International Civil Aviation Organization CNS/MET SG/6 – WP/37

Sixth Meeting of CNS/MET Sub-Group of APANPIRG

Bangkok, Thailand, 15 – 19 July 2002

Agenda Item 11: Exchange of OPMET information

PERSPECTIVE ON INCLUSION OF SIGMET IN VOLMET BROADCASTS

(Presented by New Zealand)

SUMMARY

This paper explores the current intent for the dissemination of SIGMET information to aircraft, the proposal to include such information in VOLMET broadcasts, and the key issues surrounding this proposal.

1. Introduction

1.1 In 2001, APANPIRG, in its Conclusion 10/3, agreed that the ASIA/PAC Air Navigation Plan be amended to add a requirement for inclusion of SIGMET in VOLMET HF broadcasts (FASID Table ATS 2). A draft proposal was circulated to States for comment. Some States expressed concern, in particular regarding the limited time available for broadcast.

1.2 The inclusion of SIGMET in VOLMET broadcasts was expected to assist in providing updated information to pilots, especially on long haul flights. The subject was referred to the CNS/MET SG/5 for further consideration.

1.3 Among solutions discussed at the CNS/ATM SG/5 meeting in 2001 was the identification of additional frequencies for VOLMET broadcast from ITU Radio Regulation Appendix S27. However, this avenue was expected to take a considerable period of time in completing the necessary coordination. Some States are currently using NDB frequencies to cope with extra time required for HF VOLMET broadcast.

1.4 Some States have also introduced D-VOLMET. Through this system pilots can access D-ATIS and D-VOLMET data for the latest MET information through a VHF data link. The use of D-ATIS and D-VOLMET is enabled currently through the SITA AIRCOM service to airlines and ATC service providers.

1.5 Proposals made by observers from IATA at the ATS/AIS/SAR SG/11 included SIGMET information being;

(a) Condensed and abbreviated, and/or
(b) Limited to that of direct value to the particular operating crew, such as tropical cyclone, turbulence and volcanic ash impinging on the intended track.

1.6 Some VOLMET stations outside the ASIA/PAC Regions broadcast SIGMETs in abbreviated form. However, this procedure contradicts the provision of Annex 3, which specify that content, and format of reports, forecasts and SIGMET information included in VOLMET broadcasts should be consistent with the provisions of Chapter 4, 6, and 7 of the Annex.

1.7 States attending the CNS/MET SG/5 did not support the arbitrary selection of SIGMETs to be included in VOLMET due to the significant safety risk mitigation status of SIGMET.

2. Précis of Current Requirements and Broadcasts

2.1 The requirements for the passing of SIGMET information to aircraft is covered in Annex 11, Air Traffic Services, and Annex 3, Meteorological Services for International Air Navigation.

2.2 States Operational Flight Information Services (OFIS) are required to pass meteorological messages regarding enroute weather information in the form of SIGMET to aircraft within their FIR via both HF and VHF services together with aerodrome specific information.

2.3 As set out in the FASID Table ATS 2, certain transmitting stations within States have a responsibility to provide HF radiotelephony VOLMET broadcasts on a scheduled basis. The content of these broadcasts are METAR, SPECI, trend parts where available, aerodrome forecasts where stated and SIGMET where determined in the regional air navigation agreement.

2.4 All VOLMET broadcasts are to use standard radiotelephony phraseology.

2.5 In the ASIA/PAC region only the VOLMET broadcasts from Honolulu are currently listed in the FASID Table ATS 2 as containing SIGMET.

2.6 The capacity of D-VOLMET allows for much greater volume of information so these transmissions are required to contain aerodrome forecasts, SIGMET messages, special air reports not covered by a SIGMET, and where available AIRMET messages.

3. VOLMET Broadcast Timing

3.1 A series of HF frequencies has been assigned to broadcast stations for the transmission of VOLMET messages. Each group of broadcast stations has a series of frequencies over which each station simultaneously broadcasts its VOLMET messages during allotted 5-minute broadcast windows each hour.

3.2 In most cases in the ASIA/PAC region, the whole of any given hour for a group of broadcast stations is fully allocated.

4. Practice and Experience in New Zealand

4.1 A VOLMET broadcast is provided from Auckland, New Zealand. It contains METAR, SPECI, TTL and TAF information for a number of aerodromes in New Zealand and the South Pacific as specified in FASID Table ATS 2.

4.2 The Auckland Oceanic FIR currently covers a very large part of the South Pacific (shortly to increase in area) and therefore the Meteorological Watch Office is required to issue SIGMET, where necessary for this large area. There are many times where there are more than two SIGMETS valid and history shows that there can be up to five SIGMETs valid in the FIR at any one time.

4.3 While there is clearly a time issue in endeavouring to include full SIGMETs in the VOLMET broadcasts, the broadcasts do contain information on the validly of any SIGMETs in the FIR. With this information, pilots are expected to request the relevant and current SIGMET from Air Traffic Services.

4.4 The workload of pilots is recognized however, and New Zealand Air Traffic Services proactively pass amended SIGMET messages to inbound and outbound aircraft within 90 minutes flying time of the aerodrome of departure or arrival. Outside this range SIGMET information is passed on request to pilots.

4.5 There is increasing air traffic to New Zealand and this can be categorized as falling in to two distinct geographical components; trans-Tasman and trans-Pacific. This growth and the seasonal density fluctuations can put pressure on the ability if ATS to transmit triggered or request meteorological messages to aircraft. Notwithstanding this New Zealand is not aware of any significant issue in its FIR with regard to the timely provision of SIGMET validity information through VOLMET broadcasts or ATS ability to pass SIGMET information directly to pilots.

5. Core Nature of the Issue

5.1 There have been events in the ASIA/PAC Region that suggest that there are problems with both the timely issue of meteorological warnings to international aviation and the timely interpretation and use of such warnings when provided. Aircraft have been flown into areas for which adverse conditions have been depicted in SIGWX charts (but no SIGMET necessarily in force). On the other hand, the issue of SIGMET, subsequent to the receipt of AIREPs on significant adverse meteorological conditions, have sometimes not been timely.

5.2 Along with other similar technical issues, this particular issue with the provision of SIGMET through VOLMET broadcasts suggests that there is growing unawareness of the value, nature, scope and significance of meteorological products and systems provided for the benefit of operators and crews. On the other hand there also appears to be a decoupling of understanding of the needs of operators and crews for timely meteorological information and the timely assessment, production and dissemination of that meteorological information.

5.3 With the ongoing development of data-link systems it is reasonable to conclude that the current in-flight SIGMET reception issue will diminish and that the main product automatically received by aircraft will be D-VOLMET. The rate of this change, however, seems to have little bearing on the perceived need for introducing SIGMET into all HF VOLMET broadcasts.

5.4 New Zealand believes the overarching issue remains the correct use and interaction with the internationally prescribed and current meteorological systems and products as set out in the various Annexes and supporting documents.

6. Action by the Meeting

6.1 The meeting is invited to

(a) Note the content, and
(b) Exchange views on the various matters discussed in this paper.