European Aviation Safety Agency

Comment- Response Document 2012-07

Guidance Material for the development of a safety risk assessment for flight operations with known or forecast volcanic cloud contamination

CRD TO NPA 2012-07 — RMT.0460 — 17/04/2013
Related Decision: 2013/…/R

EXECUTIVE SUMMARY

This CRD contains the comments received by the Agency on NPA 2012-07 published on 19 July 2012 together with the individual answers provided by the Agency to each comment.

Based on the comments and responses, Decisions 2013/006/R, 2013/007/R, 2013/008/R and 2013/009/R were developed.

Applicability		Process map	
Affected regulations and decisions:	Decision 2012/017/R Decision 2012/016/R Decision 2012/007/R Decision 2012/006/R	Rulemaking group	No
Affected stakeholders:	NAAs, operators/ ATOs	RIA type	none
Driver/origin:	ICAO Doc No 9974	Duration of NPA consultation	19/07/2012 - 19/10/2012
Reference:	ICAO Doc No 9974 EASA SIB 2010-17R4 ICAO EUR Doc 019 EASA A-NPA 2011-06 EASA CRD 2011-06 EASA Decision 2011/014/R	Review group	No
		Focused consultation	No
		Publication date of the Opinion	N/A
		Expected publication date of the Decision	2013/Q1

Table of contents

1 Procedural information

1.1 The rule development procedure

The European Aviation Safety Agency (hereafter referred to as the 'Agency') developed this Comment-Response Document (CRD) in line with Regulation (EC) No 216/2008 (hereafter referred to as the 'Basic Regulation')[1] and the Rulemaking Procedure MB 01-2012 established by the EASA Management Board[2].

This rulemaking activity is included in the Agency's Rulemaking Programme for 2013 (rulemaking task number RMT.0460), and was launched as an outcome of RMT.0395 (OPS.089). The scope and schedule of the task were defined in the related Terms of Reference published on 28 June 2012.

The text of this Decision has been developed by the Agency. The public was consulted through NPA 2012-07 in accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.

The process map on the title page summarises the major milestones of this rulemaking activity.

1.2 The structure of this CRD and related documents

This CRD is divided in three chapters:

— Chapter 1 contains the procedural information related to this task;

— Chapter 2 contains a summary of comments received during the NPA 2012-07 public consultation period;

— Chapter 3 contains the full set of individual comments.

General information on the core technical content of the rule text is contained in the explanatory notes, which are published in parallel with the CRD and the Decisions.

The rule text itself is annexed to Decision 2013/…/R.

1.3 The next steps of the procedure

The Agency has published this CRD in parallel with the Explanatory Note, Decision 2013/…/R and its annexes.

[1] Regulation (EC) No 216/2008 of the European Parliament and the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34.

[2] The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material (Rulemaking Procedure), EASA MB Decision No 01-2012.

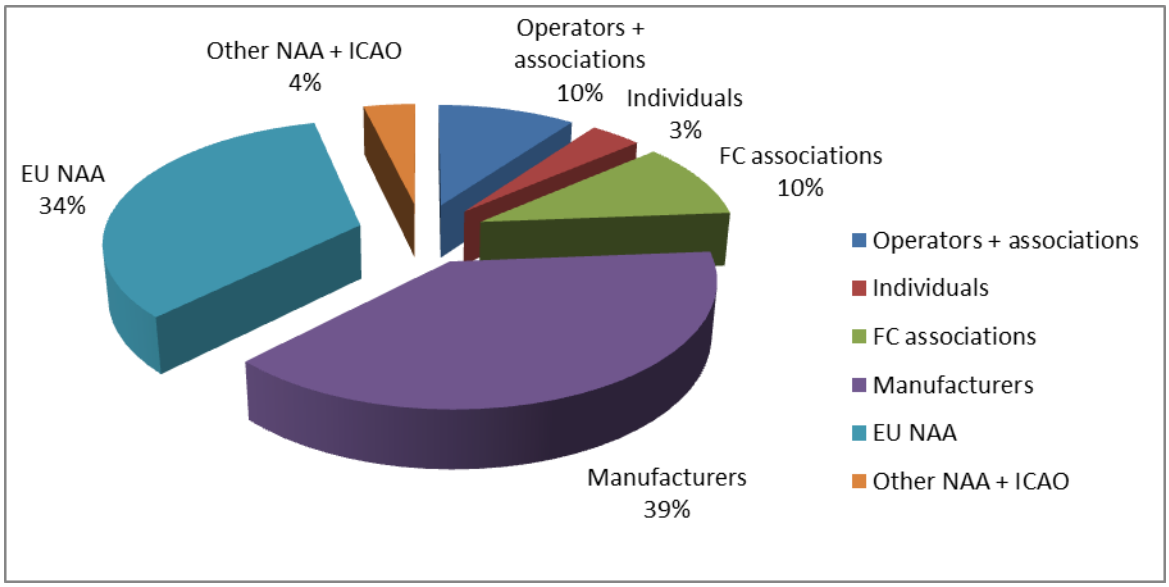
2 Summary of comments and responses

2.1 General figures

A total of 80 comments from 22 national aviation authorities, professional organisations and private companies were received during the 3-month public consultation period of NPA 2012-07. A lot of them were duplicates coming either from different stakeholders or from the same stakeholders but related to identical paragraphs of the NPA. Indeed the proposed AMC and GM to Part-ORO and Part-ARO are mostly identical to those proposed to Part-ORA and Part-ARA.

It should also be noted that 10 % of them were supporting the proposal contained in NPA 2012-07 without any further comments, and another 10 % was referring to processes or activities outside the scope of the task.

Here is a repartition in terms of numbers according to stakeholder category.



In general, most of the comments were supporting the task and the general principle of the VA SRA to allow operators to operate in an area forecast to be contaminated by volcanic ash.

2.2 Main comments received

Here is a summary of the main comments received during this public consultation:

— Full alignment of the Decision with the provisions contained in the new ICAO Doc No 9974 was requested, since some minor modifications were made while transposing Doc No 9974 text to adapt it to the European regulatory framework. A further review of the differences to ICAO Doc No 9974 introduced in NPA 2012-07 was conducted and some modifications were made to the rule text providing better alignment.

— Several stakeholders also requested the revision of SIB 2010-17 R4 since some parts were considered to be outdated especially because it was based on a former version of the IVATF document. Indeed the IVATF document has been in the meantime further refined before publication of ICAO Doc No 9974. It should be noted that the publication of an updated version of the SIB is outside the scope of the task. Nevertheless, as stated during the volcanic ash workshop organised by the Agency on 4 December 2012, version 5 of the SIB is going to be issued soon and will directly refer to ICAO Doc No 9974.

— Some stakeholders also requested that the VA SRA to be developed by operators should be based on ash concentration levels as it was mentioned in ICAO Doc No 9974. These ash concentration levels are indeed currently published by the European VAAC (LON and TLS), since their use is recommended in ICAO EUR Doc 19. Nevertheless, this is only applicable in Europe and other VAAC are producing other charts outside Europe. In addition, there are still some ongoing discussions at ICAO level on the use of these ash concentration levels and on the opportunity to develop a new ash contamination model to be used worldwide. Therefore, it has been decided not to recommend the use of this model for the definition of a VA SRA and rather keep a reference to ICAO EUR Doc 19 in the rule text.

— The Agency was also requested to provide some guidance to operators on the way to resolve conflicts between different sources of data. Indeed a lot of information related to volcanic ash clouds is now available and it is considered difficult for stakeholders to gather all this information and to determine which of them is accurate and should be taken into account. NPA 2012-07 was already providing information on the data that needs to be taken into account. NPA 2012-07 mentioned that the monitoring performed by the operator has to be based on at least VAAC information and charts and can be further supplemented by other information such as pilot reports and updated NOTAM/SIGMET.

  The intent was not to give precedence to any of these other sources of information but rather to ensure that any conflict between information is identified and assessed through the operator's safety management system.

— Some stakeholders also considered that generally speaking the requirements related to operations in airspace forecast to be contaminated by volcanic ash were not stringent enough. Although they support the VA SRA approach, they consider that some specific associated requirements should be developed to specifically mention for example that flight in visible ash should be avoided. It should be noted that according to the ToR this task is intended to provide guidance to operators/ATOs on how to develop a VA SRA and not to produce any additional requirement related to flights into area forecast or known to be contaminated by volcanic ash. In addition to this, regarding this specific example of avoidance of visible ash, it should be noted this is indeed the general principle behind operations in area forecast to be contaminated by volcanic ash. Nevertheless, since ICAO IVATF failed so far to reach an agreement on a definition of visible ash, it is not found appropriate to mention such recommendation.

— Some stakeholders expressed also their concerns related to a potential lack of standardisation when implementing this concept and specifically on the mutual recognition of VA SRA developed by operators. A two-step process is established to ensure harmonised implementation of the VA SRA concept. Until Commission Regulation (EU) No 965/2012 is fully implemented in Europe, operators are requested through SIB 2010-17 R4 to inform the Agency about the acceptance of their VA SRA by their competent authority. This information is uploaded in a database, maintained by the Agency, and is accessible to all Members States allowing them to know which operators have an accepted VA SRA.

  Once Commission Regulation (EU) No 965/2012 is implemented, all operators are required to have a management system, which includes an identification of all the hazards (including volcanic ash) related to their operations and an assessment of the associated risks. The operator's management system is assessed by the competent authority during the certification process of an operator and therefore before issuing an AOC based on Regulation (EU) No 965/2012. Moreover, the management system is part of the continuous oversight of the competent authority.

