

**AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP  
(APIRG)**



**INFRASTRUCTURE AND INFORMATION MANAGEMENT (IIM)  
SUB-GROUP**

**METEOROLOGY PROJECT 2**

**TERMS OF REFERENCE (ToR)**

Version 1.0

**REVISION INDEX SHEET**

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**ABBREVIATIONS**

<b>Term</b>	<b>Definition</b>
AFI	Africa and Far East Indian Ocean
AMS	Aeronautical Mobile Service
APIRG	AFI Planning and Implementation Regional Group
APCC	APIRG Projects Coordination Committee
ASBU	Aviation System Block Upgrade
ATM	Air Traffic Management
CNS	Communication Navigation Surveillance
COM	Communication
GANP	Global Air Navigation Plan
GOLD	Global Operational Data Link
HF	High Frequency
ICAO	International Civil Aviation Organization
IIM	Infrastructure and Information Management
OPMET	Operational Meteorological
PANS	Procedure for Air Navigation
PBN	Performance Based Navigation
SAR	Search and Rescue
SARP	Standards and Recommended Practices
VHF	Very High Frequency

## **EXECUTIVE SUMMARY**

These Terms of Reference outline the requirements needed for the implementation of Terminal Area Warnings and Forecasts, Provision of WAFS Forecasts and Optimisation of OPMET data exchanges (**MET Project 2**) project aimed at ensuring the improvement of the provision of meteorological service to the international Air navigation within the ICAO AFI region.

The IIM Sub-Group Meteorology Project 2 is responsible for recommendations and assistance to States with respect to activities that will assist States to improve the implementation of Terminal Area Warnings and Forecasts, Provision of WAFS Forecasts and Optimisation of OPMET data exchanges.

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## INTRODUCTION

Aeronautical meteorological service provision is integral to the realization of a safer and more efficient globally interoperable air transport system. In this regard, Aeronautical Meteorology (MET) is required to provide information to satisfy the needs of the future ATM system. As the future ATM system evolves, the demands on MET will require improved or new systems, information and products to support it.

In line with the latest edition of the Global Air Navigation Plan (GANP) approved by ICAO Council in 2019 and the associated Aviation System Block Upgrades (ASBU) methodology, the overarching outcome of MET/14 is that the future development of MET services shall be fully aligned and integrated into the future SWIM system.

The IIM/SG Meteorology Project 2 has the task to assist States with the implementation of:

- a) Aerodrome warnings and forecasts (AD WRNG) and wind shear warnings and alerts (WS WRNG) in accordance with ICAO Annex 3, Tables A6-2 and A6-3, concerning the preparation, issuance and distribution at the terminal area, of concise information of meteorological conditions which could adversely affect aircraft on the ground, including parked aircraft, and the aerodrome facilities and services. For aerodromes where wind shear is considered a major safety factor, wind shear warnings will give concise information on the observed or expected existence of wind shear which could adversely affect aircraft on the approach path or take-off path or during circling approach between runway level and 500 m above that level and aircraft on the runway during the landing roll or take-off run. Where local topography has been shown to produce significant wind shears at heights in excess of 500 m above runway level, then 500 m will not be considered restrictive.
- b) the World Area Forecast System (WAFS) in the standards and recommended practices of Annex 3 and Part V – MET of the AFI, Volumes I, II and III with regard to the use of WAFS products, by which the world area forecast centre (WAFS) in London provides aeronautical meteorological en-route forecasts in uniform standardized formats and disseminated in the AFI region through the Secure Aviation Data Information System (SADIS) for information relating to air navigation. States will be also assisted in the implementation of the International Airways Volcano Watch (IAVW) including the implementation of the operational procedures in ICAO Doc 9766 and the AFI Volcanic Ash Contingency Plan (VACP) activities;
- c) AFI OPMET data Exchange Management and OPMET databanks (RODBs) described in the AFI Meteorological Bulletin Exchange (AMBEX) Handbook in accordance with the provisions in ICAO Annexes 3 and 10 and AFI ANP Volumes I, II and III Part V- Meteorology, for the preparation, issuance, distribution and monitoring of OPMET information (METAR, SPECI, SIGMET, TAF, AIREP, Volcanic Ash and tropical cyclones advisories).

This will be in accordance with the operational requirements of ICAO Annex 3, the *provision of meteorological service to the international air navigation* and relevant guidance documents.

## Purpose

The IIM Sub-Group Meteorology Project 2, was established and mandated by APIRG to support the implementation of ICAO Standard and Recommended Practices (SARPs) and carry out specific activities aimed at enabling APIRG to discharge its functions and responsibilities in the area of meteorological service.

The purpose of the IIM Sub-Group Meteorology Project 2 is to assist States with the implementation of implementation of Terminal Area Warnings and Forecasts, provision of WAFS Forecasts and Optimization of OPMET data exchanges in the AFI Region. The IIM Sub-Group Meteorology Project 2 team members will evaluate, and recommend project deliverables; and submit to the IIM-Sub-Group.

