletins longer than this will be split into two parts; in such a case, the optional group Pxx should be used to indicate the corresponding part of the bulletin, e.g., PAA – first part, PAB – second part, etc.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

DRAFT

ASIA/PACIFIC REGIONAL INTERFACE CONTROL DOCUMENT OPMET DATA BANK ACCESS PROCEDURES

2004

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Purpose

This document defines the standard access procedures for the designated Regional OPMET Databanks (RODB) in the ASIA/PAC Region. By accessing these databanks, the user implicitly acknowledges the disclaimer in p. ….

1.2 Organisation

This Interface Control Document contains details of:

- The locations and AFTN addresses of the RODBs;
- The request and reply AFTN message formats; and
- The standard available meteorological products.

2 REGIONAL OPMET DATABANKS

2.1 Location

The designated RODBs in the ASIA/PAC Region are located at Bangkok, Brisbane, Nadi, Singapore and Tokyo.

2.2 AFTN Access Addresses

The AFTN addresses that must be used to access the RODBs are the following:

Bangkok	VTBBYZYX
Brisbane	YBBBYZYX
Nadi	NFFNYZYX
Singapore	WSSSYZYX
Tokyo	RJTDYZYX

2.3 Meteorological Data Types

The following meteorological data types, as defined by the WMO data designator indicator, are stored and available on request from the RODBs:

TT	**Message Type**
SA	METAR
SP	SPECI
FC	9/12 HR TAF
FT	18/24 HR TAF
WS	SIGMET
WC	Tropical Cyclone SIGMET
WV	Volcanic Ash SIGMET
UA	Special AIREP (1)

FV	Volcanic Ash Advisory (VAA)
FK	Tropical Cyclone Advisory (TCA)

Note (1): *Not yet available in the ASIA/PAC RODBs.*

Note (2): *Further data types may be added as new requirements emerge. Only data with valid WMO abbreviated headings as defined in the WMO publication N°386 shall be processed.*

3 REQUEST/REPLY MESSAGE FORMAT

3.1 Request Messages

3.1.1 Request messages shall follow the AFTN standard telecommunication procedures as defined in Annex 10, Volume II. The text part of the messages shall be as defined in this document.

Note: *The standard AFTN message start and end characters and alignment characters (SOH, STX and ETX for ITA-5 format or ZCZC and NNNN for ITA-2 format) have been omitted for clarity in the following examples.*

3.1.2 Request messages shall use the AFTN priority GG.

3.1.3 The general format of the request message is as follows:

GG xxxxYZYX
YYGGgg yyyyyyyy
RQM/TTCCCC,(report(s))…/TTAAii, (bulletin(s))...=
RQM/TTCCCC,(report(s))…/TTAAii, (bulletin(s))...=
….

Where:

3.1.3.1 In the AFTN heading:

xxxxYZYX	is the AFTN address of the databank
YYGGgg	is the message origination date-time group
yyyyyyyy	is the AFTN address of the originator of the request

3.1.3.2 Each data request line is composed of the following elements:

RQM/	indicates the start of a data request line
TT	WMO data type identifier (see paragraph 2.3)
CCCC	4-letter location indicator (ICAO publication 7910)
or	
AAii	bulletin identifier (WMO manual 386, table C1 for AA)
=	indicator of the end of a request line.

3.1.3.3 Delimiters can be used within a request line as follows:

, indicates more requests for reports or bulletins for the same data type
/ indicates a new data type request within the same data request line

3.1.4 The length of the request line shall not exceed 69 characters including 'RQM' and the '=' signal. Up to ten request lines can be included in one AFTN request message, unless otherwise noted by the RODB (see the restrictions paragraph in the Appendices).

3.1.5 **Examples of request types**

3.1.5.1 ***Request for one data type at one location***

The format of the request line to obtain one MET data type for one location is as follows:

RQM/TTCCCC=

Examples:

1. RQM/SAYSSY=
2. RQM/FCWSSS=

3.1.5.2 ***Request for one data type at two or more locations***

The format of the request line to obtain one MET data type for two or more locations is as follows:

RQM/TTCCCC$_1$,CCCC$_2$,.....,CCCC$_n$=

Note: *Up to ten locations can be included in a request line.*

Examples:

1. RQM/SAYSSY,YBBN,YMML=
2. RQM/FTNZAA,NZCH=

3.1.5.3 ***Request for two or more data types at one location***

The format of the request line to obtain two or more MET data types for one location is as follows:

RQM/TT$_1$CCCC,TT$_2$,.....,TT$_n$=

Examples:

1. RQM/SAYMML,FC=
2. RQM/FTNFFN,SA,WC=

3.1.5.4 ***Request for different data types at different locations***

The format of the request line to obtain different MET data types for a number of locations is as follows:

RQM/TT$_1$CCCC,CCCC, …/TT$_2$CCCC,CCCC,…/...../TT$_n$CCCC,CCCC,…=

Examples:

1. RQM/SAYSSY/FCYBBN,YMML/FTYMML=

3.1.5.5 ***Request for a Meteorological Bulletin***

The format of the request line to obtain a Meteorological Bulletin is as follows:

RQM/TTAAii=

Examples:

1. RQM/FTAE31=
2. RQM/SAJP39=

Note: *Only one bulletin can be requested in an RQM request line. Up to six bulletins can be included in a request message*

3.1.5.6 ***Other Request Options***

RODBs may apply other specific request formats and options, such as requesting a number of preceding messages of certain data type, which shall be described in the "specific request formats" section in the Appendices for each RODB.

