

International Civil Aviation Organization

ICAO

WORKING PAPER (WP/07)

ICAO ASIA AND PACIFIC (APAC)
THIRTIETH MEETING OF THE METEOROLOGY
SUB-GROUP (MET SG/30)

Bangkok, Thailand, 20 - 24 July 2026

Agenda Item 3: Air Navigation Deficiencies**MET DEFICIENCIES REVIEW OF THE 2025 ANNUAL SIGMET TEST OUTCOMES AND
2025 TAF AND METAR APAC PERFORMANCE INDICES**

(Presented by Ad Hoc Group on Deficiencies)

SUMMARY

This paper outlines the review by the MET Deficiencies ad hoc group of the outcomes of the 2025 ICAO APAC Regional SIGMET Test and 2025 TAF and METAR APAC Performance Indices, including provision of IWXXM-format information.

1. INTRODUCTION

1.1 The MET Deficiencies ad hoc group (refer Decision MET SG/25-04) has reviewed the outcomes of the 2025 ICAO APAC Regional SIGMET Test and 2025 TAF and METAR APAC Performance Indices monitoring activities, as presented at the 24th Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/24) – see [WP/9 \(Review of WS/LS SIGMET Test 2025\)](#), [WP/10 \(Results of SIGMET Tests 2025 – TC and VA\)](#) and [WP/26 \(2025 Asia/Pacific Performance Indices\)](#). The review was based on existing deficiency identification methodology outlined in the [MET Deficiency Identification Guide](#), available on the ICAO APAC e-documents site.

1.2 The [APANPIRG Procedural Handbook](#) provides information on how air navigation deficiencies are identified and subsequently addressed. Section 3 *Asia/Pacific Supplement to the Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies* provides further information specific to the ICAO APAC Regional Office.

1.3 In short, the reviews of the SIGMET tests and APAC Performance Indices outcomes are an *indicator* that States may have a potential air navigation deficiency. It is recognised that States may have investigations and/or corrective actions already underway, with operational improvements in place or expected in the short term. Therefore, as per the APANPIRG Procedural Handbook, it is up to the ICAO APAC office and the State to validate the deficiency; the MET Sub-group can only perform analysis of monitoring indices and tests and identify indicators.

2. DISCUSSIONICAO APAC Regional SIGMET Test 2025 Outcome

2.1 The MET Deficiencies ad hoc group reviewed the 2025 Annual SIGMET test results in accordance with the MET Deficiency Identification Guide. Test SIGMET and advisory issuance both

in Traditional Alphanumeric Code (TAC) form and in ICAO Meteorological Information Exchange Model (IWXXM) form are addressed below.

2.2 The ad hoc group summarises the participation of 2024 and 2025 Annual SIGMET tests and highlighted the States that did not participate in the SIGMET tests in TAC format in Table 1 below, with red text indicating States already holding SIGMET deficiencies.

Table 1 – Annual SIGMET Test Outcomes 2024 and 2025					
2024			2025		
APAC States	MWO	Missing SIGMET Type	APAC States	Centre	Missing message Type
Afghanistan	Kabul	WV, WS	Afghanistan	MWO Kabul	WV, WS
DPR Korea	Sunan	WC, WS (<i>WV issued</i>)	DPR Korea	MWO Sunan	WC, WV, WS
Nauru	Nauru	WC, WV, WS	Nauru	MWO Nauru	WC, WV, WS
Papua New Guinea	Port Moresby	WC, WV, WS	Papua New Guinea	MWO Port Moresby	<i>WS received via AFS, WC, WV received via email</i>
			Australia	TCAC Darwin	FK
			India	MWO Kolkata	WC
			Maldives	MWO Male	WC

*Note (1): Other non-APAC States also had MWOs participating in the tests. Their test results are not part of this review.

*Note (2): Afghanistan is only required to participate in the SIGMET test for WS and WV as per Table MET II-1 of the APAC Air Navigation Plan, Volume II.

2.3 Papua New Guinea successfully participated in the WS SIGMET test in 2025, which was a significant achievement towards resolving their SIGMET deficiencies. While the WC and WV test SIGMETs were not as successful, further coordination with the RODBs during February 2026 has confirmed the operational SIGMETs (in TAC format) for both Nauru and Port Moresby FIRs are now being disseminated via AFS successfully. This is also demonstrated in the IWXXM monitoring data during 1-30 November 2025 (refer [MET/IE WG/24 WP/26](#)), where IWXXM SIGMETs for Nauru and Port Moresby FIRs were received, although translation was not successful at that point. It should be noted, however, that due to continuous improvement efforts by issuing the MWO for both FIRs (MWO Port Moresby) and issues found by the translating centre ROC Wellington, this situation is being addressed.

2.4 The States that did not participate in the 2025 Annual SIGMET tests in IWXXM format (SIGMETs and/or advisories) are shown in Table 2 below, with the 2024 Annual SIGMET tests analysis presented for comparison. Where a 2025 missing message type is highlighted in grey, positive receipt was recorded during the IWXXM monitoring data during 1-30 November 2025 (refer [MET/IE WG/24 WP/26](#)), thus demonstrating operational dissemination of IWXXM form SIGMETs and/or advisories.

