International Civil Aviation Organization

THIRD MEETING OF THE METEOROLOGICAL REQUIREMENTS TASK FORCE (MET/R TF/3)

28 – 29 November 2013, Bangkok, Thailand

Agenda Item 2: Review:

c) MET/ATM Seminar 2013

REVIEW OF MET/ATM SEMINAR 2013

(Presented by the Secretary)

SUMMARY

This paper presents a summary of the Asia and Pacific Meteorology/Air Traffic Management (APAC MET/ATM) Seminar, held in Bangkok, Thailand from 26 to 28 November 2013. Outcomes from the Seminar may be considered in developing possible further action for adoption by the Third Meeting of the Meteorological Requirements Task Force (MET/R TF/3).

1. Introduction

1.1 The MET/ATM Seminar 2013 was held in Bangkok, Thailand, from 26 to 28 November 2013, and attended by 50 experts from 15 States, IATA, IFATCA and ICAO.

2. Discussion

2.1 A summary of discussion items arising from the MET/ATM Seminar 2013, and proposed possible actions that could be considered for adoption by the MET/R TF, are provided in the following paragraphs.

Background of MET services for ATM

2.2 The seminar recalled that the provision of aeronautical MET information to civil aviation is determined by internationally-agreed Standards and recommended practices (SARPs) contained in ICAO Annex 3 - *Meteorological Service for International Air Navigation* and other Annexes to the Convention on International Civil Aviation, and supplemented by Regional Air Navigation Plans and other ICAO provisions. The seminar noted that few (non-ATM and ATM) participants were familiar with ICAO's Global Air Traffic Management Operational Concept (Doc 9854). IFATCA noted cross-reference between Doc 9854, 2.9.17-2.9.19, and the ICAO *Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services* (Doc 9377), 7.2.3-7.2.4.

2.3 The seminar was informed that Australia had implemented a graphical SIGMET (as recommended by Annex 3) in trial mode and that New Zealand will also do so in 2014. The seminar highlighted that cross-boundary alignment of graphical SIGMET information would need to be effectively managed so as to ensure harmonization. New Zealand reported that long haul flights could incur a material fuel penalty due to misalignment of the (meteorological) phenomena described in SIGMETs at FIR boundaries. The seminar noted that accuracy and alignment of SIGMET information were identified as being vital to the management of global air traffic, as pilots and ATC will base operational decisions on the SIGMET information provided by meteorological watch offices. The meeting also considered the need for sharing of real-time meteorological data between neighbouring MWOs which could contribute to improved MET support for ATM across FIR boundaries

[Action agreed 3/x: *Cross-boundary alignment of graphical SIGMET information* – That an ad-hoc group, consisting of x, y, z, investigate measures to ensure effective cross-boundary alignment of (meteorological) phenomena included in SIGMET information, including graphical products, by meteorological watch offices in the APAC Region, and report to xxx.]

Requirements for MET support to ATM

2.4 The seminar noted work being undertaken within the SESAR and NextGen air transport modernization programmes in Europe and North America. Whilst welcoming the need for global interoperability the seminar considered that the programmes themselves may not be entirely suitable for or adaptable to the APAC region, owing to the different air traffic needs in the regions. The seminar was informed that Japan is referring to the Global Air Navigation Plan (GANP, Doc 9750) and Aviation System Block Upgrades (ASBU) methodology contained therein as a basis for air transport infrastructure modernization (CARATS), which should facilitate suitability and adaptability for the region and inter-regionally.

2.5 The seminar noted that achieving harmonization and interoperability of aeronautical information was a key objective of the APAC Seamless ATM Plan, located on the following website: http://www.icao.int/APAC/Pages/edocs.aspx, under the headings ATM, Seamless ATM Plan. While the Plan contained elements compatible with the ASBU methodology and the GANP framework, it necessarily included additional regional implementation priorities not specifically captured in the ASBUs. Implementation of a number of the (forty-two) individual elements contained in the Plan would also necessitate the implementation of specific supporting MET information services, which could be determined on a State basis. Effective relationships between ANSPs and MET providers would be essential in this process and, preferably, should be backed up by formal agreements. The ASBU module B0-AMET was also mapped directly to an individual element (300 – Meteorological Information) contained in first phase of the Plan that was recommended to be fully implemented by 2015. This element of the Plan also included the requirements for reporting and relay of aircraft (MET) reports.

[Action agreed for 3/X: *MET in the APAC Seamless ATM Plan* – That an ad-hoc group, consisting of x, y, z, develop a list to guide States on the MET information or services, where applicable, that would be necessary to support implementation of each element of the Plan, and report to xxx. Note: this should include requirements for aircraft reporting.]

2.6 The seminar noted that a number of States were developing or had developed bespoke products to support terminal area and air traffic flow management (ATFM) operations, which were typically beyond the current scope of ICAO provisions.

2.7 The seminar recalled that a regional survey of ATFM requirements for MET services/products was conducted in 2010 and reviewed by the MET/ATM TF/2 Meeting and Seminar in 2011. The seminar agreed that a similar survey could be conducted to determine what MET products (particularly those not governed by ICAO provisions) are currently provided by States in the region, and what tailored MET services are being provided to ANSPs.

