



ORGANISATION DE L'AVIATION CIVILE INTERNATIONALE
AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)
FIRST MEETING OF THE APIRG INFORMATION AND
INFRASTRUCTURE MANAGEMENT SUB-GROUP (IIM/SG/1)

Nairobi, Kenya, 27– 30 June 2017

Agenda Item 4.1.3: Air Navigation Deficiencies in the MET field

AIR NAVIGATION DEFICIENCIES IN THE MET FIELD

(Presented by the Secretariat)

SUMMARY

This paper presents the list of deficiencies in the meteorological (MET) field as revised and updated by the Secretariat.

Ref :

- APIRG/20 report
- AFI files

1. Introduction

1.1 The List of deficiencies in the MET field was reviewed and updated based on the uniform methodology approved by Council for identification, assessing, tracking and reporting of deficiencies of air navigation systems. The review also took into account remedial action from States concerned and inclusion of additional deficiencies identified since APIRG/20 Meeting.

1. Discussion

2.1 Action by the IIM/SG

2.2 The IIM/SG is invited to:

- Review the list of deficiencies and actions thereon taken so far and decide on the safety impact and prioritization of each item of deficiency as well as on other factors according to the uniform methodology.
- Adopt it for consideration by the APIRG.

Appendix A Air Navigation Deficiencies in the Meteorology Field
(REF. Air Navigation Plan - Africa-Indian Ocean region (Doc 7474)
Part V - Meteorology (MET)

STATE	Identification		Deficiencies				Corrective action		
	Requirements	Facilities or services	Description of Deficiency	Date first reported	Comments on deficiency	Description of corrective action	Executing body	Target date for implementation	Priority for action
	1	2	3	4	5	6	7	8	9
ANGOLA	Requirement to provide aerodrome forecasts (AFI FASID Table MET 1A)	Angola/Luanda February 4 Associated MET Office	TAF of Luanda not regularly available	2003	Advice given by correspondence	Improve reliability of telecomm	INAMET and ENANA	As soon as possible	A
BURUNDI	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Burundi/ Busumbura International Airport	The quality management system (QMS) for MET service is not yet established by the Meteorological service provider	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) Meteorological Service Provider	November 2012	U
	Requirement to provide automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure at Busumbura aerodrome with a runway intended for Category II instrument approach and landing operations in accordance with ICAO Annex 3, Chap 4, para. 4.1.5 and 4.6.3.1	Burundi/ Busumbura International Airport	MET station located very far from the runway and among buildings	2006	Data observed not representative of weather conditions along the runway. Unreliable exchange of data to users	Install an automatic weather observing system with sensors appropriately located. Install a MET message distribution system.	Meteorological Services Department	2007	U

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CABO VERDE	Requirement to provide automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure at Sal aerodrome with a runway intended for Category II instrument approach and landing operations in accordance with ICAO Annex 3, Chap 4, para. 4.1.5 and 4.6.3.1	Cape Verde/Sal International Airport.	Visibility data, RVR, cloud base height, air temperature, dew point and pressure are not provided by an automatic weather observing system at Sal International airport equipped with an ILS	09/2009	Advice given during CODEVMET Mission	Install an automated weather observing system with sensors appropriately located.	INMG/ASA	2011	U
CABO VERDE	Requirements for Surface wind, RVR and air pressure displays relating to each sensor to be located in the meteorological station with corresponding displays in the appropriate air traffic services units. The displays in the meteorological station and in the air traffic services units to be related to the same sensors in accordance with ICAO Annex 3. para. 4.1.5 and App. 3 para. 4.1.2.1, 4.3.3.1 and 4.7.1	Cape Verde/Sal International Airport	The meteorological parameters displayed in the control tower and those displayed in the aerodrome meteorological centre and used for issuance of observation messages METAR, MET REPORT, SPECI and SPECIAL are from two different sources of observations: the Meteorological observation station and an automatic observing system under demonstration.	09/2009	Advice given during CODEVMET Mission	Use the same sensors for the measurement of meteorological parameters to be displayed in ATS units and the aeronautical meteorological station	INMG/ASA	2011	U
CABO VERDE	Requirements to use local routine and special reports MET REPORT and SPECIAL in the meteorological information used pour l' ATIS in accordance with Annex 11, chap. 4, para. 4.3.6.1, g) and Annex 3, Chap. 4 para. 4.3.2 and 4.4.2	Cape Verde/Sal International Airport	Meteorological information used to issue ATIS are not the local routine and special reports MET REPORT and SPECIAL	09/2009	Advice given during CODEVMET Mission	Use local routine and special meteorological reports to issue ATIS information (ATIS voice and D-ATIS)	ASA INMG	2011	A
	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide	Cape Verde/Sal International Airport	The quality management system (QMS) for MET service has not been yet implemented by	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) NMG (met	November 2012	U

