



*International Civil Aviation Organization*

**MIDANPIRG Meteorology Sub-Group  
Seventh Meeting (MET SG/7)**

*(Cairo, Egypt, 14 - 16 November 2017)*

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**Agenda Item 3: Global/Regional developments related to MET**

**OUTCOMES OF MET PANEL AND ASSOCIATED WORKING GROUPS' MEETINGS**

*(Presented by the Secretariat)*

**SUMMARY**

A summary of the MET Panel and associated Working Groups' Meetings is provided in this paper.

**1. INTRODUCTION**

1.1 The meeting may recall the following global meetings of the Meteorology Panel (METP) and associated Working Groups were conducted this past year:

- Second meeting of the Meteorology Panel (METP/2) held from 17 to 21 October 2016 in Montréal;
- Third meeting of the ICAO Meteorology Panel Working Group on Meteorological Requirements and Integration (METP WG-MRI/3) held from 13 to 14 July 2017 in Montréal;
- Third meeting of the ICAO Meteorology Panel Working Group on Meteorological Information and Service Development (METP WG-MISD/3) held from 17 to 19 July 2017 in Montréal;
- Third meeting of the ICAO Meteorology Panel Working Group on Meteorological Information Exchange (METP WG-MIE/3) held from 10 to 13 July 2017 in Montréal;
- Fourth meeting of the ICAO Meteorology Panel Working Group (METP WG-MOG/4) held from 4 to 7 April 2017 in Exeter; and
- Fifth meeting of the ICAO Meteorology Panel Working Group (METP WG-MOG/5) held from 12 to 14 June 2017 in Tokyo.

1.2 Outcomes of these meetings, where the final reports were made available, are provided in this paper.

**2. DISCUSSION**

2.1 Significant outcomes from METP/2 included:

- Proposal to allow the use of a cylinder of radius up to 30 km for SIGMET on Radioactive Cloud when detailed information on the release is not available - to be included in Amendment 78 to Annex 3 (November 2018 subject to ANC approval);
- Include provisions of space weather service information in Amendment 78 to Annex 3 (subject to ANC approval);
  - Process of selecting centre(s) is ongoing;

- To include guidance note on bilateral/multilateral cooperation and coordination of SIGMET information messages in Amendment 78 to Annex 3 (subject to ANC approval);
- Inclusion of status indicators regarding operational status indicators (test, exercise) for VAA, TCA and SIGMET/AIRMET in Amendment 78 to Annex 3;
- Requirement to exchange METAR and SPECI, TAF, SIGMET, AIRMET, VAA and TCA in XML/GML in Amendment 78 to Annex 3 (published November 2018, but this portion of Amendment applicable November 2020 subject to ANC approval);
  - Note space weather advisory information will also be required to be exchanged in XML/GML in Nov 2020;
- Continue development of SO<sub>2</sub> provisions taking into consideration the list of requirements provided by IATA - planned for inclusion in Amendment 79 to Annex 3 (November 2020);
- Continue development of provisions for phenomenon based, globally-consistent, en-route weather information systems;
- Agreement to standardize extensions within IWXXM schema;
- Agreement that general-purpose TCP/IP (specifically HTTP) communications are required for exchanging data with web services and non ATS-messaging protocols with aim to standardize in Annex 10 and supporting documents (coordinated with other Panels and subject to ANC approval);
- Agreement that modifications of the IWXXM representation of information require a lead time for associated Amendments to Annex 3 of at least 18 months from publication date to applicability date;
- Endorsement of the *Guidelines for the Implementation of OPMET data Exchange using IWXXM* for use as regional guidance by the Regional Planning and Implementation Groups (PIRGs);
- Update to the *Regional SIGMET Guide Template* for use as regional guidance by the PIRGs;
  - Agreed not use 'APRX' in SIGMET messages in this guidance material
- Agreement on extending the area of responsibility of VAAC Tokyo to include area from 60N to the North Pole from 090E to 150E;
- Agreement to freeze changes to the Traditional Alphanumeric Code form for meteorological messages in Annex 3, unless strong safety cases is presented and agreed; and
- Agreed to seek guidance from the ANC on supplementary issues identified that are not assigned to a job card.

## 2.2 Significant outcomes from METP WG/MRI/3 included:

- The group agreed that new MET requirements would be coordinated with the updates to the GANP and ASBU modules;
- With reference to High Ice Water Content, the task would be handed to the WG-MISD in determining with airspace users if and how associated requirements could be met through improved scientific understanding and emerging global and regional capabilities; and
- The group agreed that the first step in developing PANS-MET would be to determine elements in Annex 3 (Am 79) that are requirements and elements that are 'means of compliance' and that the second step would be based on ANC approved transposition principles applied for the first

step (late 2018/early 2019). The provisions in step 2 would be expressed as functional and performance requirements. The first draft of step 1 PANS-MET and Annex 3 was expected to be available for WG-MRI review by the end of 2017. Publication of PANS-MET was expected in July 2022 (in parallel with Amendment 80 to Annex 3).

