

International Civil Aviation Organization

INFORMATION PAPER (IP/27)

ICAO Asia and Pacific (APAC)

Twenty-Ninth Meeting of the Meteorology Sub-Group (MET SG/29)

Bangkok, Thailand, 18 to 22 August 2025

Agenda Item 5: Planning and Monitoring

CHANGES IN THE OPMET DATA BULLETIN SYSTEM AND TRANSMISSION IN INDONESIA

(Presented by Indonesia)

SUMMARY

This paper explains the reasons why Indonesia's OPMET bulletins did not meet the ICAO standard threshold and presents the new bulletin processing scheme.

1. INTRODUCTION

- 1.1 Referring to Decision MET SG/24-05, which states that monitoring OPMET has become one of the deficiency indicators of MET services, and Decision MET SG/28-02, which specifies that the annual OPMET monitoring activity for TAC and IWXXM information should focus on the availability and timeliness of TAF and METAR messages (instead of availability, compliance, and reliability), highlighting any statistics below 95%.
- 1.2 Based on MET/IE WG/23-WP/16, it was reported that Indonesia's Performance Indices (PI) for METAR and TAF in 2024 did not meet the ICAO standard of 0.95 for 27 meteorological stations (Attachment A).
- 1.3 Indonesia faces several challenges in exchanging OPMET. These include the implementation of the ROBEX Handbook 16th edition (April 2024), which incorporates TAF bulletins (FTID32 and FTID33) into the exchange scheme. This requirement was not applied in the previous ROBEX Handbook edition. Indonesia attempted to adjust the AMHS bulletin system accordingly, but this was not possible due to the suboptimal condition of the AMHS. In addition, the AFTN network at some meteorological stations, which is used to collect data into AMHS, experienced numerous issues.
- 1.4 According to these issues, BMKG, as the MET Provider, has sought alternative methods to provide OPMET bulletins by developing a system that can collect and compile OPMET bulletins through an in-house network to meet ICAO requirements. In the following section, we explain Indonesia's current situation that has led to the lack of PI and present the migration plan to the new MET system, which is scheduled to be implemented by November 2025.

2. DISCUSSION

Existing Collecting and Compiling System

- BMKG and AirNav Indonesia are both operating systems that can be considered quite old, which, in their current condition, have limitations and operational issues. BMKG has been using the Computer Message Switching System (CMSS) since 2006, and by the end of 2024, it was replaced with new in-house systems called **BMKGsatu** (data collection system) and **INA-Switching** (dissemination system). Meanwhile, AirNav Indonesia has been using AMHS (Ubimex 6.6) since 2017 until now and is currently in the process of upgrading to a new AMHS system (Ubimex 6.7).
- 2.2 Currently, Indonesia is still using the AFTN network for data collection and bulletin compilation (Attachment B). At present, 41% (11 out of 27) of Meteorological Stations with AWOS are not yet integrated with AFTN, so data must be sent manually, which increases the potential for errors and delays. In addition, 30% (8 out of 27) of Meteorological Stations do not have AFTN at all. This situation makes it difficult for us to control and monitor the OPMET data disseminated to RODB.
- 2.3 Based on this situation, BMKG, as the MET Provider, has changed the scheme for collecting and compiling OPMET bulletins by using BMKG's in-house network and systems (Attachment B). The compiled OPMET will be sent to RODBs and the designated ROCs using AMHS.

