

## Meteorological Requirements Working Group (MET/R WG)

**NOTE:** The nineteenth meeting of the Meteorology Sub-Group (MET SG/19), held in Bangkok, Thailand, 3 – 6 August 2015, decided to replace the existing structure of expert task forces and working group under the MET SG (Decision 19/2 — *Expert working groups of the Meteorology Sub-group* refers).

As a result of MET SG/19, Decision 19/2, the following expert working groups were appointed under the MET SG:

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

The terms of reference for the new working groups under the MET SG were adopted as contained in Attachment 3 to the MET SG/19 Report. For ease of reference, a copy of the terms of reference for the MET/R WG is provided in the following pages.

The tasks previously assigned to expert groups under the MET SG, i.e., the tasks assigned to the Meteorological Requirements Task Force (MET/R TF), World Area Forecast System Task Force (WAFS TF), Meteorological Hazards Task Force (MET/H TF) and Regional OPMET Bulletins Exchange Working Group (ROBEX WG), and the existing memberships of the expert groups are transferred over to the corresponding new working groups as follows:

- MET/R TF to MET/R WG
- MET/H TF and WAFS TF to MET/S WG
- ROBEX WG to MET/IE WG

For ease of reference, a copy of the latest work plan and membership of the MET/R TF (last updated by MET/R TF/4, held in Tokyo, Japan, 29 June – 3 July 2015) is provided in the following pages.

### Attachments:

- Terms of reference — MET/R WG
- Work programme — MET/R TF

**TERMS OF REFERENCE OF THE METEOROLOGICAL REQUIREMENTS  
WORKING GROUP (MET/R WG)**

Under guidance from ICAO APAC MET Secretariat:

- a) Identify and evaluate the current and future requirements for MET in support of ATM (includes ATFM), as well as ATM in support of MET;
- b) Develop and provide guidance and reference material to assist States to meet MET requirements;
- c) Assess aeronautical meteorological services, systems and architecture and how they can integrate weather information into ATM, airspace user systems and decision support tools;
- d) Promote coordination between MET and ATM communities to enhance the level of understanding of MET requirements and capabilities in support of ATM;
- e) Study the successful involvement of MET in the development of CDM/ATFM in other regions with a view to future application;
- f) Monitor regional implementation of global policies, including those associated with source data and delivery of MET information for ATM;
- g) 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;
- h) 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 MET service requirements;
- i) Enhance regional implementation of MET services 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);
- j) Monitor the relevant activities of the MET Panel and appropriate bodies; and
- k) Provide advice and report to the MET Sub-group on the above issues for further co-ordination through the ICAO Secretariat with other appropriate bodies.

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

| <b>1. TASK TEAM</b>                           |  |  |
|---|--|--|
| <b>Secretariat</b>                            | <b>Address</b>   | <b>Contact</b>   |
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| <b>Chair</b>                                  | <b>Address</b>   | <b>Contact</b>   |
| Mr Jun Ryuzaki<br><br>JAPAN                   | Senior Scientific Officer,<br>Administration Division, Forecast Department<br>Japan Meteorological Agency<br>1-3-4 Otemachi, Chiyoda-ku<br>Tokyo 100-8122 Japan                  | Tel: +81 (3) 3212 8341 Ext. 3351<br>Fax: +81 (3) 3284 0180<br>E-mail: <a href="mailto:jryuzaki@met.kishou.go.jp">jryuzaki@met.kishou.go.jp</a>   |
| <b>Members</b>                                | <b>Address</b>   | <b>Contact</b>   |
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| TBC<br><br>RUSSIAN<br>FEDERATION              | TBC  | TBC  |
| Mr. Chow Kwok<br>Wah<br><br>SINGAPORE         | Senior Meteorological Officer<br>Main Meteorological Office<br>Meteorological Service Singapore  | Tel: +65 6542 4715<br>Fax: +65 6545 7192<br>E-mail: <a href="mailto:chow_kwok_wah@nea.gov.sg">chow_kwok_wah@nea.gov.sg</a>   |
| Mr. Steven<br>Albersheim<br><br>UNITED STATES | Federal Aviation Administration<br>Senior Meteorologist, Programme Lead<br>International, FAA Headquarters<br>800 Independence Ave, S.W.<br>Washington, D.C. 20591 United States | Tel: +1 (202) 385 7185<br>Fax: +1 (202) 385 7240<br>E-mail: <a href="mailto:steven.albersheim@faa.gov">steven.albersheim@faa.gov</a>   |

| 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"> <li>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;</li> <li>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;</li> <li>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;</li> <li>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;</li> <li>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;</li> <li>f) Monitor regional implementation of global policies associated with source data and delivery of MET information for ATM;</li> <li>g) <del>Coordinate with MET/H TF on framework for</del> 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;</li> <li>h) <del>Coordinate with the ATFM/SG to</del> 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;</li> <li>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</li> <li>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).</li> </ul> |

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| 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 <del>to obtain regional MET requirements to support ATM</del>   | 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<br>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<br>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         |

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| 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      |
| <b>Activity 1: Develop regional MET requirements for ATM</b>   |  |              |   |             |
| 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 <del>and AMOFSG (through direct membership)</del> meetings   | MET/R TF   | -            | Annual <del>(AMOFSG —18 months)</del>       | To begin    |
| Milestone 1: Determine regional MET requirements for ATM   |  |              |   |             |
| <b>Activity 2: Developing methods to use weather information in decision support tools</b>   |  |              |   |             |
| 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   |  |              |   |             |

| <b>Activity 3: Developing sub-regional exchange of MET information to facilitate ATM operations</b>   |  |     |           |                         |
|---|--|-----|-----------|-------------------------|
| 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)<br><del>ROBEX-WG</del> | -   | 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<br>ATFM/SG  | -   |           | To begin<br>In progress |
| Activity 3.3: States report developments to MET/R TF and MET SG meetings  | States/<br>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                |
| <b>Activity 4: Developing regional implementation plan for Meteorological Services for the Terminal Area</b>  |  |     |           |                         |
| 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                  |
| <b>Activity 5: Implementing global policies associated with source data and delivery of MET products for ATM</b>  |  |     |           |                         |
| 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   |  |     |           |                         |