



WORKING PAPER

INTERNATIONAL VOLCANIC ASH TASK FORCE (IVATF)

FIRST MEETING

Montréal, 27 to 30 July 2010

Agenda Item 4: Review of operational response to volcanic ash aircraft encounter and notification and warning for VA (ATM sub-group)

4.1: Assessment of current contingency procedures and reporting criteria to detect and mitigate risk

THE USE AND EFFECTIVENESS OF COLLABORATIVE DECISION MAKING DURING VOLCANIC ASH EVENTS

(Presented by the United States)

SUMMARY

The United States' *National Volcanic Ash Operations Plan for Aviation* defines the roles and responsibilities of U.S. federal agencies in response to volcanic ash. Regional response plans (e.g. Alaska, Northern Marianas Islands) contain more detail of how the agencies interact with one another. These plans are the foundation from which Collaborative Decision Making (CDM) takes place.

1. INTRODUCTION

1.1 The United States (U.S.) Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM) Working Group for Volcanic Ash (WA/VA) was responsible for producing the *National Volcanic Ash Operations Plan for Aviation* (NVAOPA) in August 2007. This document supports the ICAO International Airways Volcano Watch (IAVW) and identifies the U.S. federal agencies, describes their responsibilities, procedures/actions, and message formats. The document also provides information on how the Federal Aviation Administration (FAA), as the U.S. Meteorological Authority with regard to ICAO, meets its obligations to the IAVW.

1.2 In addition to the NVOPA, there exist two separate and distinct regional plans which provide operational guidance, supplemental information, and more detail at the regional level for volcanic ash operations in response to volcanic ash episodes and hazards in the Alaskan and Northern Marianas

Islands Region. In addition, a U.S. Pacific Northwest and Hawaii plan are under development at this time.

1.3 Four principal federal agencies support the NVAOPA:

- a) Department of Commerce, National Oceanic and Atmospheric Administration;
- b) Department of Defense, United States Air Force;
- c) Department of Interior, United States Geologic Survey; and
- d) Department of Transportation, Federal Aviation Administration

The National Aeronautics and Space Administration and the Smithsonian Institution also provide support to the federal agencies through extending the benefits of earth science research in the areas of volcanic ash observation, tracking, and eruption characteristics. In addition, the Smithsonian Institution archives information on volcanoes, not only in the United States, but globally.

2. DISCUSSION

2.1 The key to Collaborative Decision Making (CDM) is through the timely exchange and sharing of information. This concept is supported through the NVOPA and the two regional plans. Although a single entity (field office) is ultimately responsible for the issuance of a given product, the process by which the details of that product are determined are accomplished through CDM.

2.2 An example of such collaboration can be seen during volcanic ash events in the Anchorage Flight Information Regions (FIR). Procedures are in place for the Anchorage Volcanic Ash Advisory Center (VAAC) to collaborate with the Meteorological Watch Office (MWO), the Anchorage Center Weather Service Unit (CWSU) and the Alaska Volcano Observatory (AVO) in support of the Anchorage Area Control Center, i.e., the Air Navigation Service Provider (ANSP). Additional collaboration takes place with the Department of Defense Joint Task Force (JTF) Alaska, Alaska Department of Homeland Security and Emergency Management, United States Coast Guard (USCG) and many other state and federal agencies. The flow of information both to and from the MWO and VAAC is most critical to ensure the timeliness and accuracy of the aviation warnings and advisories.

2.3 During an eruptive event, regularly scheduled and impromptu conference calls ensure that the stakeholders are all working together. Specific agency prioritized call down lists are critical to ensure that the information is further distributed properly.

2.4 CDM tools and capabilities (e.g. whiteboard, chat, etc.) enhance the collaboration and allow the participants to visually understand the situation and become an active participant in the process. The Alaska prototype system Volcanic Ash Collaborative Tool (VACT) is one example.

2.5 The Alaska Interagency Operating Plan for Volcanic Ash Episodes (also known as the Alaska regional plan), as an example, was developed and is exercised as a “team effort”. No single entity is able to do the job entirely on its own. It is the team approach of engaging all of the partner agencies to work together which makes this successful in Alaska.

2.6 The CDM process can be applied on a much broader scale as well. The Eyjafjallajökull eruptions of 2010 highlight the need for CDM processes between VAACs, particularly during high impact events. The development of procedures for VAACs to collaborate more regularly during high impact eruptive events would likely yield added benefits to the customers of VAAC products.

2.7 A proposal might be that under certain high impact volcanic ash situations (to be determined), a lead VAAC may initiate a collaborative session with adjoining VAACs to discuss issues related to modeling, observations, or any other important issue. This may be done through telephone communication or some other CDM tool or capability. This process would ensure a harmonized and consistent product to the end user.

3. CONCLUSION

3.1 Collaborative Decision Making (CDM) is an effective way to ensure harmonization between participating service providers. In this regard, the TF is invited to formulate the following action agreed:

**Action Agreed 1/... — Collaborative Decision Making (CDM)
process during high impact volcanic
events**

That, the IAVW Coordination Group, in coordination with the ICAO IAVWOPSG, be tasked to investigate the feasibility of VAACs, MWOs, ANSPs, and volcanic observatories using the Collaborative Decision Making (CDM) process during high impact volcanic ash events.

4. ACTION BY THE IVATF

4.1 The IVATF is invited to:

- a) note the information in this paper, and
- b) decide on the draft action:

— END —