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	for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)		the National Meteorological Office				Service provider)		
CONGO	Requirement to provide VOLMET broadcast at Brazzaville International Airport (VOLMET), in accordance with ICAO Doc 7474 Volume II, Part V, Table ATS 2A..	Congo, Brazzaville International Airport	The VOLMET broadcast service is not operational	08/2008	Deficiency identify during ICAO WACAF mission	Re-establish the VOLMET broadcast service in the Brazzaville FIR	ASECNA	2009	U
	Requirement to provide Automatic Terminal Information Service (ATIS) in accordance with ICAO Doc 7474 Volume II, FASID AFI, Part III - Tableau AOP 1.	Congo, Brazzaville International Airport	The ATIS service is not implemented at Brazzaville International Airport	08/2008	Deficiency identify during ICAO WACAF mission	Install and implement an operational ATIS system	ASECNA	2009	B
DJIBOUTI	Requirement to provide automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure at Sal aerodrome with a runway intended for Category II instrument approach and landing operations in accordance with ICAO Annex 3, Chap 4, para. 4.1.5 and 4.6.3.1	Djibouti/ Djibouti International Airport	Djibouti International Airport equipped with a category II approach and landing operations instrument, is not using an automated equipment for measuring, assessing, monitoring and remote indicating of MET parameters	09/2009	Advice given during the mission	Install an automated aerodrome weather observing system with sensors and display located at required places for the provision of operational MET information	AID-DPW	December 2010	U
	Requirement to issue local routine and special reports in accordance with Annex 3, chap. 4, para. 4.3.1, 4.3.2 a) et 4.4.2 a)	Djibouti/ Djibouti International Airport	Local routine and special reports (MET REPORT) and SPECIAL) are not issued	09/2009	Advice given during the mission	Issue local routine and special reports (MET REPORT) and SPECIAL)	AID-DPW	June 2010	U

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	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Djibouti/ Djibouti International Airport	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	November 2012	U
	Requirement to issue aerodrome and wind shear warnings and wind shear alert in accordance with Annex 3, chap. 7, para. 7.3 et 7.4 et App. 6 Table A6-2 et A6-3	Djibouti/ Djibouti International Airport	Aerodrome and wind shear warnings (AD WRNG, WS WRNG) and wind shear alert are not issued at Djibouti International Airport	07/2009	Advice given during the mission	1. sensitize forecasters and observers in the issuance and dissemination of messages and WS WRNG AD WRNG 2. issue and disseminate WS WRNG and AD WRNG information and wind shear alert; 3. develop and enforce a letter of service agreement between the MET and ATS (TWR, CCR, Office of the runway, ..) in order inter alia to promote the regular routing of aircraft reports on wind shear at landing or take off, to assess RVR, etc. ... 4. consider the possibility of installing, after a survey with users, at Djibouti Airport, a wind shear detecting system	1. AID-DPW 2. AID-DPW 3. DACM et AID-DPW 4. DACM et AID-DPW	1. June 2010 2. June 2010 3. June 2010 End 2010	U U U A

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	Requirement to provide flight documentation in accordance with AFI FASID Table MET 7 (Doc 7474 Volume II, FASID AFI)	Djibouti/ Djibouti International Airport	Flight documentation is provided from a public non-secured website ADDS	07/2009	Advice given during the mission	In the short term, a SADIS FTP service shall be accessed from the WAFC London to extract required data for the provision of flight documentation. Access procedures are described on the following Website http://www.icao.int/anb/sadisopsg/sadis%20ftp%20service%20v4.0.pdf In the medium term, install a SADIS VSAT station with the required SADIS workstation software:	AID-DPW	- SADIS FTP : avant fin juin 2010 -Station VSAT SADIS 2G : fin 2010	A

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THE GAMBIA	Requirement to provide runway visual range (RVR) for runway intended for non-precision or Category I approach and landing Operations (Annex 3, Chapter 4, para. 4.6.3. 4 a), 4.6.3.5 and Appendix 3, para.4.3.6.4).	The Gambia/ Banjul/ Yundum International Airport.	Runway visual range (RVR) is not assessed and reported during periods of reduced visibility.	30/07/2007	Reported by the State concerned from a survey questionnaire, advice given during State mission, further advice given CODEVMET 9/2009.	In the short term: Training of MET personal for manual assessment and reporting of RVR, or In the medium term: Installation of a RVR measurement, assessment and reporting equipment recommended.	Civil Aviation Authority and MET, The Gambia.	2009 2012	U
	Requirement to report visibility along the runway in local routine and special reports: Annex 3, Appendix 3 para; 4.2.4.2.	The Gambia, Banjul/ Yundum International Airport.	MET station located very far from the runway and behind a tree.	07/2007	Data observed not representative of weather conditions along the runway. Advice given during State Mission and CODEVMET Project 9/2009.	Install an automatic weather observing system with sensors appropriately located.	GCAA (Gambia Civil Aviation Authority).	2012	U

