

Annex 5

Overview of MET SG and key outcomes from MET SG/21

1. About MET SG

1.1. As discussed in Annex 4 to this paper, the ICAO Asia/Pacific Meteorology Sub-Group (MET SG) was established to assist the ICAO Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) in its work programme, especially in problems requiring expert advice in the field of aeronautical meteorology. To this end, the primary objectives of the MET SG are to:

- a) Ensure the continuous and coherent development of the MET parts of the Asia/Pacific Regional Air Navigation Plan (ANP) in a manner that is harmonized with adjacent regions, consistent with ICAO Standards and Recommended Practices (SARPs), the Global Air Navigation Plan and the Global Aviation Safety Plan;
- b) Facilitate the implementation of aeronautical meteorological services identified in the ANP, Aviation System Block Upgrade (ASBU) priority modules and the Asia/Pacific Seamless ATM Plan elements using the project management principles where appropriate; and
- c) Review, identify and address deficiencies that impede the implementation or provision of effective and efficient aeronautical meteorological services in the Asia and Pacific Regions.

1.2 To assist the MET SG in its work, four contributory expert groups were established to carry out tasks and projects in specific areas. These groups, which report to MET SG, are:

- **Meteorological Information Exchange Working Group (MET/IE WG)**, which is assigned tasks such as management of Regional OPMET Exchange scheme (ROBEX), ICAO Meteorological Information Exchange Model (IWXXM) implementation, analysis of OPMET testing and monitoring activities and proposal of amendments to the ANP;
- **Meteorological Services Working Group (MET/S WG)**, which is assigned tasks such as development of regional guidance to support MET service provision, promoting the resolution of air navigation deficiencies in the field of MET, analysis of OPMET testing and monitoring activities and proposal of amendments to the ANP;
- **Meteorological Requirements Working Group (MET/R WG)**, which is assigned tasks such as promoting regional implementation of MET information to support ATM operations and development of regional guidance to support MET service provision; and
- **APAC Volcanic Ash Exercises Steering Group (VOLCEX/SG)**, which is assigned especially with the planning, organizing, conducting and follow-up of volcanic ash exercises in the APAC Region to demonstrate appropriate responses by the various agencies concerned in the event of a volcanic eruption.

2. Outcomes from MET SG/21

2.1. The Twenty-First Meeting of the Meteorology Sub-group (MET SG/21) was held at the ICAO APAC Office in Bangkok, Thailand from 29 May to 01 June 2017.

2.2. Outcomes from MET SG/21 discussions included a total of 3 Draft Conclusions (for further consideration by APANPIRG) and 5 Decisions that relate solely to matters dealing with the internal working arrangements of the MET SG. A number of these are discussed further below.

Proposals for the Amendment of ICAO Annex 3

2.3 MET SG/21 noted that the ICAO Meteorology Panel (METP) had developed proposals for the amendment of ICAO Annex 3, which are envisaged for applicability on 8 November 2018, 7 November 2019 and 5 November 2020, and for consequential amendments to Annex 15, PANS-ABC and PANS-ATM, which are envisaged for applicability on 8 November 2018.

2.4 States and appropriate international organizations were invited to provide ICAO comments on the amendment proposals not later than 7 July 2017. The applicability timeframe for the proposed amendment requiring exchange of space weather information in ICAO meteorological information exchange model (IWXXM) form will likely be altered to November 2019.

Proposals for Amendment of the Asia/Pacific Air Navigation Plan

2.5 MET SG/21 supported a number of proposed amendments to the ANP in Volume I, Part V – MET and Volume II, Part V –MET. In accordance with the procedure for amendment, the Secretariat would first ascertain whether the proposed changes concerning the text in the ANP would be supported by the other Regional Offices before submitting the proposed changes to APANPIRG for further review and possible endorsement (Draft Conclusion (MET SG) 21/1 refers).

Air navigation deficiencies in the MET field

2.6 Based on a review of twenty (20) APANPIRG air navigation deficiencies in the MET field, as well as information presented by Indonesia on corrective actions taken and outcomes from an informal side discussion by MET SG members from various States concerned, the Secretariat was tasked to coordinate further with the States concerned to progress the next steps required to progress resolution of the deficiencies.

2.7 Evidence presented by Indonesia (on the rectification of deficiencies related to the provision of volcanic ash information and SIGMET information for volcanic ash) was supported by the Volcanic Ash Advisory Centre (VAAC) Darwin and results from SIGMET monitoring activity. Therefore, MET SG/21 proposed the removal of deficiencies AP-MET-03 and AP-MET-06 from the APANPIRG deficiencies Open List (Draft Conclusion (MET SG) 21/2 refers).

