



**INTERNATIONAL CIVIL AVIATION ORGANISATION**  
**AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)**  
**FIRST MEETING OF THE ATM/MET TASK FORCE (ATM/MET/1)**  
*(Nairobi, Kenya, 10-11 June 2013)*

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**Agenda Item 3:           Review and update the draft AFI ATM Volcanic Ash Contingency Plan (VACP)**

**VACP review and Exercise proposals**

(Presented by France)

**SUMMARY**

This paper presents the VAAC (Volcanic Ash Advisory Centre) Toulouse views on the proposed Volcanic Ash Contingency Plan for AFI and proposals related to the organisation of tests to assure the efficiency and common comprehension of the VACP, for consideration by the Group.

**1. INTRODUCTION**

1.1 France has accepted, by regional air navigation agreement, the responsibility for providing a VAAC within the framework of the international airways volcano watch for continental Europe, Africa, a large part of Indian Ocean, as well as for the western part of Asia. VAAC Toulouse is operated by the aviation weather department which is part of the National Forecast Centre of MeteoFrance in Toulouse, working in close collaboration with the Direction of Information Systems, for the information exchange aspects.

1.2 The area of responsibility of VAAC Toulouse encompasses therefore 192 FIRs (Flight Information Regions) on three continents and five different Air Navigation Regions (EUR, NAT, MID, AFI, ASIA). VAAC Toulouse has common borders with six other VAACs in both hemispheres (Buenos Aires, Darwin, London, Montréal, Tokyo and Washington).

**2. PROPOSED VACP FOR AFI**

2.1 The IVATF (International Volcanic Ash Task Force) has elaborated after 4 meetings a VACP template that took into account all possible needs from the different types of users and operations and is in full agreement with the annexes regulations.

2.2 The IAVWOPSG (International Airways Volcanic Watch Operations Group) was invited to note the IVATF Recommendation 4/15 a) regarding an air traffic management volcanic ash contingency plan template to be used by all the ICAO planning and implementation regional groups (PIRGs) for the development of, or update to, volcanic ash contingency plans within their respective regions.

2.3 In its seventh meeting, the IAVWOPSG considered the inclusion in Doc 9766 of the guidance material developed by the IVATF for conducting volcanic ash exercises in ICAO regions and formulated the following conclusion:

**Conclusion 7/10 — Guidance material for conducting volcanic ash exercises in ICAO regions**

That the Secretary include the guidance material on conducting volcanic ash exercises in ICAO regions, as given in Appendix G to this report, in the *Handbook on the International Airways Volcano Watch (IAVW) — Operational Procedures and Contact List* (Doc 9766).

2.4 The VACP proposed for the group consideration is fully following the template in DOC 9766 that takes into account collaboration during two years of intensive work from all parties and will allow an easy maintenance and inclusion of all progress realised in the enhancement of VA detection and forecasting techniques. Therefore, VAAC Toulouse fully supports the proposed VACP for AFI.

### **3. EXERCICES TYPES THAT MIGHT BE CONDUCTED IN AFI REGION**

3.1 The appendix G of the IAVWOPSG/7 meeting proposes guidance in conducting VA exercises in ICAO regions.

3.2 “Exercises can only simulate a real event, while operation of the aviation system must continue normally and be unaffected by the exercise. The planning of the exercise needs to ensure that detrimental effects on the system performance are avoided, but that nevertheless useful experience and information is generated”. That point is essential and the used procedure should carefully take into account this consideration to avoid non desirable side effects. Therefore, the procedure should carefully propose agreed templates of test messages so that the messages could be processed (their structure is respected and follows annexes requirements) but indicate in the free zone text areas its test/exercise nature. Before the exercise dates, some NOTAMS and general information should be sent to companies, ATM community to assure the clear knowledge of the status of the forthcoming exercise and the necessity to consider the messages as of **NON** operational nature.

