

Guidance regarding flight operations in the vicinity of volcanic ash

CAP 1236

Published by the Civil Aviation Authority, 2017

Civil Aviation Authority,
Aviation House,
Gatwick Airport South,
West Sussex,
RH6 0YR.

You can copy and use this text but please ensure you always use the most up to date version and use it in context so as not to be misleading, and credit the CAA.

First published 2011

Second edition May 2011
Third edition October 2014
Fourth edition January 2017

Enquiries regarding the content of this publication should be addressed to: metaauthority@caa.co.uk

Safety and Airspace Regulation Group, Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR

The latest version of this document is available in electronic format at www.caa.co.uk, where you may also register for e-mail notification of amendments.

February 2017

Contents

Contents	1
Revision history.....	3
Glossary.....	4
Chapter 1	7
Introduction	7
Purpose	7
Amendments	7
General points regarding volcanic ash.....	7
Chapter 2	9
Flight preparation	9
Applicability	9
Areas of contamination.....	9
Notification of areas of contamination	10
Clearing volcanic ash from aerodrome surfaces	11
Aerodrome contingency arrangements.....	11
Parked aircraft.....	12
Operations to or from an aerodrome known to be affected by volcanic ash	12
Deciding whether and where to fly	13
Overflight of volcanic ash clouds.....	14
Underflight beneath areas of ash contamination	16
Chapter 3	18
During flight.....	18
Applicability	18
Encountering volcanic ash.....	18
Advice for general aviation pilots	19
Provision of air traffic services	20
Chapter 4	23
After flight.....	23
Applicability	23
Reporting.....	23
Maintenance programmes.....	24
Chapter 5	26
Summary	26
Disclaimer	26

Aerodrome licence holders	26
Aircraft owners and operators.....	26
Air traffic service providers	27
Maintenance personnel	27
Appendix A.....	28
Guidance for combinations of aircraft types and airspace types	28
Appendix B.....	30
References	30
Appendix C.....	31
Model VAR form.....	31

Revision history

Version 1**10 February 2011**

Original issue in the form of a single document, bringing together guidance previously issued as AIRCOMs, ATSINs, FODCOMs and NOTALs. The opportunity has been taken to make some minor updates to the text.

Version 2**26 May 2011**

The document has been updated to include information on the underflight of Volcanic Ash and to provide more details about what information should be included in a Safety Risk Assessment.

Version 3**1 October 2014**

At the International Volcanic Ash Task Force (Meeting 4 13-15 June 2012) a recommendation (4/16) was agreed that “That States should not declare a danger or restricted area in respect of volcanic ash, except over and in proximity to an erupting volcano.” As a consequence this version removes all references to Temporary Danger Areas (TDA), replacing them with the term high contamination areas.

In this version an aligned policy has been provided with regards the application of a buffer zone to the top and bottom of the ash layer.

Version 4**27 January 2017**

The document has been updated to take account of an update to the ICAO European and North Atlantic Volcanic Ash Contingency Plan, in particular States' responsibilities and methods for the publication of information relating to forecast volcanic ash concentration. There are also updates to various references to European legislation and other minor editorials.

Glossary

Abbreviation	Meaning
ANO	Air Navigation Order
AOC	Air Operator's Certificate
ASR	Air Safety Report
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATS	Air Traffic Service(s)
	NOTE: ATS encompass the provision of ATC and FIS.
<u>CAA</u>	<u>Civil Aviation Authority</u>
CAT	Commercial Air Transport
EASA	European Aviation Safety Agency
<u>EC</u>	<u>European Commission</u>
<u>ECCAIRS</u>	<u>European Coordination Centre for Accident and Incident Reporting Systems</u>
<u>EUR</u>	<u>European</u>
FAA	Federal Aviation Administration
FIR	Flight Information Region
FIS	Flight Information Service

