



*International Civil Aviation Organization*

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

Bangkok, Thailand, 3 – 6 August 2015

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**Agenda Item 2: Organizational Matters**

**METEOROLOGY SUB-GROUP STRUCTURE**

(Presented by Chair of the METSG)

**SUMMARY**

This paper presents a proposal for the structure and working arrangements for the APANPIRG Meteorology Sub-group to compliment the new structure of the ICAO Meteorology Panel and to assist with the implementation of ICAO standards and recommended practices, the Global Air Navigation Plan and Aviation System Block Upgrade strategies and Asia/Pacific regional priorities.

**1. INTRODUCTION**

1.1 The APANPIRG Meteorology Sub-group (METSG) was established to address meteorological issues relating to the safety, efficiency and effectiveness of international air navigation. It is a forum that enables States within the Asia/Pacific (APAC) region to share ideas, suggest improvements and work cooperatively to implement the ICAO standards and recommended practices (SARPs) relating to aeronautical meteorology. In accordance with the APANPIRG Procedural Handbook, the METSG is charged with preparatory work on specifically defined problems requiring expert advice for their resolution in order to assist APANPIRG in its planning and implementation work.

1.2 Over the years there have been Task Forces, Working Groups and Steering Groups established within the METSG to deal with both ongoing issues and shorter term tasks where there has been a need to cooperate between States to manage and implement processes, procedures or systems to improve the meteorological service to international air navigation.

**2. DISCUSSION**

Current APANPIRG Meteorology Sub-group Structure

2.1 The METSG currently has three (3) task forces (TF), a working group (WG) and a steering group (SG) (refer to Figure 1) namely the:

- Meteorological Requirements Task Force (MET/R TF);

- Meteorological Hazards Task Force (MET/H TF);
- World Area Forecast System Task Force (WAFS TF);
- Regional OPMET Bulletin Exchange Working Group (ROBEX WG); and the
- Volcanic Ash Exercises Steering Group (VOLCEX/SG).

2.2 Each of these groups also has a number of ad hoc groups which have been set specific finite tasks to complete and report back to the relevant group.

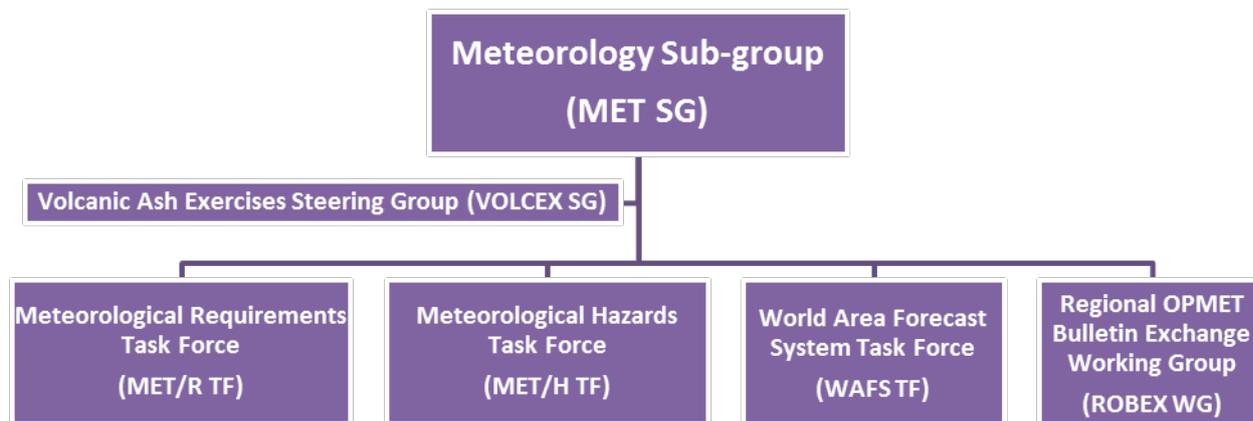


Figure 1 – Current APANPIRG METSG Structure

#### ICAO Meteorology Panel Structure

2.3 The ICAO Meteorology Panel conducted its first meeting in Montreal from 20-24 April 2015. The meeting agreed to a structure that included four (4) working groups and an ad hoc group (refer to Figure 2) namely:

- Working Group on Meteorological Requirements and Integration (WG-MRI);
- Working Group on Meteorological Information and Service Development (WG-MISD):
  - Radioactive Material Sub-group;
  - World Area Forecast System Sub-group;
  - Volcanic Ash Sub-group;
  - Space Weather Sub-group; and
  - Regional Hazardous Weather Advisory Centres Sub-group;
- Working Group on Meteorological Information Exchange (WG-MIE);
- Working Group on Meteorological Operations Group (WG-MOG); and the
- Ad hoc Group on Cost Recovery.

