



**WORKING PAPER**

**INTERNATIONAL VOLCANIC ASH TASK FORCE (IVATF)**

**FIRST MEETING**

**Montréal, 27 to 30 July 2010**

**Agenda Item 2: Organizational matters**

**2.3: Establishment of Task Force sub-groups**

**ORGANIZING THE WORK OF THE IVATF**

(Presented by United Kingdom)

**SUMMARY**

This paper presents a proposal how to organize the work of the IVATF.

**1. INTRODUCTION**

1.1 The impact of the April and May 2010 Eyjafjallajökull eruptions on commercial air traffic in Northern Europe was severe; all movements in 23 European countries were suspended and 75 per cent of the European aerodrome network was closed. The economic and social consequences of this closure were far-reaching. Whilst maintenance of safety remained the over-riding consideration, strenuous efforts were made to develop solutions that would optimize the balance between safety and economic consequences. These efforts required the commitment, skills and resources of aircraft operators, aircraft and engine manufacturers, geologists, meteorologists, volcanologists and a host of other specialists worldwide.

1.2 As the crisis ended, meetings, teleconferences, seminars and workshops were held within the aviation and scientific communities and a range of task forces and working groups established. This effort reflected a widespread desire to further the collective understanding of how to predict and manage such disruptions. It was recognized that eruptions capable of causing equally severe consequences in the coming months or years cannot be ruled out.

1.3 The International Volcanic Ash Task Force (IVATF) represents a unique opportunity to bring together these now disparate initiatives into a coordinated and coherent effort recognized globally as the reference point for all activities related to predicting and managing the effects of volcanic eruptions on aviation.

1.4 To ensure that the IVATF has the best possible chance of achieving this status and so achieving its goals, it seems to be necessary to organize its work into an internationally recognizable programme.

1.5 The work to be undertaken by the IVATF and the timescales and environment in which this work is to be completed, present a range of particular challenges. The work, for example, spans a wide range of technical specialties across both the scientific and aviation communities. The range of activities is similarly wide-ranging and not naturally well-coordinated. Furthermore, the IVATF's work may not be complete before a further volcanic event occurs that wreaks disruption on a scale that not only has safety implications, but also generates far-reaching economic and social consequences.

1.6 In order to help to address these challenges, it is proposed that the IVATF:

- a) agree to use programme management principles as described herein to organise its work;
- b) develop a communications approach capable of maintaining Programme coherence and securing wide expert participation in the Programme;
- c) appoint a suitably robust management team to construct and manage the Programme;
- d) authorize that team to allocate tasks within the Programme;
- e) construct the Programme around the themes of the atmospheric conditions, the hazard, the risk management approach and communications in drawing up the future work programme to be agreed under Agenda Item 8.

1.7 If adopted, these recommendations will provide the IVATF clarity about the objective of its work, about the full range of activities required to deliver that objective and about how those activities interlink into a cohesive whole. The IVATF would be well positioned to establish its work as the reference programme globally for all related scientific and aviation activities and so increase the possibility of minimizing duplication. It would also maximize involvement and contribution from specialists globally thus accelerating progress and securing the best chance of generating solutions ahead of the next disruptive eruption.

## **2. NEED FOR A PROGRAMME**

2.1 If the Task Force is to significantly improve global capability to predict and manage the effect on aviation of volcanic eruptions, then it must provide a coherent picture of the tasks required to achieve that outcome, of what each task must produce, of how those products interlink and of who is conducting the work. This is, by definition, a Programme.

2.2 Organizing the work in such a way gives Task Force members assurance of completing the necessary work in the most effective manner and in a predictable timescale, enables all affected parties still involved in extraordinary Eyjafjallajökull-related actions to return to normal working procedures as early as possible and minimises the disruption that could be caused by a new eruption, not only in Iceland but anywhere in the world.

2.3 One of the principles of organising and delivering a Programme is that the Programme be run by a Programme Manager supported by his/her team and having a mandate to match resources to

activities and to press those resources to achieve the required products in a timely fashion. Section 3 discusses options for how this might be organized within the normal ICAO structures and the constitution of the IVATF.

2.4 Another principle is that the Programme should have a sponsor to oversee the work of the Programme Manager and to secure the correct environment for the participants in the Programme. The sponsor would normally be supported by a Programme Board with a small number of members capable of representing the range of specialist areas involved in delivering the Programme. Recognizing that the ICAO ANC/Council are the formal ICAO Programme Board, the use of the term in this context signifies only that this is the team that assists the IVATF Chairman with this Programme.

