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A 008. VOLCANIC ASH

1. Introduction

The purpose of this AIC is to provide operators, owners and maintenance organisations with new guidance on aircraft operations where volcanic ash contamination may be a hazard for flight operations.

2. Key principles

- The operator is responsible for the safety of its operations under the oversight of their respective State regulatory authority. The guiding principle for such operations is the use of a safety risk management approach, as described in ICAO Doc 9974 and EASA Safety Information Bulletin (SIB) 2010-17R6.
- In order to consider whether or not to operate into airspace forecast to be, or aerodromes known to be, contaminated with volcanic ash, the operator should have in place an identifiable safety risk assessment (SRA) within its Safety Management System (SMS).
- In order to decide whether or not to operate into airspace forecast to be, or aerodromes known to be, contaminated with volcanic ash, the operator's SRA must be accepted by its State regulatory authority.
- The safety control measures set out in ICAO Doc 9974 and EASA Safety Information Bulletin (SIB) 2010-17R6 are intended to be sufficiently robust that they facilitate acceptance, without further investigation, by a State whose airspace is forecast to be affected by volcanic ash. The State can – based on the implementation of internationally accepted Safety Management principles - be confident in the ability of operators from other States to undertake operations safely in its airspace.

3. Terminology

The following definitions of contamination are applicable in Latvia regarding operation of aircraft in airspace contaminated with volcanic ash.

- **Area of Low Contamination (Cyan):** Airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or greater than $2 \times 10^{-4} \text{ g/m}^3$, but equal to or less than $2 \times 10^{-3} \text{ g/m}^3$.
- **Area of Medium Contamination (Grey):** Airspace of defined dimensions where volcanic ash may be encountered at concentrations greater than $2 \times 10^{-3} \text{ g/m}^3$, but less than $4 \times 10^{-3} \text{ g/m}^3$.
- **Area of High Contamination (Red):** Airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or greater than $4 \times 10^{-3} \text{ g/m}^3$, or areas of contaminated airspace where no ash concentration guidance is available.

These definitions are consistent ICAO EUR/NAT Volcanic Ash Contingency Plan (VACP) (ICAO EUR Doc 019/NAT Doc 006 Part II) and EASA Safety Information Bulletin (SIB) 2010-17R6.

4. SRA application in Latvia

4.1 Areas of ash contamination

1. In Latvia Aircraft Operators will be allowed to make decisions based on their SRA in the forecast areas of low, medium and high ash contamination.
2. Therefore, Latvia will allow operators to make decisions based on their SRA, as accepted by their respective State regulatory authority, in forecast areas of low, medium and high ash contamination.

4.2 Common SRA recognition

As part of its overall decision making process regarding the operation of aircraft in airspace forecast to be, or aerodromes known to be, contaminated with volcanic ash, Latvia will allow aircraft operators registered in other States to base their decisions on their SRA, as accepted by their State regulatory authority, in accordance with the above mentioned approach (see 4.1) to decision making in Latvia.

5. Notification of volcanic ash contamination

In the case of a potential contamination of Latvian airspace with volcanic ash, Volcanic Ash SIGMET (VA SIGMET) and NOTAM messages for Riga Flight Information Region (Riga FIR) will be issued.

5.1 VA SIGMET

VA SIGMET will provide a warning for the airspace in which the presence of any ash is forecast. According to ICAO Annex 3 no information about ash contamination levels is given in a VA SIGMET. The official Volcanic Ash Advisory Centre's (VAAC's) products prepared to internationally agreed Standards (Volcanic Ash Advisory and Volcanic Ash Graphics) as well as special air-reports provided by pilots will be used to prepare and revise VA SIGMETs for Riga FIR.

5.2 NOTAM

NOTAM messages specifying the airspace predicted to contain high/medium and/or low contaminations of volcanic ash will be issued. A Temporary Danger Area (TDA) will be established for volcanic ash areas of high and medium levels of contamination and promulgated by NOTAM. The presence of a Volcanic Ash TDA does not imply that the airspace is closed. Volcanic ash areas of low concentration that are not included in the Temporary Danger Area will be announced by a separate NOTAM. VAAC's modelled ash concentration products will be normally used to generate NOTAM messages. When VAAC's modelled ash concentration products are not available (no ash concentration guidance), the TDA will be stated on the basis of VAAC's Volcanic Ash Advisories/Volcanic Ash Graphics and identified as the area of high ash contamination.

6. Detection of volcanic ash

No ground-based instruments, specialized research aircraft or aerosol sonde will be available for detection of volcanic ash in Latvian airspace during a volcano event. Only satellite observations and pilot reports, if that are available, will be used as best estimate of where the ash cloud is currently present in the airspace.

7. Volcanic ash reporting

7.1 In-flight reporting

1. If any volcanic ash is encountered during a flight within Riga FIR, the pilot shall report to the ATS unit with which the pilot is in radiotelephony communication the following information: volcanic ash encounter, aircraft identification, position, flight level or altitude, time of the observation and any further relevant information.
2. Pilots should also report to the ATS unit non-encounters with volcanic ash in the areas where ash is forecast.

7.2 Recording and post-flight reporting

1. If any volcanic activity is observed during a flight, the pilot should complete the ICAO Volcanic Activity Report (VAR) form with detailed information (position, colour, smell, dimensions, level and time of observation, impact on the flight, etc.). On arrival of a flight at any Latvian aerodrome, the flight crew member or the aircraft operator shall transmit, without delay, the completed VAR form to the Meteorological Watch Office (MWO) Riga by fax +371 67032638. After landing at Riga aerodrome, this report may be delivered to the Briefing Office located at the aerodrome.
2. If any volcanic ash is encountered during the flight, whether or not damage occurs, it must be reported to the Civil Aviation Agency of Latvia by email: sidd@latcaa.gov.lv

8. Request for information

Any queries or further guidance required should be addressed to:

Post: Civil Aviation Agency
Airport „Riga” 10/1,
Marupes novads
LV-1053, Latvia
Phone: +371 6 7830 936
Fax: +371 6 7830 967
URL: latcaa@latcaa.gov.lv

9. Reference documents

- ICAO Doc 9974 Flight Safety and Volcanic Ash (Flight Safety and Volcanic Ash-Risk Management of Flight Operations with Known or Forecast Volcanic Ash Contamination) - <http://www.icao.int/publications/pages/publication.aspx?docnum=9974>
- ICAO EUR Doc 019/NAT Doc 006, Part II ICAO EUR/NAT Volcanic Ash Contingency Plan (VACP) - <http://www.icao.int/EURNAT/Pages/EUR-and-NAT-Document.aspx>
- EASA Safety Information Bulletin (SIB) No.2010-17R5 Flight in Airspace with Contamination of Volcanic Ash - <http://ad.easa.europa.eu/ad/2010-17R6>.

Replaces: AIC A 003/2014.

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