



International Civil Aviation Organization

**NINETEENTH MEETING OF THE METEOROLOGY
SUB-GROUP (MET SG/19) OF APANPIRG**

Bangkok, Thailand, 3 – 6 August 2015

Agenda Item 6: Research, development and implementation issues in the MET field

6.5) MET/ATM coordination (including MET/R TF Report)

REPORT ON MET/R TF/4 AND MET/ATM SEMINAR 2015

(Presented by the Secretariat on behalf of the Chairman of the MET/R TF)

SUMMARY

This paper presents a summary of the Fourth Meeting of the Meteorological Requirements Task Force (MET/R TF/4) and the Meteorology/Air Traffic Management Seminar 2015.

1. Introduction

1.1 The Meteorology/Air Traffic Management Seminar 2015 and the Fourth Meeting of the Meteorological Requirements Task Force (MET/R TF/4) were held at the *Mita Kaigisho*, Tokyo, Japan, from 29 June to 3 July 2015.

1.2 The Seminar was attended by 64 participants and the Meeting was attended by 40 participants from 11 States, 1 Special Administrative Region of China and 3 International Organizations, including Australia, Bangladesh, China, Hong Kong China, India, Japan, Malaysia, Philippines, Republic of Korea, Russian Federation, Singapore, Thailand, Viet Nam, the International Air Transport Association (IATA), the International Federation of Air Line Pilot's Associations (IFALPA) and ICAO.

1.3 A copy of the report from MET/R TF/4, as well as the report from the MET/ATM Seminar 2015, and all related meeting documentation, is available at the following websites: <http://www.icao.int/APAC/Meetings/Pages/2015-MET-R-TF4.aspx> and <http://www.icao.int/APAC/Meetings/Pages/2015-METATM-Seminar--.aspx>.

2. Discussion

Seminar

2.1 The Seminar programme included presentations and discussion on the following agenda items:

Agenda Item 1: Review of MET and ATM coordination in States

Agenda Item 2: Impact of MET on Air Traffic Flow Management (ATFM)

Agenda Item 3: ATM-tailored meteorological services

Agenda Item 4: Future directions

2.2 It was apparent that participation by key representative organizations would enhance the formulation of ATM requirements for MET.

2.3 Some States are already implementing ATM-tailored MET services (in addition to traditional Annex 3 'products') to meet user requirements. Such information should be provided with consideration to the 'general provisions' in Annex 3 – even when the technical specifications have not been developed in Annex 3. In this respect, regional guidance material could be enhanced to assist States to develop MET services to meet the (current and future) requirements of ATM.

2.4 The Seminar noted that development of future global provisions for tailored MET services to support ATM shall be managed principally by the ICAO Meteorology Panel. Support from, and coordination with, regional groups will remain important.

MET/R TF/4

2.5 MET/R TF/4 including discussion on agenda items including:

- Review of MET/ATM Seminar discussions
- MET/ATM coordination
- MET required to support end user system (CDM, AT/ATFM)
- Sub-regional exchange of MET
- Future work programme

2.6 Outcomes from MET/R TF/4 discussions included one Draft Conclusion that deals with matters that, according to APANPIRG terms of reference, require the attention of States, or action by the ICAO in accordance with established procedures, and one Draft Decisions deal with the matters of concern only to APANPIRG and its contributory bodies. These are discussed further, below.

2.7 The meeting considered some revisions to the terms of reference (TOR) and agreed to the following Draft Decision:

Draft Decision MET/R TF 4/1: Amend terms of reference of MET/R TF
That, the revised terms of reference of the Meteorological Requirements Task Force (MET/R TF) at Appendix C* to the report on MET/R TF/4 be adopted.

(*Attachment to this paper).

2.8 A proposed ICAO ATM-MET requirements survey, which would assist APAC Seamless ATM Planning, was still to commence. An Air Traffic Flow Management (ATFM) survey conducted by the ATFM Steering Group, and subsequently used to analyse the current ATFM status of the Region, did not include any particular analysis of meteorological information that States may have developed in support of ATFM operations. A survey of current MET information supporting ATFM would provide important input to the development of regional guidance for the provision of such information. In order to further promote this initiative, the meeting adopted the following Draft Conclusion:

Draft Conclusion MET/R TF 4/2: Survey of State Meteorological Information Supporting Air Traffic Management

That, States are urged to respond to a survey to gauge the types of meteorological information provided by MET services to support Air Traffic Management including Air Traffic Flow Management operations.

