



**Twenty-Second Meeting of the AFI Planning and Implementation Regional Group
(APIRG/22)
(Accra, Ghana, 29 July – 2 August 2019)**

**Agenda Item 2: Performance Framework for Regional Air Navigation Planning and Implementation
2.4: Status of implementation of ASBU**

**DISSEMINATION OF METEOROLOGICAL INFORMATION IN ICAO
METEOROLOGICAL INFORMATION EXCHANGE MODEL (IWXXM) IN SUPPORT
OF SYSTEM WIDE INFORMATION MANAGEMENT (SWIM).**

(Presented by South Africa)

SUMMARY	
This working paper presents:	
The implementation of Extensible Mark-up Language (XML)/Geographic Mark-up Language (GML) transition within South Africa in support of the Aeronautical Meteorological Information Exchange Model (IWXXM) and to encourage Regional compliance based on Amendment 76 to ICAO Annex 3 and ARPIG/20 conclusion on GML/XML Transition.	
The meeting is invited to:	
<ul style="list-style-type: none"> (a) note the information presented in this paper, particularly the capabilities developed by South Africa expressed under 2.4; (b) urge AFI States to develop capabilities for exchange of OPMET data in digital format as called for in APIRG Conclusion 19/44; and (c) encourage AFI State to enter into bilateral/multilateral agreements for testing the interoperability of AMHS system for readiness by November 2020. 	
<i>Strategic Objectives</i>	Safety (A) and Air Navigation Capacity and Efficiency (B)

1. INTRODUCTION

1.1 The ICAO Global Air Traffic Management Operational Concept (ATMOC Doc 9854) is “intended to guide the implementation of CNS/ATM technology by providing a description of how the emerging and future ATM system should operate” beyond 2025.

1.2 The ICAO Global Air Navigation Plan (GANP) (Doc 9750) and its Aviation System Block Upgrades (ABSU) methodology presents the strategy for ATMOC in line with the recommendations provided by ICAO’s Twelfth Air Navigation Conference in 2012 and endorsed by the 38th and 39th Sessions of the ICAO Assembly held in 2013 and 2016 respectively.

1.3 Amendment 77 to ICAO Annex 3 – *Meteorological Service for International Civil Air Navigation* introduced new requirements for reporting and dissemination of regular meteorological data (METAR and TAF) as well as non-regular meteorological data (SPECI, AIRMET, SIGMET, Volcanic ash advisory and tropical cyclone advisory) in digital format - ICAO Meteorological Exchange Model (IWXXM).

1.4 APIRG/20 which was held in Yamoussoukro, Cote d'Ivoire from 30 November to 2 December 2015 adopted, through Conclusion 20/44 a transition plan (AFI Transition Plan) for handling OPMET data in digital format. The plan called for the AFI States to progressively implement XML/GML based exchange format for OPMET information during 2016 to 2019.

2. DISCUSSION

2.1 The use of Traditional Alpha-numeric Codes (TAC) for representation of OPMET data is being phased out to be replaced by digital representation and exchange of OPMET data in XML/GML. The objective is to introduce OPMET data formats that are machine readable in support of support *inter alia* flexible airspace management, airborne re-routing, improved situational awareness and collaborative decision-making and enabling human-to-human and machine-to-machine communication in the context of System Wide Information Management (SWIM).

2.2 The exchanges of OPMET messages in XML/GML format through AMHS (ATS Messages Handling System) will become a standard in November 2020. This will be the first step in the implementation of the SWIM concept.

2.3 Conclusion 19/44 of APIRG/19 held in Dakar, Senegal 28-31 October 2013, called for the two AFI Regional OPMET Data Banks (RODB) provider States, Senegal and South Africa to develop capabilities of handling OPMET data in digital format and to take a leading role over the transition aspect to XML/GML and provide technical assistance as required to other AFI States in implementing OPMET data in digital format.

2.4 South Africa as one of the two AFI RODB Provider State has implemented IWXXM 2.0 XML/GML schema, for digital OPMET exchange and have decommissioned AFTN and implemented an Aeronautical Message Handling System (AMHS) between the South African Weather Service (SAWS) and the Air Traffic and Navigation Services Company (ATNS). During APIRG/19, AFI States were urged to conclude bilateral and/or multilateral agreements for testing the interoperability of AMHS systems.

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3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- (a) note the information presented in this paper, particularly the capabilities developed by South Africa expressed under 2.4;
- (b) urge AFI States to develop capabilities for exchange of OPMET data in digital format as called for in APIRG Conclusion 19/44; and
- (c) encourage AFI State to enter into bilateral/multilateral agreements for testing the interoperability of AMHS system for readiness by November 2020.