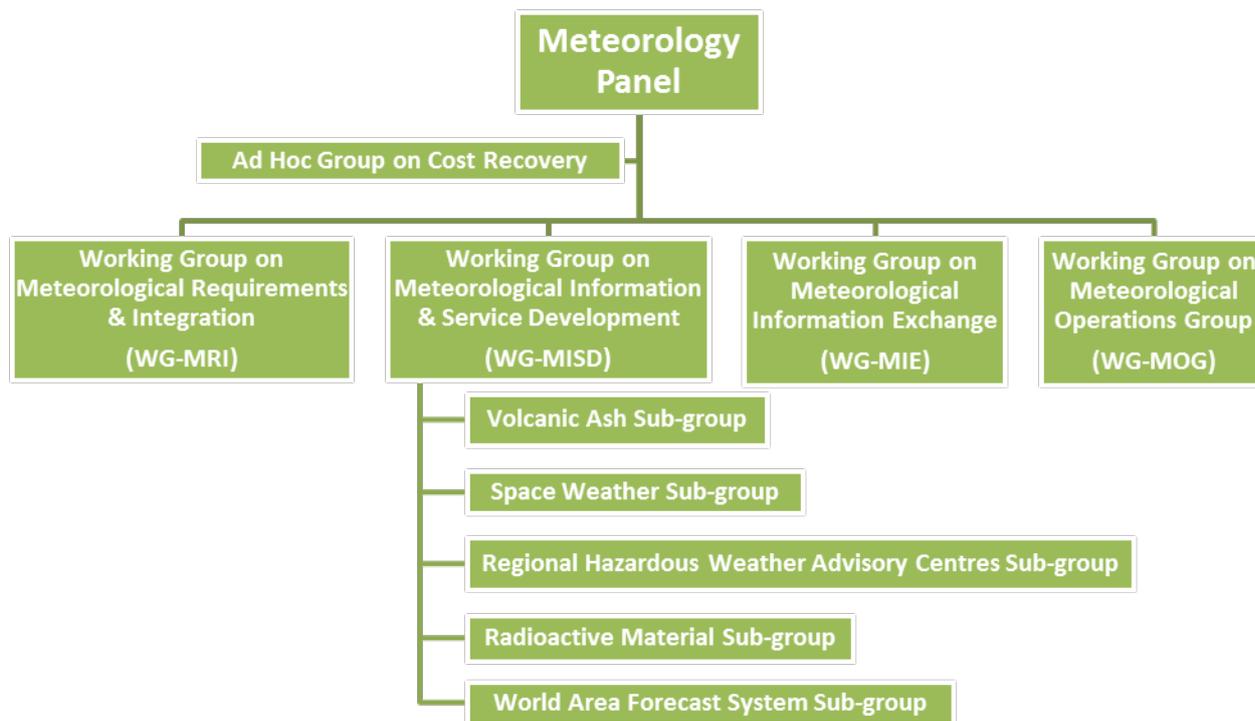


Figure 2 – ICAO Meteorology Panel Structure

Proposed APANPIRG Meteorology Sub-group Structure

2.4 It is proposed that the APANPIRG METSG task forces and working group be modified to better align with the new MET Panel working groups and to allow a more streamlined working arrangement to complete the METSG deliverables relating to the Global Air Navigation Plan (GANP), Aviation System Block Upgrades (ASBU) and APAC regional priorities. The proposed groups are as follows:

- Meteorological Requirements Working Group (MET/R WG);
- Meteorological Services Working Group (MET/S WG);
- Meteorological Information Exchange Working Group (MET/IE WG).