2.9 Additional outcomes from MET/R TF/4 included the adoption of the following tasks:

	ACTION ITEM	TIME FRAME	RESPONSIBLE PARTY	Status	REMARKS
1.	Invite CANSO to join the task force	After adoption of revised TOR by MET SG/19	Secretariat	To commence	Letter of invitation and inclusion on list of invitees
2.	Develop and conduct the Regional Survey of MET information provided to support ATM/ATFM	Results to be available for review by the next MET/R TF meeting (Mar 2016)	Chair, secretariat	In progress	Meeting report material to be used as starting point; related to MET/R TF Decision 3/6 and Draft Conclusion MET/R TF 4/2
3.	Develop regional guidance for tailored MET information supporting ATM and ATFM	Initial draft to be available for review by the next MET/R TF meeting (Mar 2016)	Ad hoc group (Australia, China, Hong Kong, China, Japan*, Republic of Korea, Singapore, Thailand and Viet Nam) *Rapporteur	To commence	Meeting report material to be used as starting point
4.	Coordinate with MET/H TF and MET SG on possible improvements to the SIGMET Guide to assist States in aligning cross-boundary SIGMET information	Submit information to MET SG/19 (Aug 2015) and MET/H TF/6 (Mar 2016)	Secretariat	To commence	Promulgate information on relevant discussion from the meeting; related to MET/R TF Decision 3/4
5.	Progress work in identifying MET information needed to support the elements of the APAC Seamless ATM Plan	Progress report to the next MET/R TF meeting (Mar 2016)	Ad-hoc group (Australia, China, Hong Kong, China, and Japan)	In progress	Continue from work done in WP/07; related to MET/R TF Decision 3/5
6.	Identify and promote existing	Report to next meeting of	Secretariat	To commence	

	ACTION ITEM	TIME FRAME	RESPONSIBLE PARTY	Status	REMARKS
	provisions related to air-reports and cost recovery for MET services	MET/R TF			

3. Action by the Meeting

3.1 The meeting is invited to note the information contained in this paper.

**WORK PROGRAMME OF THE METEOROLOGICAL REQUIREMENTS TASK FORCE
(MET/R TF)**

1. TASK TEAM		
Secretariat	Address	Contact
Peter Dunda RO MET	International Civil Aviation Organization 252/1, Vibhavadee Road Ladyao, Chatuchak Bangkok 10900 Thailand	Tel: +66 (2) 537-8189 Ext. 153 Fax: +66 (2) 537-8199 E-mail: pdunda@icao.int
Shane Sumner RO ATM		Tel: +66 (2) 537-8189 Ext. 159 Fax: +66 (2) 537-8199 E-mail: ssumner@icao.int
Chair	Address	Contact
Mr Jun Ryuzaki JAPAN	Senior Scientific Officer, Administration Division, Forecast Department Japan Meteorological Agency 1-3-4 Otemachi, Chiyoda-ku Tokyo 100-8122 Japan	Tel: +81 (3) 3212 8341 ext. 3351 Fax: +81 (3) 3284 0180 E-mail: jryuzaki@met.kishou.go.jp
Members	Address	Contact
Mr. Michael I. Berechree AUSTRALIA	National Manager Aviation Weather Services Australian Bureau of Meteorology GPO Box 1289 Melbourne VIC 3001 Australia	Tel: +61 (3) 9669 4586 Fax: +61 (3) 9669 4695 E-mail: srav@bom.gov.au
Ms Zou Juan CHINA	Meteorologist Meteorology Division Air Traffic Management Bureau, CAAC No.12, East Sanhuan Rd. Middle, Chaoyang District Beijing 100022, China	Tel: +86 (10) 87786826 Fax: +86 (10) 87786820 E-mail: zoujuan@atmb.net.cn juan_zou@yahoo.com
Mr. Li Luen On HONG KONG, CHINA	Chief Experimental Officer Hong Kong Observatory 134A, Nathan Road Tsim Sha Tsui, Hong Kong	Tel: +852 2926 8209 Fax: +852 2375 2645 E-mail: loli@hko.gov.hk
Mr. Peter Lechner NEW ZEALAND	Chief Meteorological Officer Civil Aviation Authority of New Zealand Asteron House, 55 Featherston Street Wellington New Zealand	Tel: +64 (4) 560 9593 Fax: +64 (4) 569 2024 E-mail: peter.lechner@caa.govt.nz
TBC RUSSIAN FEDERATION	TBC	TBC
Mr. Chow Kwok Wah SINGAPORE	Senior Meteorological Officer Main Meteorological Office Meteorological Service Singapore	Tel: +65 6542 4715 Fax: +65 6545 7192 E-mail: chow_kwok_wah@nea.gov.sg
Mr. Steven Albersheim UNITED STATES	Federal Aviation Administration Senior Meteorologist, Programme Lead International, FAA Headquarters 800 Independence Ave, S.W. Washington, D.C. 20591 United States	Tel: +1 (202) 385 7185 Fax: +1 (202) 385 7240 E-mail: steven.albersheim@faa.gov

