



International Civil Aviation Organization

**MIDANPIRG Meteorology Sub-Group
Fourth Meeting (MET SG/4)**

(Cairo, Egypt, 25 – 27 June 2013)

Agenda Item 3: Review of Recent and Forthcoming Global Developments

**OUTCOMES FROM THE INTERNATIONAL AIRWAYS VOLCANO WATCH OPERATIONS
GROUP**

(Presented by the Secretariat)

SUMMARY

The sixth meeting of the International Airways Volcano Watch Operations Group (IAVWOPSG/6, 19 to 23 September 2011, Dakar) produced actions agreed that may be of interest to the Region and provided in brief in this paper.

The seventh meeting of the International Airways Volcano Watch Operations Group (IAVWOPSG/7, 18 to 22 March 2013, Bangkok) produced actions agreed that may also be of interest to the Region and provided in brief in this paper.

1. INTRODUCTION

1.1 The sixth meeting of the International Airways Volcano Watch Operations Group (IAVWOPSG/6, 19 to 23 September 2011, Dakar) as well as the seventh meeting of the IAVWOPSG (IAVWOPSG/7, 18 to 22 March 2013, Bangkok) produced actions agreed that may be of interest to the Region and provided in brief in this paper. The reports and executive summaries are provided at the following link: <http://www.icao.int/safety/meteorology/iavwopsg/Lists/Meetings/AllItems.aspx>

2. DISCUSSION

2.1 The IAVWOPSG/6 reviewed ICAO provisions related to IAVW, which included endorsement of draft amendments to Annex 3 and amendment of IAVW-related guidance (Doc 9766) concerning the coordination and transfer of responsibility between VAACs for volcanic ash events.

2.2 IAVWOPSG/6 outcomes set out to improve: the support provided to end users; situational awareness; best practices and other guidance material; collaborative forecasting and collaborative decision making through information sharing; follow-up action on the recommendations developed by IATA; the recommended practice for monitoring active/potentially active volcanoes; volcano observatory products and communications with the aviation community; the template for advisory messages for volcanic ash; consistency between VAACs/advisory messages; the international volcano database; and the geographical description of volcanic ash in SIGMET messages.

2.3 The IAVWOPSG/6 established an ad-hoc group:

- To develop a concept of operations for the provision of accidental release of radioactive material into the atmosphere,
- To review Annex 3 provisions and related guidance material and,
- To coordinate, in view of an evaluation of the role of regional specialized meteorological centres (RSMCs) in the provision of related guidance, with the WMO Commission for Basic Systems (CBS) Coordination Group on Nuclear Emergency Response Activities (Conclusion 6/29 refers).

2.4 In addition, the group reviewed the overall structure for the provision of information regarding the release of radioactive material into the atmosphere, and agreed to study alternative provisions for replacement of the SIGMET for radioactive cloud and to assess the possibility of provision of such information by centres with the necessary expertise (Conclusion 6/30 refers).

2.5 The IAVWOPSG/7 outcomes include but are not limited to: a proposal to amend Annex 3 regarding introduction of a requirement for VAACs to monitor, where available, relevant ground-based and airborne data to detect the existence and extent of volcanic ash in the atmosphere (IAVWOPSG Conclusion 7/5); to develop guidance material to support VAAC monitoring of relevant ground-based and airborne data to detect the existence and extent of volcanic ash in the atmosphere (IAVWOPSG Conclusion 7/6 refers); develop training material to support the use of quantitative, satellite-derived, volcanic ash and gas products for operational use by VAACs (IAVWOPSG Conclusion 7/8 refers); include guidance material on airborne instrumented measurements of volcanic ash clouds and guidance material for conducting volcanic ash exercises in ICAO regions in ICAO Doc 9766 (IAVWOPSG Conclusion 7/9 and 7/10 refer); develop examples and illustrations related to the definition of “lead VAAC” for inclusion in ICAO Doc 9766 (IAVWOPSG/7 Conclusion 7/15).

