



Agenda Item 5: Operational implementation of new ATM automated systems and integration of the existing ones

c) Interoperability between automated systems (GT – Interop)

IMPLEMENTATION OF OPMET MESSAGE EXCHANGE IN IWXXM FORMAT

(Presented by the Secretariat)

SUMMARY

This working paper presents the need to verify and adapt the AMHS infrastructure (terminal and interconnection) for the exchange of OPMET messages in IWXXM GML format as of 5 November 2020.

References:

- Annex 3, Meteorological service for international air navigation
- ICAO Doc 10003, Manual on the digital exchange of aeronautical meteorological information
- State letter AN 10/1-17/41

1. Background

1.1 Amendment 76 to ICAO Annex 3 introduced the exchange of OPMET messages in XML/GML format for States with that capability.

1.2 Amendment 77 to that same Annex introduced the exchange of OPMET messages in XML/GML format as a recommendation to all States.

1.3 The Secretary General of ICAO sent State letter AN 10/1-17/41, dated 7 April 2017, requesting comments on the proposed amendment to ICAO Annex 3.

1.4 Proposed amendment 78 to ICAO Annex 3 was approved on 7 March 2018, effective 16 July 2018, and introduces, *inter alia*, IWXXM (*ICAO Meteorological Information Exchange Model*).

1.5 The Manual on the digital exchange of aeronautical meteorological information (Doc 10003) contains guidance on the implementation of IWXXM.

2. Discussion

2.1 WXXM is a format for reporting meteorological information in the XML/GML language of the World Meteorological Organization (WMO). IWXXM includes XML/GML-based representations for standard products contained in Annex III of the International Civil Aviation Organization and the World Meteorological Organization, No. 49, Vol. II, such as METAR/SPECI, TAF, SIGMET, AIRMET, tropical cyclone advisories, and volcanic ash advisories. IWXXM products are used for the operational exchange of meteorological information for aeronautical use.

2.2 The State letter sent by the Secretary General of ICAO, dated 7 April 2017, proposed, *inter alia*, the extended use of the ICAO meteorological information exchange model (IWXXM) to facilitate the exchange of meteorological observations and reports (METAR/SPECI), aerodrome forecasts (TAF), SIGMET, AIRMET, and volcanic ash and tropical cyclone advisory information, in a system-wide information management (SWIM)-compliant environment.

2.3 The ICAO Council prescribed 16 July 2018 as the date on which it would become effective, except for any part concerning which a majority of contracting States had registered their disapproval before that date. In addition, the Council resolved that Amendment 78, to the extent it became effective, would be applicable on 8 November 2018 unless otherwise indicated.

2.4 Regarding IWXXM, Amendment 78 stated the following:

- a) Until 4 November 2020, it is recommended that all advisory messages (volcanic ash, tropical cyclones, space weather) and OPMET messages (METAR, SPECI, TAF, SIGMET, AIRMET) be disseminated in IWXXM GML format.
- b) As of 5 November 2020, dissemination in IWXXM GML format becomes a standard.
- c) Regarding space weather advisory messages, the recommendation applies as of 7 November 2019

2.5 The Meeting shall consider that the implementation of the exchange of OPMET messages in IWXXM format is linked to prompt migration of AFTN users to the AMHS environment, so that messaging service users may enjoy the benefits of the AMHS environment. For the specific case of meteorological messages, users shall use AMHS terminals to transmit and receive OPMET messages in this new format (IWXXM GML).

2.6 The Meeting could consider the need to adapt AMHS terminals of meteorological users for the transmission and reception of AMHS messages with content (meteorological information) in the new IWXXM GML format. In this regard, the OPMET databank of Brasilia has reported that its system is capable of receiving OPMET messages in IWXXM format Version 2.1, but meteorological information must be sent as an attachment to the AMHS message.

3. Conclusions

3.1 Taking into account that the implementation of OPMET messages in IWXXM GML format requires, in addition to the AMHS interconnection, the exchange of messages in an AMHS environment, the Meeting could study the possibility of issuing recommendations in this regard, also taking into account that expressed in paragraph 2.6.

3.2 In view of the above, the Meeting could issue the following conclusion:

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CONCLUSION: ADAPTATION OF AMHS TERMINALS OF AERONAUTICAL METEOROLOGY USERS

That, pursuant to the standard requiring the implementation of the exchange of OPMET messages in IWXXM GML format by 5 November, States should:

- a) Adjust AMHS terminals of aeronautical meteorology users so that they may transmit and receive OPMET messages in IWXXM GML format
- b) Implement the necessary AMHS interconnections in order to facilitate the transmission and reception of OPMET messages in IWXXM GML format
- c) States in a position to do so should conduct OPMET message exchange trials in IWXXM GML format

4. **Suggested action**

4.1 The Meeting is invited to:

- a) Take note of the information contained in this working paper;
- b) Consider approving the draft conclusion shown in 3.2; and
- c) Consider other actions it may deem appropriate.

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