  In accordance with Article 11.1 of the Basic Regulation, EU Member States shall, without further technical requirements or evaluation, recognise certificates issued in accordance with Regulation (EU) No 965/2012. This recognition includes the Volcanic Ash Safety Risk Assessment as part of the Safety Management System.

— A few stakeholders also considered that the provisions developed for Part-ORA in NPA 2012-07 were found too 'heavy' for small ATOs and should either be abandoned or at least be made more flexible. It should be noted that the new GM to Part-ORA doesn't introduce any new requirements. ATOs are already required, according to Commission Regulation (EU) No 290/2012 amending Regulation (EU) No 1178/2011, to implement a management system within their organisation and as part of this management system to identify all hazards (including volcanic ash) and assess the associated risks. This GM is only providing guidance to ATOs on how to define a VA SRA.

— Finally, one comment was proposing to keep AMC1 ARA.GEN.300(a);(b);(c) more general in order to have this specific part related to the assessment of an operator SRA applicable to any hazard. The Agency agrees with the comment and has updated accordingly this AMC, and the specific provisions related to volcanic ash have been transferred to a second subpart of this AMC.

3 Individual comments

In responding to comments, a standard terminology has been applied to attest the Agency's acceptance of the comment. This terminology is as follows:

1. **Accepted** — The Agency agrees with the comment and any proposed amendment is wholly transferred to the revised text.
2. **Partially accepted** — The Agency either agrees only partly with the comment or agrees with it, but the proposed amendment is only partially transferred to the revised text.
3. **Noted** — The Agency acknowledges the comment but no change to the existing text is considered necessary.
4. **Not accepted** — The comment or proposed amendment is not shared by the Agency.

(General Comments)	-

comment	*4* comment by: *AEA* The AEA welcomes the fact that EASA's guidance material is aligned with the corresponding ICAO material. Nevertheless more efforts are needed to ensure that all EASA countries and the ICAO European regional Contingency plan (as described in EUR DOC 019) adopt the ICAO philosophy and to prevent some NAA's from imposing additional requirements which are not justified on safety grounds. EASA' s guidance material should safeguard that NAAs apply uniform standards, procedures and interpretation thereof for volcanic ash safety risk assessments of carriers in order to avoid distortion in operational conditions.
response	Noted. Regarding this issue, the Agency wants also to emphasise that the publication of Commission Regulation (EU) No 965/2012 including Annex III, Part-ORO, and Decision 2012/017/R of the Executive Director of the Agency should ensure a consistent implementation of the management system requirements throughout Europe. VA SRA is considered part of the operator's management system which is for CAT operators approved through the certification of an operator (AOC process). In accordance with Article 11.1 of the Basic Regulation, EU Member States shall, without further technical requirements or evaluation, recognise certificates issued in accordance with Regulation (EU) No 965/2012. This recognition includes the Volcanic Ash Safety Risk Assessment as part of the Safety Management System that has been accepted by the national competent authority of the operator.

comment	*5* comment by: *Swiss International Airlines / Bruno Pfister* SWISS Intnl Air Lines welcomes the fact that EASA's guidance material is aligned with the corresponding ICAO material. Nevertheless, more efforts are needed to ensure that all EASA countries and the ICAO European regional Contingency plan (as described in EUR DOC 019) adopt the ICAO philosophy and to prevent some NAA's from imposing additional requirements which are not justified on safety grounds. EASA' s guidance material should safeguard that NAAs apply uniform standards, procedures and interpretation thereof for volcanic ash safety risk assessments of carriers in order to avoid distortion in operational conditions.

response

Noted.
Regarding this issue, the Agency wants also to emphasise that the publication of Commission Regulation (EU) No 965/2012 including Annex III, Part-ORO, and Decision 2012/017/R of the Executive Director of the Agency should ensure a consistent implementation of the management system requirements throughout Europe. VA SRA is considered part of the operator's management system which is for CAT operators approved through the certification of an operator (AOC process). In accordance with Article 11.1 of the Basic Regulation, EU Member States shall, without further technical requirements or evaluation, recognise certificates issued in accordance with Regulation (EU) No 965/2012. This recognition includes the Volcanic Ash Safety Risk Assessment as part of the Safety Management System that has been accepted by the national competent authority of the operator.

comment

12 comment by: *European Cockpit Association*

ECA welcomes the action by EASA to introduce new requirements detailling responsibilities of operators and their supervising authorities with respect to flight operations in the presence of volcanic contamination.

While the IVATF of ICAO has so far refrained from proposing provisions concerning the consideration of SO2, it has clearly identified that this gas can have a significant effect on aircraft structures and - in particular - on aircraft occupants, their health and well-being. ECA would therefore appreciate a review of the terms used for addressing volcanic contamination. In most instances, only volcanic ash is referred to, as it is the most significant hazard for flight operations. ECA believes that operators should be required to consider the effects of ALL volcanic contamination that affect the safety of their aircraft and all persons on board.

ECA notes that GM3 ORO.GEN.200(a)(3) Management system, (c) Volcanic activity information and operator's potential response contains in the paragraph (2) Start of an eruption "the operator's procedures should include a requirement for crews to initiate or accept re-routes to avoid the affected airspace." This should be rephrased to maintain the principle of ICAO that the pilot-in-command is the final authority as to the disposition of its flight. The situation could be such that a re-route involves a higher risk than continued flight through an area, where volcanic contamination is suspected.

Furthermore, in the same paragraph "ensure that flights are planned to remain clear of known **or forecasted** affected area" goes too far and counterdicts subsequent provisions that require "crews to avoid areas and aerodromes/operating sites **with unacceptable volcanic ash contamination**". It is clear from the outcome of IVATF that flight IN volcanic contamination has to be avoided, but flights can be planned in areas that are forecasted to be affected (provided that the actual operations stays clear of the contamination). The discussions of IVATF have also not resulted in any acceptable way to distinguish between acceptable and unacceptable volcanic contamination. So they only way to deal with it is to determine, whether there is or is not any contamination. This could be done by visual observation (last line of defence) or by verified information (VAA/VAG, updated as necessary by further observations, such as VARs or scientific verification flights).

The expression "to reduce the risk to a level acceptable to the operator's management" in (d) (5) should be replaced by "a level acceptable to the competent authority".

AMC2 ARO.GEN.300(a);(b);(c) Oversight contains in (a) Methodology the following provisions:
The competent authority should take into account that:
(1) those of the operator's recorded mitigations of most significance to a safe outcome are in place;
(2) those of the operational procedures specified by the operator with the most significance to safety appear to be robust; and
(3) ...

These provisions should be changed to reflect the requirements on operators to consider "mitigation for each unacceptable risk identified". The oversight authority must be required to check that ALL these mitigations are in place.

response

— Partially accepted. A note has been added in paragraphs (d)(1) of GM3 ORO.GEN.200(a)(3) and GM3 ORA.GEN.200(a)(3) to clarify that even if only volcanic ash is mentioned in the GM, other hazards such as gases need to be also assessed.

— The comment on crew obligation to accept reroute has been accepted and the modification is done accordingly in the resulting text.

— Not accepted. The final level of risk has to be accepted by the management of the operator and not directly by the competent authority. This is part of the safety accountability of the accountable manager. Nevertheless, dependant on the level of risk, it can be delegated to somebody else in the management as specified in paragraph (b)(2) of AMC1 ORO.GEN.200(a)(3). Finally the competent authority has to check the efficiency of the operator's management system through its initial certification and continuous oversight.

— Accepted. The resulting text has been modified accordingly.

comment *16* comment by: *AIRBUS*

The Agency indicates on page 8 that the proposed AMCs and GMs are "based on ICAO Doc 9974 without any major modification to the original text".
Airbus supports the idea of a full similarity between the EASA regulatory material and the ICAO Document. This document results from a cooperative effort that involved a wide Industry and Authorities panel to reach a consensus. The Agency should put in place the appropriate measures to consider without delay any modification implemented in the original ICAO co-branded document and to launch as necessary the subsequent rulemaking activity in order to avoid any discrepancy between the source document and the EASA AMCs and GMs.

response

Noted.
The officially published version of ICAO Doc 9974 has been taken into account in the resulting text of the Decision. For any subsequent amendment to this ICAO document, it will be taken into account either through a dedicated rulemaking task or through the follow-up tasks of Part-ORO/ARO and Part-ORA/ARA.

comment *17* comment by: *AIRBUS*

	The Agency makes reference to the ICAO Document 9974 "Risk management of flight operations with known or forecast volcanic ash contamination". The title the Agency makes reference to is actually the subtitle of the document. To ease the search of the document on the ICAO Website, the right title should be mentioned: "ICAO Doc 9974, Flight Safety and Volcanic Ash".
response	Accepted. Both references, main title and subtitle, are mentioned in the Decision itself, but the Agency agrees that in the explanatory notes the title is missing. This comment has been taken into account in the explanatory notes of the CRD/Decision.

comment	*21* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)* The Swedish Transport Agency find the proposal acceptable without comments. Tomas Olsson Head of flight operations unit Jonas Gavelin Flight Inspector
response	Noted.