2.5 The MET/R WG would essentially remain the same and undertake implementation tasks within the APAC region of any SARPs relating to delivery of MET information in support of Air Traffic Management (ATM). Close coordination with the APANPIRG Air Traffic Management Sub-group (ATM SG), in particular its contributory bodies related to Air Traffic Flow Management (ATFM), will be necessary to ascertain regional priority ATM requirements for MET information. It would also be required to monitor the activities of the MET Panel Working Group on Meteorological Requirements and Integration (WG-MRI).

2.6 The MET/S WG would take on the existing activities of the MET/H TF and continue to work towards improving the quality of meteorological advisories and warnings and the implementation of the International Airways Volcano Watch (IAVW) and International Tropical Cyclone Watch (ITCW) within the APAC region. In addition, this group would look at improved compliance of SARPs for observations and forecasts (including WAFS activities from the WAFS TF). The Volcanic Ash Exercises Steering Group would also report to this working group. Close coordination with the APANPIRG Communications, Navigation and Surveillance Sub-group (CNS SG), in particular with respect to planning and implementation of space weather information, will be necessary. The MET/S WG would also be required to monitor the activities of the MET Panel Working Group on Meteorological Information and Service Development (WG-MISD).

2.7 The ROBEX WG would be re-named to the MET/IE WG and would continue to work towards increasing OPMET availability and reliability needed for flight planning (efficiency) and in-flight re-planning (safety) in support of the GANP and ASBU framework and APAC regional priorities. It would assist with regional implementation of SARPs relating to meteorological information exchange, including those activities from the WAFS TF relating to the implementation of the exchange of WAFS products and services. Close coordination with the APANPIRG ATM SG will be necessary, in particular with respect to planning and implementation of the provisions related to Aeronautical Information Management (AIM), and especially in areas related to digital exchange of meteorological information. In addition the MET/IE WG would be required to monitor work being undertaken within the MET Panel Working Group on Meteorological Information Exchange (WG-MIE).

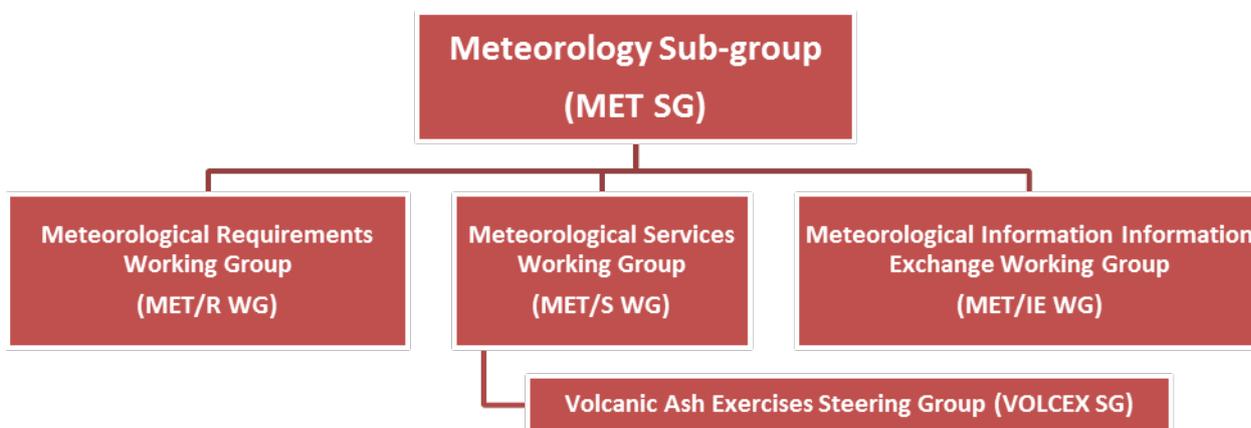


Figure 3 – Proposed APANPIRG METSG Structure

2.8 A set of draft terms of reference (TOR) for the expert working groups discussed above is presented in the **Attachments A, B and C** to this paper, which have been drafted specifically to ensure close alignment with the GANP and ASBU strategies and the APAC regional priorities and to facilitate effective coordination, where necessary, between the Meteorology Panel and APANPIRG. In accordance with the APANPIRG Procedural Document, the proposed TOR shall be clear and concise, describing not only the task/s but also an/the expected target date/s for its/their completion.

