



International Civil Aviation Organization

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

(Cairo, Egypt, 25 – 27 June 2013)

Agenda Item 8: Performance Framework Forms

REVIEW OF MET PERFORMANCE FRAMEWORK FORMS

(Presented by the Secretariat)

SUMMARY

This paper invites the meeting to review the performance framework forms in the MET field.

1. INTRODUCTION

1.1 The meeting will recall the MIDANPIRG/11 Conclusion 11/70 to develop Regional Performance Framework to support the ICAO planning objective to achieve a performance based global air traffic management system (ATM) through the implementation of air navigation systems and procedures in a progressive, cost-effective and cooperative manner.

1.2 The performance framework forms for MET were based on four objectives that included 1) Implement International Airways Volcano Watch (IAVW), Tropical Cyclone Warning System and SIGMETs; 2) Implement WAFS and associated developments; 3) Develop regional MET requirements to support ATM; and 4) Improve OPMET exchange efficiency.

2. DISCUSSION

2.1 The meeting will recall that the MET SG/3 meeting agreed to add an entry under the WAFS related performance framework form to encourage the migration from WAFS upper-air forecasts in GRIB1 to GRIB2 format noting the forthcoming change in priority of production and dissemination (GRIB2 is produced and delivered before GRIB1 since 5 July 2012). This proposal was endorsed by MIDANPIRG/13.

2.2 The performance framework forms for MET are provided in **Appendix A** to this working paper, for review by the meeting. Any proposals will be presented to MIDANPIRG/14 for possible endorsement.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the contents in this paper; and
- b) provide any input on MET performance framework forms in the MID Region.

APPENDIX A

MID REGIONAL PERFORMANCE OBJECTIVES
MET PERFORMANCE OBJECTIVES

IMPLEMENT INTERNATIONAL AIRWAYS VOLCANO WATCH (IAVW), INTERNATIONAL TROPICAL CYCLONE WATCH (ITCW), AND IMPROVE THE QUALITY OF METEOROLOGICAL WARNINGS AND ADVISORIES	
Benefits	
Safety	<ul style="list-style-type: none"> Improve in-flight safety by providing information on volcanic ash, tropical cyclone and other hazardous weather by way of meteorological advisories and warnings
Environment	<ul style="list-style-type: none"> Reduced emissions through use of optimum routes/trajectories (achieved by optimizing flight routes with respect to volcanic ash, tropical cyclone and other hazardous weather phenomena by way of meteorological advisories and warnings)
Capacity	<ul style="list-style-type: none"> Increased capacity through better utilization of airspace
Cost effectiveness	<ul style="list-style-type: none"> Fuel cost reduction through use of optimum routes/trajectories
Performance Measurement	
Performance Metrics:	<ul style="list-style-type: none"> TBD

Strategy					
ATM Operational Concept Components	Projects/Tasks	Linkage to ASBU Module	Timeframe Start/End	Responsibility	Status
MET	<ul style="list-style-type: none"> Monitor and provide assistance in the regional implementation of meteorological warnings and advisories that include volcanic ash (VA) and tropical cyclone (TC) advisories and meteorological warnings and advisories based on current and future requirements 	B0-xx	Ongoing	MET SG	In progress
	<ul style="list-style-type: none"> Track and investigate deficiencies in the format and dissemination of meteorological advisories and warnings and propose remediation plans and provide information to ICAO and WMO groups for possible assistance 	B0-xx	Commence in 2012	BMG	In progress
	<ul style="list-style-type: none"> Conduct periodic tests for SIGMET on VA, TC, and phenomena other than VA and TC in view of assessing improvements in their implementation 	B0-xx	ongoing	MET SG & BMG	In progress

<i>Strategy</i>					
ATM Operational Concept Components	Projects/Tasks	Linkage to ASBU Module	Timeframe Start/End	Responsibility	Status
	<ul style="list-style-type: none"> • Provide guidance and/or training related to the implementation of meteorological advisories and warnings, including the Regional SIGMET Guide as they related to the Annex 3 amendment cycle 	B0-xx	Ongoing	MET SG	In progress
	<ul style="list-style-type: none"> • Develop contingency plan for volcanic ash with reference to developments made by the IVATF and WMO scientific steering committee 	B0-xx	2012-2013	MET SG	To begin
Linkage to GPIs	GPI-19 – Meteorological Systems				

References: *Annex 3; Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds* (Doc 9691); *Handbook on the International Airways Volcano Watch (IAVW) Operational Procedures and Contact List* (Doc 9766); *Manual on Low-level Wind Shear* (Doc 9817); *MID Regional SIGMET Guide*; *EUR OPMET Data Management Handbook (ICAO EUR Doc 018) – reference SIGMET test in Appendix C section 11*

DEVELOP REGIONAL MET REQUIREMENTS TO SUPPORT ATM	
Benefits	
Environment	<ul style="list-style-type: none"> Improve efficiency of ATM and airlines by providing tailored regional MET products needed to optimize flight routes in all weather conditions
Capacity	<ul style="list-style-type: none"> Increased capacity through better utilization of airspace
Cost effectiveness	<ul style="list-style-type: none"> Fuel cost reduction through use of optimum routes/trajectories
Performance Measurement	
Performance Metrics:	<ul style="list-style-type: none"> TBD

