



International Civil Aviation Organization

**MIDANPIRG Meteorology Sub-Group
Fourth Meeting (MET SG/4)**

(Cairo, Egypt, 25 – 27 June 2013)

Agenda Item 3: Review of Recent and Forthcoming Global Developments

MET/ATM DEVELOPMENTS

(Presented by the Secretariat)

SUMMARY

This paper provides a summary of global developments related to the development of future MET provisions for Air Traffic Management (ATM).

1. INTRODUCTION

1.1 MET/ATM developments are documented by the Meteorological Aeronautical Requirements and Information Exchange Project Team (MARIE-PT) at the following website: <http://www.icao.int/safety/meteorology/MARIE-PT/Pages/default.aspx> and a summary provided in this paper.

2. DISCUSSION

2.1 The meeting may note the roadmap for ATM requirements for MET was provided at the referenced website. An initial set of functional requirements (what is required) and associated performance metrics (how is it required – resolution, accuracy) for meteorological elements related to ATM were also provided at the referenced website.

2.2 Another important milestone is the release of a manual expected to be available before November 2013 to assist States in the implementation of Amendment 76 with the digital exchange of METAR/SPECI, TAF and SIGMET (for those States in a position to do so). A roadmap or work plan related to XML/GML developments is also provided at the referenced website noting the release of WMO schema by 1 August 2012 and second release by 1 April 2013 and publication of WMO Logical Data Model (LDM) and Schema in July 2013 (noting a draft is located at <http://www.icao.int/safety/meteorology/MARIE-PT/Pages/default.aspx> in the comments section named the Manual on the Digital Exchange of Aeronautical Meteorological Information).

2.3 A meeting between the Regional OPMET Centres (ROCs) and Regional OPMET Data Banks (RODBs) took place in Brussels from 4 to 5 March 2013 to address the digital exchange of METAR and SPECI, TAF and SIGMET. A draft concept of operations to support ICAO Meteorological Exchange Model (IWXXM) will be developed by mid-2014 by the EUR Data Management Group (DMG) in coordination with MARIE-PT, WMO and Eurocontrol.

2.4 ICAO is considering the development of a PANS-MET, similar to other PANS in existence such as PANS-ATM, which would describe 'how' MET service for international air navigation is to be provided. The development of a PANS-MET, which would coincide with changes to the extent of Annex 3, is expected to be considered at a proposed MET Divisional Meeting in 2014.

2.5 The meeting may also note that WMO is also developing MET capability demonstration (current and foreseen capabilities) as provided at the referenced website. This information was intended to assist the Air Traffic Management Requirements and Performance Panel (ATMRPP) in October 2012 when considering MET requirements for ATM.

2.6 Another MET/ATM related topic of significance is a new implementation methodology called Aviation System Block Upgrades (ASBU) that includes a baseline implementation (implementation of current provisions) and future upgrades based on future requirements and future industry capabilities. This methodology would include potential implementation upgrades every five years and numbered in blocks: block 0 – 2013, current provisions; block 1 – 2018, block 2 – 2023 and block 3 – 2028. Current meteorological provisions that entail SIGMET information, aerodrome warnings, wind shear warnings and alerts, enroute forecasts provided by WAFC, volcanic ash advisory centres and tropical cyclone advisory centres are included in block 0. It may be noted that the Technical Team that developed the ASBU modules, including those relating to MET, determined that other types of MET information – e.g. OPMET information such as METAR/SPECI and TAF – and QMS did not need to be referenced in the block 0 MET module, but was included in the 12th Air Navigation Conference. MET requirements for ATM to support performance based navigation methods would be expected in future blocks in order to contribute in optimizing the benefits of performance based air navigation. The later blocks would consider dynamic integration of MET information into the ground ATM systems' decision support logic and eventually avionics automated decision support systems which would enable the future 4D trajectory based operations. A workshop on preparations for the 12th Air Navigation Conference – ASBU methodology was held in Cairo from 30 September to 4 October 2012. More information may be obtained at the following link: <http://www.icao.int/MID/Pages/meetings.aspx>.

2.7 Details of modules within the block (such as meteorology) include pre-requisites and a global readiness checklist: status (ready now or estimated date), standards readiness, avionics availability, ground system availability, procedures available and operations approvals. The modules are also mapped to key performance areas (e.g. Capacity: optimized usage of airspace capacity that would allow achieving arrival and departure rates). This new implementation methodology, ASBU, was endorsed at the 12th Air Navigation Conference in November 2012.

3. ACTION BY THE MEETING

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