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THE GAMBIA	Requirement to issue trend forecasts as contained in AFI FASID Table MET 1 A.	The Gambia, Banjul/ Yundum International Airport.	No provision to issue trend forecast.	16/09/2009	Deficiency assessed during CODEVMET Project, advice given.	Writing required procedures to follow for issuance of Trend forecasts.	GCAA and MET The Gambia	12/2009	A
	Requirement to provide MET Reports to ATS Units Annex 3 Chapter 10 para. 10.1.1.	The Gambia, Banjul/ Yundum International Airport.	Provision of MET reports to ATS Units deficient, messages carried by hand and no wind display at Control Tower.	16/09/2009	Deficiency assessed during CODEVMET Project, advice given.	Repair the internal communication system and the wind measurement system. <u>Medium Term</u> Acquisition of new internal communication system.	GCAA and MET the Gambia GCAA and MET	12/2009 2011	U
GHANA	Requirement to disseminate SIGMET information in accordance with the provisions in the AFI FASID Table 2B.	Ghana, Accra Kotoka International Airport (KIA)	SIGMET information issued by Accra MWO is not disseminated properly and the AMBEX procedures are not well known by the telecommunication staff for the dissemination of OPMET information	March 2010	Advice given during State Mission and a new version of the AMBEX Scheme was provided	Disseminate SIGMET information in accordance with AMBEX scheme and AFI FASID Table 2B.	GMet	12/2010	U
	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Ghana, Accra Kotoka International Airport (KIA)	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	November 2012	U

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GHANA	Requirement to provide meteorological parameters affecting landing and take-off operations as surface wind, visibility, runway visual range (RVR), height of cloud base, air and dew-point temperatures and atmospheric pressure from an integrated automatic system for acquisition, processing, dissemination and display in real time: ICAO Annex 3, Chap. 4, para. 4.1.5	Ghana, Accra Kotoka International Airport (KIA)	Surface wind, visibility, runway visual range (RVR), height of cloud base, air and dew-point temperatures and atmospheric pressure are not provided from an integrated automatic system for acquisition, processing, dissemination and display in real time at Accra International Airport	March 2010	Procurement for the purchase of an integrated automatic system underway (Letter N° PPA/CEO/436/10 of 22 February 2010 from the Public Procurement Authority)	Install an automatic integrated observing system on AKIA runway (ILS Cat 2) with sensors appropriately sited in accordance with the provision in ICAO Annex 3, Chap 4, para 4.1.5 and 4.6.3.1 and Appendix 3 para; 4.2.4.2	GMet (Ghana Meteorological Agency)	12/2010	U
	Requirement to provide runway visual range (RVR): Annex 3, Chapter 4, para. 4.6.3	Ghana, Accra Kotoka International Airport (KIA)	Runway visual range (RVR) is not assessed and reported	March 2010	Advice given during State Mission	Install a RVR assessment and reporting system	GMet	12/2010	U
	Requirement to issue compliant local routine report (MET REPORT) and local special report (SPECIAL) in accordance with provisions in ICAO Annex 3, Table 3-1	Ghana, Accra Kotoka International Airport (KIA)	MET REPORT and SPECIAL are not compliant with Annex 3, Table 3-1	March 2010	Advice given during the mission	Issue compliant local routine and special reports and display them at the MET Office and at all ATS units	GMet	12/2010	U