3.3 “A complete, system-wide, exercise for volcanic ash contamination is an extremely complex undertaking since such an event involves a great number and variety of stakeholders. It might therefore be useful to constrain exercises to specific parts of the whole system, with other parts of the system being subject to testing at subsequent exercises.” A pragmatic approach could be chosen to determine a progression in the objectives by identifying what should be the areas where the first efforts should be put to avoid disillusion on trying to organise at first a complex exercise. It could be possible to differentiate areas such as VA SIGMET production and dissemination, VAA/VAG state of reception, NOTAM used and recommendation on their redaction and content, Volcanic Ash observatory capacities to detect and inform on an eruption or a foreseen eruption ....

3.4 As first proposals, VAAC Toulouse would like to propose to the group consideration some areas where some efforts could be initially put, based on the due agreement by the meeting.

3.4.1 The States where there are active volcanoes or potentially active Volcano should be the one of the major areas of interest, as an early notification by a State Volcano Observatory with a good set of VA information ( such as height of the plume, etc ..) regularly updated are of major interest for the VAAC. Some actions to inform the States on their obligation indicated in Annex 3 and provide help to them should be undertaken.

3.4.2 Another focus could be on the northern AFI States in the “vicinity” of Acores and Etna volcanoes, as they are probably the States where air operations could be the most adversely impacted with great consequences on airports operations, ATM.

3.4.3 Based on experience, the south part of Africa could also be one of the areas where the exercises may focus on, as some of the south American volcanoes may have strong and long lasting eruptions.

3.4.4 Before promoting a complex exercise, the different areas of improvement should be studied and dedicated exercises undertaken to verify :

- the good dissemination of VAAs to ACC/FICs and MWOs and assure between ROC Toulouse and the two AFI RODBs the correct dissemination through the AMBEX schema, if felt necessary

- the use of agreed NOTAM series and NOTAM structure that States may use in case of a real eruption

- the common understanding between States regulators, ATM and companies of the agreed procedures through dedicated information events

#### 3.4.5 **Exercises template**

3.4.6 One action should as well be agreeing on a template of exercise directives and report template to avoid length discussions on templates and focus on the exercise in itself.

### 3.5 **VOLCEX exercises that might have an impact on AFI region**

3.5.1 In 2012 a two days EUR/NAT volcanic exercise (VOLCEX12/01) was conducted for a simulated eruption from Azores.

3.6 VAAC Toulouse was the VAAC leader in this exercise and got the first opportunity to test the processing of (fake) special air-reports sent by Air Operators to the forecasters to improve advisories. This part of exercise was very successful from the VAAC’s perspective and four amended advisories taking into account all consistent reports were issued.

3.6.1 The exercise VOLCEX 13/02 would probably be based on a simulated eruption from Azores and some FIRs of the Northern part of Africa will probably be part of this exercise.

#### **4. FUTURE DEVELOPMENTS**

#### **5. Southern Hemisphere VAAC coordination**

5.1.1 The need of better coordination tools between VAACs has been identified during the 2011 Chilean Cordon Caulle eruption when the same volcanic ash cloud spread all around the globe. Four VAACs (Buenos Aires, Darwin, Toulouse and Wellington) AoR (areas of responsibility) were impacted.

5.1.2 Due to their respective satellite watch capabilities, each VAAC had to produce advisories on their own area. Inconsistencies at the border between adjacent VAACs appeared in some occasions.

5.1.3 A template for a text and a graphic in support to the exchange of information between neighbouring VAACs has been developed in collaboration between VAACs Buenos Aires, Darwin, Toulouse and Wellington. An exercise (SHAPE : Southern Hemisphere Ash Propagation Exercise) aiming at testing these tools and the benefit on VAACs coordination is planned for 2013.

#### **6. ACTION BY THE MEETING**

6.1 The meeting is invited to :

- based on the provided elements, adopt the proposed VACP

- take into consideration the information proposed in this paper to plan the future exercises and determine the areas where focus could be put as a priority.

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