2.5 To ensure that the Programme is complete and coherent, it is also essential that a structure for the Programme is set out which ensures that all activities significant to the achievement of the objective are properly identified. The key issues for controlling the aviation impact of volcanic eruptions have been established as:

- a) knowing what contamination is in the atmosphere;
- b) understanding what hazard to aviation that contamination represents, and
- c) having sound processes to arrange operations in a manner that properly addresses that hazard.

These three issues represent a good reference point for structuring the Programme as indicated in the Appendix to this paper.

2.6 For two reasons, communications is a fourth key issue for this Programme:

- a) Firstly, the resources that the Programme needs to attract to participate in this work are globally distributed and not arranged into a coherent organizational structure. The geographic and multi-disciplinary diversity is a challenge that must be met with excellent ongoing communications among all participants. If the work of these diverse participants is to remain coherent, these participants will require a clear Programme structure and ongoing updates on progress and on the Programme's evolving direction. The intensity of communications necessary provides the foundation for a powerful virtual programme structure that minimises the resource impact on individuals but enables all to contribute to the limit of resources that their organisations can afford. This argues for a clear communications element within the Programme; and
- b) Secondly, this communication approach must be open to potential participants in the Programme. Some activities of interest to the IVATF may already be underway in parts of the aviation or scientific communities not directly involved in the work of the IVATF. To avoid duplication, maximize contributions to the work of the IVATF and so accelerate the work, it is highly desirable that the Programme be able to draw on this work. To achieve this, it is not only necessary to have a clearly accessible and understandable Programme, it is also necessary to provide high quality communications enabling all those capable of making a contribution to be aware of the needs of the Programme, to have the means to contribute their work to the Programme and to allow the Programme to take best advantage from that

contribution. This too argues for a clear communications element within the Programme.

### 3. OPTIONS FOR THE PROGRAMME ENVIRONEMNT

3.1 The IVATF will need to decide whether, given the issues identified above, it wishes to construct its activities into a Programme and, if so, whether to adopt the framework suggested in the Appendix to this paper.

3.2 If the IVATF chooses to adopt the Programme approach, there are a wide variety of options open to it in terms of resourcing the management team running the programme.

3.3 One option would be for the IVATF to elect a Chairman to be Programme Sponsor supported by a small Programme Board drawn from its membership. Assisting these persons in constructing and running the Programme, the IVATF might choose to vest the programme management role in the IVATF Secretary and his team (to include, in particular, the Secretary of the IAVWOPSG). Given the resourcing issues associated with this approach, the IVATF should consider offering to ICAO additional programme management and communications resources.

3.4 Should it not prove possible to find the resource to support the option outlined above, the fall-back option, more familiar to ICAO programmes, is for the IVATF Chairman to undertake the roles of programme sponsor and *de facto* programme manager supported by a team consisting of the Rapporteurs of the sub-groups and by the ICAO Secretariat. The IVATF will wish to confirm its confidence in such an approach in light of the particular needs of this programme.

3.5 Finally, should the IVATF agree that communications form a key part of the Programme, it should decide how best to ensure the right methods and tools are put in place to ensure that:

- a) the structure and progress of the work of the IVATF is widely known across the aviation and scientific communities;
- b) opportunities to contribute to that work can be identified by those without direct involvement in the IVATF; and
- c) such contributions are encouraged, facilitated and managed in a manner that allows the Programme to secure the best advantage from such contributions.

### 4. ACTION BY THE IVATF

4.1 The IVATF is invited to:

- a) agree to use programme management principles as described above to organize its work;
- b) develop a communications approach capable of maintaining Programme coherence and securing wide expert participation in the Programme;
- c) appoint a suitably robust management team to construct and manage the Programme;

- d) authorize that team to allocate tasks within the Programme; and
- e) construct the Programme around the themes of the atmospheric conditions, the hazard, the risk management approach and communications in drawing up the future work programme to be agreed under Agenda Item 8.

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Best possible prediction and management of the effect of volcanic eruptions on aviation

IVATF/1-V  
Appendix

1.1.1 APPENDIX to IVATF/1 – WP/  
OUTLINE WORK PROGRAMME STRUCTURE

What's in the atmosphere?

Measure Actuals

On aircraft "Avoid"

Predict

Modelling

Emissive force

Ground, airborne,  
space-based  
detection

LIDAR

MET flights

Radiosonde

What effect on aircraft?

Tolerable ash level  
(economic)

Safe ash level

Events from  
previous eruptions

Recent  
experience

Further flight  
tests

Engine testing

How to manage the risk?

Risk Management

Operator

OEM

Met

Updated model  
charts

Visible Ash

Revised Contingency  
Procedures

Notification

Recent in-  
service data

Communications

Publications to  
scientific & aviation  
communities

Encourage  
participation

Facilitate sharing

Website / information  
library