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GUINEA	Requirement to issue compliant local routine report (MET REPORT) and local special report (SPECIAL) in accordance with provisions in ICAO Annex 3, Table 3-1	Republic of Guinea, Conakry International Airport.	MET REPORT and SPECIAL are not compliant with Annex 3, Table 3-1	09/2009	Advice given during CODEVMET mission	Issue compliant local routine and special reports and display them at the MET Office and at all ATS units	DNM	Before December 2010	U
	Requirement to provide meteorological information to aerodrome control tower, approach control unit and flight information centre in accordance with ICAO Annex 3, App. 9, para. 1.1, 1.2 and 1.3	Republic of Guinea, Conakry International Airport.	Aerodrome Warning (AD WRNG) and wind shear (WS WRNG) reports are not displayed in the control tower and at the ATS units	09/2009	Advice given during CODEVMET mission	1. Display warning reports WRNG AD and WS WRNG in the existing system for display of weather information of the control tower of N'djamena.	DNM	Before December 2010	A
	Requirement to issue OPMET information from the following AOP aerodromes Kankan, Labé, N'Nzérékoré in accordance with ICAO Doc 7474 Volume II, FASID AFI, Part III - Table AOP 1.	Republic of Guinea, Conakry International Airport..	OPMET information from AOP aerodromes Kankan, Labé, N'Nzérékoré is not issued 24h a day	09/2009	Advice given during CODEVMET mission	issue METAR and SPECI from AOP aerodromes Kankan, Labé and N'Nzérékoré	DNAC, DNM and ANA	Before December 2015	B
	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Republic of Guinea, Conakry International Airport..	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	November 2012	U
GUINEA BISSAU	Requirement to measure and report wind in accordance with provisions contained in Annex, Chapter 4 para 4.6.1.1..2	Guinée Bissau, Osvaldo Vieira International Airport	The wind sensors are installed on the top of the control tower and wind information is not representative of the condition along the runway.	10/2009	Advice given during CODEVMET mission	Install wind sensors at the touch down zone	ASECNA MET Administration	2011	U
	Implementation of MET facilities and	Guinée	Lack of personnel to	10/2009		Provide sufficient number of	ASECNA et	2011	A

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	services AFI/7 Rec. 14/10	Bissau, Osvaldo Vieira International Airport	ensure MET services to aviation properly		Advice given during CODEVMET mission	MET personnel	MET		
	Requirement to issue aerodrome forecasts (TAF) at Osvaldo Vieira International Airport:Annex 3 Chap. 9, para 9.13a)	Guinée Bissau, Osvaldo Vieira International Airport	TAF of Bissau issued by Dakar aerodrome meteorological Office in accordance with a bilateral agreement resulting in a lack of qualified MET personnel	1995 et 10/2009	Advice given during CODEVMET mission	Provide sufficient number of MET personnel	ASECNA , ACC, ENAG and MET	2012	A
	Requirement to issue aerodrome forecasts (TAF) at Osvaldo Vieira International Airport:Annex 3 Chap. 9, para 9.13a)	Guinée Bissau, Osvaldo Vieira International Airport	TAF of Bissau issued by Dakar aerodrome meteorological Office in accordance with a bilateral agreement resulting in a lack of qualified MET personnel	1995 et 10/2009	Advice given during CODEVMET mission	Provide sufficient number of MET personnel	ASECNA , ACC, ENAG and MET	2012	A
LESOTHO	Implementation of MET facilities and services AFI/7 Rec. 14/10	Lesotho/Maseru/Moshoeshoe	Anemometer on RWY 04 has been unserviceable for many months	2003	Advice given through mission	Install a new sensor with displays at appropriate ATC and MET positions	Lesotho	As soon as possible but not later than 2007	A
	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Lesotho/Maseru/Moshoeshoe	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	November 2012	U

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LIBERIA	Requirement to re-establish the Meteorological Watch Office (MWO) of Robertsfield in accordance with Annex 3, Chap. 3, para. 3.4.1 and ICAO Doc 7474, Volume II, AFI FASID Table MET 1B.	Liberia/ Robertsfield International Airport.	The meteorological watch office (MWO) has not been re-established and the Liberian Administration has not arranged for another contracting State to provide SIGMET.	10/2009	Advice given during the mission and a draft Agreement provided for the issuance of SIGMET by an adjacent MWO	Reach an agreement with the nearest MWO for the provision of meteorological watch services including SIGMET for an interim period of time. Re-establish the MWO in the medium term	LCAA and MET Authority	-Short term: End November 2009 - Medium term: 2012	U
LIBERIA	Requirement to provide runway visual range (RVR) assessments at the touchdown zone and the mid-point of the runway of Robertsfield International Airport intended for Category II instrument approach and landing operations in accordance with Annex 3, Chap. 4, para. 4.6.3.4 b)	Liberia/ Robertsfield International Airport.	Runway visual range (RVR) is not assessed and reported during periods of reduced visibility.	10/2009	Advice given during the mission.	In the short term: Training of MET personal for manual assessment and reporting of RVR, and In the medium term: Installation of a RVR measurement, assessment and reporting equipment recommended.	LCAA, Meteorological Authority and RIA	-Short term: November 2009 - Medium term: 2012	U
	Requirement to provide appropriate sensors of the automated equipment for measuring, assessing, monitoring and remote indicating visibility, runway visual range (RVR) and height of cloud base at the required in accordance with Annex 3, Chap 4, para. 4.1.5 and 4.6.3.1 and App. 3 para; 4.2.4.2	Liberia/ Robertsfield International Airport.	Except the wind sensor, the other required sensors of the automatic weather observing system, are not installed to support approach, landing and take-off operations.	10/2009	Advice given during the mission.	Install the required sensors of the automatic weather observing system at appropriate location	LCAA, Meteorological Authority and RIA	End of April 2010	U