## Key Functions

The Project shall perform its function as guided by APIRG.

- a) Foster the implementation of specific MET Modules of the ICAO Aviation System Block Upgrades (ASBU) assigned by APIRG
- b) Carry out the implementation of MET projects in support of States, related to the area of Terminal Area Warnings, the World Area Forecast System (WAFS), AFI OPMET data Exchange Management and OPMET databanks (RODBs) as described in the AMBEX.
- c) Keep under constant review the adequacy of requirements in the area of MET taking into account changes in user requirements, the evolution in operational requirements and technological developments in accordance with ASBU methodology
- d) Identify and collect, States information on MET deficiencies in accordance with the methodology approved by the Council and the APIRG guidance; analyze the collected information and propose solution, report on progress and challenges which extend beyond the capacity of the group.

## Tasks

- a) Coordinate and conduct meetings of MET Project 2.
- b) Monitor implementation performance of relevant ASBU modules to ensure robust implementation relationship of operational requirements supporting infrastructure and digital information
- c) Monitor performance of relevant ASBU modules
- d) Review and update the list of deficiencies with regard to the provision of meteorological service to the international air navigation within ICAO AFI region and propose remedial actions carry out comprehensive reviews and updates of all Conclusions and Decisions within the framework of APIRG that are capable to the IIM Sub-group in order to ensure continued relevance of the conclusion and decisions
- e) Report to APIRG through the APCC

## **PROJECT COMPOSITION**

The Project is made up of the Project Team Coordinator(s), Team members and the Secretary. Only permanent members or proxies have the voting rights. The IIM Sub-Group Meteorology Project 2 Coordinator is nominated by APIRG meeting and can serve a maximum of period communicated by the IIMSG Chair.

## **MEETING PROCEDURE**

### **Frequency**

The frequency of the IIM Sub-Group Meteorology project shall be once every two months. The frequency may be reduced by mutual consent of the committee should the need arise

### **Notice of meeting**

The MET Project 2 PTC shall manage and schedule the frequency, date and venue of the project meeting

### **Reporting to the IIMSG Chair**

The PTC shall submit the project progress report of the group's activities to the IIM Sub-group Chair and/or Vice Chair during the IIMSG meeting or when requested.

The report shall include the following

- Status of the project and activities completed;
- Project challenges encountered; and
- Recommendations to address challenges.

### **Minutes**

The project meeting minutes shall be prepared by the Secretary for approval at the next MET Project 2 meeting

### **Quorum**

The quorum for convening the meeting shall be determined by at least five team members confirming their attendance to the meeting.

## **PROXIES AND REPRESENTATIVES**

- If a permanent member of the Project is unable to attend a meeting, he/she shall nominate a proxy by way of notifying the Project Secretary. The alternate must ideally be of appropriate seniority with delegated authority to participate in the decision-making process at the same level as the permanent member.
- The Project Secretary will inform the Project team members of the substitution at the beginning of the relevant meeting.
- The nominated proxy shall have all the rights of the permanent member at the attended meeting.
- The nominated proxy shall provide relevant comments / feedback of the Project team member they are representing, to the attended meeting.
- Other persons may be invited or co-opted as observers by the PTC or Team members.
- Due to the importance of the meeting and in the pursuit of the Project tasks and deliverables; meeting attendance is essential. Should such attendance not be possible the rescheduling of such meeting shall be considered, but on an agreed date.
- In the event there is no quorum, the meeting may be cancelled.



## **RESPONSIBILITIES OF TEAM MEMBERS**

### **Project Team Coordinator**

- In the absence of PTC, the meeting is cancelled, unless an acting PTC is appointed.
- The Acting PTC shall be appointed by the PTC.
- The PTC is responsible for confirming that the quorum is present at every meeting.

### **Project Team Secretary**

- The Secretary shall distribute the meeting documentation, agenda and previous minutes to all Team members at least seven (7) working days before the meeting.
- The secretary is responsible for minutes' decisions or resolutions and submits the draft minutes of the Project meeting to the Coordinator within two (2) working days after the meeting, for review.

### **Project Team Members**

- To provide participation and support to the Project, particularly with respect to the areas of meteorological service to international civil aviation.
- Ensure that there is collective ownership and promotion of common principles, standards, policies, guidelines as well as end-to-end technology strategies and roadmaps as it relates to MET in the ICAO AFI region.

## **DECISION MAKING**

- The decision shall be taken on consensus of all Team members present at the meeting. The PTC is responsible for communicating the decision made. Any objections to either approval or rejection of a submission under consideration shall be raised so that, such objections where necessary, can be recorded in the proceedings of the Project meeting.
- Matters can be cleared outside the meeting for approved submissions provided that such matters do not have material bearing on the submission or decision.

## **DISPUTE RESOLUTION**

- Any dispute/issue on which consensus cannot be reached will be settled through voting by the members. Team members have the right to note their objection to a decision with a reason.