2.6 IAVWOPSG/7 Conclusion 7/16 endorsed the definitions of visible ash and discernible ash for operational use. Specifically, visible ash be defined as “volcanic ash observed by the human eye” and not be defined quantitatively by the observer; discernible ash be defined as “volcanic ash detected by defined impacts on/in aircraft or by agreed in-situ and/or remote-sensing techniques; in accordance with agreed VAAC best practice, the “discernible ash” definition be applied to delineate volcanic ash clouds on volcanic ash forecasts (including volcanic ash advisories in graphical format); and the Secretary include the definitions presented in a) and b) above in the *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds* (Doc 9691).

2.7 Other items of note from the IAVWOPSG/7 meeting, but not limited to, include: continue work on expressing confidence at the time of observation of an ash cloud (T+0 hours) in the volcanic ash advisory/volcanic ash advisory in graphical format (IAVWOPSG Conclusion 7/19 refers) and evaluate forecast confidence to meet the needs of volcanic ash related safety risk assessment (IAVWOPSG Conclusion 7/20 refers); to conduct a review of existing and evolving aerosol observation capabilities, networks, future plans and associated applications (e.g. to support the definition of discernible ash), with a view to enhancing data and information exchange within the international airways volcano watch (IAVWOPSG Conclusion 7/23); develop additional guidance material on the use of the volcano observatory notice for aviation (VONA) for inclusion in ICAO Doc 9766 to support implementation of Amendment 76 to Annex 3 (IAVWOPSG Conclusion 7/24); develop guidance material on the issuance and interpretation of SIGMET information for a complex volcanic ash cloud to be included in ICAO Doc 8896 and/or regional SIGMET guides (IAVWOPSG Conclusion 7/27); to develop a proposal on the provision of volcanic ash information beyond the current T+18 hours timeframe, taking into consideration any constraints and limitations (such as character limitations of AFTN circuits) as well as the quality of information (forecast accuracy), in an effort to meet evolving user requirements (IAVWOPSG Conclusion 7/28); and further assess the

feasibility and means to improve reporting of volcanic ash to volcanic ash advisory centres (VAACs), including the reporting of “no volcanic ash” in areas forecast to contain a volcanic ash cloud (IAVWOPSG Conclusion 7/29).

2.8 With reference to developments on information about the release of radioactive material, IAVWOPSG Conclusion 7/37 sets out to: further develop the draft concept of operations in support of international air navigation on how best to provide information on the release of radioactive material into the atmosphere with a view to having a mature proposal in time for the proposed ICAO Meteorology Divisional Meeting (July 2014); assess the provision of information and guidance on radioactive material released into the atmosphere as provided in Appendices K to P to the IAVWOPSG/6 meeting report; consult with the WMO (Task Team on Nuclear Emergency Response Activities including the International Atomic Energy Agency (IAEA)) in order to evaluate the possible role of the WMO Regional Specialized Meteorological Centres in the provision of guidance on the location and movement of radioactive material in the atmosphere as identified in the draft concept of operations; review the provision of ICAO Annex 3 and ICAO Doc 9691 regarding radioactive material and proposed changes thereto, as necessary (IAVWOPSG Conclusion 7/37).

2.9 The meeting may recall the Global Database of ACC AFTN 8-Letter Addresses for the Notification by VAAC London Concerning the Release of Radioactive Material into the Atmosphere noting entries were missing from Iraq (Baghdad and Basrah ACCs), Iran (Tehran ACC, FIC, FIR), Lebanon (Beirut ACC), Oman (Sanaa ACC), and Syria (Dam ACC). These States are encouraged to provide their ACC AFTN addresses to receive notification on the release of radioactive material into the atmosphere.

2.10 IAVWOPSG Conclusion 7/38 introduces amendment to Annex 3 (Amendment 77) related to space weather. More details on any of the above items and those not included can be found at the following website:
<http://www.icao.int/safety/meteorology/iavwopsg/Lists/Meetings/AllItems.aspx>.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information in this paper; and
- b) provide ACC AFTN addresses to receive notification on the release of radioactive material into the atmosphere.