



INTERNATIONAL CIVIL AVIATION ORGANISATION  
*AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)*  
METEOROLOGY SUB-GROUP TENTH MEETING (MET/SG/10)  
(Dakar, Senegal, 29 June – 01 July 2011)

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**Agenda Item 7: New challenges facing AFI Meteorological Services**

**IMPACT OF THE GLOBAL ATM  
OPERATIONAL CONCEPT ON MET SERVICES AND  
DEVELOPMENT OF THE AFI VOLCANIC ASH CONTINGENCY PLAN**

*(Presented by the Secretariat)*

**SUMMARY**

This paper gives a brief summary on the report of the Core Team of Experts established by APIRG/17 (Concl. 17/84) to collect and study information on the impact of the global Air Traffic Management operational concept on the provision of Aeronautical Meteorological Services at a Regional level (AFI Region) and presents a proposal of a volcanic ash contingency plan for the AFI region developed in coordination with the APIRG ATM/AIS/SAR/SG.

**1. Introduction**

1.1 This paper gives a brief summary on the report in **Appendix A** (WP/13) of the Core Team of Experts established by Conclusion 17/84 of APIRG/17, to collect and study information on the impact of the global Air Traffic Management operational concept on the provision of Aeronautical Meteorological Services in the AFI Region.

1.2 The meeting will recall that in response to the unprecedented disruptions to commercial air traffic in Europe caused by the eruption of Iceland's Eyjafjallajökull volcano in April 2010, ICAO has established an International Volcanic Ash Task Force to drive the development of a global safety risk management framework and urge regional implementation groups (PIRGs) to improve existing regional volcanic ash contingency plans and establish new plans where such plans do not exist.

1.3 In this regard, the EUR/NAT regions combined and improved their existing contingency plans and the CAR/SAM and ASIA/PAC regions developed new contingency plans. The remaining regions were urged to develop their plans by 2012. This paper presents a draft volcanic ash contingency plan for the AFI region given in **Appendix C**, developed in coordination with the APIRG ATM/AIS/SAR Sub-group.

## 2. Discussion

2.1 The Sub-group will recall that Conclusion 17/84 of APIRG/17 meeting calls for the establishment of a Core Team of Experts to collect and study information on the impact of the global Air Traffic Management operational concept on the provision of Aeronautical Meteorological Services in the AFI Region.

2.2 The team of experts consisting of specialists in ATM, CNS and MET, worked through e-mail and issued a report attached in **Appendix A**.

2.3 In view of the tremendous and emerging continuous work initiated by the monitoring of the AFI Volcanic ash contingency plan, the Core Team of Experts suggested to upgrade the Core Team to a MET/ATM Task Force with the terms of reference as given in **Appendix B** to this paper, in order to perform an annual AFI volcanic ash exercises as starting tasks and continue to collect and study regional information on the impact of ATM operational concept on MET. The meeting is informed that the establishment of a MET/ATM Task Force at this stage may be premature in view of the current evolution in this area at global level. However, the Sub-group may consider that the MET/ATM Task Force can start its tasks with the annual AFI volcanic ash exercises since there is no ATM expertise in the AFI OPMET Management Task Force which could conduct the yearly contingency plan exercises.

2.4 In this regard, the Sub-group may agree to formulate the following Decision which will be discussed with the APIRG ATM/AIS/SAR Sub-group:

**Draft Decision 10/xx: Establishment of the AFI MET/ATM Task Force**

**That:**

- a) **an AFI MET/ATM Task Force be established with the terms of reference and work programme, as presented in Appendix B to this paper;**
- b) **the Core Team of experts established through Decision 17/84 of APIRG/17, be abolished and replaced by the AFI MET/ATM Task Force.**

*Note: The AFI MET/ATM TF will consist of specialists in ATM, CNS and MET.*

2.5 In response to the unprecedented disruptions to commercial air traffic in Europe caused by the eruption of Iceland's Eyjafjallajökull volcano in April 2010; all ICAO regions were encouraged to develop contingency plans to monitor the effects of volcanic ash in their Flight Information Regions (FIRs).

2.6 Within and adjacent to the Africa and Indian Ocean (AFI) Region there are areas of volcanic activities which are likely to affect flight in the AFI Region. The AFI Volcanic Ash Contingency Plan sets out standardized guidelines for the alerting of aircraft when eruptions occur, and procedures to be followed.

2.7 Volcanic ash is a hazard for flight operations. Recent encounters with volcanic ash have resulted in one or more of the following and other problems:

- Engine failures and malfunctions;
- Subsequent failure of electrical, pneumatical and hydraulic systems;
- Blocking of sensors, resulting inter alia in erroneous airspeed indications;
- Smoke, dust and/or chemical pollution of cabin air; resulting in the need for aircrews to use oxygen masks;

- Communication problems;
- Loss of visibility through cockpit windows.