2.8 Annual SIGMET tests and periodic SIGMET monitoring activities also indicated the existence of deficiencies in SIGMET services which were not presently identified in the APANPIRG deficiencies database. MET SG/21 tasked the MET/IE WG in coordination with MET/S WG to prepare recommendation/s accordingly for consideration at the Twenty-eighth meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANIRG/28).

SIGMET tests

2.9 Annual SIGMET test were conducted and the results analysed under the work plans of the MET/IE WG and MET/S WG (details in the report of the conjoint session of MET/IE WG/15 and MET/S WG/7).

Volcanic ash exercises

2.10 Two volcanic ash exercises in the APAC Region; VOLPHIN 16/02 in Philippines (18 August 2016) and VOLPHIN 17/01 in Indonesia (23 February 2017) were organized, conducted and debriefing completed as part of the APAC VOLCEX/SG work plan.

2.11 The future work plan of the APAC VOLCEX/SG included a schedule for the following volcanic ash exercises:

APAC VOLCEX 18/01 (Papua New Guinea) 2018 (Feb)
APAC VOLCEX 18/02 (Indonesia/Sumatra) 2018 (Aug)
APAC VOLCEX 19/01 (Solomon Islands, Tonga or Vanuatu) 2019 (Feb)
APAC VOLCEX 19/02 (North-east Asia/Republic of Korea) 2019 (Aug)
APAC VOLCEX 20/01 (Philippines) 2020 (Feb)

VAAC backup test

2.12 A volcanic ash advisory centre backup test was successfully conducted between the Wellington VAAC and Darwin VAAC on 19 April 2017.

2.13 MET SG/21 supported a proposal by New Zealand for improvement of the Darwin and Wellington VAAC backup tests (Decision (MET SG) 21/3 refers).

Collaborative and coordinated SIGMET issuance projects

2.14 Two international SIGMET issuance projects to improve coordination and collaboration of SIGMET information issued across the boundaries of neighbouring flight information regions (FIRs) were discussed. The first phase of the *Pilot Project on SIGMET Coordination in Southeast Asia* was conducted between 4 October 2016 and 3 March 2017 in Indonesia, Malaysia and Singapore in collaboration with the WMO. The *Collaborative SIGMET Issuance Demonstration Project* had been conducted since 2015 involving Japan, Lao PDR, Myanmar, Philippines, Thailand and Viet Nam.

2.15 Based on the reported improved harmonization of SIGMET service between participating States of the international SIGMET coordination projects and improved capabilities of participating meteorological watch offices (MWOs) in the issuance of seamless SIGMET service at FIR boundaries, continued SIGMET coordination in the APAC Region was encouraged (Draft Conclusion (MET SG) 21/4 refers).

WMO/ICAO APAC Workshop on the implementation of IWXXM

2.16 Hong Kong, China will organize and host a workshop on the implementation of ICAO meteorological information exchange model (IWXXM) for the exchange of OPMET data to raise the capability of stakeholders of Asia and Pacific to kick-start their own implementation project for digital MET information to be exchanged and integrated in a System-Wide Information Management (SWIM) environment.

2.17 ICAO and Hong Kong Observatory subsequently distributed an invitation letter to ICAO member States to participate in the workshop in Hong Kong, China (10-12 October 2017).

Regional coordination with Pacific Island Countries and Territories

2.18 In order to promote coordination between ICAO and the Pacific Islands' meteorological bodies such as Pacific Meteorological Council (PMC), Pacific Islands Ministers Meeting on Meteorology (PIMMM) and Pacific Islands Aviation Weather Services (PIAWS) Panel, and provide more technical support to facilitate implementation of aeronautical meteorological service in the Pacific Island Countries' and Territories' (PICTs), MET SG/21 decided to promote better coordination with PMC, PIMMM, PIAWS Panel and PICTs (Decision (MET SG) 21/5 refers).

Regional SIGMET Guide

2.19 Draft updates to the Asia/Pacific Regional SIGMET Guide based on an updated template endorsed by METP to align with Amendment 77 to Annex 3 were supported with some additional modifications (Decision (MET SG) 21/6 refers).

Regional guidance for tailored MET information to support ATM operations

2.20 MET SG/21 reviewed progress on the draft *Asia/Pacific Regional Guidance for Tailored Meteorological Information and Services to Support Air Traffic Management (ATM) Operations*.

2.21 Pending resolution of some minor issues, MET SG Chair is expected to propose a draft conclusion to APANPIRG recommending that the document be approved for use in the APAC Region.

Next meetings of MET SG and its contributory bodies

2.22 A tentative schedule was proposed as follows:

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| MET/IE WG/16 | 19 – 21 March 2018 |
| MET/S WG/8 | 21 – 23 March 2018 |
| APAC VOLCEX/SG/5 | 26 – 27 March 2018 (TBC) |
| MET/R WG/7 | (TBC) May/June 2018 |
| MET SG/22 | 25 – 28 June 2018 |