

*International Civil Aviation Organization*

**WORKING PAPER (WP/25)**

**ASIA AND PACIFIC (APAC) TWENTY-FOURTH  
MEETING OF THE METEOROLOGICAL  
INFORMATION EXCHANGE WORKING  
GROUP (MET/IE WG/24)**

Nadi, Fiji, 21 to 24 April 2026



ICAO

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**Agenda Item 4:           Guidance Material Related to Meteorological Information Exchange**

**ROBEX HANDBOOK UPDATES IN ACCORDANCE WITH THE REVIEW OF  
THE PERFORMANCE INDICES (PIs) USED IN APAC OPMET MONITORING**

(Presented by Thailand and PI Ad-hoc group)

**SUMMARY**

This paper presents proposals for updates to the Regional OPMET Bulletin Exchange (ROBEX) Handbook in relation to the review of the performance indices (PIs) used in APAC OPMET monitoring.

**1.       INTRODUCTION**

1.1       The ICAO APAC Regional OPMET Bulletin Exchange (ROBEX) scheme provides a systematic plan for APAC States to exchange meteorological information in the form of OPMET bulletins within the APAC region and inter-regionally with the other ICAO regions.

1.2       The APAC ROBEX Handbook provides users with guidance on the operation of the ROBEX scheme, including the responsibilities and procedures for ROBEX centres and the content and format for ROBEX bulletins.

1.3       This paper invites the Meeting to review proposed updates to the ROBEX Handbook and provide additional information, as necessary, to ensure the ROBEX Handbook reflects the responsibilities and procedures with respect to the review of the performance indices (PIs) used in APAC OPMET monitoring.

**2.       DISCUSSION**

2.1       The OPMET monitoring in ASIA/PACIFIC region carried out by the five designated RODBs: Bangkok, Brisbane, Nadi, Singapore, and Tokyo. The results were presented at the Meeting annually.

2.2 The MET/IE Meetings noted the related action from the previous Meeting, MET/IE WG/20 action item 05, group to review the Performance Indices (PIs) used in APAC OPMET monitoring. [ACTION MET/IE WG21-07].

2.3 The ad hoc group, in coordination with the Secretariat, Chair, Australia, Hong Kong, New Zealand, and Thailand, agreed to perform the action and consider the timeliness of IWXXM.

2.4 The MET/IE WG/22 meeting considered the minimum availability and timeliness criteria (instead of availability, compliance and reliability) for meteorological information of METAR and TAF in TAC (SA and FT) and IWXXM (LA and LT) forms and consulted criteria used in the European region. It was agreed that a threshold of ninety-five per cent (95%) to identify possible deficiencies. Additional criteria should be that the IWXXM messages are well formed and, where translated from TAC, properly translated.

2.5 The meeting also considered that consequential updates to the ROBEX Handbook would be required to facilitate the next OPMET monitoring activity and requested the ad hoc group on PIs [Ref: MET/IE WG/21 action item 07] to develop the proposed updates for review and possible approval by MET SG/28. [ACTION MET/IE WG/22-04]

2.6 The MET SG/28 meeting identified the issues which require correction in the proposed updates to the ROBEX Handbook, Appendix F, as presented in Appendix A of WP/07, which the meeting requested the Secretariat to coordinate with Thailand and MET/IE WG Chairs in preparation for the November 2024 Monitoring activity. [ACTION 09 MET SG/28]

2.7 The MET/IE WG/23 meeting identified the need to include the procedure for obtaining the latest ROBEX data, i.e., from the Secretariat (rather than from the published ROBEX handbook) for uses as the benchmark for OPMET monitoring. The meeting recalled ACTION 22/03 MET/IE WG/22.

2.8 The MET/IE WG/23 meeting discussed calculating report timeliness based on the actual received reports rather than 100% availability.