New MET System Status

- 2.4 The development of a new system for collecting and compiling OPMET data has taken a considerable amount of time, and BMKG continues to work towards finding the right formula to produce products that meet ICAO requirements. In this process, BMKG has collaborated with AirNav Indonesia and DGCA to conduct trials of OPMET bulletin transmission from the MET system. The trials were conducted twice, the first on 29 November 2024 and the second on 4 August 2025.
- 2.5 First trial 29 November 2024. In this trial, BMKG's MET system successfully compiled FTID32 and FTID33 bulletins in TAC format as part of the implementation of ROBEX Handbook 16th Edition, and also successfully compiled other bulletins such as SAID31, SAID32, and SAID33. However, during the internal transmission process to AMHS, some individual METAR and TAF messages were also sent, causing duplicate data transmission.
- 2.6 Following the evaluation of the first trial, BMKG continued improvements and further development of the system, and then conducted the **second trial on 4 August 2025**. In this second trial, the MET system successfully transmitted TAF bulletins (FTID31, FTID32, and FTID33), METAR bulletins (SAID31, SAID32, and SAID33), SIGMET, SPECI, as well as corrected (COR) and amended (AMD) OPMET data.
- 2.7 The second trial also included testing the transmission of OPMET to RODB and ROC, specifically TAFOR bulletins at 17:20 UTC, METAR bulletins at 17:35 UTC and 18:05 UTC.
- 2.8 The results of METAR and TAF bulletin transmissions to RODB can be found in **Attachment C**, and have been confirmed by ROC Hong Kong, RODB Australia, RODB Singapore, and RODB Japan. From HKO, we received a particular note that the OPMET we sent lacked a "carriage return" character, which was considered a message error. However, this issue has been resolved and is ready for retesting.

Plan to implement a new system of OPMET exchange

- 2.9 We continue to coordinate with AirNav Indonesia and DGCA regarding the implementation of a new scheme for OPMET exchange. Among the measures taken are simplifying addressing procedures and conducting outreach to related Meteorological Stations and Airports (as listed in the ROBEX Handbook). With the new scheme, BMKG will be able to directly control and monitor OPMET data that is disseminated and exchanged internationally.
- 2.10 Indonesia will begin implementing this new scheme before November 2025 using WIZZYPYX as the originator. We also kindly request assistance in obtaining access to OPMET data monitoring (particularly for Indonesia) from RODB Bangkok to facilitate our monitoring activities.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
 - a) Note the information contained in this paper.
 - b) discuss any relevant matters as appropriate.

Attachment A. PI Monitoring Result in 2024

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MONITORING METAR ICAO 1-30 November 2024

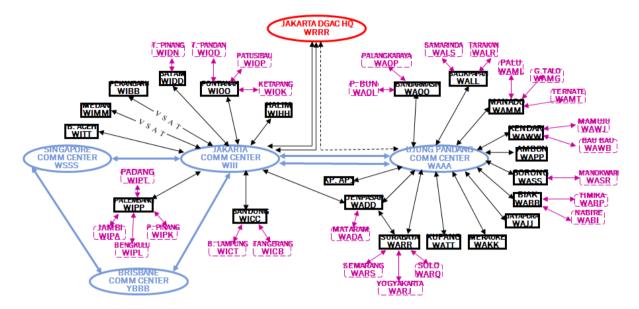
		ulletin ROC	Availability				Timeliness					
Aerodrome	Bulletin		NFFN	RJTD	VTBB	wsss	YBBN	NFFN	RJTD	VTBB	wsss	YBBN
WAAA	SAID31	WIII	0.73	0.92	0.92	0.92	0.92	0.61	0.75	0.88	0.89	0.89
WABB	SAID31	WIII	0.73	0.92	0.91	0.91	0.91	0.62	0.74	0.88	0.89	0.89
WADD	SAID31	WIII	0.76	0.95	0.95	0.95	0.95	0.64	0.76	0.91	0.92	0.92
WARR	SAID31	WIII	0.76	0.97	0.95	0.95	0.95	0.65	0.79	0.93	0.94	0.94
WIDD	SAID31	WIII	0.73	0.92	0.92	0.92	0.92	0.60	0.72	0.85	0.86	0.86
WIHH	SAID31	WIII	0.66	0.83	0.83	0.86	0.83	0.55	0.65	0.77	0.79	0.78
WIII	SAID31	WIII	0.75	0.95	0.94	0.94	0.94	0.63	0.77	0.90	0.91	0.91
WIMM	SAID31	WIII	0.58	0.75	0.73	0.73	0.73	0.43	0.54	0.63	0.63	0.63
WADL	SAID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAHI	SAID32	WIII	0.00	0.98	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.00
WALL	SAID32	WIII	0.75	0.95	0.94	0.94	0.94	0.63	0.78	0.90	0.92	0.92
WAMM	SAID32	WIII	0.63	0.80	0.79	0.79	0.79	0.53	0.62	0.74	0.75	0.75
WAOO	SAID32	WIII	0.71	0.89	0.89	0.89	0.89	0.61	0.72	0.84	0.86	0.86
WIBB	SAID32	WIII	0.75	0.94	0.94	0.94	0.94	0.63	0.76	0.89	0.90	0.90
WIDN	SAID32	WIII	0.74	0.93	0.93	1.00	0.93	0.61	0.74	0.87	0.98	0.89
WIEE	SAID32	WIII	0.72	0.92	0.91	0.91	0.91	0.61	0.75	0.88	0.89	0.89
WIOO	SAID32	WIII	0.77	0.97	0.97	0.96	0.96	0.66	0.80	0.94	0.95	0.95
WIPP	SAID32	WIII	0.67	0.85	0.84	0.84	0.84	0.53	0.67	0.77	0.78	0.78
WITT	SAID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WADY	SAID33	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAHS	SAID33	WIII	0.78	0.97	0.97	0.97	0.97	0.67	0.79	0.94	0.96	0.96
WAJJ	SAID33	WIII	0.79	0.99	0.99	0.99	0.99	0.69	0.82	0.97	0.98	0.98
WAKK	SAID33	WIII	0.74	0.94	0.93	0.93	0.93	0.62	0.72	0.86	0.88	0.88
WAPP	SAID33	WIII	0.76	0.95	0.96	0.96	0.95	0.64	0.78	0.91	0.93	0.93
WAQQ	SAID33	WIII	0.76	0.92	0.92	0.92	0.92	0.64	0.74	0.87	0.89	0.89
WATT	SAID33	WIII	0.76	0.96	0.96	0.96	0.96	0.65	0.80	0.93	0.94	0.94
WILL	SAID33	WIII	0.76	0.96	0.96	0.95	0.95	0.66	0.78	0.92	0.94	0.94
WIMN	SAID33	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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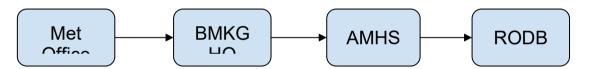
MONITORING TAF ICAO (TAC) 1-30 November 2024

