



International Civil Aviation Organization

THIRD MEETING OF ASIA/PAC OPMET MANAGEMENT TASK FORCE OF CNS/MET SUB-GROUP OF APANPIRG (OPMET/M TF/3)

Bangkok, Thailand, 2-4 March 2005

**Agenda Item 4c: Development of procedures for monitoring and management of OPMET
exchange: SIGMET tests**

PROGRESS WITH SIGMET TESTS – WS ASIA/PAC SIGMET TEST PROCEDURES

(Presented by Australia)

SUMMARY

This paper presents a proposal for conducting a regional SIGMET test for general SIGMET's. The study is intended to provide up-to-date information on SIGMET exchange within the region that will finalize details within the ROBEX handbook.

1 INTRODUCTION

1.1 The First Meeting of the ASIA/PAC OPMET Exchange Task Force (OPMET/E TF/1) proposed that the RODBs should handle all types of OPMET information including SIGMET (WS,WC,WV) and advisories (FK and FV).

1.2 As a follow up of Recommendation 1/12 b) of the Met Divisional meeting (2002) a new version of the ASIA/PAC Regional SIGMET Guide was published in 2003. This document provided *inter alia* information on the requirements for the dissemination and exchange of SIGMET. The guide was sent to all ASIA/PAC States.

1.3 The second meeting of the ASIA/PAC OPMET Management Task Force (OPMET/M TF/2) reviewed the results of a monitoring exercise carried out by the SADIS gateway in the UK on the availability of SIGMET for SADIS. The monitoring was conducted over a three-month period, with the results presented to the meeting. It was seen from the results that there existed a serious shortfall of SIGMET messages from ASIA/PAC region. It was recalled to the meeting that whatever the reason for non-issuance of SIGMET from some MWOs in the ASIA/PAC Region it has been recognised and included in the list of air navigation deficiencies.

1.4 In December 2003 a letter was sent to all ASIA/PAC States requesting information on SIGMET bulletins issued by their MWOs. By February 2004, only seven responses had been received. The results from the survey and information from the meeting were used to develop a SIGMET bulletin table for the ROBEX Handbook. This table will also be used as reference for the FASID Table MET 1B, which lists all MWOs in the ASIA/PAC Region.

1.4 OPMET/M TF 2 meeting noted that with the inclusion of the new SIGMET table in the ROBEX Handbook, it would be possible to start monitoring of the SIGMET issuance and availability.

1.5 To further the exchange of SIGMET within the ASIA/PAC Region a SIGMET Team was established to develop test procedures for SIGMET issuance across the ASIA/PAC Region.

2. DISCUSSION

2.1 The results of the survey conducted by the Secretariat indicate a serious problem within the ASIA/PAC Region in the exchange of SIGMET. The reason could be caused by inadequate communications, with the incorrect addressing of messages or it could be the non-issuance of SIGMET by MWOs in the ASIA/PAC Region States.

2.2 As a survey, with poor results, has already been tried, to gain further information regarding the issuance of SIGMET, trying another survey would possibly have the same result. The VA/TC Implementation Task Force has developed SIGMET test procedures for VA and TC SIGMET, with test for both VA and TC advisory issuance and the corresponding SIGMET issuance already having been carried out during January and February 2005. This paper outlines a suggested SIGMET test for the ASIA/PAC Region using the EUR Region SIGMET test procedures and the VA/TC test procedures.

2.3 It is expected that with the VA/TC SIGMET test and the OPMET/M TF WS SIGMET test, more information on the subject of SIGMET availability in the ASIA/PAC Region would allow the updating the ROBEX scheme as regard SIGMET exchange.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information in this paper;
- b) review the draft SIGMET Test document and propose any changes.

ASIA/PAC OPMET/M TF SIGMET TEST

Procedures for conducting SIGMET (WS) tests

1. Introduction

- 1.1 The MET Divisional Meeting (2002) formulated Recommendation 1/12 b), *Implementation of SIGMET requirements*, which called, *inter alia*, for the relevant planning and implementation regional groups (PIRGs) to conduct periodic tests of the issuance and reception of SIGMET messages, especially those for volcanic ash.
- 1.2 As follow up to Recommendation 1/12 b) of the MET Divisional Meeting (2002), ICAO Regional Office for Asia and Pacific prepared and published a new version of the ASIA/PAC Regional SIGMET Guide. This document provided *inter alia* information on the requirements for the dissemination and exchange of SIGMET.
- 1.3 The OPMET/M TF/2 meeting noted, that with the inclusion of the new SIGMET table in the ROBEX Handbook, it would be possible to start monitoring of the SIGMET issuance and availability. The Task Force designated a SIGMET Team to undertake further development of the necessary procedures, based on procedures in the EUR Region.

