

*International Civil Aviation Organization*



ICAO

**WORKING PAPER**

**Asia and Pacific (APAC)  
Eleventh Meeting of the Meteorological Requirements  
Working Group (MET/R WG/11)**

Online, 31 May to 3 June 2022

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**Agenda Item 5: Future work program and terms of reference**

**REVIEW MET/R WG WORK PROGRAM AND TERMS OF REFERENCE**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the terms of reference and work program of the Meteorological Requirements Working Group (MET/R WG) and invites the meeting to review and propose updates for possible approval by the Meteorology Sub-Group (MET SG).

**1. INTRODUCTION**

1.1 The Meteorological Requirements Working Group (MET/R WG) supports the work program of the Asia/Pacific (APAC) Air Navigation Planning and Implementation Regional Group (APANIRG) and its Meteorology Sub-Group (MET SG) to facilitate the APAC States' provision of meteorological information required by the global Air Traffic Management (ATM) system.

1.2 This paper invites the meeting to review the terms of reference and work program of the MET/R WG and propose updates to ensure the MET/R WG continues to meet its objectives to support improved safety, efficiency and sustainability of ATM operations.

**2. DISCUSSION**

2.1 The MET/R WG terms of reference and work plan document, adapted from the version last reviewed and endorsed by the Twenty-Fifth Meeting of the Meteorology Sub-group (MET SG/25), online from 18 to 22 October 2021, is provided in **Appendix A** to this paper.

2.2 Updates to the membership and work plan of the MET/R WG proposed after the MET SG/25 review are also included and highlighted in **Appendix A**.

**3. ACTION BY THE MEETING**

3.1 This paper invites the meeting to:

- a) Review the terms of reference and work program of the MET/R WG (in **Appendix A** to this paper); and
- b) Based on the agreements reached by the meeting, propose further updates to the terms of reference and work program for review and possible approval by MET SG.

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**APPENDIX A**

**ICAO ASIA AND PACIFIC METEOROLOGICAL REQUIREMENTS WORKING GROUP  
(MET/R WG)**

**TERMS OF REFERENCE AND WORK PLAN**

Adapted from MET SG/25, WP/07, Appendix B

**Editorial note:** Proposed updates show deleted text using ~~text to be deleted~~ and added text with grey shading (text to be inserted).

**TERMS OF REFERENCE**

<b>DESCRIPTION</b>	
Name and establishment of the group	The Meteorological Requirements Working Group (MET/R WG) was established by the Meteorology Sub-group (MET SG) of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) [MET SG/19, Decision 19/2 refers].
Administrative arrangements	The membership and appointment of members, chairing, frequency of meetings and quorum, and recording of meetings shall be determined and conducted following the working arrangements and instructions provided in the APANPIRG Procedural Handbook.
Reporting mechanism	The MET/R WG shall report its work progress and coordination requirements to the MET SG, generally in a report to the MET SG meeting presented by the chairperson of the MET/R WG. The MET/R WG may also provide reports to other relevant bodies as necessary (e.g., contributory bodies of APANPIRG) with assistance from the ICAO Secretariat.
Objective	Improve safety, efficiency and sustainability of air traffic management (ATM <sup>1</sup> ) operations by providing meteorological (MET) information needed to meet current and future requirements of the ATM system.
Benefits	Increase safety – optimize safety risk management Increase efficiency – save time and fuel Increase sustainability – reduce carbon emissions
Functions and delegated authority	Under guidance from the ICAO Secretariat, support the MET SG to assist APANPIRG in its planning and implementation work by carrying out designated tasks on specifically defined problems, including: <ul style="list-style-type: none"> <li>a) Coordinate with other relevant contributory bodies of APANPIRG such as ATM/SG and ATFM/SG;</li> <li>b) Recommend updates to the Asia/Pacific Regional Air Navigation Plan and other regional guidance material as necessary, based on analysis and evaluation of the current and future requirements for MET information in support of ATM, as well as ATM information required to support the provision of MET services;</li> <li>c) Facilitate the exchange of expertise in the Asia/Pacific Region on the integration of MET information into ATM systems to support collaborative decision making (CDM) and the migration of MET information into the SWIM environment;</li> <li>d) Facilitate the monitoring and implementation of the sub-regional exchange of MET information (including in digital format) and associated inter-agency agreements that support the integration of MET information in ATM operations in line with the priorities defined in the ASIA/PAC Seamless ATM Plan;</li> </ul>