	Bulletin	ROC	Availability				Timeliness					
Aerodrome			NFFN	RJTD	VTBB	wsss	YBBN	NFFN	RJTD	VTBB	wsss	YBBN
WAAA	FTSR31	WSSS	0.80	1.00	1.00	1.00	1.00	0.70	1.00	1.00	1.00	1.00
WABB	FTSR31	WSSS	0.78	0.98	0.98	0.99	0.98	0.67	0.97	0.97	0.98	0.97
WADD	FTSR31	WSSS	0.79	0.99	0.99	0.99	0.99	0.69	0.99	0.99	0.99	0.99
WARR	FTSR31	WSSS	0.80	1.00	1.00	1.00	1.00	0.69	0.99	0.99	0.99	0.99
WIHH	FTSR31	WSSS	0.79	0.99	0.99	0.99	0.99	0.70	0.99	0.99	0.99	0.99
WIII	FTSR31	WSSS	0.79	0.99	0.99	0.99	0.99	0.69	0.99	0.99	0.99	0.99
WIMM	FTSR31	WSSS	0.80	1.00	1.00	1.00	1.00	0.70	1.00	1.00	1.00	1.00
WADL	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAHI	FTID32	WIII	0.00	0.92	0.01	0.00	0.00	0.00	0.32	0.00	0.00	0.00
WALL	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAMM	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAOO	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WIBB	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WIDN	FTID32	WIII	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.76	0.00
WIEE	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WIOO	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WIPP	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WITT	FTID32	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WADY	FTID33	WIII	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAHS	FTID33	WIII	0.00	0.94	0.01	0.00	0.00	0.00	0.21	0.00	0.00	0.00
WAJJ	FTID33	WIII	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAPP	FTID33	WIII	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAQQ	FTID33	WIII	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WATT	FTID33	WIII	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WILL	FTID33	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WIMN	FTID33	WIII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Attachment B

