



INTERNATIONAL CIVIL AVIATION ORGANIZATION

Fourth Meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM / SG4)

(Virtual, August 31 - 03 September 2021)

Agenda Item 4: Status of implementation of regional projects of the AFI IIM group

WP4.3B PROGRESS REPORT OF IIM/SG MET PROJECT 2

MET Project 2: Implementation of forecast and warning in terminal area, use of World Area Forecast System (WAFS) forecasts provided by World Area Forecast Centers (WAFS) via SADIS, International Airways Volcano Watch (IAVW) and operating procedures in ICAO Doc 9766 and AFI Volcanic Ash Contingency Plan (VACP) and Optimization of OPMET Data Exchange

(Presented by Senegal)

SUMMARY
This paper presents the status of implementation of the deliverables related to the APIIRG IIM Sub Group MET, Project 2.
<b>Action by the meeting in paragraph 3</b>
<b>REFERENCE (S):</b>
<ul style="list-style-type: none"> <li>▪ Doc 9750, Global Air Navigation Plan</li> <li>▪ Electronic Air Navigation Plan— Africa-Indian Ocean Region (eANP- AFI)</li> <li>▪ APIRG Procedural Handbook</li> </ul>
<b>Related ICAO Strategic Objective (s):</b>
A - Aviation Safety, B - Air Navigation Capacity and Efficiency.
<b>Related ASBU KPIs &amp; B0 / 1 Modules:</b>
Related ASBU KPIs & AMET B0 and B1 Modules: Applicable to MET KPIS and concerned ASBU B0 Modules: .....

1. INTRODUCTION

1.1 The AFI Planning and Implementation Group (APIRG) under the project approach, the Infrastructure and Information Management sub-group (IIM / SG MET project 2) was established during the first meeting of APIRG IIM / SG held in Nairobi, Kenya from June 27 to 30, 2017. The main objective of its establishment is to assist AFI States in the implementation of:

- a) Aerodrome Warnings and Forecasts (AD WRNG) and Windshear Warnings and Alerts (WS WRNG) in accordance with ICAO Annex 3, Tables A6-2 and A6-3, concerning preparation,

issuing and distributing in the terminal area, information on meteorological conditions which could adversely affect aircraft on the ground, including parked aircraft, and aerodrome facilities and services.

- b) Wind shear warnings, for aerodromes where wind shear is considered a major safety factor. These windshear warnings will give concise information about the observed or predicted existence of windshear that could adversely affect aircraft on the approach or take-off path or during circling between runway level and 500 m above this level and aircraft on the runway during the landing or take-off roll. When the local topography has been shown to produce significant windshear at heights greater than 500m above runway level, then 500m will not be considered restrictive;
- c) The World Area Forecast System (WAFS) in the Standards and Recommended Practices of Annex 3 and Part V - AFI MET, Volumes I, II and III regarding the use of WAFS products , through which the World Area Forecast Center (WAFS) in London provides en-route aviation weather forecasts in standardized, uniform formats and disseminated to the AFI region through the Air Navigation Information Satellite Distribution System ( SADIS);
- d) Assistance in the implementation of the International Airways Volcano Watch (IAVW), including the implementation of the operational procedures of ICAO Doc 9766 and the activities of the AFI Volcanic Ash Contingency Plan (VACP);
- e) Management of the exchanges of AFI OPMET data and OPMET databases (RODB) described in the AFI Meteorological Bulletin Exchange (AMBEX) manual in accordance with the provisions of Annexes 3 and 10 of the ICAO and of volumes I, II and III of the ANP AFI part V-Meteorology, for the preparation, emission, dissemination and monitoring of OPMET information (METAR, SPECI, SIGMET, TAF, AIREP, volcanic ash and tropical cyclone advisories).

1.2 As part of the implementation of the elements of the “Meteorological information” module for the reinforcement of the efficiency and operational safety (BO - AMET) of the ASBU and in accordance with the conclusion 23/18 of the APIRG in its session from November 24 to 26, 2020, set out below:

**APIRG / 23 - Conclusion 23/18: Effective and efficient coordination of IIM project activities**

**It is concluded that:**

**In order to effectively contribute to the activities of APIRG IIM projects and ensure their timely completion:**

- a) **The Secretariat distributes the survey questionnaires on the projects before January 31, 2021;**
- b) **States respond to the survey questionnaire before March 31, 2021 and continuously take the necessary measures for the effective and active participation of their experts in the activities of IIM APIRG projects.**

1.3 The sub-group 4 IIM SG 4, through its MET 2 project, worked through 3 coordination meetings in the videoconference format. Thus the questionnaire, investing in the implementation of Block B0 AMET, was developed, validated and circularized in the statements and the results of the counting will be analyzed, in this present report, for a better appreciation of the state of implementation. implementation of standards and recommended practices in accordance with the provisions of Annex 3 and associated ICAO documents.