2. Purpose and Scope

- 2.1 The purpose of the tests is to check the awareness of the participating MWOs of the ICAO requirements for the issuance of WS SIGMET and the adequacy of the existing telecommunication procedures for dissemination of the SIGMET. Based on the result of the tests, the States will be provided with advice aimed at improving their practices and procedures.
- 2.2 SIGMET should be prepared by the meteorological watch office (MWO) designated by the State's meteorological authority. The MWOs and their area of responsibility are given in FASID Table Met 1B of ASIA/PAC FASID (attached herewith as *Appendix B*).
- 2.3 SIGMET messages should be distributed using normal dissemination according to distribution lists used for normal WS SIGMETs to all RODBs either directly or through the responsible ROBEX centre. SIGMET messages should be distributed to other ICAO regions and made available for uplink through SADIS and ISCS. This distribution should be carried out through the relevant IROGs. The AFTN addresses of the RODBs to which test SIGMETs should be sent are as follows:

Bangkok	VTBBYPYX
Brisbane	YBBBYPYX
Nadi	NFZZRFXX
Singapore	WSZZYPYM
Tokyo	RJAAYPYX

- 2.4 The RODBs and ROBEX centre will record the reception of the test SIGMETs and the corresponding time and will provide a summary table to the Rapporteur of the OPMET/M TF with a copy to the Regional Office. For details of recording see 3.4.

- 2.5 A consolidated summary report will be prepared by the Rapporteur and reported to the next OPMET/M TF and CNS/MET Sub-Group meeting. The report will include recommendations for improvement of the SIGMET exchange and availability.

3. **SIGMET test procedures**

3.1 ***Participating units:***

- 3.1.1 All MWOs listed in FASID Table Met 1B of ASIA/PAC FASID will issue a Test SIGMET, with all ROBEX centres and RODBs within the ASIA/PAC Region participating in logging arrival of all SIGMET during the test period.

3.2 ***Test Message***

- 3.2.1 The transmission of the SIGMET Test message formatted as described below shall be carried out at 0200UTC on the date set by the ICAO Regional Office. The information covering the SIGMET Test will be sent to all States concerned by a State letter.

- 3.2.2 The WMO heading and the first line of the SIGMET should be valid ones, while the body of the message should contain an explanatory text on the tests as per the following examples.

3.3 ***SIGMET Test Message Format:***

- 3.3.1 It is vital that Test SIGMETs are not confused with operational SIGMETs or that a Test SIGMET could overwrite an operational SIGMET in an automated system. In order to prevent this it is suggested that;

- a) If NO SIGMET is current for the FIR then after a Test SIGMET the next SIGMET shall be transmitted with the next consecutive sequence number. E.g.

WSAU01 YBRF 230200
YBBB SIGMET 1 VALID 230200/230230 YBRF-
TEST SIGMET PLEASE DISREGARD=

Note it would be preferable to have a validity period as short as possible for this Test SIGMET so that messages ingested into automatic systems are deleted as soon as possible.

- b) If a SIGMET is VALID at the time of the test then after the Test SIGMET the valid SIGMET shall be repeated with the next appropriate sequence number. E.g. If the following SIGMET is issued at 0100 on the 23rd

WSAU01 YBRF 230100
YBBB SIGMET 1 VALID 230100/230700 YBRF-
BRISBANE FIR SEV CAT FCST WITHIN AREA
S2230 E12445 TO S2030 E 12700 TO S2015 E 12030 TO S1645 E11445 TO S1845
E11230 TO S2215 E11815 BTN F240/320 MOV E AT 20KT NC=

A Test SIGMET is scheduled for 0200 UTC on the 23rd. This is issued with the next consecutive sequence number as follows:

WSAU01 YBRF 230200
YBBB SIGMET 2 VALID 230200/230230 YBRF-
TEST SIGMET PLEASE DISREGARD=

The original SIGMET is then retransmitted immediately after this with the next consecutive sequence number. It is suggested that the SIGMET is issued as a CORRECTION (CCA) and that the start of the validity changes to 0200. The message would be as follows:

WSAU01 YBRF 230200 CCA
YBBB SIGMET 3 VALID 230200/230700
BRISBANE FIR SEV CAT FCST WITHIN AREA
S2230 E12445 TO S2030 E 12700 TO S2015 E 12030 TO S1645 E11445 TO S1845
E11230 TO S2215 E11815 BTN F240/320 MOV E AT 20KT NC=

3.4 ***Processing of the test message and results***

- 3.4.1 The RODBS and ROBEX centres will be requested to file all incoming TEST SIGMETs and perform an analysis of the availability, timeliness of arrival and the correctness of headers. A table as shown in *Appendix A*, should be prepared by each RODB and ROBEX centre and sent to the Rapporteur of the OPMET Management TF with a copy to the Regional Office.
- 3.4.2 The Rapporteur shall prepare the final report of the test and present to the next CNS/MET Sub-group and OPMET/M TF meetings.