<i>Strategy</i>					
ATM Operational Concept Components	Projects/Tasks	<i>Linkage to ASBU Module</i>	Timeframe Start/End	Responsibility	Status
MET	<ul style="list-style-type: none"> Conduct MET seminar in coordination with WMO in 2013 or 2014 depending on regional and global developments related to MET requirements to support ATM 	B0-xx	2013-2014	MET SG	future
	<ul style="list-style-type: none"> Assess aviation meteorological services, systems and architecture in the region and how they can integrate weather information into decision support tools 	B0-xx	2013+	MET SG	future
	<ul style="list-style-type: none"> Investigate sub-regional exchange of MET information (e.g. weather radar data) and associated agreements that facilitate ATM operations particularly over busy routes that overlap different FIRs 	B0-xx	2013+	MET SG	future
	<ul style="list-style-type: none"> Facilitate implementation of Meteorological Services for the Terminal Area (under development by WMO) 	B0-xx	2014+	MET SG	future
Linkage to GPIs	GPI-19 – Meteorological Systems				

References: *Manual on co-ordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services (Doc 9377)*

IMPROVE OPMET EXCHANGE EFFICIENCY	
Benefits	
Environment	<ul style="list-style-type: none"> • Increase OPMET availability and reliability needed for flight planning (efficiency) and in-flight re-planning (safety)
Capacity	<ul style="list-style-type: none"> • Increased capacity through better utilization of airspace
Cost effectiveness	<ul style="list-style-type: none"> • Fuel cost reduction through use of optimum routes/trajectories
Performance Measurement	
Performance Metrics:	<ul style="list-style-type: none"> • TBD

<i>Strategy</i>					
ATM Operational Concept Components	Projects/Tasks	<i>Linkage to ASBU Module</i>	Timeframe Start/End	Responsibility	Status
MET	<ul style="list-style-type: none"> • Improve the availability of OPMET data at the Regional OPMET Data Banks (RODB) 	B0-xx	ongoing	BMG	In progress
	<ul style="list-style-type: none"> • Improve the inter-regional OPMET exchange 	B0-xx	ongoing	BMG	In progress
	<ul style="list-style-type: none"> • Consider development of and maintenance of regional ROBEX tables and guidance material 	B0-xx	ongoing	BMG	In progress
	<ul style="list-style-type: none"> • Facilitate and provide guidance to the implementation new/modified standards before applicability date and carry out post implementation review to ensure that standardized procedures are followed 	B0-xx	ongoing	BMG	In progress
	<ul style="list-style-type: none"> • Conduct periodic quality checks and OPMET monitoring to improve the quality and timeliness of OPMET in the MID Region 	B0-xx	ongoing	BMG in coordination with EUR DMG	In progress
	<ul style="list-style-type: none"> • Facilitate and monitor the migration to AIM and new MET codes (e.g. XML) for METAR/SPECI, TAF and SIGMET 	B0-xx	ongoing	BMG & MET SG & RO	In progress
Linkage to GPs	GPI-19 – Meteorological Systems				

IMPLEMENT WAFS AND ASSOCIATED DEVELOPMENTS	
Benefits	
Environment	<ul style="list-style-type: none"> Improve the regional implementation of weather forecasts (including upper winds and upper-air temperatures, direction, speed and height of maximum winds and tropopause heights, as well as turbulence, icing, cumulonimbus) used by airlines and ATM needed to optimize flight routes which will provide an increase in efficiency and reduced carbon
Capacity	<ul style="list-style-type: none"> Increased capacity through better utilization of airspace
Cost effectiveness	<ul style="list-style-type: none"> Fuel cost reduction through use of optimum routes/trajectories
Performance Measurement	
Performance Metrics:	<ul style="list-style-type: none"> TBD

<i>Strategy</i>					
ATM Operational Concept Components	Projects/Tasks	<i>Linkage to ASBU Module</i>	Timeframe Start/End	Responsibility	Status
MET	<ul style="list-style-type: none"> Assist the regional implementation of new gridded products for turbulence, icing and CB forecasts 	B0-xx	2012-2013	MET SG	In progress
	<ul style="list-style-type: none"> Facilitate in organizing regional training of new gridded products for turbulence, icing and cumulonimbus forecasts 	B0-xx	2012-2013	ICAO & WMO	In progress
	<ul style="list-style-type: none"> Monitor the implementation of WIFS for backup purposes to SADIS noting the planned cessation of ISCS-G2 broadcast in June 2012 	B0-xx	ongoing	MET SG	In progress
	<ul style="list-style-type: none"> Promote the implementation of Secure SADIS FTP service 	B0-xx	By Nov 2012	MET SG	In progress
	<ul style="list-style-type: none"> Promote the migration from WAFS upper-air forecasts in GRIB1 to GRIB2 format 	B0-xx	Preferably by 5 July 2012 but no later than Nov 2013	MET SG	In progress
	<ul style="list-style-type: none"> Monitor the implementation status of WAFS within the MID Regions, and report to MET SG 	B0-xx	2012+	MET SG	To begin
	<ul style="list-style-type: none"> Report WAFS training needs of MID States to MET SG 	B0-xx	2012+	MET SG	To begin
Linkage to GPIs	GPI-19 – Meteorological Systems				

References: Annex 3; <http://www.icao.int/anb/wafsopsg/>; <http://www.icao.int/anb/sadisopsg/>; Asia/Pac WAFS Implementation Plan and Procedures (http://www.bangkok.icao.int/edocs/WAFS_Service_Reference_v1.pdf)