**2 DISCUSSIONS**

**2.1. Framework / Competence**

- a) The terminal area warnings portion of the project will include all AFI International aerodromes listed in Table MET II-2 of AFI ANP Volume II and aerodromes affected by windshear events;
- b) The WAFS and IAVW part of the project concerns all the AFI aerodromes listed in the AFI ANP MET II-2 table and the meteorological watch centers listed in column 4 of the AFI ANP table MET II-1.
- c) The AMBEX part of the project will include AFI aerodromes listed in the AFI ANP table MET II-2, including Dakar and Pretoria RODBS, bulletin compilation centers (BCC), national OPMET centers (NOC), the AFI Toulouse, tropical cyclone advisory center (TCAC) in Reunion Island and WAFC in London.

**2.2. Actions made**

- a) In the exercise of the coordination of the MET 2 project, we held 03 meetings to harmonize and discuss the different objectives that were assigned to us by the IIM sub-group of the implementation group of planning and implementation of ICAO recommendations.
- b) First, we held our first meeting on February 17, 2021, during which we discussed on the provisions of the questionnaire and made amendments for better handling of the various questions.
- c) We also discussed the contingency plan and the volcanic ash exercise.
- d) On March 03, 2021, under the impetus of the ICAO Secretariat, we organized a meeting whose discussions revolved around the emergency plan and the exercise on volcanic ash.
- e) This discussion resulted in a proposal to set up a steering committee that will develop the implementation agenda with Cape Verde as the trigger country for the exercise, as well as the development of orientation documents and all the logistics involved.
- f) On July 27, 2021, the agenda for this meeting was still focused on the emergency plan and exercise on volcanic ash; the continuation of the circularization of the questionnaire and the continuation of the reflection on the transition of the OPMET data exchanges to digital format.

*Summary of the results of the meetings and activities of the MET 2 project*

Item no.	Elements B0 AMET	Achievement		
		Submitted items To the Questionnaire	deliverables	Organized seminars
1	Aerodrome warning	✓		
2	Wind shear warning and alert	✓		
3	Use of WAFS products through SADIS	✓		
4	IAVW and VACP procedures		Draft operational guidelines	Exercise on volcanic ash 6-8 April 2021.

			Draft AFI VOLCEX directive	
5	OPMET data exchange management	✓		OPMET availability June 21, 2021

**2.3 Challenges**

- ✓ The participation rate of the member states of the MET 2 project is generally average in terms of both contribution and participation;

Meeting date	Present	Absent	excused	Total	Rate of participation
MET Project 2: February 17, 2021	10	13	3	26	38%
MET Project 2: March 03, 2021	Large AFI participation	7	-	-	-
MET Project 2: July 27, 2021	10	10	3	26	38%

- ✓ The lack of interpretation services also hampered the smooth running of the meeting;

**2.4 Way Forward / Strategies**

- ✓ All tasks are carried out by MET experts appointed by the AFI States participating in the project, led by the coordinator of the project team and under the supervision of the project facilitators (RO / MET, Dakar and Nairobi) via the tool " GoTo Meeting ”.
- ✓ Once the tasks are completed, the results will be sent to the project facilitators as a final document for submission to IIM\_SG and approval by the APIRG Project Coordination Committee (APCC).
- ✓ For the sake of adopting collaborative decision-making, meetings will be organized with the entities concerned (States, industry, secretariat).

