



Montréal, 7 to 18 July 2014

Agenda Item 3: Integrating meteorological information exchange developments into the future system wide information management environment

3.2: Integration of meteorological information in the future system-wide information management (SWIM) environment through the development of new forms of data representation

**GOVERNANCE OF MET-RELATED DEVELOPMENT UNDER
SYSTEM-WIDE INFORMATION MANAGEMENT**

(Presented by China)

SUMMARY

This paper presents further considerations in the governance of global interoperability framework in relation to the system-wide information management (SWIM) presented in MET/14-WP/9|CAeM-15/Doc. 9 and MET/14-IP/6|CAeM-15/INF. 6. Action by the meeting is in paragraph 3.

1. INTRODUCTION

1.1 MET-14/WP/9|CAeM-15/Doc. 9 and MET-14/IP/6|CAeM-15/INF. 6 introduce the ICAO system-wide information management (SWIM) concept. This paper raises a number of considerations in the evolution towards SWIM-enabled aeronautical meteorological (MET) information exchange and the governance of the ICAO global interoperability framework (IGIF).

2. DISCUSSION

2.1 In the SWIM environment, services will be provided and consumed by a number of entities and China fully agrees that governance is essential for the proper operation and continuous development of SWIM. Governance of SWIM can be divided into five aspects, namely IGIF itself, governance of the MET component of IGIF, governance of the information services provided on this framework, governance of the provider of the information services and governance of SWIM-enabled applications.

MET component of IGIF

2.2 As discussed in paragraph 2.5 of MET-14/IP/6|CAeM-15/INF. 6, the IGIF will be described in five layers, namely physical infrastructure (network connectivity), the messaging infrastructure, the information exchange model, the information exchange services and SWIM-enabled applications to prescribe the functions, the standards and the mechanism for interoperability. To allow for flexibility in the local/regional requirements while recognizing the need for interoperability for global

information exchange, the meeting might concur that differences should be allowed in the information exchange model at the local, regional and global levels.

2.3 The definition of MET information model is highly technical and requires special expertise in many areas. The meeting might like to concur that a special expert team composed of experts in meteorology, data modelling and application development be formed to oversee this development and maintenance, and to interface with the proposed ICAO Information Management Panel (IMP) to ensure that the MET-related developments are fully aligned with interoperability framework and international standards of other disciplines including but not limited to aeronautical, meteorological and geospatial standards.

Governance of MET component of IGIF

2.4 China considers that the MET-related developments in IGIF itself needs to be governed so as to define, for example who is involved in the approval and evolution of the MET-related standards and the process to be followed in the revision of the MET-related standards. The meeting might wish to consider tasking an appropriate ICAO body to undertake these MET-related tasks in collaboration with WMO.

Governance of information services

2.5 As discussed in paragraph 2.3.13 of MET-14/WP/9|CAeM-15/Doc. 9, a minimum set of MET information exchange services is required to support the safety, efficiency and regularity of international air navigation. This minimum set of MET information exchange services should gradually replace the MET products currently defined in Annex 3 — *Meteorological Service for International Air Navigation*/Technical Regulations [C.3.1]. Although in the SWIM environment, all MET data services could be easily made available to users through making them discoverable and accessible through SWIM, specifications of these services have to be governed to ensure consistent representation of the information across locations and regions. China supports the position in MET-14/WP/9|CAeM-15/Doc. 9 that these basic MET information exchange services and the information elements should continue to be specified by the provisions contained in Annex 3/Technical Regulations [C.3.1].

Governance of information services provider

2.6 It should be noted that the responsibility for the provision of MET service to be provided for international air navigation rests with the States. As such, as discussed in MET-14/WP/40|CAeM-15/Doc. 40 on restructuring of MET provisions, the State and the MET authority shall have the prerogative to determine whether the MET authority should provide the service or to arrange for the provision of the service on its behalf within the State. Otherwise, if anybody and everybody wishing to develop and provide a service is allowed to register such services in the SWIM registries, such services and registries would grow tremendously. More importantly, it may end up with incoherent warning/alert status for the same weather hazard, for example different windshear alerts for the same aerodrome, or different hazardous weather warnings for the same airspace. Within each State, there should be an authoritative source of MET information, to be determined by the State and the MET authority, so that users will receive information and services which are consistent, coherent, accurate, credible and fit-for-purpose.

Governance of SWIM-enabled applications

2.7 It should further be noted that in the future SWIM environment, the SWIM-enabled applications could operate on the side of the user. Knowledge about the operational context is required in determining the MET information that is most suitable, fit-for-purpose and up-to-date. As discussed in MET-14/WP/18|CAeM-15/Doc. 18, for proper governance that the data retrieved would be fit for the

intended purpose and from authoritative source, and for compatibility across the whole range of users, there should be a requirement for these SWIM-enabled applications to be governed. Considering the SWIM environment is to facilitate the development of new value-added applications to meet the individual user needs, it is debatable whether these value-added applications should come under the scope of Annex 3 and/or the proposed PANS-MET as the case for basic aeronautical meteorological information exchange services discussed in para. 2.5 above. For proper governance and regulation while maintaining flexibility and agility, considering the MET authority is the regulator and is also in the best position to understand the context in which the MET information is to be used, the meeting might like to concur that the governance of these SWIM-enabled applications should rest with the MET authority and that guidance material needs to be developed to facilitate the MET authority in carrying out its regulatory role.

2.8 Considering the above discussion, the meeting is invited to formulate the following recommendation:

Recommendation 3/x — Inclusion of MET information in the future SWIM-enabled environment

That ICAO, in close coordination with WMO:

- a) develop provisions to enable the inclusion of MET information in the future system-wide information management (SWIM) environment consistent with the *Global Air Navigation Plan* (Doc 9750) using the outline provided in Appendix B (of MET 14/WP/9|CAeM-15/Doc. 9) as a basis, respecting the prerogative of the State and the MET authority in determining the authoritative source of MET information within the State concerned so that users will receive information and services which are consistent, coherent, accurate, credible and fit for purpose;
- b) task appropriate ICAO expert team(s) to oversee the governance of IGIF and to undertake the MET-related tasks in collaboration with WMO; and
- c) develop guidance material to support the MET authority in regulating the SWIM-enabled application of users.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) consider the adoption of the draft recommendation proposed for the meeting's consideration.