Table 2 – Annual SIGMET Test Outcomes 2024 and 2025 – IWXXM form SIGMETs/Advisories		
APAC States	Missing message types 2024	Missing message types 2025
Afghanistan	LS, LV	LS, LV
Australia	LK	LK
Bangladesh	LS, LY, LV	LS, LY, LV
DPR Korea	LS, LY, LV	LS, LY, LV
Fiji	LK	LK
France (Reunion)	LU	LK
India	LS, LY, LV	LK, LS, LY, LV
Lao PDR	LS, LY, LV	LS, LY, LV
Malaysia	LS, LY, LV	LS, LY
Maldives	LS, LY, LV	LS, LY, LV
Mongolia	LS, LV	LS, LV
Myanmar	LS, LY, LV	LS, LY, LV
Nauru	LS, LY, LV	LS, LY, LV
New Zealand	LY	LY
Nepal	LS, LV	LS, LV
Pakistan	LS, LY, LV	LS, LY, LV
Papua New Guinea	LS, LY, LV	LY, LV
Philippines*	---	LY
Sri Lanka	LS, LY, LV	LS, LY, LV
United States*	LU, LK, LS, LV	LU, LK, LS, LY, LV
Viet Nam	LS, LY, LV	LS, LY, LV

* MWOs Manila, Anchorage and Honolulu were not able to participate in the Tropical Cyclone SIGMET test in 2024 due to an active TC on 13 November 2024.

Note (1): Other non-APAC States also had MWOs participating in the tests. Their test results are not part of this review.

Note (2): Afghanistan, Mongolia and Nepal only required to participate in the SIGMET test for LS and LV as per Table MET II-1 of the APAC Air Navigation Plan, Volume II.

2.5 It is encouraging to observe that more States issued test SIGMETs in IWXXM format in 2025 including Cambodia, Indonesia, Republic of Korea, as well as Papua New Guinea for their LS SIGMET, Malaysia for their LV SIGMET, and Australia and France for their advisories in IWXXM form. However, it is noted that for New Zealand and Philippines, no LY test SIGMETs were recorded as issued (but LS and LV SIGMETs were). As mentioned in para 2.4, Philippines successfully disseminated operational LY SIGMETs

2.6 Conclusion MET SG/29-06: *Lack of Provision of IWXXM Format SIGMET* and Conclusion MET SG/29/07 – *Lack of Provision of IWXXM Format Advisories*, formed at the previous MET SG meeting, already highlighted most of the States listed in Table 2 above for further investigation by ICAO. The following draft conclusions are updates of Conclusions MET SG/29-06 and MET SG/29/07 where:

- New Zealand can be added (lack of LY test SIGMET)
- Cambodia, Indonesia and Republic of Korea can be removed (successfully issuing all IWXXM test SIGMETs)
- France can be removed from the IWXXM VAA list (successfully issuing LU advisory) but did not issue an IWXXM TCA.
- Australia can be removed from the IWXXM TCA list (successfully issuing LK advisory during November monitoring).

Conclusion MET SG/30/xx – Lack of Provision of IWXXM Format SIGMET	
What: The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/xx on the lack of IWXXM implementation for SIGMET issuance: Afghanistan, Bangladesh, DPR Korea, India, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nauru, Nepal, New Zealand, Pakistan, Papua New Guinea, Sri Lanka, Viet Nam	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: SIGMET information in IWXXM format is a Standard in ICAO Annex 3 and therefore non-compliance should be considered as a potential deficiency.	Follow-up: ☒ Secretariat
When: 24-Jul-26	Status: Draft to be adopted by Subgroup
Who: ☐ Subgroups ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	

Conclusion MET SG/30/xx – Lack of Provision of IWXXM Format Advisories	
What: The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/xx on the lack of IWXXM implementation for advisory issuance: Volcanic ash advisory (VAA): United States, Tropical cyclone advisory (TCA): United States, India, Fiji, France	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Tropical cyclone and volcanic ash advisory information in IWXXM format is a requirement in ICAO Annex 3 and therefore non-compliance should be considered as a potential deficiency.	Follow-up: ☒ Secretariat
When: 24-Jul-26	Status: Draft to be adopted by Subgroup
Who: ☐ Subgroups ☐ APAC States ☒ ICAO APAC RO ☐ ICAO HQ ☐ Other: TEXT	

2025 METAR and TAF Performance Indices Review

2.7 The 2025 APAC Performance Indices provided statistics on the availability and timeliness of METAR and TAF, during the monitoring period of 1-30 November 2025. Conclusion MET SG/28-02 *Availability and Timeliness of TAC and IWXXM Information* agreed that statistics less than 95% should be highlighted.

2.8 It is emphasised that the 2025 APAC Performance Indices review may indicate lower than expected performance for a variety of reasons (e.g. unexpected, temporary communication outage) and they should be used by States as part of the quality management procedures to identify any opportunities for improvement, either in their own processes or across the wider ROBEX system.