### 2.3 Significant outcomes from the WG/MISD/3 included:

- WG-MISD made a recommendation regarding the optimum number of space weather centres for endorsement by the METP as follows:
  - Not later than November 2018, two (2) global centres that conjointly provide information on space weather impacts to High Frequency (HF) radio communications, Global Navigation Satellite System (GNSS)-based navigation and surveillance, and radiation exposure at flight levels;
  - Not later than November 2022, four (4) regional centres that provide information in support of the global space weather centres for HF communications and GNSS-based navigation and surveillance for the following designated areas of responsibility: Northern hemisphere polar region, southern hemisphere polar region, northern hemisphere equatorial and mid-latitude region, and southern hemisphere equatorial and mid-latitude region; and
  - Not later than 2027, ICAO, in close coordination with the World Meteorological Organization, reassess the optimum number of global and regional space weather centres;
  - Note that operational procedures for coordination between global space weather centres will be defined in an appropriate ICAO guidance document. A global space weather centre may also fulfil the responsibilities of a regional space weather centre for a designated area of responsibility. Lastly, regional space weather information centres may continue to provide information directly to an operator at the request of the operator;
- WS-MISD tasked an ad-hoc group to review the draft Standards and Recommended Practices for the provision of space weather information in Amendment 78 to annex 3 to determine if any adjustments are necessary to ensure that only the global space weather centres disseminate information to operators (if there are proposed changes they would be included in Amendment 79 to Annex 3);
- WS-MISD tasked an ad-hoc group to develop the draft Standards and Recommended Practices for the provision of space weather information by regional centres for inclusion in the draft Amendment 80 to Annex 3;

### 2.4 Significant outcomes from METP WG/MIE/3 included:

- WG-MIE further develop the *Guidelines for IWXXM Validation Statistics to be Gathered by ROCs and RODBs* and merge this with the *Guidelines for the Implementation of OPMET data exchange using IWXXM*;
- WG-MIE continue developing the *Guidelines for Translation Centre Operations* document as well as develop a draft Letter of Agreement for inclusion as an Appendix to the existing document *Guidelines for the Implementation of OPMET data exchange using IWXXM*;

- A task to merge the *Guidelines on the use of Operational and Non-operational Status Indicators in IWXXM Messages* into *Guidelines for the Implementation of OPMET Data Exchange using IWXXM*;
- A task to review the *IWXXM Exchange Testing* document and merge the relevant information into *Guidelines for the Implementation of OPMET Data Exchange using IWXXM*;
- A task to review the *AMHS Profile* document and merge the relevant information into *Guidelines for the Implementation of OPMET Data Exchange using IWXXM*;
- Inviting WMO to consider defining and documenting a policy on IWXXM schema versioning that would clearly differentiate which versions are to be used for evaluation and which versions can be used operationally to support specific Annex 3 amendments; and
- Investigating which other Annexes (i.e. Annex 6, 10, 11, 15) and ICAO documents (i.e. Doc 9377) need to be updated to reflect the introduction of meteorological information in IWXXM.

2.5 Many other issues were addressed at the WG/MIE/3 such as how to treat partially translated messages; development of IWXXM SARPs for SIGWX; development of MET-SWIM Plan and Roadmap; and developing a list of MET information and MET producers required under a SWIM environment.

2.6 WAFS, SADIS and WIFS related issues will be addressed by the SADIS Provider and therefore, outcomes of METP WG-MOG/4 not addressed here.

2.7 Significant outcomes related to volcanic ash stemming from METP WG-MOG/5 included:

- Updated area of responsibility of VAAC Tokyo which includes the area north of 60N from 90E to 150E since December 2016;
- Agreement amongst VAACs that an interim best practice for re-suspended ash terminology within VAA be implemented on 1 August 2017 and that an ad-hoc group be tasked to prepare a proposal for amendment of Annex 3 with regard to the definition of VAAC and necessary changes related to re-suspended ash to be introduced in Table A2-1, Template for advisory message for volcanic ash;
- Discontinuing the work on the provision of confidence levels on a trial basis in volcanic ash advisories by VAACs by 1 August 2017 (noting that work on this activity will be progressed together with the work on quantitative VA forecasts);
- Discontinuing the production of T+24 hour trial product, no later than 1 July 2017;
- Developing a proposal by an ad-hoc group to update Table A2-1 of Annex 3 to remove Aviation Colour Codes from the VAA/VAG and develop a proposal to update Annex 3, Paragraph 4.1, Note 2 in order to elevate VONA to a recommended practice, including the coordination with WG-MIE for potential inclusion with the IWXXM as well as prepare guidance material to update the IAVW Handbook in accordance to these developments; and
- Tasking an ad-hoc group to invite IUGG/WMO VASAG and ICCAIA to further review the state of the science related to the global development and use of quantitative volcanic ash contamination information and forecasts (which developments will be liaised with METP IAVW MIDSD/VASD to consider the results and also consider addressing the future

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requirements, including the need to provide confidence information and improved structural efficiencies for the delivery for such information, utilizing the requirements development process for the METP).

**3. ACTION BY THE MEETING**

- 3.1 The meeting is invited to note the contents in this paper.

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