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LIBERIA	Requirement to provide briefing, consultation and flight documentation to flight crew members and/or other flight operations personnel in accordance with Annex 3, Chap. 3, para. 3.3.2 d) and Chap. 9, para. 9.3	Liberia/ Robertsfield International Airport.	Briefing, consultation and flight documentation are not provided to flight crew members and/or other flight operations personnel.	10/2009	A draft statement on the re-establishment of the AMO and the MWO established.	Provide briefing, consultation and flight documentation to flight crew members and other flight operations personnel, and equip the AMO and the future MWO with a high speed Internet access and required MET systems listed in Annex 3 Chap. 9 para. 9.1.3 h) and i). The AMO/MWO should be installed in a suitable room having a direct access to the AIS Office itself having direct access to the apron	LCAA, MET Authority, RIA and RFIR	End of April 2011	A
LIBERIA	Requirement to collect, processed and disseminated aircraft observations and reports (AIREP) in accordance with Annex 3, para. 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8 and 5.9	Liberia/ Robertsfield International Airport.	Aircraft observations and reports (AIREP) are not collected, processed and disseminated at Roberts MWO.	10/2009	Advice given during the Mission.	Develop and implement a service agreement for air traffic services, aeronautic information services and aeronautical MET services at Robertsfield International Airport in accordance with ICAO DOC 9377; Initiate regular meetings between the MET authorities, ATS units and appropriate local airlines.	LCAA, RFIR, RIA	February 2010	A
	Requirement to provide reliable data source for the preparation of aviation weather forecasts in accordance with Annex 3, Chap. 9, para. 9.1.3 c), e), g), h) and i).	Liberia/ Robertsfield International Airport.	Reliable data sources are not available for the preparation of aviation weather forecasts such as SIGMET, aerodrome warnings, Trend forecast, TAFs, flight documentation, etc..	10/2009	Advice given during the Mission.	Supply the meteorological information to operators and flight crew members in accordance with the provisions contained in ICAO Annex 3, Chap. 9, para. 9.1.3 c), e), g), h) and i).	LCAA, MET Authority and RIA	2010	B
	Requirement to use forecasts issued by the WAFCs in the preparation of flight documentation, whenever these forecasts cover the intended flight path in respect of time, altitude and geographical extent, .. in accordance with Annex 3, App. 2, para. 2.1.1	Liberia/ Robertsfield International Airport.	The Roberts AMO does not receive any WAFS products for the provision of flight documentation.	10/2009	Advice given during the Mission.	<u>Short Term:</u> Use SADIS FTP service. Access procedures are described on the following Website: http://www.icao.int/anb/sadisopsg/SADIS%20FTP%20Service%20V4.0.pdf	MET Authority and RIA	11//2009	B

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						<u>Medium Term:</u> Provide AMO/MWO with SADIS 2G VSAT equipment and compliant SADIS workstation software in accordance with SADISOPSG/9 conclusion 9/15 and SADISOPSG/10 conclusion 10/4..		2012	
	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Liberia/ Robertsfield International Airport	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	November 2012	U
MAURITANIA	Requirement to implement MET service for air navigation in three aerodromes listed in AFI Plan (AFI FASID MET Table 1A).	Islamic Republic of Mauritania, Nouakchott, Nouadhibou, Atar, Nema and Zouerrat Airports	FASID MET Table 1A of the AFI Air Navigation Plan, is not implemented in three aerodromes listed in the plan: Atar, Nema and Zouerrat	02/2011	Advice given during the Mission.	Develop human and material resources necessary for the issuance and dissemination of OPMET from three aerodromes (Atar, Nema and Zouerrat).	ANAC/ ONM/	August 2012	B

