



WORKING PAPER

ASSEMBLY — 37TH SESSION

TECHNICAL COMMISSION

Agenda Item 46: Other issues to be considered by the Technical Commission

ICAO LEADING EFFORTS ON GLOBAL VOLCANIC ASH WARNINGS AND AVOIDANCE

(Presented by the Secretary General)

EXECUTIVE SUMMARY

This paper provides an overview of actions taken by ICAO to address the threat by volcanic ash (VA) clouds to aviation since the recent eruption of Eyjafjallajokull volcano in Iceland which caused a major traffic disruption. The paper also provides information about the actions taken, in addition to the arrangements in place under the International Airways Volcano Watch (IAVW), at regional and global level as part of its leading role in aviation safety.

Action: The Assembly is invited to agree that ICAO should maintain a leading role in continuing the development of the IAVW and in coordinating the efforts to progress critical VA-related issues being addressed by the recently established International Volcanic Ash Task Force (IVATF).

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective A.
<i>Financial implications:</i>	Resources for the activities referred to in this paper are included in the proposed budget for 2011 to 2013.
<i>References:</i>	Doc 9691, <i>Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds</i>

1. INTRODUCTION

1.1 In response to serious incidents in 1982 resulting from aircraft encounters with Volcanic Ash (VA) over Indonesia, ICAO established the International Airways Volcano Watch (IAVW), which was made possible by the cooperation of States and a number of international organizations. Within the IAVW, a series of amendments to ICAO Annexes and the Procedures for Air Navigation Services (PANS) have been developed to improve the availability of information related to VA for international air navigation together with appropriate guidance material. An important milestone was the introduction of provisions related to the designation of nine volcanic ash advisory centres (VAAC) to detect, track and forecast the movement of VA clouds which currently provides quasi-global coverage of their areas of responsibility. Information about the extensive ICAO work on volcanic ash over the last two decades, which was considered very successful in providing information to operators to avoid ash in the atmosphere during the Icelandic event, can be found at the International Airways Volcano Watch Operations Group website at <http://www2.icao.int/en/anb/met-aim/met/iavwopsg/>. One of the main challenges that impacted the effectiveness of the IAVW has been the lack of a definition of thresholds that would constitute acceptable levels of VA concentration for safe aircraft operations in contaminated airspace, recognized as crucial information since the establishment of the IAVW. However, since little progress to resolve this issue had been made over the last 20 years it was evident that additional efforts by ICAO, together with stakeholders, were necessary.

2. ICELANDIC ERUPTION IN APRIL 2010 AND ENSUING CONTINGENCY MEASURES TAKEN IN THE EUR/NAT REGIONS

2.1 In response to the unprecedented disruption of commercial air traffic in Europe caused by the eruption of Eyjafjallajökull volcano in Iceland in April 2010, the issue of acceptable levels of VA concentration for safe aircraft operations in contaminated airspace gained urgency since the VA cloud covered large areas of high-density air traffic airspace. Therefore, airframe and engine manufacturers, aviation safety regulators, operators, meteorological authorities and research communities introduced experimental thresholds of VA concentrations which permitted, subject to appropriate precautionary maintenance, resumption of operations in some areas contaminated by VA.

2.2 In order to consider the experimental thresholds, ICAO established in April 2010 a European/North Atlantic (EUR/NAT) Volcanic Ash Task Force (VATF) composed of members representing nineteen States and 9 regional and international organizations, which was tasked to prepare draft amendments to regional EUR/NAT VA contingency plans. The EUR/NAT VATF convened two meetings (12 May and 8 to 10 June 2010). As a result, the experimental thresholds used during the crisis were included in the *Volcanic Ash Contingency Plan – EUR and NAT Regions*; these thresholds have been subsequently endorsed by the European Air Navigation Planning Group (EANPG) and North Atlantic Systems Planning Group (NAT/SPG).

3. ICAO INTERNATIONAL VOLCANIC ASH TASK FORCE

3.1 In parallel with the European efforts, ICAO established an International Volcanic Ash Task Force (IVATF) with appropriate terms of reference¹ to develop a global safety risk management framework which would make it possible to determine safe levels of VA concentrations for operations in airspace contaminated by VA.

3.2 At its first meeting, held at ICAO Headquarters (27 to 30 July 2010), attended by close to one hundred representatives from States, international and regional organizations, and industry, the IVATF established four sub-groups to deal with issues related to airworthiness (AIR), air traffic management (ATM), international airways volcano watch (IAVW) coordination and science (SCI) (with eight, three, nine and five deliverables¹, respectively). To ensure active follow-up of the deliverables, the IVATF elected a Programme Coordinator and four Project Managers.

3.3 The next few milestones of the IVATF include quarterly teleconferences with the active participation of the Programme Coordinator and the four Project Managers, who will provide an overview of progress made and identify issues which need to be coordinated with other sub-groups. It is important to emphasize that the approach taken by the EUR/NAT Regions based on the use of ash concentration thresholds is under validation and assessment by the IVATF and that it is far too early to speculate whether such an approach could be applied globally within the ICAO IAVW.

3.4 The Assembly, in view of the information provided in this paper and taking into account the importance of the presence of volcanic ash in the atmosphere, is invited to agree that ICAO should maintain a leading role progressing actions to reinforce the interests of safety and efficiency.

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¹ Terms of reference, deliverables and the Report of the IVATF/1 Meeting are available at the IVATF website at: <http://www2.icao.int/en/anb/met-aim/met/ivatf/default.aspx>