<sup>1</sup> ATM: the dynamic, integrated management of air traffic and airspace including air traffic services, airspace management and air traffic flow management — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions [ICAO Doc 4444, PANS ATM]

DESCRIPTION	
	<p>e) Promote coordination between the MET and ATM communities in the Asia/Pacific Region to enhance the level of understanding of MET requirements and capabilities in support of ATM; and</p> <p>f) Report to the MET SG for further coordination through the ICAO Secretariat with APANPIRG and other relevant bodies.</p>

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<b>COMMUNICATION STRATEGIES</b>				
Description	Target Audience	Delivery Method	Frequency / Date	Responsibility
Work Plan	MET/R WG, MET SG	Document via e- mail and MET/R WG meeting	As required, but reviewed at MET/R WG and MET SG meetings	Chair and Secretariat
MET Chairs Coordination Meeting	Chairs of MET SG and its contributory working groups	Web-conference E-mail	Quarterly	Chair and Secretariat
General correspondence	MET/R WG Members	E-mail	As required	MET/R WG Members
MET/R WG Meeting	MET/R WG Members	Meeting (face-to- face or tele- /web-conference)	As required	Chair and Secretariat
Status and Milestone Reports	MET/R WG Members	E-mail and working paper at MET/R WG meeting	At least annually	Chair and Secretariat
MET/R WG Report	MET SG (and ATM/SG, through MET SG) and all APAC States	ICAO website and working paper at MET SG meeting	Following each MET/R WG meeting	Chair and Secretariat

**PLAN OF WORK**

<b>DELIVERABLES</b>
2 1. Documented analysis of MET information used in the Region specifically to support ATM operations
3 2. Draft regional guidance material on MET information needed to support the elements of the APAC Seamless ATM Plan
4 3. Draft regional guidance material for tailored MET information supporting ATM operations
5 4. Seminar on regional implementation of MET information to support ATM operations
6 5. Coordinated review of the APAC ANP Volume III, including proposals for improvements to the ANRF and other parts of Volume III, to clarify the MET-related implementation planning guidance

DELIVERABLES
<del>7. SIGMET coordination activities in the APAC Region; Coordinate steps to promote integration and expansion of SIGMET coordination activities among States/Administrations.</del>
8.6. Development of APAC Use Case and User Requirements for SWIM-based MET Information Services Supporting ATFM

MILESTONES	By date	Responsibility	Status
<b>1. Deliverable 2 1:</b> Analysis of MET information used in the Region specifically to support ATM operations			
1.1. Conduct the Regional survey (via State Letter and Online)	Aug 2021	Ad hoc group 2: Australia (Rapporteur), Singapore, New Zealand, China, Japan, Thailand, Hong Kong China, Viet Nam	<del>To begin</del> Completed
<b>2. Deliverable 3 2:</b> Draft regional guidance material on MET information needed to support the elements of the APAC Seamless ATM Plan			
2.1. Further development (of the list of MET information or services necessary to support the implementation of each element of the Asia/Pacific Seamless ANS Plan) pending outcomes of the ICAO A40 review of GANP 2019	TBD	TBD	On hold
<b>3. Deliverable 4 3:</b> Draft regional guidance material for tailored MET information supporting ATM operations			
3.1. Review the working draft guidance and provide comments to the ICAO RO MET	11 June 2021	MET/R WG	<del>To begin</del> Completed
3.2. Finalize the updated guidance for approval at the MET SG in July 2021	July 2021	Ad-hoc group, consisting of Australia, China, Hong Kong, China, Japan (rapporteur), Republic of Korea, Singapore, Thailand, Vietnam and IATA	<del>To begin</del> Completed
3.3. Consider expanding the Guidance document to define a framework to capture post-operational analysis on the impact of tailored met information on ATM decisions	Next MET/R WG meeting	Ad hoc group	<del>To begin</del> Completed
<b>4. Deliverable 5 4:</b> Seminar on regional implementation of MET information to support ATM operations			
4.1. Plan for a future seminar on regional implementation of MET information to support ATM operations	Next MET/R WG	Chair and Secretariat	<del>To begin</del> Completed
<b>5. Deliverable 6 5:</b> A coordinated review of the APAC ANP Volume III, including proposals for improvements to the ANRF and other parts of Volume III, to clarify the MET-related implementation planning guidance			
5.1. Support MET SG with the development of MET-specific requirements in the ANP, Volume III	As required	MET/R WG	In progress
<del><b>Deliverable 7:</b> SIGMET coordination activities in the APAC Region; Coordinate steps to promote integration and expansion of SIGMET coordination activities among States/Administrations.</del>			