comment	*22* comment by: *IATA* IATA is satisfied that EASA's guidance material is aligned with relevant ICAO standards and recommendations. EASA guidance material shall however also ensure uniform alpplication in all States to achieve effective harmonization of the standards and a level playing fiels for all Operators.
response	Noted. Regarding this issue, the Agency wants also to emphasize that the publication of Commission Regulation (EU) No 965/2012 including Annex III, Part-ORO, and Decision 2012/017/R of the Executive Director of the Agency should ensure a consistent implementation of the management system requirements throughout Europe. VA SRA is considered part of the operator's management system which is for CAT operators approved through the certification of an operator (AOC process). In accordance with Article 11.1 of the Basic Regulation, EU Member States shall, without further technical requirements or evaluation, recognise certificates issued in accordance with Regulation (EU) No 965/2012. This recognition includes the Volcanic Ash Safety Risk Assessment as part of the Safety Management System that has been accepted by the national competent authority of the operator.

comment	*24* comment by: *Luftfahrt-Bundesamt* The LBA has no comments on NPA 2012-07.
response	Noted.

comment	*25* comment by: *DGAC France* In the whole document, there is no guidance indicating that pilots should not fly in areas where presence of contamination has been identified by positive evidence. This principle should be introduced. It may be reflected in GM3 ORO.GEN.200 (a)(3) and GM3 ORA.GEN.200 (a)(3), in paragraph (e) "Procedures to be considered when identifying possible mitigations actions."
response	Not accepted. Indeed, the general principle of operations in an area forecast to be contaminated by VA is based on the avoidance of visible and discernible ash. Nevertheless, since a clear definition of visible (or discernible) ash that can be used in all environments (e.g. at night and in IMC) does not exist, operational procedures to avoid visible ash may consequently not be robust. In addition, since this is still being discussed at ICAO level, the Agency therefore doesn't consider it necessary at this stage to introduce this recommendation into this GM, but will take into account any further guidance on these concepts developed by ICAO.

comment	*26* comment by: *DGAC France* The strategy of the operator for managing the risk of flight operations in volcanic ash is built upon known or forecast contamination. (e.g. in GM3ORO.GEN.200 (a)(3), in paragraph (c) (2) "start of eruption", (c) (3) "On-going eruption"…) This means that if one cannot trust previsions, the whole risk assessment becomes very fragile. It seems all the more important to implement the principle according to which no flight should be performed in visible contamination that previsions might be too optimistic (ash being present whereas not forecast).
response	Not accepted. Indeed, the general principle of operations in an area forecast to be contaminated by VA is based on the avoidance of visible and discernible ash. Nevertheless, since a clear definition of visible (or discernible) ash that can be used in all environments (e.g. at night and in IMC) does not exist, operational procedures to avoid visible ash may consequently not be robust. In addition, since this is still being discussed at ICAO level, the Agency therefore doesn't consider it necessary at this stage to introduce this recommendation into this GM, but will take into account any further guidance on these concepts developed by ICAO.

comment	*27* comment by: *DGAC France* Considering the importance/limits of known or forecast contamination, the risk assessment would require at least a globally harmonised scale for evaluating the level of ash contamination.
response	Noted. This issue is considered to be outside the scope of this task. In addition, this is still being discussed at ICAO level. No agreement has been reached so far and therefore the provisions contained in EUR Doc 19/NAT Doc 006 are still applicable as mentioned in GM3 ORO.GEN.200(a)(3).

comment	*43* comment by: *Snecma* Attachment #1 Please note a general and major comment from Snecma: While the NPA 2012-07 states in page 10 of 30 "…the content of ICAO Doc 9974, based on version 7, which has already been extensively consulted, should be transposed into the Agency's AMCs and GMs without unnecessary changes", which is a very relevant statement, this NPA shows several deviations from the ICAO document where it is suggested that aircraft operators may deliberately schedule operations in volcanic ash contaminated airspace. This is not the spirit of the ICAO Doc 9974, which main target is to help operators showing their capability to avoid flight into volcanic ash contaminated airspace, relying on the basic safety instruction not to fly in visible ash cloud. See also attached letter for summary of all comments.
response	1: Comment generally accepted and resulting text has been kept as close as possible to ICAO Doc 9974. 2: Accepted. This has been taken into account in the explanatory notes of the CRD/Decision. 3: Partially accepted. The resulting text has been modified to match the wording of the ICAO Doc 9974. It is therefore referring to operations into potentially contaminated airspace. 4: Accepted. 5: Accepted. The wording has been improved to avoid any misinterpretation. 6: Accepted. The resulting text has been modified to match the wording of the ICAO Doc 9974. It is therefore referring to operations into potentially contaminated airspace. 7: Accepted. 8: Accepted. The wording has been improved to avoid any misinterpretation.

comment	*44* comment by: *Embraer - Indústria Brasileira de Aeronáutica - S.A.* *Embraer appreciates the opportunity and would like to send the comments for your consideration in NPA 2012-07 about Guidance material on volcanic ash safety risk assessment (VA SRA):* In general Embraer supports the objective of NPA 2012-07 to implement a safety risk assessment (SRA) at the operator level of allow safe operations in uncontaminated airspace during volcanic eruption events, and agree with the EASA proposal to use ICAO Doc. 9974 as an acceptable guide for the development of the volcanic ash SRA.
response	Noted.

comment	*49* comment by: *Boeing* GENERAL COMMENT: Boeing concurs with the general intent of the NPA to create guidance to help operators in the development and the evaluation of a safety risk assessment for the management of operations during volcanic ash events. ICAO sponsored an industry-wide effort through the International Volcanic Ash Task Force (IVATF); one of its outcomes was ICAO Doc 9974 "*Flight Safety and Volcanic Ash*". With the exception of flight operation in the vicinity of an erupting volcano,

	international flight operations are generally the most significantly affected operationally by volcanic ash events and, therefore, it is important that international standards are used. Boeing strongly recommends EASA align the information in this NPA to be as consistent as possible with ICAO 9974 before formally publishing this material. Our other comments submitted to the NPA are intended to align the guidance material more closely with ICAO Doc 9974.
response	Accepted. The resulting text has been kept as close as possible to ICAO Doc 9974.

comment	*58* comment by: *Vereinigung Cockpit e.V.* Attachments #2 #3 We are watching the industry and further development. We`ve attached two add. documents acc. the VA activities in Europe.
response	Noted. The Agency supports any initiative whose aim is to reduce uncertainties regarding airspace contamination following volcanic eruption.

comment	*59* comment by: *RR ZM* Rolls-Royce concurs with the general intent of the NPA to create guidance to help operators in the development and the evaluation of a safety risk assessment for the management of operations during volcanic ash events. ICAO sponsored an industry wide effort through the International Volcanic Ash Task Force (IVATF), one of its outcomes was ICAO Doc 9974 "Flight Safety and Volcanic Ash". With the exception of flight operation in the vicinity of an erupting volcano, international flight operations are generally the most significantly affected operationally by volcanic ash events and therefore it is important that international standards are used. It is strongly recommended that EASA align the information in this NPA to be as consistent as possible with ICAO 9974 before formally publishing this material. While the NPA 2012-07 states in page 10 of 30 "…the content of ICAO Doc 9974, based on version 7, which has already been extensively consulted, should be transposed into the Agency's AMCs and GMs without unnecessary changes", this NPA shows several deviations from the ICAO document. The following comments are intended to align the guidance material more closely with ICAO Doc 9974.
response	Accepted. The resulting text has been kept as close as possible to ICAO Doc 9974.

comment	*64* comment by: *RR ZM* Attachment #4 *Note - The attached comments have been agreed by the ICCAIA Volcanic Ash Working Group.*
response	1: Accepted. The resulting text has been kept as close as possible to ICAO Doc 9974. 2: Accepted. This has been taken into account in the explanatory notes of the CRD/Decision.

	3: Accepted. The resulting text has been modified accordingly. 4: Accepted. The resulting text has been modified accordingly.

comment	*65* comment by: *Swiss International Airlines / Bruno Pfister* SWISS Intl Air LInes practices accordingly and therefore supports the NPA.
response	Noted.

EXECUTIVE SUMMARY p. 2

comment	*14* comment by: *DGAC France* In "- AMC/GM to ORO.GEN.200 and ARO.GEN.200 which provide guidance...", **ORA.GEN.200** should be referred to instead of ARO.GEN.200
response	Accepted. The Executive Summary has been modified accordingly.

comment	*15* comment by: *IACA International Air Carrier Association* IACA supports the European safety risk assessment (SRA) approach to enable operating into areas with known or forecast volcanic ash contamination. Aircraft operators can finally assume responsibility through their transparent SRA within their SMS, using all forecast information and resolving any conflicts reliably and consistently. Consequently, IACA supports the intent of this NPA 2012-07 providing detailed guidance for the development and the evaluation of such SRA by transposing ICAO Doc 9974 'Flight Safety and Volcanic Ash' based on the guidance version 7 developed by the ICAO International Volcanic Ash Task Force (IVATF) into EASA AMC and GM without unnecessary changes.
response	Noted.

comment	*67* comment by: *Dassault Aviation* Dassault Aviation general comment: Dassault-Aviation strongly recommends EASA align the information in this NPA to be as consistent as possible with ICAO 9974 before formally publishing this material. While the NPA 2012-07 states in page 10 of 30 "…the content of ICAO Doc 9974, based on version 7, which has already been extensively consulted, should be transposed into the Agency's AMCs and GMs without unnecessary changes", this NPA shows several deviations from the ICAO document, The other Dassault-Aviation comments are intended to align the guidance material more closely with ICAO Doc 9974.
response	Accepted. The resulting text has been kept as close as possible to ICAO Doc 9974.