2.9 States are reminded that RODB Bangkok can produce OPMET Performance Indices (PIs) upon request, utilising the OPMET Statistics web application, e.g., to support the validation of corrective actions.

2.10 Table 3 below indicates States had at least one TAC and/or IWXXM format METAR or TAF (for an AOP aerodrome) not reaching 95% for timeliness and/or availability in the 2025 APAC Performance Indices (across *all* RODBs). The bracketed (T) and (I) indicate whether the threshold score was less than 95% for TAC and IWXXM, respectively, with details specific provided in MET/IE WG/24 [WP/26](#), Appendix A.

Table 3 – 2025 APAC Performance Indices – <95% Scores		
Australia (T, I)	Bangladesh (T, I)	Bhutan (T, I)
Brunei Darussalam (I)	China* (T, I)	Cook Islands (T, I)
Fiji (T, I)	India (T, I)	Indonesia (T, I)
Kiribati (T, I)	Lao PDR (T, I)	Malaysia (T, I)
Maldives (T, I)	Marshall Islands (T, I)	Micronesia (T, I)
Mongolia (T, I)	Myanmar (T, I)	Nauru (T, I)
New Caledonia (France) (T, I)	Nepal (I)	Niue (T, I)
Pakistan (T, I)	Palau (T, I)	Papua New Guinea (T, I)
Republic of Korea (I)	Samoa (T, I)	Singapore (I)
Solomon Islands (T, I)	Sri Lanka (T, I)	Timor-Leste (T, I)
Tonga (T, I)	Tuvalu (T, I)	United States (T, I)
Vanuatu (T, I)	Viet Nam (I)	Wallis and Futuna (France) (T, I)

*It has been previously advised that TAFs in China are issued 2 hours prior to validity start time, so their availability may not be captured by the monitoring activity.

2.11 This analysis has taken into account an investigation by Hong Kong, China into a temporary translation service interruption on 8 November 2025 that dropped IWXXM METAR timeliness for ten Philippine aerodromes below 0.95. Following system enhancements to improve translation resilience, reception logs from RODBs Bangkok and Singapore in May 2026 confirmed that timeliness for all ten aerodromes has successfully recovered and exceeded 0.95.

2.12 Cambodia had been highlighted in 2024 as having at least one METAR that did not reach the 95% threshold, but no Performance Indices were calculated for the 2025 monitoring exercise. Further, Afghanistan and DPR Korea do not have METAR and TAF locations included in the APAC Performance Indices (not included in bulletins listed in the ROBEX Handbook), although they do have aerodrome MET services included in the APAC ANP Vol II Table MET II-2 and an internet search indicates that commercial international flights are conducted into these airports. The meeting is invited to consider whether any action is needed to include information on METAR and TAF dissemination for these locations in the ROBEX Handbook in coordination with Afghanistan and DPR Korea.

2.13 Of interest, at the recent MET/IE WG/25 and associated MET Implementation Workshop (held in Nadi, April 2026), discussion between ROC Nadi and some of its associated Pacific States led to changes so that many METARs would now be delivered directly to ROC Nadi. It is expected that Performance Indices for these States will significantly improve in future monitoring tests. In addition, ROC Nadi has committed to providing regularly performance statistics to their associated Pacific States, to allow them to track their performance.

2.14 As the new timeliness and availability criteria were only published in the ROBEX Handbook (available at the APAC eDocuments website) since March 2025, it had been agreed that no conclusions related potential deficiencies would be proposed until this year. The meeting is therefore invited to form the following proposed conclusion:

Conclusion MET SG/30/xx – Potential Deficiencies in Provision of METAR and/or TAF	
What: The MET Sub-group recommends to the ICAO APAC Office, in its role assessing potential deficiencies, that it reviews the information provided in MET SG/30 –WP/07 on aerodrome observations and/or forecasts that do not meet the required availability and/or timeliness standard for TAC and/or IWXXM OPMET provision during the monitoring period of 1-30 November 2025, and follow up with the relevant States on their latest status. For TAC and IWXXM OPMET provision: Australia, Bangladesh, Bhutan, China, Cook Islands, Fiji, India, Indonesia, Kiribati, Lao PDR, Malaysia, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, New Caledonia, Niue, Pakistan, Palau, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Timor-Leste, Tonga, Tuvalu, United States, Vanuatu, Wallis and Futuna (France). For IWXXM OPMET provision only: Brunei Darussalam, Nepal, Republic of Korea, Singapore, Viet Nam	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: Provision of METAR and TAF is a Standard in ICAO Annex 3 and required by the APAC Air Navigation Plan, therefore not meeting the 95% threshold for timeliness or availability should be considered as a potential deficiency.	Follow-up: ☒ Secretariat
When: 24-Jul-26	Status: Draft to be adopted by Subgroup
Who: ☐Subgroups ☐APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other: TEXT	

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- Note the information in this paper;
 - Consider whether AOP airports for Afghanistan (OAKB, OAKN) and DPR Korea (ZKPY) should be included in the ROBEX scheme and in APAC Performance Indices activity;
 - Consider the proposed conclusions provided in paragraph 2.6 and 2.14; and
 - Consider any other actions that may be required.