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NIGERIA	Requirement to measure and report RVR for runway intended for category II instrument approach and landing operations – Annex 3 Chapter 4 – Para. 4.6.3.4, 4.6.3.5 – appendix 3 – Para 4.3.6.4.	Nigeria / Kano MA	RVR not measured and reported for runway intended for category II instrument approach and landing operations	25/09/09	Advice given by CODEVME T – Phase I mission	Short term: Manuel measurement and reporting as immediate solution Medium term : install automatic observing system which is available	NIMET and NAMA	2010	U
	Requirement to assess and report wind shear in accordance with Annex 3 chapter 7 para. 7.4.1 and relevant provisions contained in low level wind shear Manuel 9817	Nigeria / Kano M.A.	Kano Airport affected by WS, no system of detection except for information received from pilots	25/09/09	Advice given by CODEVME T Phase I mission	NIMET, NAMA and NCAA to study possibility of installing WS detection system	NIMET NAMA and NCAA	2011	U
	Requirement to use WAFS products for flight documentation as in provisions contained in Annex 3 Chapter 9 para 9.4.3 and 9.1.6	Nigeria/ Kano AM	Use of other non WAFS products for coverage of flights departing Kano	25/09/2009	Advice given during CODEVME T Phase I mission	NIMET and NAMA to provide a SADIS station to Kano MET centre	NIMET and NAMA	2012	A
DEMOCRATIC REPUBLIC OF CONGO	Requirement to arrange that selected volcano observatory of Goma, observes: a) significant pre-eruption volcanic activity, or a cessation thereof; b) a volcanic eruption, or a cessation thereof; and/or c) volcanic ash in the atmosphere and send this information as quickly as practicable to its associated ACC, MWO and VAAC: ICAO Annex 3, para. 3.6	Democratic Republic of Congo (DRC), Volcano Observatory of Goma.	Volcanic activity information are not provided to air navigation units because of the lack of communication means between the observatory and MWO, ACC and FIC	09/ 2009	Advice given during Sate Mission	Improve communication means between Goma and Djili	Goma Observatory / METELS AT/ RVA	Before December 2011	U
	Requirement to provide automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure at Djili aerodrome with a runway intended for Category II instrument approach and landing operations in accordance with ICAO Annex 3, Chap 4, para. 4.1.5 and 4.6.3.1	Democratic Republic of Congo (DRC), N'Djili International Airport.	Except the wind sensor, the other required sensors of the automatic weather observing system, are not installed to support approach, landing and take-off operations.	09/ 2009	Advice given during Sate Mission	Install an automatic weather observing system with sensors appropriately located. Install a MET message distribution system..	METELS AT/ RVA	Before december 2010	U

STA TE	Identification		Deficiencies				Corrective action		
	Requirements	Facilities or services	Description of Deficiency	Date first reported	Comments on deficiency	Description of corrective action	Executing body	Target date for implementation	Priority for action
	1	2	3	4	5	6	7	8	9
DEMOCRATIC REPUBLIC OF CONGO	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Democratic Republic of Congo (DRC), N'Djili International Airport.	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	November 2012	U
	Requirement to issue aerodrome and wind shear warnings and wind shear alert in accordance with Annex 3, chap. 7, para. 7.3 et 7.4 et App. 6 Table A6-2 et A6-33	DRC, N'Djili International Airport.	Aerodrome and wind shear warnings (AD WRNG, WS WRNG) and wind shear alert are not issued at N'Djili International Airport	09/2009	Advice given during Sate Mission	1. issue and disseminate WS WRNG and AD WRNG information and wind shear alert; 2. develop and enforce a letter of service agreement between the MET and ATS (TWR, CCR, Office of the runway, ..) in order inter alia to promote the regular routing of aircraft reports on wind shear at landing or take off, to assess RVR, etc. .. 3. consider the possibility of installing, after a survey with users, at Djibouti Airport, a wind shear detecting system	METELS AT/ RVA	Before March 2010	U

STATE	Identification		Deficiencies				Corrective action		
	Requirements	Facilities or services	Description of Deficiency	Date first reported	Comments on deficiency	Description of corrective action	Executing body	Target date for implementation	Priority for action
	1	2	3	4	5	6	7	8	9
SAO TOME	Requirement to issue aerodrome and wind shear warnings and wind shear alert in accordance with Annex 3, chap. 7, para. 7.3 et 7.4 et App. 6 Table A6-2 et A6-33	Sao Tome, and Principe, Sao Tome International Airport (STIA).	Aerodrome and wind shear warnings (AD WRNG, WS WRNG) and wind shear alert are not issued at Sao Tome International Airport	09/ 2009	Advice given during CODEVMET Mission	1. issue and disseminate WS WRNG and AD WRNG information and wind shear alert; 2. develop and enforce a letter of service agreement between the MET and ATS (TWR, CCR, Office of the runway, ..) in order inter alia to promote the regular routing of aircraft reports on wind shear at landing or take off, to assess RVR, etc. .. 3. consider the possibility of installing, after a survey with users, at Djibouti Airport, a wind shear detecting system	INM, ENASA	Before June 2010	U
	Requirement to issue local routine and special reports in accordance with Annex 3, chap. 4, para. 4.3.1, 4.3.2 a) et 4.4.2 a)	Sao Tome, and Principe, (STIA)..	Local routine and special reports (MET REPORT) and SPECIAL) are not issued	09/ 2009	Advice given during CODEVMET Mission	Issue local routine and special reports (MET REPORT) and SPECIAL)	INM/ ENASA	Before december 2010	A
	Requirements to issue METAR, SPECI) and TAF on 24h Sao Tome International Airport: FASID AFI, Tableau MET 1A	Sao Tome, and Principe, (STIA).	METAR and SPECI are not issued on 24h basis	09/2009	Advice given during CODEVMET Mission	Issue METAR and SPECI on 24h basis	INM et ENASA	Before June 2010	A
	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Sao Tome, and Principe, (STIA)..	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	November 2012	U