A. Explanatory Note - IV. Content of the draft Decision - Background p. 5-6

comment	*18* comment by: *AIRBUS*

This comments relates to Paragraph 15 on page 6.
The Agency makes reference to the SIB 2010-17, "Flight in Airspace with Contamination of Volcanic Ash".
The title, and the content of this SIB should be modified as quickly as possible to reflect the content of the cooperative work accomplished at IVATF level and to eliminate any ambiguity regarding flights "into" volcanic ash. The title, and the content of the SIB, should be strictly limited to operations within airspace forecast to be, or aerodromes known to be, contaminated with volcanic ash (and include recommendations regarding possible accidental encounter with a volcanic ash cloud).

response

Noted.
This is outside the scope of this task. Nevertheless, the Agency is currently revising this SIB and this comment will be considered when reviewing it.

comment

35 comment by: *Snecma*

Background Item 15

This item states "how to manage operations within airspace contaminated with volcanic ash", suggesting that operators may deliberately schedule operations in volcanic ash contaminated airspace, which is not the philosophy of the ICAO Doc 9974.

response

Accepted.
This has been taken into account in the explanatory notes of the CRD/Decision.

comment

45 comment by: *Embraer - Indústria Brasileira de Aeronáutica - S.A.*

Embraer offers the following comment regarding the details of the NPA. This comment is in the sense of more completely aligning the language of the NPA with the agreed-upon standards and methods of Doc. 9974:

Paragraph 15 of the background section references SIB 2010-17, and states that this bulletin addressed "... how to manage operations within airspace contaminated with volcanic ash." It is important that the applicable EASA publications set a consistent standard, and that standard be harmonized with Doc. 9974, so Embraer suggests that the objective in Paragraph 15 of the NPA and the applicability of future revisions to SIB 2010-17 be revised to say "… operations within airspace forecast to be, or aerodromes known to be, contaminated with volcanic ash."

response

Accepted.
This has been taken into account in the explanatory notes of the CRD/Decision.
Regarding the title and content of the SIB, this is outside the scope of this task. Nevertheless, the Agency is currently revising this SIB and this comment will be considered when reviewing it.

comment

48 comment by: *Vereinigung Cockpit e.V.*

Attachment #5

The proposed EASA rules are in large part based on the IVATF document.
Below, some relevant examples of both documents are reproduced. Editorial differences aside, it is clear from these examples that the safety-level of operations under the proposed EASA rules is significantly lower than the safety-

	level attainable by dilligent following of the IVATF recommendations. We have compared the documents and attached the results of our comparison. --> Also VA Gases and SO should be taken into account!
response	1. Not accepted. As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974 which uses 'should' rather than 'must' since it is considered as guidance only. This has been transposed in a GM to Part-ORO to provide guidance to operators on how to establish their VA SRA, and therefore the use of 'should' is appropriate. 2. Not accepted. As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974 and of course it doesn't consider older versions which have been substantially modified by ICAO. This specific note has not been transposed in ICAO Doc 9974 and the Agency doesn't consider necessary to transpose it since this particular issue is being addressed in a separate rulemaking task (i.e. RMT.0364). 3. Partially accepted. Paragraph (g) has not been transposed since it was considered to be implicitly contained in ORO.GEN.110(e)(f) and ORO.GEN.200(a)(4) and associated AMC and GM related to training requirements. However, this paragraph has been reinstated in the CRD resulting text for clarity reasons. Paragraph (h) is in fact fully transposed in paragraph (f) of GM3 ORO.GEN.200(a)(3) and GM3 ORA.GEN.200(a)(3). 4. Not accepted. As already mentioned, the latest version of ICAO Doc 9974 has been used to draft the NPA. ICAO Doc 9974 is considered as guidance and is using 'should' instead of 'must'. In addition, the use of 'should' in GM is appropriate. The need for operators to consider procedures for crew in the event that they encounter a volcanic cloud is already addressed in paragraph (e)(9) of GM3 ORO.GEN.200(a)(3) and doesn't need to be repeated in a note. 5. Noted. 6. Not accepted. As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974 which uses 'should' rather than 'must' since it is considered as guidance only. Under Part-ORO, the VA SRA is considered to be part of the management system, which is assessed by the competent authority as a whole before issuing an AOC. In addition, ORO.GEN.200 requires operators to identify all hazards and assess the associated risks. Therefore, it is considered that an operator having a valid AOC issued against Part-ORO has a valid VA SRA and doesn't need a formal acceptance of it. This formal acceptance of a VA SRA is only recommended by EASA SIB 2011-17 until Part-ORO is fully applicable throughout Europe. The use of 'should' or 'recommended' is in both cases considered to address a recommendation. 7. Not accepted.

As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974, which differs a lot from the IVATF 2010 version.

8. Not accepted.
   As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974, which differs a lot from the IVATF 2010 version. However the referred paragraph (c) is mostly contained in paragraph (c)(1) of GM3 ORO.GEN.200(a)(3).
9. Not accepted.
   As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974, which differs a lot from the IVATF 2010 version.
10. Not accepted.
    As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974, which differs a lot from the IVATF 2010 version. However, the referred paragraph is mostly contained in paragraph (c)(3) of GM3 ORO.GEN.200(a)(3).
11. Not accepted.
    The main principle of ICAO Doc 9974 is to establish a VA SRA for flight into airspace forecast to be or aerodromes known to be contaminated, regardless of the level of contamination.
    In addition, since the use of ash concentration levels is not harmonised throughout the ICAO countries and is still being discussed at ICAO level, the intent was to avoid the use of these concentration levels into this GM.
    Regarding the wording used for danger area and the comparison with mountainous area, it is exactly the wording used in ICAO Doc 9974 which, as mentioned earlier, has been the basis for this NPA.
    As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974 which uses 'should' rather than 'must' since it is considered as guidance only.
    As stated in the explanatory notes, the proposed text is based on the latest version of ICAO Doc 9974, which differs a lot from the IVATF 2010 version. Safety margins, as mentioned in the NPA text, are considered to be a result of the VA SRA performed before the operation.

comment *50* comment by: *Boeing*

Page: 6
Section: **IV. Content of the draft Decision; Background,**
Paragraph**: 15**

The proposed text states:

"15. The Agency has produced SIB 2010-17, which is being continuously updated to provide information and guidance to operators on how to manage operations within airspace contaminated with volcanic ash. …"

REQUESTED CHANGE:

"15. The Agency has produced SIB 2010-17, which is being continuously

updated to provide information and guidance to operators on how to manage operations within airspace **forecast to be, or aerodromes known to be,** contaminated with volcanic ash. ..."

JUSTIFICATION: To ensure EASA guidance is consistent with the international flight operation guidance developed and agreed to by a broad spectrum of the aviation industry through ICAO's IVATF and published in their Doc 9974 *"Flight Safety and Volcanic Ash."*

response: Accepted.
This has been taken into account in the explanatory notes of the CRD/Decision.

comment *60* comment by: *RR ZM*

The proposed text states:
"guidance to operators on how to manage operations within airspace contaminated with volcanic ash"

REQUESTED CHANGE:
"guidance to operators on how to manage operations within airspace forecast to be, or aerodromes known to be, contaminated with volcanic ash"

Justification:
To make EASA guidance more consistent with the international flight operation guidance developed and agreed to by a broad spectrum of aviation experts through ICAO's IVATF and published in document 9974 "Flight Safety and Volcanic Ash".

response: Accepted.
This has been taken into account in the explanatory notes of the CRD/Decision.

comment *74* comment by: *Dassault Aviation*

Dassault-Aviation comment on Chapter IV. Content of the draft Decision Background, paragraph 15
The proposed text states:
guidance to operators on how to manage operations within airspace contaminated with volcanic ash
REQUESTED CHANGE: guidance to operators on how to manage operations within airspace forecast to be, or aerodromes known to be, contaminated with volcanic ash
JUSTIFICATION: alignment with ICAO's IVATF and published Doc 9974 *"Flight Safety and Volcanic Ash".*

response: Accepted.
This has been taken into account in the explanatory notes of the CRD/Decision.

A. Explanatory Note - V. Regulatory Impact Assessment p. 10

comment *34* comment by: *Snecma*

General comment
While the NPA 2012-07 states in page 10 of 30 "…the content of ICAO Doc 9974, based on version 7, which has already been extensively consulted,

	should be transposed into the Agency's AMCs and GMs without unnecessary changes", this NPA shows several deviations from the ICAO document -->see next comments for details
response	Accepted. The resulting has been kept as close as possible to ICAO Doc 9974.