2. DESCRIPTION	
Objective	Improve safety, efficiency and sustainability of ATM and operators by providing MET information needed to meet current and future requirements.
Benefits	Increase efficiency – save time and fuel as well as reduce carbon emissions
Terms of Reference	<p>Under guidance from ICAO Secretariat:</p> <ul style="list-style-type: none"> a) Obtain and evaluate the current and future requirements for MET (including space weather) in support of ATM (includes ATFM), as well as ATM in support of MET, in the ASIA/PAC Region and update Regional Air Navigation Plan accordingly and provide guidance material to assist States to develop MET services to meet these requirements; b) Assess aeronautical meteorological services, systems and architecture in the region and how they can integrate weather information into ATM, airspace user systems and decision support tools; c) Investigate sub-regional exchange of MET information (including digital) and associated agreements that facilitate ATM operations particularly over busy routes that overlap different FIRs; d) Promote coordination between MET and ATM communities in the ASIA/PAC Region to enhance the level of understanding of MET requirements and capabilities in support of ATM; e) To study the successful involvement of MET in the development of CDM/ATFM in other regions with a view to future application in ASIA/PAC; f) Monitor regional implementation of global policies associated with source data and delivery of MET information for ATM; g) Coordinate with MET/H TF on framework for Provide support to other appropriate bodies under the MET Sub-Group and ATM Sub-Group on the development of ATM contingency plan for specific phenomenon including volcanic ash, radioactive cloud, tropical cyclone and tsunami with reference to developments made by the global ICAO groups and WMO developments; h) Coordinate with the ATFM/SG to Provide expertise on MET services and information to assist appropriate bodies under the ATM Sub-Group in the establishment of sub-regional ATFM and to identify what kind of MET services/information can be considered as the most important for it; i) Enhance regional implementation of MET services in support of ATM in line with the priorities defined in the ASIA/PAC Seamless ATM Plan, closely referring to the Global Air Navigation Plan (GANP) and the Aviation System Block Upgrades (ASBUs); and j) Report to the MET Sub-group of APANPIRG for further co-ordination through the ICAO Secretariat with other relevant bodies (ATM/SG, APSAPG, CNS/SG).

3. COMMUNICATION STRATEGIES				
Description	Target Audience	Delivery Method	Frequency / Date	Responsibility
Work Plan	Task Force Members	Document via email	As required but reviewed at least quarterly	Chair
General correspondence	Task Force Members	Email	As required	Task Force Members

Task Force Meeting	Task Team Members	Meeting	As required, supplemented by teleconference	Chair
Status & Milestone Reports	ICAO Secretariat and Task Team Members	Report via email	At least half-yearly	Chair
Task Force Report	MET SG	Working Paper	Yearly	Chair

4. PERFORMANCE FRAMEWORK FORM (PFF)				
Tasks	Time Frame	Responsibility	Status	Milestone
Task 1: Conduct MET/R TF meeting to obtain regional MET requirements to support ATM	2016 (Mar)	Chair, secretariat	To commence	1
Task 2: Conduct survey on regional ATM requirements for MET information	2016 (Mar)	Chair, secretariat, Ad hoc group	to commence	1
Task 3: Conduct MET/ATM seminar in coordination with WMO to promote regional implementation of MET to support ATM	2016 or 2017	Chair, secretariat	To commence	1
Task 4: Assess aviation meteorological services, systems and architecture in the region and how they can integrate weather information into ATS/aircraft operator decision support tools	2015-2016	MET/R TF ATFM/SG	In progress	2
Task 5: Investigate sub-regional exchange of MET information and associated agreements that facilitate ATM operations particularly over busy routes that overlap different FIRs	2015-2016	MET/R TF ATFM/SG	In progress	3
Task 6: Facilitate implementation of MET services to support ATM in the terminal area in accordance with current and evolving ICAO and WMO standards, procedures and policies	2015-2016	MET/R TF	In progress	4
Task 7: Monitor regional implementation of global policies associated with source data and delivery of MET information for ATM	2015-2016	MET/R TF	Future	5