ETAT	Identification		Carences			Action Corrective			
	Besoins	Etat/ Installations	Description de la Carence	Date d'identi- fication	Observa tions sur la carence	Description de la mesure corrective	Organe exécutif	Date de Mise en Œuvre	Priorité
1	2	3	4	5	6	7	8	9	10
SAO TOME	Requirement to provide flight documentation in accordance with AFI FASID Table MET 7 (Doc 7474 Volume II, FASID AFI)	Sao Tome, and Principe, Sao Tome International Airport..	Flight documentation is provided from a public non-secured website ADDS	09/2009	Advice given during CODEVMET Mission	In the short term, a SADIS FTP service shall be accessed from the WAFC London to extract required data for the provision of flight documentation. Access procedures are described on the following Website http://www.icao.int/amb/sadisopsg/sadis%20ftp%20service%20v4.0.pdf In the medium term, install a SADIS VSAT station with the required SADIS workstation software:	INM/ ENASA	Before December 2010	B
SÉNÉGAL	Requirement to report visibility along the runway in local routine and special reports in accordance with Annex 3, Appendix 3 para; 4.2.4.2	Senegal/ Leopold Sedar Senghor International Airport or Dakar	Many obstacles (2 control towers, airlines hangars, etc ...) around the visibility estimation platform of the aeronautical meteorological station (SMA), does not allow to estimate the visibility along the runway .	02/2009	Deficiency identify during ICAO WACAF visit	Install visibility sensors along the runway Or Relocate the SMA at a location enabling the observer to estimate the visibility along the entire length of the runway.	ASECNA	June 2010	A
	Requirement to provide Automatic Terminal Information Service (ATIS) in accordance with ICAO Doc 7474 Volume II, FASID AFI, Part III - Tableau AOP 1.	Senegal/ Leopold Sedar Senghor International Airport or Dakar	The ATIS service is not implemented at Dakar International Airport	02/2009	Deficiency identify during ICAO WACAF visit	Install and implement an operational ATIS system	ASECNA	June 2010	A
	Requirement to measure and report wind in accordance with provisions contained in Annex, Chapter 4 para 4.6.1.1.	Sierra Leone/ Freetown Lungi Airport	Wind measurement system old and deficient	1994	Advice given during mission CODEVMET Phase I 10/2009	Installation of new wind measurement equipment	SLAA and MET Department	2010	U

	Identification		Carences			Action Corrective			
ETAT	Besoins	Etat/ Installations	Description de la Carence	Date d'identi- fication	Observa tions sur la carence	Description de la mesure corrective	Organe exécutif	Date de Mise en Œuvre	Priorité
1	2	3	4	5	6	7	8	9	10
SIERRA LEONE	Requirement to measure and report RVR for runway intended for Category II instrument approach and landing operations	Sierra Leone/ Freetown Lungi Airport	In case of reduced visibility RVR not measured and reported	29/09/ 2009	Advice given during mission CODEVMET Phase I	Short term : manual measurement Long term : Installation of RVR measurement, assessment and reporting equipment	MET Department and SLAA	10/2009 2013	U
	Requirement to issue aerodrome warnings (AW) and Wind Shear warnings (WS) as contained in provisions of Annex 3 Chapter 7 para 7.3.1 and 7.4.1 and App. 6 Table A6.2, A6.3	Sierra Leone/ Freetown Lungi Airport	AW and WS are not issued at Lungi Airport	29/09/ 2009	Advice given during mission CODEVMET Phase I	Short term: Writing of procedures for issuance of AW and WS Warnings and implement immediately. Medium term: Acquisition of MET Radar and wind shear detection equipment	MET Department and SLAA	11/2009 2013	U
	Requirement to observe and report MET elements in accordance with Annex 3, para 4.6	Sierra Leone/ Freetown Lungi Airport	Not in compliance with recommended practices on observing and reporting of MET elements	29/09/ 2009	Advice given during mission CODEVMET Phase I	Relocate measurement site and acquire automated observing system	MET Department SLAA and SLCA	2012	A
	Requirement to provide MET information to ATS units Annex 3 Chapter 10 para 10.1.5 Appendix 9 para 1.1.a)	Sierra Leone/ Freetown Lungi Airport	MET messages MET report, METAR, SPECIAL are hand carried to control TWR Lack of communication system	29/09/ 2009	Deficiency reported during mission CODEVMET Phase I	Repair the communication system and install reliable display system to ATS	SLAA Roberts FIR and MET Department	2010 2012	A
	Requirement to implement MET facilities and services AFI/7 Rec. 10/14	Sierra Leone/ Freetown Lungi Airport	Insufficient number of forecasters and observers at Lungi MET centre	29/09/ 2009	Deficiency assessed during mission CODEVMET Phase I	Provide MET centre with required number of qualified personnel	MET Department SLAA Roberts FIR	2012	A
	Requirement to use qualify WAFS products for flight documentation in accordance with provision contained in Annex 3 Chapter 9 para 9.1.3, 9.1.6 and 9.1.6 and FASID Table MET7	Sierra Leone/ Freetown Lungi Airport	No SADIS station at Lungi Airport	29/09/ 2009	Deficiency assessed during mission CODEVMET Phase I	Short Term: Use FTP to acquire WAFS data Acquisition of SADIS station	MET Department SLAA Roberts FIR SLAA MET Roberts FIR	10/2009 2012	A