B. Draft Decisions - I. Draft Decision Part-ORO - 1) New GM, GM3 ORO.GEN.200(a)(3) p. 11-17

comment	*1* comment by: *Stefan Stroeker* Regarding item (12)(v) there is only referred to TCH instructions. There should be added also Competent Authority instructions (e.g. by German NAA, the LBA) that are already distributed via so-called NfL (Nachrichten für Luftfahrer). In NfL II 44/11, there are detailed and gradually divided measures to be activated when encountering volcanic ash contaminated space. The named areas are from 0-0.2 mg/m^3, 0.2-2 mg/m^3 and 2 mg/m^3 and above. Daily visual controls and continous airworthiness controls required, e.g. SOAP or Borescope checks, could be mandatory.
response	Accepted. The resulting text has been modified accordingly.

comment	*2* comment by: *ICAO* Page 12 - GM3 ORO.GEN.200(a)(3) Management system RISK MANAGEMENT OF FLIGHT OPERATIONS WITH KNOWN OR FORECAST VOLCANIC ASH CONTAMINATION Part (c) (1) Pre-eruption At the end of the sentence "An operator whose routes traverse large, active volcanic areas for which immediate International Airways Volcano Watch (IAVW) alerts may not be available, should define its strategy for capturing information about increased volcanic activity before pre-eruption alerts are generated", it would be prudent to add the following text: "For example, an operator may combine elevated activity information with information concerning the profile and history of the volcano to determine an operating policy, which could include re-routing or restrictions at night. This would be useful when dealing with the 60% of volcanoes which are unmonitored." This additional text would be in line with ICAO Doc 9974, part E.2 b) footnote 3.
response	Accepted. The footnote has been added to the resulting text in the CRD.

comment	*6* comment by: *Ryanair* Comment: There are two references to Danger Areas in section (3) On-going Eruption. Please confirm that this text has been drafted with reference to IVATF/4 recommendation: - *Recommendation 4/16 —*

	That States should not declare a danger or restricted area in respect of volcanic ash, except over and in proximity to an erupting volcano.
response	Noted. Indeed, IVATF/4 recommended States not to declare a danger area or a restricted area, but in any case this was only a recommendation and it doesn't prevent States to declare such areas. As mentioned in the explanatory notes, the text of the NPA has been based on the latest version of ICAO Doc 9974 which makes a reference to danger areas since States will have in any case the right to do so. Therefore, these references to danger areas have been fully transposed since it has to be considered by operators.

comment	*7* comment by: *Ryanair* Comment: The material must allow an ATO that is in integral part of an AO - such as a large airline - to be integrated into the parent AO's Safety Policy and SMS. In the context of a VA SRA, if the parent AO has a VA SRA acceptable to the competent authority, and if the ATO's flying operations are included in the SRA, then the ATO need not conduct a separate SRA.
response	Noted. Actually nothing prevents in Part-ORO and Part-ORA from having a unique management system for an organisation holding an AOC and an ATO approval if the ATO is integrated in the AOC holder's organisation. In addition it should be noted that it is even recommended to avoid duplication of processes and the partitioning of information/experience which could be valuable to both parts of the organisation. This is not specifically mentioned in Part-ORO/ORA, but the need to add provisions related to this issue will be assessed during the upcoming rulemaking task related to the follow-up of these parts.

comment	*11* comment by: *FAA* **COMMENT:** Without empirical manufacturers data to assess the impact of volcanic ash encounter, the NPA should not enable operations into contaminated airspace. The premise behind determining whether the consequent risk is acceptable and within the performance criteria should not be supported. No technical data exists to complete such an assessment. **REASON:** Neither an SEA or ICAO document 9974 provide sufficient information to enbale the intended users to be able to acomplish a full airplane risk assessment. Additionally, any encounter with volcanic ash at a lower altitude during ETOPS diversion could be catastrophic. For operations over non ETOPS areas with ash cloud in excess of FL 100 feet but below the net level off of an engine failure (e.g. FL 160), compliance with the oxygen requirements of 121.333 (e) must be considered. This would be similar to an operation over mountainous terrain. **RECOMMENDATION:** The safety risk assessment has valus to all operators. The document still provides excellent guidance on the development of a volcanic ash avoidance program. The FAA recommends if the results of the volcanic ash assessment

	indicate the route to be flown, including consideration for a depressurization and engine failure, indicate that an encounter into an area with any level of ash contaminate may exist, the flight must be rerouted, diverted or cancelled.
response	Not accepted. In parallel to this task, the Agency is processing another rulemaking task (RMT.0364) to require manufacturers to provide data related to flight into area potentially affected by volcanic ash. The CRD has already been published and the final decisions are expected to be published in the first quarter of 2013 and therefore almost simultaneously with the decision resulting from this task. In addition, regarding ETOPS operations, the safety of such operations in area with known or forecast volcanic ash contamination has also to be assessed by the operator through its VA SRA taking into account the specificity of ETOPS operations. Finally the list of procedures to be considered given in paragraph (e) of GM3 ORO.GEN.200(a)(3) doesn't intend to be exhaustive and should be completed by an operator taking into account the specificity of its operations.

comment	*19* comment by: *AIRBUS* This comment relates to proposed GM3 ORO.GEN.200(a)(3) Management system, §(e)(1) The sentence: "Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash." should be changed into: "Obtaining of advice from the TCHs and other engineering sources concerning operations in potentially contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash." This modification is necessary to align the proposed GM with the ICAO Document 9974 resulting from an aviation stakeholders consensus.
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*23* comment by: *IATA* Add: it is the final responsibility of the Operator to determine if Temporary Danger Areas pose a hazard for the safe operation of aircraft.
response	Not accepted. The general case of danger area is specifically addressed in Part-SERA and doesn't need to be mentioned again in this guidance.

comment	*28* comment by: *DGAC France* In GM3 ORO.GEN.200 (a)(3), in paragraph (c) (3) "On-going eruption" : "The operator should carefully consider and resolve differences or conflicts among the information sources, notably between published information and observations (pilot reports, airborne measurements, etc.)." Does it mean "give precedence" to reports, especially considering the difficulty to have precise forecast Could this be clarified?

response

Noted.
As mentioned in the NPA, in any case, the monitoring performed by the operator has to be based on at least VAAC information and charts and can be further supplemented by other information such as pilot reports and updated NOTAM/SIGMET.

The intent was not to give precedence to any of these other sources of information but rather to ensure that any conflict between information is identified and assessed. This would be done on a case-by-case basis by the operator since it's very dependent on the actual situation at the time of the assessment.
Pilot reports may indeed be a very reliable information, but in any case it has a limited validity and might not reflect the whole situation regarding VA contamination. Nevertheless, it can always be used to perform a cross-check with other sources of information.

comment

37 comment by: *Snecma*

GM
ORO.GEN.200(a)(3)
Management system
Item (e)(1)

Current: "Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash."

Proposed: "Obtaining of advice from the TCHs and other engineering sources concerning **inadvertent** operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash."

response

Partially accepted.
The wording has been aligned with ICAO Doc 9974 and refers now to area potentially contaminated.

comment

38 comment by: *Snecma*

GM
ORO.GEN.200(a)(3)
Management system
Item (e)(1)(v)

Current: "the recommended inspections associated with operations in volcanic ash contaminated airspace…"

Proposed: "the recommended inspections associated with **inadvertent** operations in volcanic ash contaminate dairspace…"

response

Partially accepted.
The wording has been aligned with ICAO Doc 9974 and refers now to area potentially contaminated.

comment

46 comment by: *Embraer - Indústria Brasileira de Aeronáutica - S.A.*

Embraer offers the following comment regarding the details of the NPA. This

	comment is in the sense of more completely aligning the language of the NPA with the agreed-upon standards and methods of Doc. 9974: Concerning the TCH guidance to be obtained per paragraph (e)(1) of GM3 ORO.GEN.200(a)(3), the guidance described in Doc. 9974 does not specify intentional inflight operations into contaminated airspace, so Embraer suggests that this paragraph be revised to read "... concerning operations ~~into~~ in potentially contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash."
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*51* comment by: *Boeing* Page: 14 Section: **GM3 ORO.GEN.200(a)(3) Management system** Paragraph: **(e)(1)** The proposed text states: "(1) Type Certificate Holders Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash. …" **REQUESTED CHANGE:** "(1) Type Certificate Holders Obtaining of advice from the TCHs and other engineering sources concerning operations ~~into~~ **in potentially** contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash. …" **JUSTIFICATION:** To ensure EASA guidance is consistent with the international flight operation guidance developed and agreed to by a broad spectrum of the aviation industry through ICAO's IVATF and published in their Doc 9974 *"Flight Safety and Volcanic Ash."*
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*53* comment by: *Vereinigung Cockpit e.V.* How the staff can be trained in sufficient manner. VA is a special case and happens very rare! But if it could be dangerous. Therefore we propose specific and strict rules to handle VA and VA gases. Also satellites should be taken into account - as minimum! An Operator whose routes traverse large, active volcanic areas for which immediate IAVW alerts may not be available, should ensure access of its operations staff to automated, satellite-based eruption alerts. In the text more should must be used! TDA established --> better area of high volcanic contamination, oder higher than allowed volcanic contamination

... as they would mountainous terrain, modified in accordance with their SRA...
--> mountainous terrain or not??

--> VA & V-Gas forecasts are not 100% correct. Therefore
Operators should take account of the uncertainty inherent in lateral and vertical forecasts of VA by considering an additional, appropriate safety margin.

(i ... alert flight crew and operations staff to the need for increased monitoring of information (e.g. special air report (AIREP), volcanic activity report (VAR), significant weather information (SIGMET) and NOTAMs);

--> monitoring of satellite-based volcanic ash pictures and products´ is missing...

Page 13 / 14 : There are differences in VA?? And what is a particular aircrafts??