[Action agreed 3/x: *MET/ATM requirements survey* – That ICAO conducts a regional survey of region-specific ATM requirements for MET services/products in/by date, which could assist APAC Seamless ATM Planning.]

Enhancing MET support to ATM

2.8 The seminar considered that there is a need for a 'common language' between ATM/MET to ensure clarity of understanding of ATM operational requirements and MET capabilities when developing tailored services. When presented in graphical form, the utility of tailored MET information may be enhanced by presentation on an ATS route map.

2.9 The seminar agreed that the importance of tailored MET information is not only limited to ATM, but also to aircraft operators who use it for fuel and alternate planning. Real-time depiction of weather at major airports is also considered useful. In addition, 12 – 24 hour forecasts are used by ATM for determining the next day's airport/airspace capacity.

2.10 The seminar noted that feedback from pilots, ATC and airlines assists MET providers to improve services. Oral briefings between MET and ATM also facilitate the improved understanding of existing and/or expected meteorological conditions. While improved accuracy of forecasts was frequently mentioned as an identified user need, it was necessary to identify which elements of forecasting most needed improvement when considering ATM and ATC operational measures. The seminar noted that in some States, embedded MET personnel in ATM operations had provided significant improvements, but not all States had the resources to do this.

2.11 The seminar was apprised that volcanic ash exercise VOLKAM13, involving MET, ATM and operators from Japan, the Russian Federation and United States, was beneficial in terms of the subsequent ATM response to the October 2013 eruption of Sheveluch Volcano in Kamchatka. Japan considered that, in view of the relative abundance of active volcanoes in the APAC region and associated potential risk to aviation, similar volcanic ash contingency exercises conducted elsewhere in the APAC region would also contribute positively to the safety of aircraft operations in actual volcanic ash events.

[Action agreed 3/x: *Volcanic ash exercise in the APAC region* – That an ad-hoc group, consisting of x, y, z, coordinate with the MET/H TF and ROBEX WG to develop a proposal for a volcanic ash contingency exercise elsewhere in the APAC region, involving MET, ATM and operators, based on the VOLKAM experience, and report to xxx.]

Next steps

2.12 The seminar noted that the purpose of conducting MET/ATM Seminars (and MET/R TF Meetings) was to provide a forum for exchange of information on the current and future region-specific requirements for MET in support of ATM. There was strong support for this type of interaction from both MET and ATM communities. The frequency and objectives of future MET/ATM Seminars would depend on the regional requirements for updated information. The

seminar considered that practical examples of how MET is used successfully by ATM in collaborative decision making (CDM) were useful, as was the provision of guidance and information supporting shared understanding of technical and practical aspects of the MET information exchange formats under development.

[Action agreed 3/x: Future MET/ATM Seminar – That a steering committee, consisting of x, y, z, develop a proposal for the next MET/ATM Seminar, including recommended timing and a draft programme, and report to xxx.]

2.13 The seminar noted that Amendment 76 to Annex 3, applicable on 14 November 2013, introduced enabling clauses to allow States in a position to do so to exchange OPMET information (specifically METAR/SPECI, TAF and SIGMET) in a digital format in accordance with a globally interoperable information exchange model. The seminar was informed that these initial provisions for digital exchange were expected to be enhanced and extended through at least Amendments 77 and 78 to Annex 3 to ensure that the broad spectrum of the aeronautical meteorological services can fulfill the requirements of the future globally interoperable ATM system through system-wide information management. The seminar highlighted that the current knowledge and capability required to begin implementing the provisions for digital exchange of MET information was not widespread in the region.

[Action agreed 3/x: Capacity building for (digital) MET information exchange – That an ad-hoc group, consisting of x, y, z, develop a proposal for capacity building activities in the APAC region to foster the implementation of digital MET information exchange, and report to MET SG/18.]

2.14 The seminar was informed that an ICAO MET Divisional Meeting in July 2014 will provide the international civil aviation community the opportunity to address issues vital to the current and future provision of MET services, particularly as they relate to GANP. Details on the MET Divisional Meeting had been sent to States and concerned international organizations under State letter reference SD 40/1-13/68 of 4 October 2013. The seminar noted that several transitional roadmaps and concepts of operations had emerged from global ICAO MET expert groups (including the WAFSOPSG and IAVWOPSG) that would be tabled for the consideration and/or information of the MET Divisional Meeting.

2.15 The Seminar noted the importance of the MET Divisional Meeting for the current and future provision of MET services, as well as the work of the global MET and ATM groups contributing to the development of MET provisions, and noted that regular updates through formal exchange or information on these developments would assist the regional MET and ATM coordination activities.

[Action agreed 3/x: *Coordination with ATFM/SG* – That, to ensure outcomes from relevant meetings are shared, a link between MET/R TF and ATFM/SG be included in a draft amendment to the ToR and forwarded for consideration and possible adoption by MET SG/18.]

3. Action by the Meeting

3.1 The meeting is invited to:

a) review the outcomes of the MET/ATM Seminar 2013; and

b) consider developing actions for the MET/R TF and forwarding information to the appropriate APANPIRG Sub-Group(s) and/or global forum(s).

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