## **ATTENDANCE AND APOLOGIES**

- The Project meeting attendance is compulsory for all Team members or their proxies. The Project members that cannot attend shall tender their apology to the Secretary before the scheduled meeting.

## **PERFORMANCE EVALUATION**

- The Project shall perform and carry out a self-assessment annually to assess its effectiveness in carrying out its functions set out in these ToR, and shall report its conclusions and recommend any changes it considers necessary to the IMSG.

**DECLARATION OF INTEREST AND NON-DISCLOSURE**

- All permanent and invited members shall declare any conflict of interest where applicable.

**REVIEW OF TERMS OF REFERENCE**

- The terms of reference shall be reviewed by the Project –every two years or as and when required.
- These Terms of Reference were approved by and signed on behalf of the MET Project 2 by the:

\_\_\_\_\_

\_\_\_\_\_

**MET PROJECT 2 PTC**

**DATE**

---END---

## APPENDIX A: TEAM MEMBERS IIM SUB-GROUP METEOROLOGY PROJECT 2

### Project Team Members

States	Expert/s Name	Email address
Senegal (Coordinator)	1. Niokhor Diouf; 2. Abdoul Aziz Diop;	1. <a href="mailto:niokhor.diouf@anacim.sn">niokhor.diouf@anacim.sn</a> 2. <a href="mailto:abdoulaziz.diop@anacim.sn">abdoulaziz.diop@anacim.sn</a>
South Africa	1. Maluta Tshifaro; 2. Gaborekwe Khambule;	1. <a href="mailto:maluta.tshifaro@weathersa.co.za">maluta.tshifaro@weathersa.co.za</a> ; <a href="mailto:maluta001@gmail.com">maluta001@gmail.com</a> 2. <a href="mailto:Gaborekwe.khambule@weathersa.co.za">Gaborekwe.khambule@weathersa.co.za</a>
Côte d'Ivoire	Gouamene Rock	<a href="mailto:rgouamene@anac.ci">rgouamene@anac.ci</a> ; <a href="mailto:lewisgouam@yahoo.fr">lewisgouam@yahoo.fr</a>
Niger	1. Malam Abdou Kassimou 2. Abdoulaye Issoufou	1. <a href="mailto:akassimou@yahoo.fr">akassimou@yahoo.fr</a> 2. <a href="mailto:Issoufou.abdoulaye@gmail.com">Issoufou.abdoulaye@gmail.com</a>
Togo	Lare Yendoubouame	<a href="mailto:y.lare@anac-togo.tg">y.lare@anac-togo.tg</a> ; <a href="mailto:Ylare1509@outlook.com">Ylare1509@outlook.com</a>
WMO		
Guinea		
Ghana	Rev Steve Nyarkotey-Quah	<a href="mailto:snquao@gcaa.com.gh">snquao@gcaa.com.gh</a>
Kenya	Winstone Gicheru	<a href="mailto:wgicheru@kcaa.or.ke">wgicheru@kcaa.or.ke</a> ; <a href="mailto:nyamugiwi@yahoo.com">nyamugiwi@yahoo.com</a>
Mauritania		
ASECNA	Betole Ada Moise	<a href="mailto:Betoleadamo@asecna.org">Betoleadamo@asecna.org</a> ; <a href="mailto:mosebetoleada@rocketmail.com">mosebetoleada@rocketmail.com</a>
IATA	Josiah Backobi	<a href="mailto:backobij@iata.org">backobij@iata.org</a> ; <a href="mailto:jubackobi@gmail.com">jubackobi@gmail.com</a>
Nigeria	Engr. Johnson Otitolaye	<a href="mailto:jotitolaye@nama.gov.ng">jotitolaye@nama.gov.ng</a> ; <a href="mailto:omolegf@yahoo.com">omolegf@yahoo.com</a>
Botswana	1. Ontefetse Kgautlhe 2. Olebile Kedule	<a href="mailto:okgautlhe@gov.bw">okgautlhe@gov.bw</a> ; <a href="mailto:kgautlheonte@gmail.com">kgautlheonte@gmail.com</a> <a href="mailto:okedule@caab.co.bw">okedule@caab.co.bw</a> ; <a href="mailto:olebile3@gmail.com">olebile3@gmail.com</a>
Uganda	Khalid Muwembe	<a href="mailto:kmuwembe@caa.co.ug">kmuwembe@caa.co.ug</a> ; <a href="mailto:muwembe@yahoo.co.uk">muwembe@yahoo.co.uk</a>
Ethiopia	Tafesse Regassa Gurmu	<a href="mailto:regassa.gurmu8@gmail.com">regassa.gurmu8@gmail.com</a> ; <a href="mailto:tafesseg@yahoo.com">tafesseg@yahoo.com</a>
IFALPA	Joseph Migwi	<a href="mailto:migwi.joseph@kalpa.org">migwi.joseph@kalpa.org</a>