2.9 In the MET SG/29 meeting, the Chair of MET/IE will seek the clarification on the EUR Region's practices regarding METAR timeliness definitions and the use of  $HH:(MM - 5') \leq RX\text{-Time} \leq HH:(MM + 10')$  versus  $RX\text{-Time} \leq HH:(MM + 6')$  and  $RX\text{-Time} \leq HH:(MM + 10')$ . In the interim, the current monitoring practice will be maintained and will be highlighted in the upcoming State Letter. [ACTION 29/14 MET SG/29]

2.10 As a result, the proposed amendments to ASIA PACIFIC ROBEX HANDBOOK are presented in Appendix A.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss necessary follow-up actions arising from the proposed amendments of the OPMET performance indices (PIs) used in APAC OPMET monitoring mentioned in the paper.

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## APPENDIX A

Refer to the ASIA PACIFIC ROBEX HANDBOOK, Nineteenth Edition – February 2026

On page 21

### **13.3 OPMET Monitoring**

#### **13.3.1 Monitoring of Scheduled OPMET data**

13.3.1.1 The monitoring shall focus on the measurement of two performance indicators (PIs) (Availability and Timeliness indices) of the scheduled, routine METAR and TAF OPMET data (TAC - SA and FT; IWXXM – LA and LT)) exchanged in the region. The PIs are described in detail in Appendix F.

13.3.1.2 Monitoring Reference: The monitoring shall involve the recording and analysis of data provided by the AFTN/AMHS circuit. The two PIs should be monitored against the respective ROBEX Tables by obtaining the latest ROBEX data provided by the Secretariat.

13.3.1.3 Methodology: Data is monitored with reference to the procedures defined in Appendix E.

On page 60

– METAR Timeliness = on average 95% ANP required and available METAR observation reports (not including SPECI and missing METAR observation reports; no NIL, no AMD observations; including COR observations) is received within 5 minutes before the observation time and maximum 6 minutes / 10 minutes after the observation time (MM observation time(s) from the YYGGgg-Group in the bulletin Abbreviated Header = DDHHMM based on monitoring):  $RX-Time \leq HH:(MM + 6')$  and  $HH:(MM - 5') \leq RX-Time \leq HH:(MM + 10')$ .

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– TAF Timeliness = on average 95% ANP required and available TAF (excluding NIL, missing TAF reports and TAF reports with BBB = AMD; inclusive BBB = COR reports) is received within 60 minutes before the start period of validity of TAF (TAF validity period = GGGG based on monitoring):  $(GGGG - 60') \leq RX-Time \leq (GGGG + 0')$ .

On page 62

The aerodrome METAR Availability for the monitoring day becomes:

o  $(REP\_RX / REP\_EXP) * 100,00$  or 0,00 %. The maximum METAR Availability for an aerodrome = 100,00%.

o If for an aerodrome, there are more Obsx than expected and the Availability Index exceeds

100,00%, it becomes rounded down to 100,00%.

– ANP Aerodrome METAR Timeliness: RXTIME and/or Obs

$\Delta t = \text{HHMM in the observation Report-Date-Time Group} - \text{RXTIME (HH:MM:SS)}$ .

An aerodrome METAR received earlier than 5 minutes before the HHMM from the Group (DDHHMM) - YYGGgg is too early  $\Delta t > 5'$ : **reports**.

Per monitoring day (=YY in YYGGgg of the AHL), for all Obsx of the aerodrome, the number of METAR observations for day = YY received on time, i.e. RXTIME (HH:MM:SS) no earlier than 5 minutes before the observation time HHMM(00) in the AHL Group - YYGGgg ( $\Delta t \leq 5'$ ):

$\Delta t = \text{RXTIME (HH:MM:SS)} - \text{HHMM in the observation Report-Date-Time Group}$ .

An aerodrome METAR received later than 10 minutes after the HHMM from the YYGGgg- Group (DDHHMM) is too late  $\Delta t > 10'$ : **reports**.

Per monitoring day (=YY in YYGGgg of the AHL), for all Obsx of the aerodrome, the number of METAR observations for day = YY received on time, i.e. RXTIME (HH:MM:SS) no later than 10 minutes after the observation time HHMM(00) in the AHL YYGGgg-Group ( $\Delta t \leq 10'$ ):

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