



INTERNATIONAL VOLCANIC ASH TASK FORCE (IVATF)

SECOND MEETING

Montréal, 11 to 15 July 2011

Executive Summary

1. INTRODUCTION

1.1 The second meeting of the International Volcanic Ash Task Force (IVATF/2) was held at ICAO Headquarters, Montréal, Canada, 11 to 15 July 2011. The main purpose of the meeting was to consider the status of work on the tasks assigned to the IVATF and to discuss and decide on further progress.

1.2 The IVATF noted that a number of tasks had been completed while other tasks required further work, either by the IVATF itself or by other groups. The IVATF also added new tasks to its work programme in order to comply with its mandate, and identified some principal and multidisciplinary issues on which further guidance and advice would be needed before they could be advanced further.

2. COMPLETED TASKS

2.1 The IVATF had completed the development of *guidance on the management of flight operations under volcanic ash conditions* (Management of Flight Operations with Known or Forecast Volcanic Cloud Contamination). The guidance material introduces the principles of safety management systems and risk assessment as the basis for decisions on flight operations during volcanic events, and the IVATF recommended its endorsement and subsequent publication.

2.2 Development of a *template for volcanic ash contingency plans* had been progressed as far as possible without commonly agreed specification with regard to the density of volcanic ash particles in the atmosphere and associated supplementary products of the Volcanic Ash Advisory Centres (VAAC). However, the IVATF recommended that the template in its current form be made available as inspiration for the development of regional/sub-regional contingency plans on the understanding that it would be updated as the work on ash concentration levels progresses.

2.3 The IVATF had completed *preliminary recommendations for volcanic ash material for use in jet engine testing* and recommended that the International Airways Volcano Watch Operations Group (IAVWOPSG) take the necessary steps to include the material in the Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691).

2.4 The IVATF had developed a proposal for *original equipment manufacturer (OEM) crisis response plan* and recommended that the ICAO Secretariat initiates the appropriate procedures to include the guidance in ICAO Documentation as required.

2.5 The IVATF had completed work on *technologies and systems to support improved eruption source parameterization for dispersion modelling* and on *model improvements and validation* and recommended that the outcome be taken into account by the IAVWOPSG and the WMO-IUGG Volcanic Ash Scientific Advisory Group (VASAG).

2.6 The IVATF had completed the development of *aircraft maintenance and inspection procedures and guidance* and recommended that the ICAO Secretariat initiates action to include the guidance in Doc 9691.

2.7 The IVATF had identified those *volcanic ash-related provisions and guidance* of global applicability that would need to be updated as the work of the IVATF developed and decided that the ICAO Secretariat should initiate the necessary amendment processes as and when appropriate.

3. ONGOING TASKS

3.1 Work on *volcanic ash cloud detection/avoidance systems and associated guidance; on situational awareness improvements of impending volcanic eruptions* and on *improving the understanding of 'visible ash'* had progressed significantly, and the IVATF recommended that the outcome be taken into account by other groups. However, due to an ongoing need for development of guidance the IVATF decided to continue work in these areas.

3.2 The IVATF had finalised a study on *health effects on aircraft occupants of exposure to volcanic sulphur dioxide (SO₂)* and decided to develop a proposal to relocate and revise guidance for flight into SO₂ clouds in the Handbook on the International Airways Volcano Watch (Doc 9766).

3.3 When developing the template for volcanic ash contingency plans (paragraph 2.2 refers), the IVATF considered the methodology of establishing Danger Areas to encompass a volcanic cloud, as currently described in the Volcanic Ash Contingency Plan for the European (EUR) and the North Atlantic (NAT) Regions and decided to undertake a review of the concept of Danger Areas, in the context of the application of safety management principles as contained in the guidance on the management of flight operations under volcanic ash conditions (paragraph 2.1 refers).

3.4 When discussing *flight planning information dissemination and operational information exchange*, the IVATF found that progress was dependent on the outcome of work on a number of other tasks. The IVATF decided to continue work on these issues as more information becomes available.

4. NEW TASKS TO BE UNDERTAKEN BY THE IVATF

4.1 During its deliberations the IVATF identified the following new tasks in order to comply with its mandate:

- Clarify the issuance of clearances through Danger Areas;
- Investigate the terminology Danger Area and its relevance in today's operating environment;
- Review the current processes regarding the issuance of NOTAM, ASHTAM, VAA/VAG, SIGMET and their affect in light of information overload;
- Quantify the detectability of "visible ash";
- Develop a Concept of Operations for the International Airways Volcano Watch (IAVW);
- Develop volcanic ash exercise guidance to support regional volcanic exercises;
- Investigate means to improve meteorological data gathering during a volcanic event; and
- Propose improvements to Volcanic Activity Report (VAR) form, including taxonomy and transmission, in support of the IAVW.

4.2 The IVATF identified some critical issues on which Principal guidance / decisions would be required to allow completion of all its Tasks, such as:

- Further information on engine/aircraft susceptibility to volcanic ash;
- Precise requirements concerning VAAC products and enhancement of VAAC capabilities;
- Consistent and sustainable volcano monitoring by volcano observatories and appropriate procedures in all volcanically active regions;
- Simplification of information flow and elimination of redundancies in order to avoid information overload during volcanic events;
- Improved capability to detect volcanic ash by satellite; and
- Advancement of research programmes in essential areas.

4.3 The IVATF noted the intention of the ICAO Secretariat to establish a Volcanic Ash Challenge Team (VACT) to address these critical issues.

5. FUTURE ACTIVITIES

5.1 In light of developments, the IVATF agreed on a revision of its Terms of Reference and its work programme and updated the deliverables and corresponding milestones for 2011 and 2012.

5.2 Recognizing that the work of the IVATF was expected to be concluded, to the extent possible, by July 2012, the IVATF agreed to convene two meetings over the coming 12 months. Accordingly, the IVATF agreed that IVATF/3 and IVATF/4 should be tentatively scheduled for February and June 2012 respectively.

5.3 To monitor progress on the assigned tasks, the IVATF agreed that quarterly teleconferences would be held (October 2011, January 2012 and April 2012).

5.4 The full report of the IVATF/2 meeting is accessible via URL: www.icao.int/anb/ivاتف.