International Civil Aviation Organization

SIXTEENTH MEETING OF THE COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND METEOROLOGY SUB-GROUP (CNS/MET SG/16) OF APANPIRG

Bangkok, Thailand, 23 – 27 July 2012

Agenda Item 11**: Meteorological advisories and warnings**

SIGMET FOR RADIOACTIVE CLOUDS IN JAPAN

(Presented by Japan)

SUMMARY

This paper presents current status of SIGMET for radioactive clouds in Japan.

This paper relates to –

Strategic Objectives
A: Safety - *Enhance global civil aviation safety*
C: Environmental Protection and Sustainable Development of Air Transport - *Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:
GPI-19 Meteorological Systems

1. Introduction

1.1 The Japan Meteorological Agency (hereafter JMA), according to the discussion with the Japan Civil Aviation Bureau (hereafter JCAB), had decided not to issue radioactive cloud SIGMET, and filed a difference to the ICAO Annex3. One of the main reasons is that there haven't been any specific (or reliable) criteria and guidelines concerning issuance of such SIGMET.

1.2 However, considering its critical influences on aircraft operations and importance of notifying occurrence of such a danger, and answering requirement from ICAO, JMA had started to issue SIGMET on radioactive cloud, since 1610UTC, 17th March 2011.

1.3 Earlier than the SIGMET issuance, WAFCs put the symbol of release of radioactive materials into atmosphere on their SIGWX charts, since 21UTC, 15th March 2011.

1.4 Though there are no specific criteria concerning radioactive clouds SIGMET, JMA decided the area of the SIGMET in consistent with the no-fly zone issued by JCAB via NOTAM according to the indoor evacuation area declared by Japanese Government, because it's the only credible source of danger.

1.5 The area was a circle with a radius of 30km whose centre is the Fukushima Dai-ichi nuclear power plant.

1.6 Since 31st May 2011, at the same time as JCAB reduced no-fly zone from 30km radius to 20km radius based on consultation with the Nuclear Safety Institute, JMA changed area depicted in radioactive cloud SIGMET from 30km to 20km.

1.7 An airborne monitoring in restricted areas and deliberate evacuation areas was carried out by the Ministry of Education, Culture, Sports, Science and Technology and the Ministry of Land, Infrastructure, Transport and Tourism in February 2012. The monitoring area covered the region around Fukushima nuclear power plant except the circle with a radius of 3km.

1.8 Based on the result of the airborne monitoring, the no-fly zone issued by JCAB and the area of the SIGMET shrunk to the circle with a radius of 3km since 25th February 2012. The reason why the 3km radius circle still remained was that no monitoring data in the circle was obtained.

2. Discussion

2.1 From the lessons of actual issuance of SIGMET for radioactive clouds, following points should be considered and involved to the guidelines.

2.2 Uncertainty of EER products should be recognized. Sometimes it is difficult to obtain appropriate parameters. Especially the parameters with regard to the emission such as rate of blowout, height of blowout are important for the prediction of the transport but difficult to obtain.

2.3 Each country has its original policy for the disaster prevention against the nuclear emergency. The SIGMET information should be consistent with the action taken by the each government, otherwise the inconsistency may cause significant disturbance.

2.4 For the national disaster prevention against the nuclear emergency, smaller domain compared with the scale of weather phenomena or too complex domain which cannot be expressed by simple polygon may be required. Considering that the SIGMET is issued for the international air navigation, too small or too complex domain should be omitted.

2.5 In the current status, because there is no useful technique for the forecast of the atmospheric transport of the radioactive cloud, there would be no choice but using unchanged area for the SIGMET information. The period of validity of SIGMET information may be too short.

3. Conclusion

3.1 The meeting may consider adopting the following draft Decision:

Draft Decision 16/xx - Global guideline for radioactive cloud SIGMET

That, in the process of development of global guidance material on radioactive cloud SIGMET, the IAVWOPSG is invited to:

a) take into account technological restriction on observing and forecasting radioactive clouds in atmosphere, and

b) consider necessity to harmonize with National nuclear contingency plan or other relevant working arrangement, especially when the dispersion model is maintained by other organization than the State MET authority.

4. Action by the Meeting

4.1 The meeting is invited to:

a) note the information contained in this paper;

b) discuss any relevant matters as appropriate; and

c) consider the adoption of the related Decision.

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