3.2 **Reply messages**

3.2.1 If the AFTN address of the originator of a request is authorised, the databank shall automatically reply to the AFTN originator address given in the request message.

3.2.2 Valid requests for bulletins and/or messages shall produce an answer, which shall be returned in a standard WMO bulletin format embedded as text in a standard AFTN message. Each bulletin shall be sent as a separate message.

3.2.3 Per valid requested bulletin or message(s) belonging to the same type and concerning valid stored messages, one or more reply bulletins shall be generated. Non valid requested groups shall be replied by an appropriate Information or Error Reply message.

3.2.4 In preparing the reply messages by the RODBs the following shall apply:

3.2.4.1 A reply for a METAR request shall consist of the latest METAR or SPECI reports available for the concerned station.

3.2.4.2 When a query for WS SIGMETs is received, the reply shall contain all valid WS, WV and WC SIGMETs that are available for the FIR.

3.2.5 **Format of the reply message**

3.2.5.1 The WMO abbreviated heading of a reply message will be constructed as:

TTAAii CCCC YYGGgg

where:

NOTE: ***The following format of the WMO heading for the RODB Reply message is proposed for use in the EUR Region. It should be further studied if this format is suitable for ASIA/PAC Region.***

TT	=	is the requested data type (e.g., SA)
AA	=	**XX** : fixed geographical designator for database reply
ii	=	**99** : fixed bulletin number for database reply
CCCC	=	location indicator of the reply database (e.g. VTBD, WSSS, etc.)
YYGGgg	=	depending on the original DTG of the Bulletin Header

Note: *for the issuing times of the TAFs and the observation times of the METARs, the user should refer to the DTG in the reports, which might be different from the DTG in the header.*

Example:

SAXX99 VTBD 031200
METAR CCCC 031200Z …
METAR CCCC 031200Z
…

3.2.5.2 The abbreviated heading of an *Information* or *Error Reply* message will be constructed as:

TTAAii CCCC YYGGgg

where :

TT	=	**ZZ**
AA	=	**XX** : fix geographical designator for database reply
ii	=	**99** : fix bulletin number for database reply
CCCC	=	location indicator of the reply database (e.g. VTBD, WSSS, etc.)
YYGGgg	=	DTG corresponding to the issuing time of the Information or Error Reply

3.2.6 Format of the *Information* and *Error* reply messages

TO BE DEVELOPED

4. DATABASE MISUSE AND ABUSE

4.1 The RODBs shall on a continuous basis monitor all the requests received from AFTN-users. In order to determine possible abuse or misuse of the ASIA/PAC Infrastructure (ASIA/PAC RODBs and ROBEX scheme), a detailed investigation may be performed for all frequent users. A frequent user is a user performing 100 requests or more per day, on a regular basis.

4.2 These investigations might lead to the detection of:

4.2.1 **Misuse** of the DB: the DB is not used in the way it is intended to.

A typical example of misuse would be a user requesting on a regular basis (e.g. every hour) the same reports. In case of misuse of a RODB, the ICAO Regional Office should be notified and requested contact the database user , together with its Parent RODB or ROBEX centre (or equivalent for interregional users), in order to find an alternative way to receive the required data. If a suitable solution is found to receive the data using the regular OPMET exchange procedures, but this solution is not accepted by the databank user (i.e. the misuse continues), then the RODB could decide to limit *or block* the access to the ASIA/PAC OPMET Database for this user.

4.2.2 **Abuse** of the DB: users are requesting data they are not entitled to receive or it is suspected that users use the data for commercial purposes.

In case of abuse of the RODB is suspected, the database user might be contacted by the ICAO Regional Office with a request for information on its databank use. After investigation, the RODB could decide to limit *or block* the access to the ASIA/PAC OPMET Database for this user.

5 ASIA/PAC OPMET DATABASE CATALOGUE

5.1 Introduction

5.1.1 The ASIA/PAC OPMET Database Catalogue consists of lists of OPMET products that are required to be available in the ASIA/PAC Regional OPMET Databanks, based on the requirements stated in the ASIA/PAC ANP and additional requirements by airlines, which have been agreed with the provider States.

5.1.2 ROBEX scheme and the RODBs should ensure availability of all ASIA/PAC aerodromes included in the AOP Table of the ASIA/PAC. In addition, requirements for non-AOP aerodromes have been stated by airlines to support the evolving operations, especially the long-haul and ETOP flights. These requirements are included in the SADIS User Guide, Annex 1. The ASIA/PAC OPMET Database Catalogue should include also those non-AOP aerodrome, for which the States concerned have agreed to provide the required OPMET information.

5.1.3 The ASIA/PAC OPMET Database Catalogue consists of:

TO BE DEVELOPED

6. DISCLAIMER

6.1 Usage of the ASIA/PAC RODBs implies that the user has taken notice of the disclaimer below, and accepts the associated consequences.

6.1.1 The Stations and SIGMET lists of the EUR OPMET Database only consist of lists of required data. It does not mean that these data are presently received in the EUR OPMET Database, or have been yet received.

6.1.2 The fact that there is no data found for one location and one type of message in the EUR OPMET Database does not mean that a message has not been generated for such a location, but only means that no valid message concerning such a location and such a type of message has been received or stored by the EUR OPMET Database.

6.1.3 The user assumes the entire risk related to its use of data.

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