There should be a paragraph 6:

For each flight into areas contaminated by VA + V-Gas, the risks as well as the mitigating actions should be clearly indicated to the crew as well as operations personell, and the resulting risk-level has to be defined and declared in the flight documents

response

Partially accepted.
As mentioned in the explanatory notes, the intent of this task is to transpose the latest version of Doc 9974 which already went through an intensive consultation process. This document has been transposed into GM since the intent is not to add any specific requirements.
As mentioned in the NPA, other sources of information such as satellite imagery may be available and of course the operator may take advantage of such data. However, as for other meteorological hazard, the Agency doesn't intend to recommend the use of such data since it is considered that the need for additional data has to be assessed by the operator.
As mentioned in the NPA, the establishment of a TDA might not be linked to a level of VA contamination and therefore it can't be stated what a specific TDA represents. This may vary according to the States establishing the TDA and therefore it has to be assessed by the operator.
An operator, based on its VA SRA and according to the data available, may add lateral and vertical margins to a published TDA or to any VA forecast. This was the intent of the wording used in ICAO Doc 9974 and which has been transposed in the NPA.
The use of other data to monitor an ongoing eruption is already mentioned in paragraph (c)(2)(v) of GM3 ORO.GEN.200(a)(3), but as explained above without specifically recommending one type of data.
RMT.0364 is specifically dealing with data to be provided by TCHs to operator to support their VA SRA. It is considered that VA might not have the same effect on all aircraft and therefore this is why an operator has to consider the specific data provided by the TCHs related to the aircraft it operates.
The paragraph of ICAO Doc 9974 related to the information on the risk assessment to be provided to crew before and during flight has been reinstated to ensure the availability of all necessary data to crew.

comment

61 comment by: *RR ZM*

The proposed text states:

	"Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash" REQUESTED CHANGE: "Obtaining of advice from the TCHs and other engineering sources concerning operations into/in potentially contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash" Justification: To make EASA guidance more consistent with the international flight operation guidance developed and agreed to by a broad spectrum of aviation experts through ICAO's IVATF and published in document 9974 "Flight Safety and Volcanic Ash".
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*66* comment by: *UK CAA* **Page No:** 12 **Paragraph No:** 3 **Comment:** Not just the flight operations staff should be involved **Justification:** Engineering and any other relevant staff, such as safety department staff should take part in a VOLCEX (volcanic ash exercises). **Proposed Text:** Replace "flight operations staff" with "staff".
response	Accepted. The resulting text of the CRD now refers to relevant staff which could include flight operations staff, engineering staff, or any other staff concerned.

comment	*68* comment by: *UK CAA* **Page No:** 12 **Paragraph No:** (2), 2nd sub-paragraph **Comment:** There may be more than one area affected. **Proposed Text:** Change "affected area" to "affected areas"
response	Accepted.

comment	*69* comment by: *UK CAA* **Page No:** 12 **Paragraph No:** (2), sub-paragraph (i) **Comment:** Alternates as well as re-routing should be considered. **Justification:** It may be necessary for a flight to divert if it cannot complete the sector as planned.

Proposed Text: "…..alert crew and provide advice on re-routing and available alternates as required;"

response: Accepted. The resulting text of the CRD has been modified accordingly.

comment *70* comment by: *UK CAA*

Page No:12

Paragraph No: (2), sub-paragraph (ii)

Comment: The text does not include what management must do.

Justification: Management need to activate the volcanic ash management processes.

Proposed Text: "alert management who will activate the operator's volcanic ash management processes;"

response: Not accepted.
Actually the volcanic ash management process is initiated as soon as an eruption potentially impacting flight operation starts and potentially even before the management is informed. The role of the management has to be defined in the operator's emergency response plan and is under the operator's responsibility. As recommended by the ICAO Doc 9859 (SMM) the management needs at least to be notified.

comment *71* comment by: *UK CAA*

Page No: 13

Paragraph No: (2), sub-paragraph (iv)

Comment: Most large operators will alert crews with relevant information using Satcom, ACARS, HF etc, and operations staff by "read before brief" notices.

Justification: Staff need to increase monitoring of company messages.

Proposed Text: Add "… NOTAMS and company messages);"

response: Accepted. The resulting text of the CRD has been modified accordingly.

comment *72* comment by: *UK CAA*

Page No: 13

Paragraph No: (3), sub-paragraph 7

Comment: Not all authorities will promulgate a TDA.

Justification: Account must be taken of a forecast which only provides an area of contamination.

Proposed Text: After "vertical limits of the temporary danger area (TDA)" add

	"or airspace forecast to be contaminated by volcanic ash as applicable**; ...**"
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*73* comment by: *UK CAA* **Page No:** 13 **Paragraph No:** (3), New sub-paragraph **Comment:** Underflight is omitted. It may be justified to underfly ash if it is very high or by a short distance to reach an aerodrome with conditions. **Justification:** Underflight of volcanic ash contaminated airspace must be considered on a case by case basis. It should only be planned to reach or leave an aerodrome/landing site close to the boundary of this airspace or where the ash contamination is very high and stable. MSA (Minimum Sector Altitude) and the availability of alternates must be considered.
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*75* comment by: *UK CAA* **Page No:** 14 **Paragraph No:** (e), (1) sub-paragraph (iii) **Comment:** Aircraft performance considerations are not included. **Justification:** Volcanic Ash has a considerable effect on take-off and landing performance. **Proposed Text:** Add to the end of (iii) "including the effect on take-off and landing aircraft performance"
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*76* comment by: *UK CAA* **Page No:** 14 and 15 **Paragraph No:** (2) **Comment:** The list does not include contaminated aircraft performance data. **Justification:** Volcanic ash has a considerable affect on take-off and landing performance. **Proposed Text:** Add to list new sub-paragraph (v) "when operating to or from aerodromes/operating sites contaminated with volcanic ash, crews are provided with appropriate aircraft performance data."
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*77* comment by: *UK CAA*

Page No: 15

Paragraph No: (3), sub-paragraph (i)

Comment: Operators may use additional data from other sources, i.e. commercial organisations – see page 13 paragraph (3), sub-paragraph 2.

Justification: If additional information is available to the operator it should be monitored.

Proposed Text: After "ASHTAM information" add "other relevant information"

response | Accepted. The resulting text of the CRD has been modified accordingly.

comment | *78* comment by: *UK CAA*

Page No: 15

Paragraph No: (3), sub-paragraph (ii)

Comment: If additional information is available it needs to be promulgated.

Proposed Text: After "NOTAMs" add "and relevant company information"

response | Accepted. The resulting text of the CRD has been modified accordingly.

comment | *79* comment by: *UK CAA*

Page No: 15

Paragraph No: (6)

Comment: Underflight is not included.

Justification: There must be an underflight as well as an overflight policy.

Proposed Text: Add new sub-paragraph (iv) "underflight policy"

response | Accepted. The resulting text of the CRD has been modified accordingly.

comment | *80* comment by: *Dassault Aviation*

Dassault-Aviation comment on Chapter I **Draft Decision Part-ORO (e)(1)** page #14
The proposed text states: Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash

REQUESTED CHANGE: Obtaining of advice from the TCHs and other engineering sources concerning operations ~~into~~ in potentially contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash

JUSTIFICATION: alignment with ICAO's IVATF and published Doc 9974 *"Flight Safety and Volcanic Ash"*.

response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*81* comment by: *UK CAA* **Page No:** 16 **Paragraph No:** (9), sub-paragraph (vi) **Comment:** If crews see ash they must report it to ATC. **Justification:** Pilot reports are an important source of confirmation that volcanic ash is present. **Proposed Text:** Add to the end of (vi) "and reporting procedures;"
response	Accepted. The resulting text of the CRD has been modified accordingly.

B. Draft Decisions - I. Draft Decision Part-ORO - 2) New GM, GM4 ORO.GEN.200(a)(3) p. 17-19

comment	*54* comment by: *Vereinigung Cockpit e.V.*
response	No comment available.

B. Draft Decisions - II Draft Decision PART-ARO - 1) New AMC, AMC2 ARO.GEN.300(a);(b);(c) p. 20

comment	*13* comment by: *CAA-NL* To avoid repeating this text when a new substantial risk emerges and to make the text more generic applicable we suggest the following changes or similar. **AMC2 ARO.GEN.300(a);(b);(c) Oversight** ASSESSMENT OF OPERATORS' SAFETY RISK ASSESSMENT During the initial certification or the continuing oversight of an operator, the competent authority should normally evaluate the operator's safety risk assessment for operations into or avoiding areas identified to be or aerodromes/operating sites known to be contaminated with an identified risk. This safety risk assessment should be an identifiable process of the operator's management system. As part of its continuing oversight, the competent authority should also remain satisfied as to the continuing validity of this safety risk assessment. (a) Methodology The competent authority should establish a methodology for evaluating the safety risk assessment process particular to an identified risk of the operator's management system. The competent authority's evaluation under its normal oversight process should be considered satisfactory if the operator demonstrates its competence and capability to: (1) understand the hazards associated with the identified risk and the effect on the equipment being operated; (2) be clear on where these hazards may exceed acceptable safety risk limits;

	(3) identify and implement mitigations including suspension of operations where mitigation cannot reduce the risk to within safety risk limits; (4) develop and execute effectively robust procedures for planning and operating flights through, or avoiding, airspace potentially contaminated with the identified risk safely; (5) correctly choose which information sources to use, interpret the information and resolve any conflicts among such sources; (6) take account of detailed information from its type certificate holders (TCHs) concerning the identified risk-related airworthiness aspects of the aircraft it operates, and the related pre-flight, in-flight and post flight precautions to be observed; (7) assess the competence and currency of its staff in relation to the duties necessary to operate safely into areas forecast to be or aerodromes/operating sites known to be contaminated with the identified risk and implement any necessary training; and (8) ensure sufficient numbers of qualified and competent staff for such duties. The competent authority should take into account that: (1) those of the operator's recorded mitigations of most significance to a safe outcome are in place; (2) those of the operational procedures specified by the operator with the most significance to safety appear to be robust; and (3) the staff on whom the operator depends in respect of those duties necessary to operate safely into areas forecast to be or aerodromes/operating sites known to be contaminated with the identivied risk are trained and assessed as competent in the relevant procedures.
response	Partially accepted. The main principle of this proposal has been kept by defining a general process for the evaluation of any operator's risk assessment and also with specific items only relevant to VA SRA.

