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AIC for Estonia

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Vulkaanilise tuha sündmuste haldamine Tallinn FIR-s **Management of volcanic ash events in Tallinn FIR**

Käesoleva ringkirja (AIC) eesmärk on anda käitajatele ja pilootidele informatsiooni tegevuste kohta vulkaanilise tuha esinemisel Tallinn FIR-s.

The purpose of this AIC is to provide operators and pilots with information on operations when volcanic ash concentration may be present in the Tallinn FIR.

Tulenevalt sellest, et materjal sisaldab palju spetsiifilisi mõisteid ja lühendeid, on see avaldatud originaalkujul inglise keeles.

Since this material contains specific terms and abbreviations, it is published in English as an original.

1. Introduction

The purpose of this AIC is to provide operators and pilots with information on operations when volcanic ash concentration may be present in the Tallinn FIR.

Areas affected by volcanic ash above a certain concentration will be notified by SIGMET and associated information shall be published by NOTAM.

Note: This AIC must under no circumstances be considered as a permit to conduct normal flight operations in volcanic ash conditions.

2. Background

During the 2010 Icelandic ash crisis, European airspace was badly affected and, as a consequence, the European aviation regulatory community has continued to make great efforts to contribute to the improvement of international procedures should a further volcanic eruption of similar proportions take place. As a result of this process EASA issued a new Safety Information Bulletin which will be revised if needed.

On 21 August 2014 Safety Information Bulletin 2010-17R6 was issued containing an update on the results from various rule making tasks and further clarification on the reporting of volcanic ash encounters.

EASA ED Decisions 2013/008/R and 2013/009/R (dated 16/04/2013) amending AMC/GM to EU Regulation No 965/2012, introducing GM3-ORA.GEN.200(a)(3) for approved training organisations and GM3-ORO.GEN.200(a)(3) for aircraft operators, implementing the Volcanic Ash Safety Risk Assessment (VA SRA) methodology in the requirements for a safety management systems for operators of complex aircraft. This guidance material is a direct transposition of the methodology provided in ICAO Doc 9974 Flight Safety and Volcanic Ash: "[Risk management of flight operations with known or forecast volcanic ash contamination](#)".

3. 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.

4. Areas of contamination

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

- **Area of Low Contamination** (to be displayed in Cyan): an airspace of defined dimensions where volcanic ash may be encountered at concentrations greater than $0.2 \times 10^{-3} \text{ g/m}^3$, but less than or equal to $2 \times 10^{-3} \text{ g/m}^3$.
- **Area of Medium Contamination** (to be displayed in Grey): an 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** (to be displayed in Red): an airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or greater than $4 \times 10^{-3} \text{ g/m}^3$, 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.

If flights are penetrating an area of high, medium or low contamination, the responsible ANSP will provide air traffic services as normal. The ANSP is not responsible for providing clearances to aircraft in order to avoid volcanic ash concentrations. Flying through an area of high, medium or low Contamination will remain full responsibility of the aircraft operator and/or the pilot in command.

5. SRA (Safety Risk Assessment) application in Estonia

5.1 Areas of ash contamination

In Estonia Aircraft Operators will be allowed to make decisions based on their SRA in the forecast areas of low, medium and high ash contamination.

Therefore, Estonia will allow operators to make decisions based on their SRA, as accepted by Estonian Civil Aviation Administration (ECAA) in forecast areas of low, medium and high ash contamination.

5.2 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, Estonia 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 5.1) to decision making in Estonia.

6. Detection of volcanic ash

No ground-based instruments, specialized research aircraft or aerosol sonde will be available for detection of volcanic ash in Estonian 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

If any volcanic ash is encountered during a flight within Tallinn 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.

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

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 Estonian aerodrome, the flight crew member or the aircraft operator shall transmit, without delay, the completed VAR form to the aerodrome meteorological office.

If any volcanic ash is encountered during the flight, whether or not damage occurs, it must be reported to the Estonian Civil Aviation Authority by email: ecaa@ecaa.ee.

8. Referenced documents

- ICAO Doc 9974 - http://www.icao.int/publications/Documents/9974_en.pdf
- ICAO EUR/NAT Volcanic Ash Contingency Plan (VACP) (ICAO EUR Doc 019/NAT Doc 006 Part II) - <http://www.icao.int/EURNAT/Pages/EUR-and-NAT-Document.aspx>
- EASA Safety Information Bulletin (SIB) 2010-17R6 - <http://ad.easa.europa.eu/ad/2010-17R6>

9. Additional information

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