



International Civil Aviation Organization

**NINTH MEETING OF THE
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND
METEOROLOGY SUB-GROUP OF APANPIRG
(CNS/MET SG/9)**

Bangkok, Thailand, 11–15 July 2005

Agenda Item 10: ICAO Warning Systems

OPERATIONAL REQUIREMENTS FOR VOLCANIC ASH

(Presented by USA)

SUMMARY

This paper identifies the need to improve the coordination between the providers of information on volcanic ash and the decision makers that utilize the information for tactical and strategic flight planning.

1. Introduction

1.1 With Amendment 71 (1998) to Annex 3, Meteorological Services for International Air Navigation, of the Convention in International Civil Aviation, the International Civil Aviation Organization (ICAO) implemented nine Volcanic Ash Advisory Centers (VAAC). The initial purpose of the VAAC was to advise the Meteorological Watch Offices (MWO) and Area Control Centers (ACC) of volcanic ash that might endanger en route aircraft. Since the implementation of the VAAC, its function has been expanded to include providing information to the Airline Operations Centers (AOC).

1.2 In a similar manner the ICAO Air Navigation Commission, recognizing the importance of the safety of flight with regard to the volcanic ash hazard, elevated the International Airways Volcano Watch (IAVW) Study Group, in 2002, to an Operations Group. The purpose of the IAVW Operations Group (IAVWOPSG) is to provide advice and guidance to the Secretariat concerning the operation of the IAVW and its effectiveness in meeting operational requirements.

1.3 During this same period, ICAO issued a Manual on Volcanic Ash Radioactive Material and Toxic Chemical Clouds (Doc 9691) and the Handbook on the International Airways Volcano Watch Operational Procedures and Contact List (Doc 9766). The purpose of these documents is to inform controllers, pilots, dispatchers, and meteorologists of the danger of volcanic ash and the actions required to avoid encountering an ash cloud.

1.4 With Amendment 73 (2004) to Annex 3, Meteorological Services for International Air Navigation, of the Convention in International Civil Aviation, ICAO recognized the importance of State Volcano Observatories to the IAVW and made provisions to list these State Volcano Observatories in the Regional Air Navigation Plans.

2. Discussion

2.1 Over the past several years there have been reported encounters by aircraft with volcanic ash. In part, these encounters resulted from the inability to provide pilots with an early warning of the ash in the atmosphere because of the inability to detect the ash or the inability to communicate the information effectively to the end user.

2.2 ICAO recognized this problem and has had Regional Technical Officers work directly with the States in educating the Civil Aviation Authority on the importance of the volcanic ash hazard. States were advised of the need to develop operational procedures to improve the communication of information between ACCs and MWOs whose responsibility it is to issue a Volcanic Ash SIGMET when notified that there is ash in the atmosphere that may endanger aircraft.

2.3 The IAVWOPSG meets every fifteen months. One of the principal purposes of the meeting is for the VAACs to provide a management report on the performance of their operations. This management report helps identify shortfalls in the operations and determine where services need to be improved to make the IAVW more effective.

2.4 At the next meeting of the IAVWOPSG in Lima, Peru in September 2005, issues that relate to the use of color code, format of the volcanic ash advisory, communication of information between the volcano observatories, ACCs, and MWOs will be discussed. In addition, a proposal will be made on how best to graphically depict the ash at multiple flight levels in time and space with the purpose of recommending a new format for the volcanic ash graphic.

2.5 It will also be important for this meeting to understand the operational needs for services from the ACCs and AOCs. Recent experience with existing coded messages, graphics, and procedures in place have identified needed improvements. VAAC provider States attending the next IAVWOPSG will address some of the known issues, but may not have identified all the short falls.

3. Conclusion

3.1 States, in recognizing the significance of this hazard, are encouraged to provide information, document deficiencies or shortfalls in operational procedures that can be addressed by the IAVWOPSG to improve the Handbook on the IAVW. Information should be submitted to the ICAO Secretariat no later than 12 August, 2005 for inclusion in a working paper.

3.2 State civil aviation authorities that have not developed procedures for volcanic ash are encouraged to adopt the procedures outlined in the Handbook on the IAVW to improve the communication of information on volcanic ash in a timely manner to all stakeholders.

3.3 The meeting is invited to note the information in this paper.