comment	*30* comment by: *DGAC France* In AMC2 ARO.GEN.300(a);(b);(c) Oversight ASSESSMENT OF OPERATORS' VOLCANIC ASH SAFETY RISK ASSESSMENT "During the initial certification or the continuing oversight of an operator, the competent authority should normally evaluate the operator's safety risk assessment for operations into or avoiding areas forecast to be or aerodromes/operating sites known to be contaminated with volcanic ash. This safety risk assessment should be an identifiable process of the operator's management system." We understand that there is no prior approval of the risk assessment by the NAA. This is supported.
response	Noted. Indeed, it is not the intent to add another specific approval for the VA SRA since it is part of the operator's management system, which is approved through the issuance of the AOC.

comment	*31* comment by: *DGAC France* In AMC2 ARO.GEN.300(a);(b);(c) Oversight "(a) Methodology The competent authority's evaluation under its normal oversight process should

	be considered satisfactory if the operator demonstrates its competence and capability to: ...(5) correctly choose which information sources to use, interpret the information and resolve any conflicts among such sources; ..." It might be difficult to evaluate this aspect of the risk assessment. See comment above concerning GM3 ORO.GEN.200 (a)(3) and GM3 ORA.GEN.200 (a)(3), paragraph (c) (3) "On-going eruption". Clarification would be needed about conflicting information
response	Noted. As mentioned in the NPA, in any case, the monitoring performed by the operator has to be based on at least VAAC information and charts and can be further supplemented by other information such as pilot reports and updated NOTAM/SIGMET. The intent was not to give precedence to any of these other sources of information but rather to ensure that any conflict between information is identified and assessed. This would be done on a case-by-case basis by the operator since it's very dependent on the actual situation at the time of the assessment and therefore it was not foreseen to propose any further guidance.

comment	*39* comment by: *Snecma* AMC2 ARO.GEN.300(a);(b);(c) Oversight Item (a)(4) This item states "develop and execute effectively robust procedures for planning and operating flights through, or avoiding, potentially contaminated airspace safely", suggesting that operators may deliberately schedule operations in volcanic ash contaminated airspace, which is not the philosophy of the ICAO Doc 9974
response	Partially accepted. This paragraph was transposed from ICAO Doc 9974 without any modification and therefore was considered to be consistent with the philosophy of ICAO Doc 9974. Nevertheless, based on another comment, this paragraph has been modified to become more generic and therefore to be able to be used for the assessment of any safety risk assessment. Therefore, it is considered that the issue raised has been solved.

comment	*55* comment by: *Vereinigung Cockpit e.V.* How the authorities can fulfill these requirements? Where are the experts within the authorities and of course airlines??? We believe there must be more regulations due to the fact that VA happens not every day. Authorities and operators in VA areas are better prepared...
response	Not accepted. This NPA reflects the approach taken by IVATF regarding flight into airspace forecast to be contaminated by volcanic ash. It does not intend to introduce any

	additional requirement. To address the issue mentioned, it is recommending operators/ATOs to take part to the volcanic ash exercises in their area of operations to ensure their staff are appropriately trained and up to date. Competent authorities are of course encouraged to be involved in VOLCEX exercises which take place on a regular basis and whose aim is to improve the response to volcanic eruptions and volcanic ash contamination by the relevant national supervisory authorities, service providers (ATS, AIS, ATFM, MET) and airspace users (airlines) in the EUR and NAT regions.

B. Draft Decisions - III. Draft Decision Part-ORA - 1) New GM, GM3 ORA.GEN.200(a)(3) p. 21-27

comment	*3* comment by: *ICAO* Page 22 - GM3 ORA.GEN.200(a)(3) Management system APPROVED TRAINING ORGANISATIONS - RISK MANAGEMENT OF FLIGHT OPERATIONS WITH KNOWN OR FORECAST VOLCANIC ASH CONTAMINATION Part (c) (1) Pre-eruption At the end of the sentence "An ATO whose areas of activity include large, active volcanic areas for which immediate International Airways Volcano Watch (IAVW) alerts may not be available, should define its strategy for capturing information about increased volcanic activity before pre-eruption alerts are generated", it would be prudent to add the following text: "For example, an ATO may combine elevated activity information with information concerning the profile and history of the volcano to determine an operating policy, which could include re-routing or restrictions at night. This would be useful when dealing with the 60% of volcanoes which are unmonitored." This additional text would be in line with ICAO Doc 9974, part E.2 b) footnote 3.
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*8* comment by: *George Knight* The proposal to treat ALL ATOs in the same way as airlines by implementing ICAO's recommendations for management of the risks to flight operations when operating into areas with known or forecast volcanic ash contamination is disproportionate. The proposals require ALL ATOs to maintain risk assessments and documented procedures for such operations and for the overseeing competent authority to evaluate these assessments and procedures both on initial certification and routinely as part of the ongoing continuing oversight. The approach taken has not properly considered the fact that most European ATOs operate in areas where such contamination is exceedingly rare, that the types of operation and aircraft used by many/most ATOs are not at any significant risk when operating VFR in volcanic ash conditions that are a significant risk to gas-turbine aircraft. No RIA was conducted to assess the cost to small ATOs on meeting requirements in terms of preparing risk assessments on procedures and paying for competent authority oversight.

Few ATOs are engaged in International Commercial Aviation
This NPA aims to implement the International Civil Aviation Organisation's recommendations. However, many, if not the majority, of European ATOs will not be engaged in International Commercial Aviation (ICA). There is no justification given for requiring ALL ATOs to adopt recommendations targeted at large commercial organisations engaged in ICA when most are not. The NPA already exempts non-commercial operations using other-than-complex motor powered aircraft – instead it relies on the European General Aviation Safety Team (EGAST) to provide appropriate guidance to such operators. There is absolutely no reason why ATOs conducting training on such aircraft should be treated any differently.

Many ATOs not Complex Organisations
ATOs may be small clubs operating on a not-for-profit basis using mainly volunteers for management and administration, especially in gliding. Their operations are confined to small geographic areas, rarely crossing international borders and train pilots for basic qualifications such as LAPL(S), LAPL(A), SPL and PPL(A) plus associated ratings and certificates. They are not complex organisations (even if EASA is trying to change that!).

Sailplanes are at Exceptionally Low Risk
Sailplanes are not dependent on engines and fly at speeds where abrasion from dust is not an issue. Training flights tend to stay local to the launch site unless weather conditions are good – which will not be true if there is a significant amount of volcanic ash present. ATOs conducting LAPL(S) or SPL training for glider pilots are at exceptionally low risk from volcanic ash.

Small, Non-Complex, Piston-Engined aircraft are at Very Low Risk
Most light aircraft used to train pilots are small, non-complex, piston-engined aircraft in the SEP or TMG categories and are used to train pilots for the LAPL(A) or PPL(A). They are less vulnerable to volcanic ash than gas turbine aircraft and training flights rarely travel to areas where a precautionary landing cannot be made if conditions deteriorate in flight. They are at low risk from volcanic ash.

Conclusion
Non-complex ATOs engaged in training pilots only for the LAPL(S), LAPL(A) and/ or SPL and PPL(A) plus the associated ratings and certificates using sailplanes, TMGs and non-complex piston engined aircraft should be exempted from the requirements of this GM and be required instead to take account of guidance from the EGAST - like other non-commercial operators of non-complex aircraft.

Since there is no evidence of aircraft in the above categories having had accidents or safety related incidents due to volcanic ash events this approach is proportionate to the risks and avoids the need for costly, unnecessary, oversight activity by the competent authorities.

response

Not accepted.
As mentioned in the explanatory notes, this task doesn't introduce any new requirement. It is only providing guidance on the definition of a VA SRA.
Commission Regulation (EU) No 290/2012 amending Regulation (EU) No 1178/2011 is already mandating, under ORA.GEN.200, all ATOs to implement a management system within their organisation and as part of this management system to identify all hazards (including volcanic ash) and assess the associated risks.
However, in order to ensure proportionality, ORA.GEN.200 also states that this

	management system has to correspond to the size of the organisation and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities. AMC1 ORA.GEN.200(a)(1);(2);(3);(5) provides additional guidance to non-complex organisations on how to implement a management system. It means that based on the assessed risks related to flight operations in airspace forecast to be contaminated by volcanic ash, the VA SRA can be a very simple and short document (AMC1 ORA.GEN.200(a)(1);(2);(3);(5) recommends the use of hazard check-list for non-complex operators) if risks are assessed as very low or negligible.
comment	*20* comment by: *AIRBUS* This comment relates to proposed GM3 ORA.GEN.200(a)(3) Management system, §(e)(1) The sentence: "Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash." should be changed into: "Obtaining of advice from the TCHs and other engineering sources concerning operations <u>in potentially</u> contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash." This modification is necessary to align the proposed GM with the ICAO Document 9974 resulting from an aviation stakeholders consensus.
response	Accepted. The resulting text of the CRD has been modified accordingly.
comment	*29* comment by: *DGAC France* In GM3 ORA.GEN.200 (a)(3), in paragraph (c) (3) "On-going eruption" : "The ATO should carefully consider and resolve differences or conflicts among the information sources, notably between published information and observations (pilot reports, airborne measurements, etc.)." Does it mean "give precedence" to reports, especially considering the difficulty to have precise forecast Could this be clarified?
response	Noted. As mentioned in the NPA, in any case, the monitoring performed by the operator has to be based on at least VAAC information and charts and can be further supplemented by other information such as pilot reports and updated NOTAM/SIGMET. The intent was not to give precedence to any of these other sources of information but rather to ensure that any conflict between information is identified and assessed. This would be done on a case-by-case basis by the operator since it's very dependent on the actual situation at the time of the assessment. Pilot reports may indeed be a very reliable information, but in any case it has a limited validity and might not reflect the whole situation regarding VA contamination. Nevertheless, it can always be used to perform a cross-check

	with other sources of information.