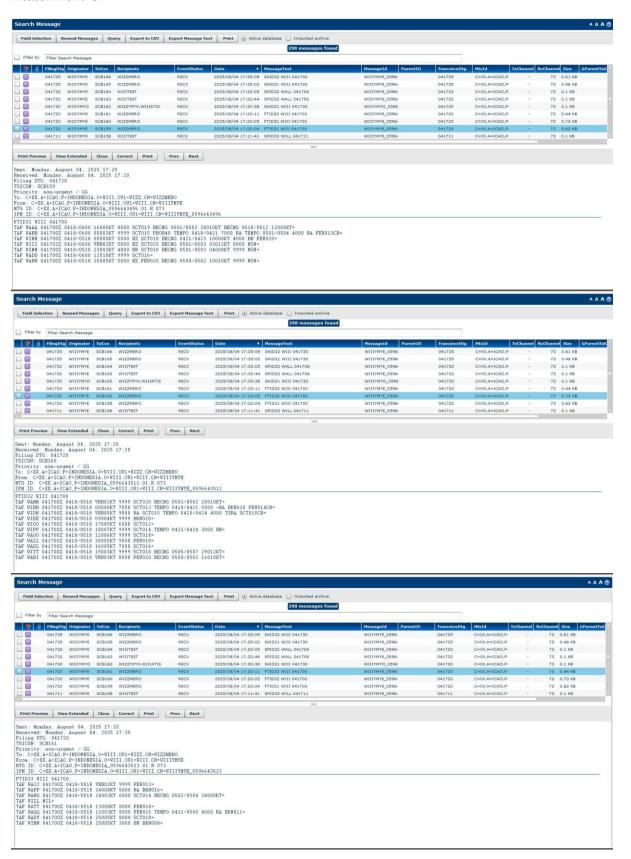


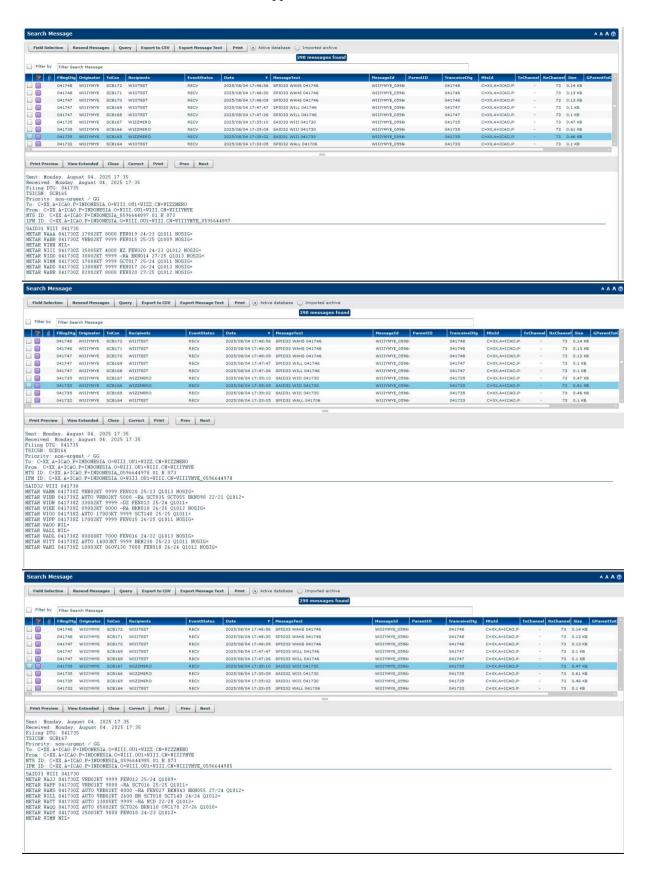
Existing/Old Scheme

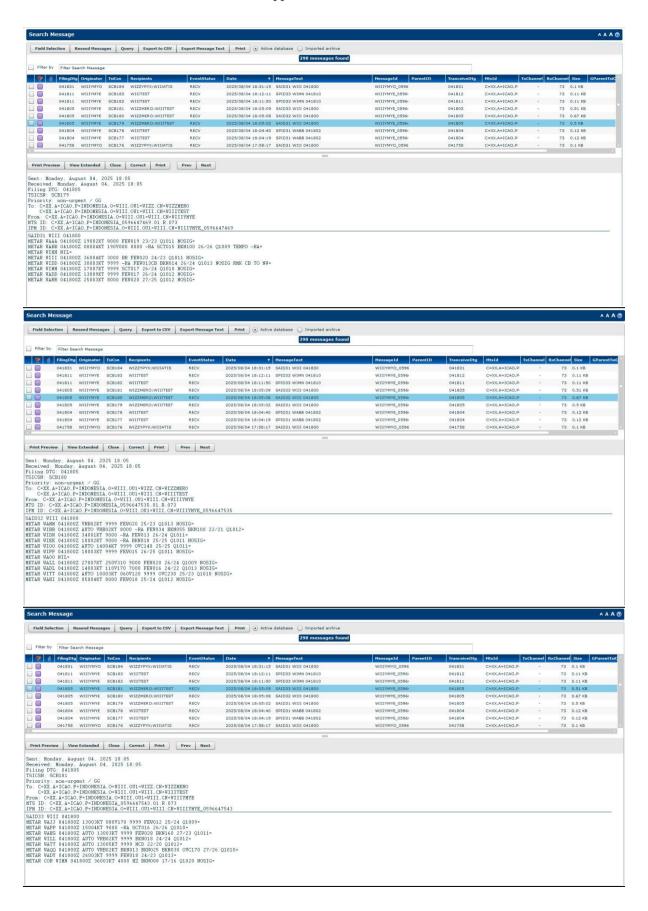


New Scheme

Attachment C







Dear Marco,

All the mentioned OPMET bulletins were successfully received and delivered to Hong Kong ROC and HKO, except for the SAID31, SAID32, SAID33 at 17:05 on 04 August 2025. The received bulletins were originated by WIIIYMYE and contained issues related to line endings in the text. It is possible that a "missing carriage return character" error may have occurred. For example,

GG VHZZYPYX 041735 WIIIYMYE SAID31 WIII 041730

METAR WAAA 041730Z 17002KT 8000 FEW019 24/23 Q1011

NOSIG=

METAR WABB 041730Z VRB02KT 9999 FEW015 25/25 Q1009 NOSIG=
METAR

WIHH NIL=

METAR WIII 041730Z 35005KT 4000 HZ FEW020 24/23 Q1012

NOSIG=

METAR WIDD 041730Z 30002KT 9999 -RA BKN014 27/25 Q1013

NOSIG=

METAR WIMM 041730Z 17008KT 9999 SCT017 25/24 Q1011 NOSIG=

METAR

WADD 041730Z 13008KT 9999 FEW017 26/24 Q1013 NOSIG=

METAR WARR 041730Z

02002KT 8000 FEW020 27/25 Q1012 NOSIG=

Regards,

Silvia MAK Hong Kong ROC/COM

ear	

Thank you for advising about your system upgrade. It is very promising news, and I hope the project is progressing smoothly.

