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MET PANEL (METP)
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VOLCANIC ASH (VA)

SECOND MEETING

Buenos Aires, Argentina, 27 to 28 April 2016

Agenda Item 4: Work plan and activities
Activity 3.2: Situational awareness for aviation operators

AVIATION COLOUR CODE

SUMMARY

For the use of ICAO aviation colour code, discussion needs to avoid mixing two things: aviation colour code in VONA is for volcano activity itself while that in VAA is for volcanic ash in the atmosphere. Often these are not consistent and the mixed usage rather causes confusion. In addition, some states have national volcanic alert levels independent from aviation colour code and people are more accustomed to their own alert levels. Therefore, aviation colour code is better to be kept as optional so that each state can decide whether adopting it or avoiding double standard depending on its circumstances.

(Presented by Japan)

1. INTRODUCTION

1.1 In ICAO ANNEX 3, aviation colour code is described in Table A2-1 Template for advisory message for volcanic ash. This table shows an option to use NIL for aviation colour code in volcanic ash advisory (VAA). In other documents, aviation colour code is encouraged to be used by vulcanological agencies in states which have introduced the aviation colour code. For example, it is described in the International Airways Volcano Watch (IAVW) Handbook (Doc.9766) in Part 4, section 4.3 as follows:

> *Note 3.— Volcano level of alert colour codes for aviation should be used by some vulcanological agencies to report volcanic activity information (see 4.2.4). In States where the volcano level of alert colour codes for aviation have been introduced by the vulcanological agency, it is highly desirable to include the reported colour code in ASHTAMs or NOTAMs issued for volcanic activity.*

1.2 Comments for aviation colour code seems to have three tones: one is a request for its use for various information such as volcano observatory aviation notice (VONA) and VAA; another is a request for the use in VONA but negative for the use in VAA agreeing the difference of meaning in these advisories as well as the confusion caused by the mixed usage; and the last is a totally opposite comment mentioning aviation colour code is not useful.

1.3 However, discussion on aviation colour code tends to be held without clarifying the tone, especially the first and second tones described above, and just discuss if aviation colour code is necessary/ useful or not. It is necessary to have a discussion with clear understanding on what information each comment is given for.

2. DISCUSSION

2.1 Focusing on two specific advisories here, VONA and VAA, colour codes in VONA relate to volcano activity, while the main impact that volcano activity has on aviation operations is the emission of high altitude volcanic ash cloud rather than the volcano activity itself. The information of volcanic ash cloud in high altitude is provided in VAA with the current and forecast volcanic ash extent up to 18 hours ahead.

2.2 Considering a case of volcano eruption, when the volcano is emitting ash plumes high in the air, aviation colour code for VONA is “red” and the impact on aviation operations is also significant. However, when the volcano is erupting but not emitting ash plumes (e.g. emitting only water vapour), aviation colour code for VONA is “orange” but no VAA is issued. Or, when the volcano was emitting ash plumes but its activity subsides and the level of aviation colour code for VONA is downgraded to “yellow” accordingly, the high altitude volcanic ash cloud may still continue to exist from the eruption and continue to have a significant impact on aviation operations – in which case the “yellow” in the VONA may not reflect the high level of alert to operators appropriately if it is used in the VAA information.

2.3 As illustrated above, the meaning of VONA and VAA is largely different and aviation colour code in VONA does not always reflect the impact to aviation operators regarding volcanic ash clouds high in the air. Some airlines in Japan, the U.S. and others mentioned that they totally do not need aviation colour code in VAA since the advisory has information of the height and extent of volcanic ash clouds. As long as the aviation colour code is the information of volcano activity, it should be separated from volcanic ash cloud in the air.

2.4 Aviation colour code could be one of the indices to explain the level of volcano activity. However, some states have their own alert levels for volcano activity in the national warning system. Those alert levels have been developed based on each state’s history and culture and well adapted to the national character. Sometimes it is closely linked to the anticipated damage and not purely reflecting volcano activity from the point of view of disaster mitigation: for example, when the activity of a volcano A, far from residential area, is on the same scale as that of a volcano B, which is a very popular sightsee spot and many tourists walk by the crater, the alert level of the volcano B is higher than that of the volcano A.

2.5 These national alert levels are not necessarily in four levels as in the aviation colour code but they vary; sometimes they have three but sometimes they have five or six levels. They cannot always be converted to the aviation colour code with four classes appropriately, even aside from cases that alert levels are including the factor of disaster mitigation.

2.6 In addition, people including aviation operators tend to be more accustomed to their own state's alert levels as the levels are well adapted to the national character and locally long-used. In such cases, some states prefer not using two indices for volcano activity, even though one is for aviation, to avoid causing users confusion as it looks like double standard.

2.7 This paper never opposes the use of aviation colour code in states and users as long as they are satisfied with the information for smoother aviation operations, but highlights the needs to respect and accept various circumstances. As recognized in the METP WG-MISG VA meeting in Washington DC in November 2015, each state has its own circumstances. It may be easy and useful for some states and users to have aviation colour code in four colours because it is simple and visually appealing; however, it cannot be ignored that there also exist some that have difficulty in introducing it. The discussion is required to consider what the real best way is for aviation field rather than just focusing on whether or not to adopt aviation colour code as global standard.

3. RECOMMENDATIONS

3.1 Recommendations arising from the discussion above:

a) That discussion on aviation colour code should be held with clear recognition for what information the discussion is being held and avoid mixture;

b) That the members to recognise the gap between aviation colour code in VONA and the impact to aviation operators; and

c) That the members accept the variation of circumstances for the use of aviation colour code and keep it optional

4. ACTION BY THE MEETING

4.1 The meeting is invited to note the information and adopt recommendations contained in this paper.