FISO	Flight Information Service Officer
FL	Flight Level
HEMS	Helicopter Emergency Medical Services
ICAO	International Civil Aviation <u>Organisation</u>
IMC	Instrument Meteorological Conditions
<u>MEL</u>	<u>Minimum Equipment List</u>
MOR	Mandatory Occurrence Report
MSA	Minimum Safe Altitude
<u>NAA</u>	<u>National Aviation Authority</u>
<u>NAT</u>	<u>North Atlantic</u>
NOTAM	Notice to Airmen
OEM	Original Equipment Manufacturer
PT	Public Transport
RA	Resolution Advisory
<u>REG</u>	<u>Regulation</u>
RFFS	Rescue and Fire-Fighting Services
SAR	Search And Rescue
SRA	Safety Risk Assessment
SVFR	Special Visual Flight Rules

TCAS	Traffic Alert and Collision Avoidance System
TRA	Temporary Reserved Area
TRUCE	Training in Unusual Circumstances and Emergencies
USGS	United States Geological Survey
VAA	Volcanic Ash Advisory
VAAC	Volcanic Ash Advisory Centre
<u>VOLCEX</u>	<u>Volcanic Ash Exercise</u>
VMC	Visual Meteorological Conditions

Chapter 1

Introduction

Purpose

- 1.1 This guidance aims to provide the essential information regarding planning and undertaking flight operations in or near volcanic ash for pilots, aircraft owners, Air Traffic Service (ATS) staff, aerodrome operators and maintenance engineers.
- 1.2 The guidance contains information and advice that may be issued by other States in the form of an Aeronautical Information Circular entitled “The approach to management of volcanic ash events.”
- 1.3 It should be noted that this document concerns issues relating to volcanic ash but does not address volcanic gases in the atmosphere, such as sulphur dioxide. There are currently a number of studies being undertaken on volcanic gases and further guidance will be developed in due course, as necessary.

Amendments

- 1.4 Marginal lines are used to indicate changes from the previous version, and the changes at each version are listed in the Revision History.

General points regarding volcanic ash

- 1.5 It is emphasised that the responsibility for the risk assessment and management, and for the safe operation of the aircraft, rests firmly with the operator of the aircraft. Operation through or within any area where volcanic ash is forecast is at the discretion of the operator and subject to the regulation of the operator by the State of Registry and the State of the Operator and taking into account any restrictions placed by the state in whose airspace the contamination is forecast.

- 1.6 The information provided here,¹ whilst not exhaustive, is intended to facilitate as much flight as is safely possible in airspace in which an encounter with an ash cloud is a hazard, especially where those flights (and machines typically used for those flights) are used to provide essential services to communities.
- 1.7 Volcanic ash may extend for several hundred miles and may not be visible to the naked eye.
- 1.8 It should be recognised that the ash cloud can be the cause of a common failure mode (e.g. it would affect all engines on one aircraft) - that is why, for example, a twin-engine helicopter should be operated as if any engine failure would be a double engine failure.
- 1.9 This guidance does not supersede any guidance or recommendations issued by the Original Equipment Manufacturers (OEMs), a phrase which refers mainly to aircraft and engine manufacturers. All aircraft operators should consult their OEMs when preparing safety cases to operate in airspace forecast to be contaminated with volcanic ash. Air Operator's Certificate (AOC) holders conducting Commercial Air Transport (CAT) or Public Transport (PT) must have an appropriate Operator Safety Risk Assessment (SRA) accepted by their National Aviation Authority (NAA) and suitable measures in place before considering penetrating areas with forecast medium or high ash contamination, published by the UK Met Office and Météo-France, including overflight and underflight. In areas where contamination levels are not provided, all affected airspace must be treated as forecast high.
- 1.10 The ICAO European (EUR) Regional Office arranges volcanic ash exercises (VOLCEX) allowing the effectiveness of local (organisational) volcanic ash contingency plans and/or procedures to be tested. It is strongly recommended that operators and Air Navigation Service Providers participate in these exercises.

¹ Other States might provide similar information on the approach to the management of volcanic ash events via an AIC.