### 3. RECOMMENDATION

3.1 In view of the discussion above, the following draft Conclusion is presented for consideration by METSG/19 and draft Decision for consideration and possible adoption by APANPIRG/26:

**Draft Conclusion 19/x – Expert working groups of the Meteorology Sub-group (MET SG)**

That, the METSG, review the METSG Working Group structure and the draft Terms of Reference as given in METSG/19 WP/xx.

**Draft Decision 26/x – Expert working groups of the Meteorology Sub-group (MET SG)**

That, in order to assist APANPIRG in its planning and implementation work, while maintaining close alignment with the Global Air Navigation Plan (GANP) and Aviation System Block Upgrade (ASBU) strategies and the APAC regional priorities, and facilitating effective coordination, where necessary, between the Meteorology Panel and APANPIRG:

- a) The following expert working groups be appointed to replace the existing structure of expert task force and working groups under the MET SG:
  - Meteorological Requirements Working Group (MET/R WG);
  - Meteorological Services Working Group (MET/S WG);
  - Meteorological Information Exchange (MET/IE WG).Note: The Volcanic Ash Exercises Steering Group (VOLCEX SG) will report to the MET/S WG.
  
- b) The draft Terms of Reference (TOR) for the expert working groups under the MET SG, as contained in **Attachments A, B and C**, be adopted.

**4. ACTION BY THE MEETING**

4.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss any relevant matters as appropriate; and
- c) adopt the draft Conclusion and draft Decision presented in paragraphs 3.1 and 3.2 respectively.

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**Draft Terms of Reference for Meteorological Requirements Working Group (MET/R WG)**

Under guidance from ICAO APAC MET Secretariat:

- 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 APAC 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 APAC 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 APAC;
- f) Monitor regional implementation of global policies associated with source data and delivery of MET information for ATM;
- g) Coordinate with MET/S TF on framework for 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 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) Provide advice and report to the MET Sub-group on the above issues for further co-ordination through the ICAO Secretariat with other relevant groups.

**Draft Terms of Reference for the Meteorological Services Working Group (MET/S WG)**

Under guidance from ICAO APAC MET Secretariat:

- a) Maintain awareness of current and future requirements with respect to the issuance of meteorological services, in particular, observations, forecasts, advisories and warnings, in support of the aviation system block upgrades (ASBUs);
- b) Maintain awareness of the implementation of meteorological services within the APAC Region and any deficiencies;
- c) Continually seek ways to improve the quality, compliance against SARPs and operational effectiveness of the meteorological services;
- d) Monitor the implementation of and the World Area Forecast System (WAFS) services, the International Airway Volcano Watch (IAVW) and the International Tropical Cyclone Watch (ITCW) within the APAC region;
- e) Monitor and evaluate the operational effectiveness of the use of WAFS datasets and products generated from those datasets;
- f) Monitor the activities of the MET Panel Working Group on Meteorological Information and Service Development (WG-MISD); and
- g) Provide advice and report to the MET Sub-group on the above issues for further co-ordination through the ICAO Secretariat with other relevant groups.

**Proposed Terms of Reference for the Meteorological Information Exchange Working Group (MET/IE WG)**

Under guidance from the ICAO APAC MET Secretariat:

- a) Review the OPMET exchange schemes in the APAC, MID and neighbouring Regions and develop proposals for their optimization, taking into account the requirements by the aviation users and the current trends for global OPMET exchange;
- b) Monitor and participate in trials of digital aeronautical meteorological information exchange inter- and intra- regionally;
- c) Develop standardized quality control, monitoring and management procedures related to ROBEX and other exchange schemes for OPMET information;
- d) Review the regional guidance material related to OPMET exchange;
- e) Liaise with other groups (including MET/P WG-MIE) dealing with communication and/or management aspects of the OPMET exchange in APAC and other ICAO Regions and by the WAFS Providers; and
- f) Provide advice and report to the MET Sub-group on the above issues for further co-ordination through the ICAO Secretariat with other relevant groups.