ETAT	Identification		Carences			Action Corrective			
	Besoins	Etat/ Installations	Description de la Carence	Date d'identi- fication	Observa tions sur la carence	Description de la mesure corrective	Organe exécutif	Date de Mise en Œuvre	Priorité
1	2	3	4	5	6	7	8	9	10
SIERRA LEONE	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Sierra Leone/ Freetown Lungi Airport	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	Novembre r 2012	U
SOMALIA	Situation unknown	FIR Mogadishu							
	Requirement to provide MET reports to ATS Units (Annex 3, Chapter 10, para 10.1.1)	Swaziland/M anzini Matsapha Airport Associated MET Office	Provision of MET reports to ATS units deficient. No wind displays in control tower	2004	Advice was given on mission	Install a display system for MET data and information at ATS units	DCA and MET Department	As soon as possible	U
SWAZI LAND	Requirement to establish and implement from 15 November 2012, a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users (ICAO Annex 3, para 2.2.3.)	Togo, Lomé International Airport	The quality management system (QMS) for MET service has not been yet implemented by the National Meteorological Office	02/2011	Advice given during the Mission.	Train local trainers in QMS and implement the QMS before November 15, 2012	CAA (oversight) National MET Service provider	Novembre r 2012	U
ZAMBIA	2)Requirement to provide MET reports to ATS Units (Annex 3, Chapter 10, para 10.1.1)	Zambia/Lusa ka Meteorologic al Office	Provision of MET reports to ATS Units deficient	2002 and missions of 2004 and 2007	Advice given during mission by correspondence	Install display system of MET data to ATS units	MET Department	As soon as possible	U
	3)Requirement to provide	Zambia/Lusa ka	Provision of MET reports to ATS Units	2002 and missions	Advice given during	Install appropriate telecomms	MET Department	As soon as	U

Identification		Carences			Action Corrective				
ETAT	Besoins	Etat/ Installations	Description de la Carence	Date d'identi- fication	Observa tions sur la carence	Description de la mesure corrective	Organe exécutif	Date de Mise en Œuvre	Priorité
1	2	3	4	5	6	7	8	9	10
	meteorological data and forecasts in form of flight documentation (Annex 3, Chapter 3, para 3.3.2).	Meteorologic al Office	deficient	of 2004 and 2007	mission and by correspondence	equipment to receive OPMET information and appoint adequate trained personnel		possible	
	4) Requirements for SIGMET information (Annex 3 para 3.4.2 b, c, d and add para. 7.1.1	Zambia/Lusa ka Meteorologic al watch office (MWO)	SIGMET not issued	2007	Advice given on mission	Immediately provide training and issue SIGMET	MET Department	As soon as possible	U

EXPLANATORY NOTES FOR APPENDICES ON DEFICIENCIES

Requirement identified at a given meeting through a recommendation; name of the meeting and the related recommendation number

Name of the State or States involved and/or the name of the facilities such as name of airport, FIR, ACC, TWR, etc.

2. Brief description of the deficiency :
3. Date deficiency was first reported :
4. Comments.
5. Brief description of the corrective actions to be undertaken.
6. Identification of the executing body.
7. Target date for completion of the corrective action.
8. Priority and classification.
9. Target date for implementation.
10. Priority for Action.
- 11.

“U” priority = **Urgent** requirements having a **direct** impact on **safety** and requiring **immediate** corrective actions.

Urgent requirements consisting of any physical, configuration, material, performance, personnel or procedures specifications, the application of which is urgently required for air navigation safety.

“A” priority = **Top priority** requirements **necessary** for air navigation **safety**.

Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

“B” priority = **Intermediate** requirements **necessary** for air navigation **regularity**.

Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.