**3 ACTION BY MEETING**

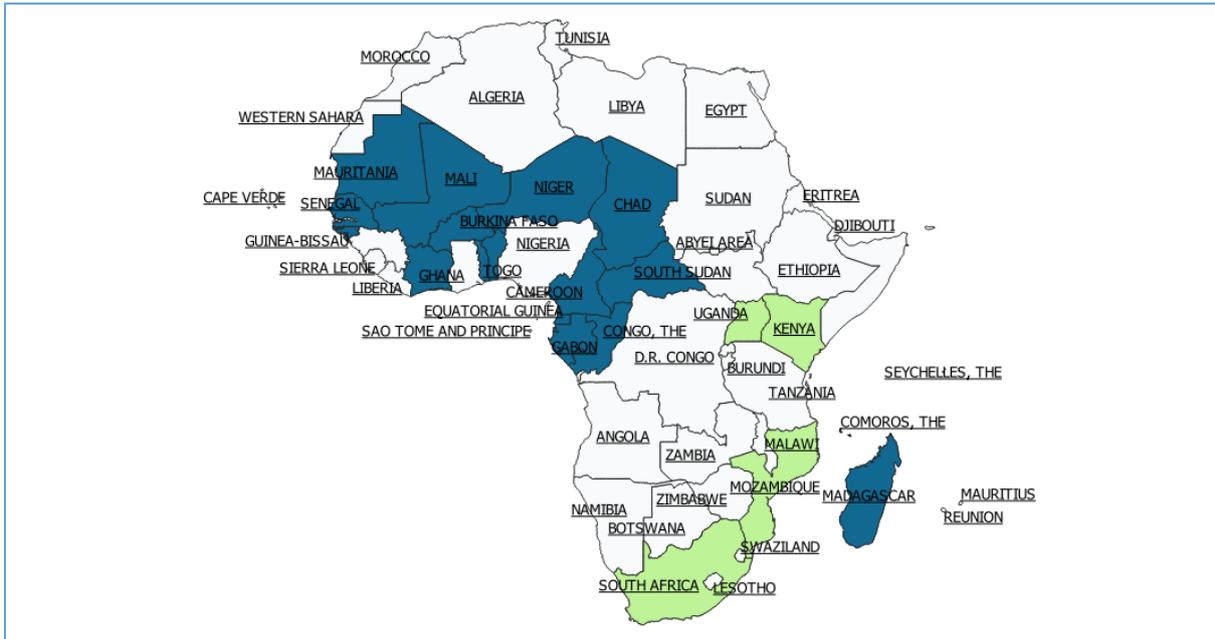
**3.1 The meeting is invited to:**

- request States to appoint new experts in the event of lack of participation among those nominated;
- insist more on the states of central, eastern and southern Africa to answer the questionnaires for a better appreciation of the state of implementation of the B0 AMET block of the ASBU;
- discuss the terms of reference relating to the estimation of project costs
- set up a steering committee for the conduct of the exercise on volcanic ash alerts and designate a supervisor for said exercise.

**STATUS OF IMPLEMENTATION OF MODULE B0 AMET OF ASBU ACCORDING TO  
THE PROVISIONS**

**OF THE MET 2 PROJECT**  
*List of Airports and aerodromes (see attached)*

**Table 1.** Map of states covered by ASECNA and states in South and East Africa that responded to the questionnaires



This map shows good coverage of ASECNA states in the AFI region. In this regard, the management of the implementation of the elements of the B0 ASBU block was initiated in a community dynamic, thus facilitating the compliance of most of the main airports.

On the details of this coverage, we recorded 43 airports and airfields submitted to the questionnaire.

## COUNTING QUESTIONNAIRE RESPONSE

On all the airports and aerodromes concerned, the rate of implementation of the elements of Block B0 ASBU exceeds 50%. Also aerodrome warning messages are the most common in all affected areas.

## ANAYSE OF THE REMARKS / OBSRVATIONS ON THE ELEMENTS IMPLEMENTED

### 1. For the ASECNA zone,

The observations relate to the development in Mauritania of the AD WRNG of Nouadhibou by the CMP of Nouakchott and to the means used for the detection of wind shear:

- Wind shear warning
  - ✓ Detection by installed equipment (which is not yet available or is being implemented in most aerodromes)
  - ✓ Detection following report of aircraft observations (the most used currently).
- Dissemination of OPMETs in IWXXM format

RODB / BRDO	Elements implemented	
	Dissemination of OPMET messages in IWXXM format / Translation of OPMET messages in IWXXM format	Remark / Obs
GOBD - Dakar (Senegal)	X	IWXXM version 3.0
FAPR - Pretoria (Afrique du Sud / South Africa)	X	

- The BRDO and the Dakar BCC have been converting the required OPMETs from their areas of responsibility since November 5, 2020.
- The Brazzaville and Niamey BCCs and the ASECNA zone NOCs will all be able to convert OPMETs to IWXXM 3.0 format before June 2022.

- IAVW

The questionnaire does not relate the number of active volcano in the AFI zone. However, we retain that the operational procedures of ICAO Doc 9766 and the activities of the AFI Volcanic Ash Contingency Plan (VACP) are not implemented.

## 2. for southern and eastern Africa

- Wind shear warning
  - ✓ for Mozambique, the implementation of the WS WRNG and the dissemination of the OPMETs in IWXXM format are effective for the eleven aerodromes of the country.
- Dissemination of OPMETs in IWXXM format
  - ✓ for Seychelles, the dissemination of OPMETs in IWXXM format is not yet effective
  - ✓ for Kenya: the dissemination of OPMETs in IWXXM format is effective at Jomo Kenyatta International Airport, Nairobi
  - ✓ for South Africa: the dissemination of OPMETs in IWXXM format is effective at OR Tambo International Airport.

South Africa implemented IWXXM at OR TAMBO International (FAOR) at 97.8%, King Shaka International (FALE) at 99.2% and Cape Town International (FACT) at 97.3%

----- END -----