5. MILESTONES			
Milestone	Accountability	Dates	Status
Milestone 1: Determine regional MET requirements for ATM	MET/R TF	2016	To begin
Milestone 2: Develop guidance material on how to provide/use weather information in support of ATM decision making tools	MET/R TF	2016	To begin
Milestone 3: Implement sub-regional exchange of MET information to facilitate ATM operations in busy routes	MET/R TF	TBD	To begin
Milestone 4: Develop regional implementation plan for the Meteorological Services for the Terminal Area	MET/R TF	TBD	future
Milestone 5: Implement global policies associated with source data and delivery of MET products for ATM	MET/R TF	TBD	To begin

6. WORK PLAN				
Activity / Milestone	Accountability	Predecessors	Date	Status
Activity 1: Develop regional MET requirements for ATM				
Activity 1.1: Conduct MET/R TF meetings and MET/ATM seminars to contribute in developing MET requirements for ATM	MET/R TF	-	Nov 13-completed (at least every 18 months)	In progress
Activity 1.2: Analyse existing surveys (e.g. ATFM survey) and develop new surveys, when necessary, to determine regional ATM requirements for MET	MET/R TF	-	2016	To commence
Activity 1.4: Recommend regional MET requirements for ATM to MET SG and AMOFSG (through direct membership) meetings	MET/R TF	-	Annual (AMOFSG –18 months)	To begin
Milestone 1: Determine regional MET requirements for ATM				
Activity 2: Developing methods to use weather information in decision support tools				
Activity 2.1: Develop a list to guide States on the MET information or services necessary to support implementation of each element of the APAC Seamless ATM Plan, and report to the next meeting of the MET/R TF. Note: this should include requirements for aircraft reporting	Ad hoc group (Australia, China, Hong Kong, China, and Japan)	-	2016	To begin
Activity 2.2:		-		
Activity 2.3:		-		
Milestone 2: Develop guidance material on how to provide/use weather information in support of ATM decision making tools				
Activity 3: Developing sub-regional exchange of MET information to facilitate ATM operations				
Activity 3.1: develop a proposal in close collaboration with other appropriate bodies and assisted by the Secretariat, for capacity building activities in the APAC region to foster the implementation of digital MET information exchange, and report to MET SG	Ad hoc group (Australia, Hong Kong, China, New Zealand and Singapore) ROBEX WG	-	July 2015	In progress
Activity 3.2: States develop agreements on the exchange of MET information that provides benefits to ATM operations on sub-regional level	States ATFM/SG	-		To begin In progress
Activity 3.3: States report developments to MET/R TF and MET SG meetings	States/ MET/R TF	3.2		To begin
Milestone 3: Implement sub-regional exchange of MET information to facilitate ATM operations in busy routes				To begin

Activity 4: Developing regional implementation plan for Meteorological Services for the Terminal Area				
Activity 4.1: Monitor developments of Meteorological Services for the Terminal Area	MET/R TF	-	Annual	In progress
Activity 4.2: Monitor Annex 3 relevant ICAO provisions developments	MET/R TF	4.1		future
Activity 4.3: Develop regional implementation plan for Meteorological Services for the Terminal Area	MET/R TF	4.2		future
Activity 4.4: Monitor regional implementation of Meteorological Services for the Terminal Area	MET/R TF	4.3		future
Activity 4.5: Report implementation progress to MET SG	MET/R TF	4.4		future
Milestone 4: Develop regional implementation plan for the Meteorological Services for the Terminal Area				future
Activity 5: Implementing global policies associated with source data and delivery of MET products for ATM				
Activity 5.1: Implement global policies associated with source data and delivery of MET products for ATM	MET/R TF	-		To begin
Activity 5.2: Report results to MET/R TF and MET SG meetings	MET/R TF	5.1		future
Milestone 5: Implement global policies associated with source data and delivery of MET products for ATM				