In response to your testing, we received messages on 04-Aug-2025 from WIIIYMYE as follows:

	17:05	17:35	18:05	17:20
SAID31	No	Yes	Yes	Yes
SAID32	No	Yes	Yes	Yes
SAID33	No	Yes	Yes	Yes
FTID31	i#3			Yes
FTID32	*			Yes
FTID33	37	¥	٠	Yes

Can you confirm the messages from WIIIYMYE are for operational use or are they not for operational use?

Best regards,

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Dear Resa, Hello, This is Naoko, introduced by Kentaro. I investigated the relevant OPMET data around the specified time and compiled the results into a table. Please find the attached file for your review. Best Regards, ====== NAOKO FUNAHASHI (Ms.) Assistant Scientific Officer, Information and Communications Technology Division Information Infrastructure Department Japan Meteorological Agency 3-6-9 Toranomon, Minato City, Tokyo 105-8431, Japan Tel: +81-3-6758-3900 (Ext. 3199) E-mail: nao funahashi@met.kishou.go.jp 差出人: 坪井 健太郎 <k-tsuboi@met.kishou.go.jp> 送信日時: 2025年8月8日 8:30 宛先: Resa Pratikasari < resa.pratikasari@bmkg.go.id> CC: 舟橋尚子 < nao funahashi@met.kishou.go.jp> 件名: Re: Seeking Confirmation of OPMET Data Recepient [Message clipped] View entire message 2 Attachments . Scanned by Gmail (1) W METAR.docx 20 KB ± @ / W TAF.docx