2.8 In this regard, the draft contingency plan presented in **Appendix C** to this paper has been adapted from the EUR/NAT contingency plan in coordination with the APIRG ATM/AIS/SAR Sub Group. The Sub-group may review the draft volcanic ash contingency plan given in **Appendix C** to this paper and formulate the following Conclusion:

**Draft Conclusion 10/xx: Establishment of the AFI Volcanic Ash Contingency Plan**

**That the contingency plan given in Appendix C to this paper be implemented by AFI States as the AFI Volcanic Ash Contingency Plan.**

2.9 The Sub Group is informed that the second meeting of the International Volcanic Ash (VA)Task Force (IVATF/2) in July 2011, will provide useful material for the implementation of regional VA contingency plans. The Sub group may wish to agree that the draft contingency plan in Appendix C should be updated by the Secretariat in line with the outcome of the IVATF/2 and agreed by the sub-group by correspondence. The Sub Group may wish to formulate the following decision:

**Decision 10/xx: Updating AFI VA Contingency Plan**

**That, the contingency plan given at Appendix C to this paper be updated by the Secretariat and agreed by the sub-group by correspondence with the outcome of the second meeting of the International Volcanic Ash Task Force (IVATF/2) before submitting it to the APIRG/18 Meeting.**

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Note the information in this paper,
- b) Review the Appendixes to this paper and,
- c) decide on the above decision and conclusions proposed for the Sub-group's consideration.

## APPENDIX B

### TERMS OF REFERENCE OF THE AFI ATM/MET TASK FORCE

#### 1. Terms of Reference

Under guidance from ICAO Secretariat:

- a) Evaluate the current and future requirements for MET in support of ATM in the AFI Region and update Regional Air Navigation Plan accordingly and provide guidance material to assist States to develop MET services to meet these requirements;
- b) Assess aviation meteorological services, systems and architecture in the region and how they can integrate weather information into decision support tools;
- c) Update and monitor the AFI Volcanic Ash Contingency Plan;
- d) Investigate sub-regional exchange of MET information and associated agreements that facilitate ATM operations particularly over busy routes that overlap different FIRs;
- e) Promote coordination between MET and ATM communities in the AFI Region to enhance the level of understanding of MET requirements and capabilities in support of ATM;
- f) Monitor global policy associated with source data and delivery of MET products for ATM;
- g) Coordinate with MET/SG and ATM/AIS/SAR/SG on framework for contingency plan for specific phenomenon including volcanic ash, radioactive cloud, tropical cyclone and Tsunami with reference to developments made WMO scientific steering committee;
- h) Report to the MET/SG Sub-group of APIRG for further co-ordination through the ICAO Secretariat with other relevant bodies.

The objective being to improve efficiency of ATM and airlines by providing tailored regional MET products needed to optimize flight routes in all weather conditions.

The Benefits will be to increase efficiency – save time and fuel as well as reduce carbon emissions.

#### 2. Work Programme

The work to be addressed by the AFI ATM/MET Task Force includes:

- a) Develop regional MET requirements for ATM by:
  - ✓ conducting MET/ATM meetings (TF meetings, Seminars) to contribute in developing MET requirements for ATM;
  - ✓ analyzing existing ATM/MET surveys and develop new surveys, when necessary, to determine regional ATM requirements for MET;
  - ✓ recommending regional MET requirements for ATM to MET/SG Meetings;
  - ✓ Determining regional MET requirements for ATM.
- b) Developing methods to use weather information in decision support tools by:
  - ✓ Developing methods to use weather information in decision support tools

- c) Update and monitor the AFI Volcanic Ash Contingency Plan (VACP) by:
  - ✓ Regularly updating the VACP through new requirements from the International Volcanic Ash Task Force (IVATF);
  - ✓ Conducting annual VACP exercises or AFI ATM/MET Volcanic Ash Exercises (VAEX/AFI);
  - ✓ reporting on annual VAEX/AFI to MET/SG meetings.
  
- d) Develop sub-regional exchange of MET information to facilitate ATM operations by:
  - ✓ Encouraging States develop agreements on the exchange of MET information that provides benefits to ATM operations on sub-regional level;
  - ✓ Encouraging States report developments to MET/ATM TF and CNS/MET SG meetings;
  - ✓ Developing sub-regional exchange of MET information to facilitate ATM operations in busy routes.
  
- e) Develop regional implementation plan for Meteorological Service for Terminal Area (MSTA) by:
  - ✓ Monitoring developments of MSTA (pending approval at conjoint ICAO/WMO Divisional meeting 2014);
  - ✓ Monitoring Annex 3 developments (requirements for MSTA);
  - ✓ Developing regional implementation plan for MSTA ;
  - ✓ Monitoring regional implementation of MSTA;
  - ✓ Reporting implementation progress to MET/SG.
  - ✓ Developing regional implementation plan for Meteorological Services for the Terminal Area.
  
- f) Monitor global policies associated with source data and delivery of MET products for ATM by:
  - ✓ monitoring global policies associated with source data and delivery of MET products for ATM ;
  - ✓ reporting results to MET/SG meetings;
  - ✓ monitor global policies associated with source data and delivery of MET products for ATM.

### **3. Composition**

3.1 The Task Force is composed of experts from:

a) .....

b) Representatives of IATA and WMO are invited to participate in the work of the Task Force.