comment	*40* comment by: *Snecma* GM3 ORA.GEN.200(a)(3) Management system Item (e)(1) This item states "Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace…", suggesting that operators may deliberately schedule operations in volcanic ash contaminated airspace, which is not the philosophy of the ICAO Doc 9974
response	Accepted. The wording has been aligned with ICAO Doc 9974 and refers to potentially contaminated airspace.

comment	*41* comment by: *Snecma* GM3 ORA.GEN.200(a)(3) Management system Item (e)(1)(v) Current: "the recommended inspections associated with operations in volcanic ash contaminated airspace…" Proposed: "the recommended inspections associated with **inadvertent** operations in volcanic ash contaminated
response	Partially accepted. The wording has been aligned with ICAO Doc 9974 and refers to potentially contaminated airspace.

comment	*47* comment by: *Embraer - Indústria Brasileira de Aeronáutica - S.A.* Embraer offers the following comment regarding the details of the NPA. This comment is in the sense of more completely aligning the language of the NPA with the agreed-upon standards and methods of Doc. 9974: Concerning the TCH guidance to be obtained per paragraph (e)(1) of GM3 ORA.GEN.200(a)(3), the guidance described in Doc. 9974 does not specify intentional inflight operations into contaminated airspace, so Embraer suggests that this paragraph be revised to read "... concerning operations ~~into~~ in potentially contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash."
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*52* comment by: *Boeing* Page: 24 Section: **III. Draft Decision Part-ORA** Paragraph: **(e)(1)**

The proposed text states:
"(1) Type certificate holders

Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash. …"

REQUESTED CHANGE:

"(1) Type certificate holders

Obtaining of advice from the TCHs and other engineering sources concerning operations ~~into~~ **in potentially** contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash. …"

JUSTIFICATION: To ensure EASA guidance is consistent with the international flight operation guidance developed and agreed to by a broad spectrum of the aviation industry through ICAO's IVATF and published in their Doc 9974 *"Flight Safety and Volcanic Ash."*

response: Accepted. The resulting text of the CRD has been modified accordingly.

comment *56* comment by: *Vereinigung Cockpit e.V.*

How the ATO`s can fulfill these requirements? Where are the experts ...

We believe there must be more regulations due to the fact that VA happens not every day.
Authorities and operators in VA areas are better prepared...

Better communications possibilities should be required.
SAT must be available in the Cockpit!

response: Not accepted.
This NPA reflects the approach taken by IVATF regarding flight into airspace forecast to be contaminated by volcanic ash. It does not intend to introduce any additional requirement.
To address the issue mentioned, it is recommending operators/ATOs to take part to the volcanic ash exercises in their area of operations to ensure their staff are appropriately trained and up to date.
Competent authorities are of course encouraged to be involved in VOLCEX exercises which take place on a regular basis and whose aim is to improve the response to volcanic eruptions and volcanic ash contamination by the relevant national supervisory authorities, service providers (ATS, AIS, ATFM, MET) and airspace users (airlines) in the EUR and NAT regions.

comment *62* comment by: *RR ZM*

The proposed text states:
"Obtaining of advice from the TCHs and other engineering sources concerning operations into contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash"

REQUESTED CHANGE:

	"Obtaining of advice from the TCHs and other engineering sources concerning operations into/in potentially contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash" Justfication: To make EASA guidance more consistent with the international flight operation guidance developed and agreed to by a broad spectrum of aviation experts through ICAO's IVATF and published in document 9974 "Flight Safety and Volcanic Ash".
response	Accepted. The resulting text of the CRD has been modified accordingly.

comment	*82* comment by: *UK CAA* **Page No:** 21 onwards **Paragraph No:** GM3 ORA.GEN.200(a)(3) Management System – Approved Training Organisations, where applicable **Comment:** All of the UK CAA comments made on GM3 ORO.GEN.200(a)(3) Management System are also relevant to GM3 ORA.GEN.200(a)(3) Management System, and should be read across accordingly.
response	Noted. All the comments related to Part-ORA and Part-ARA AMC/GM have been assessed consistently with the comments related to Part-ORO and Part-ARO AMC/GM.

comment	*83* comment by: *Dassault Aviation* Dassault-Aviation comment on Chapter III **Draft Decision Part-ORA (e)(1)** page # 24 **REQUESTED CHANGE:** Obtaining of advice from the TCHs and other engineering sources concerning operations ~~into~~ in potentially contaminated airspace and/or aerodromes/operating sites contaminated by volcanic ash **JUSTIFICATION:** alignment with ICAO's IVATF and published Doc 9974 *"Flight Safety and Volcanic Ash".*
response	Accepted. The resulting text of the CRD has been modified accordingly.

B. Draft Decisions - IV. Draft Decision Part-ARA - 1) New AMC, AMC1 ARA.GEN.300(a)(b)(c) p. 29

comment	*9* comment by: *George Knight* Please see my earlier comment on GM3 ORA.GEN.200(a)(3). My conclusion was: "*Non-complex ATOs engaged in training pilots only for the LAPL(S), LAPL(A) and/ or SPL and PPL(A) plus the associated ratings and certificates using sailplanes, TMGs and non-complex piston engined aircraft should be exempted from the requirements of this GM and be required instead to take account of guidance from the EGAST - like other non-commercial operators of non-complex aircraft.*

Since there is no evidence of aircraft in the above categories having had accidents or safety related incidents due to volcanic ash events this approach is proportionate to the risks and avoids the need for costly, unnecessary, oversight activity by the competent authorities."

This AMC should also be amended to exclude the same ATOs from the need for oversight of volcanic ash risk assessments and procedures.

response

Not accepted.
As explained in comment No 8, ATOs are already required, under Part-ORA, to be certified and to implement a management system within their organisation.
ARA.GEN.300 also already requires the competent authority to perform a continued oversight of a certified organisation.
To conclude, AMC1 ARA.GEN.300(a)(b)(c) doesn't introduce any new requirement but provides guidance to the competent authority on how to assess an ATOs' VA SRA. This is considered to be already part of the initial certification and of the continuing oversight process.

comment *32* comment by: *DGAC France*

In AMC1 ARA.GEN.300(a);(b);(c) Oversight
ASSESSMENT OF OPERATORS' VOLCANIC ASH SAFETY RISK ASSESSMENT
"During the initial certification or the continuing oversight of an ATO, the competent authority should normally evaluate its safety risk assessment for operations into or avoiding areas forecast to be or aerodromes/operating sites known to be contaminated with volcanic ash. This safety risk assessment should be an identifiable process of the ATO's management system."

We understand that there is no prior approval of the risk assessment by the NAA. This is supported.

response

Noted.
Indeed, it is not the intent to add another specific approval for the VA SRA since it is part of the ATO's management system.

comment *33* comment by: *DGAC France*

In AMC1 ARA.GEN.300(a);(b);(c) Oversight
"(a) Methodology
The competent authority's evaluation under its normal oversight process should be considered satisfactory if the ATO demonstrates its competence and capability to:
...(5) correctly choose which information sources to use, interpret the information and resolve any conflicts among such sources;
..."

It might be difficult to evaluate this aspect of the risk assessment. See comment above concerning GM3 ORO.GEN.200 (a)(3) and GM3 ORA.GEN.200 (a)(3), paragraph (c) (3) "On-going eruption".
Clarification would be needed about conflicting information

response

Noted.
As mentioned in the NPA, in any case, the monitoring performed by the operator has to be based on at least VAAC information and charts and can be further supplemented by other information such as pilot reports and updated

	NOTAM/SIGMET. The intent was not to give precedence to any of these other sources of information but rather to ensure that any conflict between information is identified and assessed. This would be done on a case-by-case basis by the operator since it's very dependent on the actual situation at the time of the assessment and therefore it was not foreseen to propose any further guidance.
comment	*42* comment by: *Snecma* AMC1 ARA.GEN.300(a);(b);(c) Oversight Item (a)(4) This item states "develop and execute effectively robust procedures for planning and operating flights through, or avoiding, potentially contaminated airspace safely", suggesting that operators may deliberately schedule operations in volcanic ash contaminated airspace, which is not the philosophy of the ICAO Doc 9974
response	Partially accepted. This paragraph was transposed from ICAO Doc 9974 without any modification and therefore was considered to be consistent with the philosophy of ICAO Doc 9974. Nevertheless, based on another comment, this paragraph has been modified to become more generic and therefore to be able to be used for the assessment of any safety risk assessment. Therefore, it is considered that the issue raised has been solved.
comment	*57* comment by: *Vereinigung Cockpit e.V.* How the authorities can fulfill these requirements? Where are the experts within the authorities and of course airlines??? We believe there must be more regulations due to the fact that VA happens not every day. Authorities and operators in VA areas are better prepared...
response	Not accepted. This NPA reflects the approach taken by IVATF regarding flight into airspace forecast to be contaminated by volcanic ash. It does not intend to introduce any additional requirement. To address the issue mentioned, it is recommending operators/ATOs to take part to the volcanic ash exercises in their area of operations to ensure their staff are appropriately trained and up to date. Competent authorities are of course encouraged to be involved in VOLCEX exercises which take place on a regular basis and whose aim is to improve the response to volcanic eruptions and volcanic ash contamination by the relevant national supervisory authorities, service providers (ATS, AIS, ATFM, MET) and airspace users (airlines) in the EUR and NAT regions.

4 Appendices

None.