MILESTONES	By date	Responsibility	Status
<del>[Revise the deliverable to focus on determining the end users' requirements; and taking into account the additional proposals to be presented in MET/R WG/9: WP/09 – Review and update of the Work Programme]</del>		MET group Chairs considered this task is more appropriate to be included under the work plan of MET/S WG	
<b>6. Deliverable 8 6:</b> Development of APAC Use Case and User Requirements for SWIM-based MET Information Services Supporting ATFM			
6.1. [Establish a new deliverable taking into account the proposals to be presented in MET/R WG/9: WP/04 – APAC User Requirements for SWIM-based MET Information Services Supporting ATFM] <b>Note:</b> <i>this row will be removed after agreement by the meeting on the points below</i> Also take into consideration outcomes from MET/R WG/10, esp. WP/07 – APAC User Requirements for SWIM-based MET Information Services Supporting ATFM (Australia, Hong Kong China, and Thailand), including the proposed collaborative approach (flow chart) at 2.3, and the MET/R WG/10 suggestions as follows: i) take into consideration the results of the Survey of State MET Information Supporting ATM at WP/06; ii) identify related global discussion and plan led by ICAO MET Panel and relevant groups; iii) define the meaning of “use case”; and iv) ensure readers understand the document does not represent an obligation for States to implement the SWIM-based MET Information Services	Next MET/R WG meeting	An ad-hoc group comprising SMEs from both MET/R WG and ATFM/SG Rapportuer (Marco)	In progress
6.2. In coordination with other related sub-groups, working groups, etc., identify: i) SWIM-based MET information affecting ATFM operations; ii) how often these products be provided and rules for updates to meet the ATFM needs; and (iii) identify any other information required by ATFM and gaps to meet the needs of ATFM users		Ad-hoc group 8 (see below)	In progress
6.3. Identify MET and ATFM data to be exchanged using SWIM-based Information Exchange Service		Ad-hoc group 8 (see below)	In progress
6.4. Based on the findings (above), develop APAC use cases and a user requirements document for future SWIM-based MET information services supporting ATFM		Ad-hoc group 8 (see below)	In progress

Ad-hoc group 8			
State / Administration / IO	NamePosition	Position and/or Organisation	Expertise
Australia	Jesper Bronsvort	Airservices Australia	ATFM
Australia	Ashwin Naidu	BOM	MET
CANSO	Stuart Ratcliffe	CANSO	ATFM
Hong Kong China	Marco Kok <b>(Rapporteur)</b>	HKO	MET/SWIM

<b>Ad-hoc group 8</b>			
<b>State / Administration / IO</b>	<b>NamePosition</b>	<b>Position and/or Organisation</b>	<b>Expertise</b>
Hong Kong China	Peter Chadwick	Senior Air Traffic Control Specialist (Strategic Planning) / HKCAD	ATFM
Hong Kong China	(Mr) Anfernee Poon	Project Officer / HKCAD	ATFM
IATA	John Moore	IATA	ATFM/MET
Japan	ITOU Miho	JCAB	ATFM
Japan	IKEDA Michiko	JMA	MET
Pakistan	Fazal Ur Rehman	PCAA	ATFM
Pakistan	Syed Ali Baqadar Shah	PCAA	MET
Republic of Korea	Dong-won, LEE	Assistant of Director / KMA	MET
Republic of Korea	Jiwon, LEE	Assistant of Director / KMA	MET
Singapore	Clarence Foo	Head, ATM development/CAAS	ATFM
Singapore	Zhang HuanBin	Head, ATC Specialist/CAAS	ATFM
Singapore	Aw Ying Kit	Senior Engineer, ATM Systems /CAAS	ATFM
Singapore	Yeo Cheng Xun	MSS	MET
Thailand	Amornrat Jirattigalachote (Amo)	Strategic Planning Manager /AEROTHAI	ATFM/SWIM
Thailand	Dudsadee Sungthong	Strategic ATFM Team/AEROTHAI	ATFM
Vietnam	Mr. Nguyen Van Dung	VATM	MET/ATFM

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