



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 – Other Relevant Meetings

MET REQUIREMENTS ARISING FROM ICAO ASIA/PACIFIC ATM MEETINGS

(Presented by the Secretariat)

SUMMARY

This paper presents information on outcomes related to future ATM meteorological requirements arising from various ICAO Asia/Pacific ATM meetings.

1. Introduction

1.1 A number of ATM initiatives either developed or under development by ICAO meetings may lead to requirements for meteorological reporting and forecasting capability. These include planning for implementation of seamless ATM operations, collaborative air traffic flow management and ATM contingency operations.

2. Discussion

Asia/Pacific Seamless ATM Plan

2.1 The 4th and final meeting of the Asia/Pacific Seamless ATM Planning Group (APSAPG/4, Hong Kong) produced the final draft Asia/Pacific Seamless ATM Plan, which had been produced in response to the Kansai Statement, issued by the 46th Conference of Directors General of Civil Aviation (DGCA/46, Kansai, Japan, 12 – 16 October 2009). The Kansai Statement recognized the expectation of harmonization in civil aviation and that transparent and interoperable standards would be set among States and Regions to enable seamless flying between regions, and expressed the determination to realize the Seamless Sky in the Asia and Pacific Regions, in cooperation with all member States and the ICAO Asia/Pacific Regional Office.

2.2 The Seamless ATM Plan, adopted by the 24th Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/24, Bangkok, Thailand, 24 – 26 June 2013), specifies a number of elements of meteorological support for the Preferred ATM Service Levels (PASL), which are planned to be implemented in 2 phases; Phase I by 12 November 2015, and Phase II by 8 November 2018. Potential MET-ATM work areas arising from the Seamless ATM Plan include:

- meteorological data supporting airport capacity analysis (NOV 2015);
- meteorological data (principally wind at specific altitudes) supporting design of Continuous Climb Operations (CCO) procedures that require segregation from Continuous Descent Operations (CDO) (NOV 2015);
- meteorological data (altimetry, pressure gradient and temperature) supporting Baro VNAV procedures if these are used (NOV 2015) ;
- meteorological data supporting Arrival and Departure Management processes (AMAN/DMAN) (NOV 2015);
- AMET for high density aerodromes, such as short-term very regular forecasting of weather information including wind, visibility, cloud base, precipitation, special weather phenomena, etc., customized to suit the aerodrome and terminal airspace operation (NOV 2015);
- meteorological data to support ATFM/CDM within high density FIRs (NOV 2015); all FIRs (NOV 2018);
- meteorological reporting systems that support ATM – observations, forecasts, warnings and alerts – such as weather radar data integrated into the ATC aircraft situation display (the reporting systems can be 2-way providing data back to meteorological offices) (NOV 2015); and
- meteorological data to support the determination of nominal aircraft capacity for all terminal ATC Sectors (NOV 2018)

Regional Framework for Collaborative ATFM

2.3 The Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG) was formed by APANPIRG/20 (Bangkok, Thailand, 7 – 11 September 2009) to prepare a regional ATFM Concept of Operations. ATFM/SG/1 subsequently developed its own Terms of Reference, and produced the Asia/Pacific Regional Concept of Operations. The meeting closed with no outstanding tasks, and no plan for further meetings.

2.4 APANPIRG/24 (Bangkok, Thailand, 26 – 29 June 2013) adopted several ATFM related conclusions:

Conclusion 24/13 - Air Traffic Flow Management Capacity Assessments

That States be urged to establish capacity assessment and adjustment mechanisms, and regular review for all aerodromes and ATC sectors where traffic demand is expected to reach capacity, or is experiencing traffic congestion, and to report the assessment outcomes to the Asia/Pacific Regional Office prior to 1 May 2014.

Conclusion 24/14 - Air Traffic Flow Management Information Sharing

That States, where ATFM processes are in place, including within adjacent airspace, be urged to share information, which may include:

- a) capacity assessment: including factors of interest affecting capacity, such as special use airspace status, runway closures and weather information;*
- b) traffic demand information: which may include flight schedules, flight plan, repetitive flight plan data as well as associated surveillance updates of flight status; and*
- c) ATFM Daily Plan.*

Conclusion 24/15 - Asia/Pacific ATFM Steering Group

That, States participate in, and support the Asia/Pacific ATFM Steering Group to develop a common Regional ATFM framework, which addresses ATFM implementation and ATFM operational issues in the Asia/Pacific region.

2.5 The re-convened ATFM/SG subsequently met to commence the development of a Regional Framework for Collaborative ATFM (ATFM/SG/2, Hong Kong, China, 1 – 4 October 2013). Among the outcomes from the meeting were revised TOR for consideration by ATM Sub-Group and APANPIRG, and the draft principles, basic plan elements and ATFM capability elements that will define the framework.

2.6 The revised TOR includes the task of identifying, researching and recommending appropriate guidance regarding *inter alia* capacity assessment and adjustment mechanisms, and mechanisms for ATFM data gathering, collation and sharing between States, International Organizations and ICAO which may include capacity assessments, including factors affecting capacity such as special use airspace status, runway closures and weather information.

2.7 The ATFM framework is expected to be finalized for adoption by APANPIRG/26 in September 2015. The ongoing development of the draft principles, basic plan elements and ATFM capability elements can be expected to include specific requirements for meteorological information and services supporting sub-Regional ATFM solutions. The current early draft material includes a number of elements that will require MET support:

- Prediction and monitoring tools, including weather prediction;
- CDM tools including information exchange;
- Analysis tools for data analysis and reporting;
- Terminal and aerodrome operations including wind monitoring;

2.8 The Regional Framework for Collaborative ATFM is expected to develop and implement a regional network of sub-Regional distributed or “virtual” ATFM networks, which will require the definition of standardized ATFM message formats communications protocols to ensure interoperability within and between sub-Regional networks. MET information provided to support ATFM networks will require similar standardization. Given the pressing need for sub-Regional ATFM implementation in the Asia/Pacific Region, there may be a need for standardized digital MET data exchange before the finalization of global standards.

2.9 The meeting may consider the benefits of establishing a link between MET/R TF and ATFM/SG to ensure the timely coordination of meeting outcomes, and a shared understanding of the MET products and information currently available and those that may be required as ATFM/SG continues development of the Regional ATFM framework.

Regional ATM Contingency Plan

2.10 The Third Meeting of the Regional ATM Contingency Plan Task Force (RACP/TF/3) was held in Bangkok, Thailand, 12 – 15 November 2013.

2.11 The objective of RACP/TF is to develop and implement a Regional ATM Contingency Plan that *inter alia* details recommended Regional contingency practices to events such as severe meteorological phenomena. The initial drafting of the Regional Contingency Plan includes consideration of phenomena such as volcanic ash cloud, inundation, nuclear emergency and tropical cyclones. Provisions for reassigning responsibility for distribution of MET information during ATM contingency situations are also being considered by RACP/TF.

2.12 The RACP/TF TOR of RACP/TF includes a link to the Meteorological Hazards Task Force (MET/H TF). The meeting may consider whether this link is sufficient for the effective communication of Regional ATM requirements for MET support in contingency situations, or if there is a need for a link, either informal or formal, between MET/R TF and RACP/TF.

3. Action by the Meeting

3.1 The meeting is invited to:

- a) note:
 - i) the information contained in this paper; and
 - ii) that Regional requirements for MET services and information to support current ATM initiatives are under development; and
- b) discuss:
 - i) how standardized digital MET data exchange may be implemented to support Asia/Pacific ATFM requirements;
 - ii) the need for any addition link between MET/R TF and ATM meetings; and
 - iii) any relevant matters as appropriate.