Appendix A**ASIA/PAC SIGMET TEST****Sample Table to be used by RODBs**

Name of RODB: Brisbane
Date of Test: 23 – 06-05

SIGMET Header

TTAAii	CCCC	YYGGgg	MWO	FIR/UIR	Received Time (UTC)
WSJP31	RJAA	230200	RJAA	RORG	2:01:15
WSAU31	YBRF	230200	YBRF	YBBB	2:01:15
WSNG20	AYPY	230200	AYPY	AYPY	2:05:23
WSID22	WRRR	230200	WRRR	WRRZ	2:05:25

Sample Table to be used by ROBEX Centres

Name of Robex centre: Indonesia
Date of Test: 23 – 06-05

SIGMET Header

TTAAii	CCCC	YYGGgg	MWO	FIR/UIR	Received Time (UTC)
WSID22	WRRR	230200	WRRR	WRRZ	2:01:15
WSAU31	YBRF	230200	YBRF	YBBB	2:01:15
WSNG20	AYPY	230200	AYPY	AYPY	2:05:23
WSJP31	RJAA	230200	RJAA	RORG	2:05:25

Appendix B**FASID TABLE MET 1B****MWOs AREA OF RESPONSIBILITY**

MWO location	ICAO location indicator	Area served		Remarks Observations
		Name	ICAO location indicator	
1	2	3	4	5
AUSTRALIA				MWOs have areas of responsibility (AOR) defined by specific forecast area boundaries. These boundaries are not aligned with FIR boundaries
ADELAIDE/Adelaide	YPRM	Melbourne FIR limited by the coordinates: 27S/128E;27S/135E;26S/138E; 2806S/14012E;29S/142E; 3414S/14205E;3345S/14045E; 40S/14045E;45S/14045E; 45S/129E;33S/129E;30S/129E; 2715S/12830E.	YMMM	
BRISBANE/Brisbane	YBRF	Brisbane FIR outside the AOR of YBTL MWO and limited by the coordinates: 0937S/14102E;0916S/14203E; 0913S/14206E;0911S/14214E; 0914S/14217E;0922S/14230E; 0922S/14230E;0923S/14236E; 0919S/14248E;0908S/14352E; 0924S/14414E;0957S/14405E; 1130S/14402E;1144S/14404E; 12S/144E;12S/155E;14S/155E; 14S/16115E;1740S/163E; 2830S/163E;2830S/155E; 2850S/15316E;29S/150E; 29S/14330E;26S/138E; 14S/138E;0937S/14102E.	YBBB	

		Melbourne FIR limited by the coordinates: 26S/138E;29S/143E;29S/142E; 2806S/14012E;26S/138E.	YMMM	
DARWIN/Darwin	YDRM	Brisbane FIR limited by the coordinates: 1055S/12447E;0920S/12650E; 07S/135E;0950S/13940E; 0950S/141E;14S/138E; 18S/138E;2215S/138E; 26S/138E;2218S/13638E; 2128S/13609E;2111S/13134E; 2151S/13058E;2313S/12828E; 2322S/12629E;2327S/12415E; 2250S/12330E;2030S/12330E; 20S/129E;16S/12915E; 1528S/12806E;1450S/12825E; 14S/12730E;1345S/12609E; 14S/124E;1055S/12447E.	YBBB	
		Melbourne FIR limited by the coordinates: 2250S/12330E;2327S/12415E; 2322S/12629E;2313S/12828E; 2151S/13058E;2111S/13134E; 2128S/13609E;2218S/13638E; 26S/138E;27S/135E; 2715S/12830E;25S/12815E; 25S/12330E;2250S/12330E.	YMMM	
HOBART/Hobart	YMHF	Melbourne FIR limited by the coordinates: 40S/14045E;40S/143E; 3953S/14353E;4006S/14759E; 40S/150E;45S/150E; 45S/14045E;40S/14045E.	YMMM	
MELBOURNE/Melbourne	YMRF	Brisbane FIR limited by the coordinates: 3730S/15033E;3730S/163E; 45S/163E;45S/150E; 4434S/150E;4351S/15040E; 43S/151E;3811S/15019E; 3730S/15033E.	YBBB	

		Melbourne FIR limited by the coordinates: 3345S/14045E;3414S/14205E; 3510S/14728E;3730S/150E; 3730S/15033E;3811S/15019E; 43S/151E;4351S/15040E; 4434S/150E;40S/150E; 4006S/14759E;3953S/14353E; 40S/143E;40S/14045E; 3811S/14045E;3345S/14045E.	YMMM	
PERTH/Perth	YPRF	Brisbane FIR limited by the coordinates: 12S/110E;12S/12320E; 1055S/12447E;14S/124E; 1345S/12609E;14S/12730E; 1450S/12825E;1528S/12806E; 16S/12915E;20S/129E; 2030S/12330E;2250S/12330E; 2153S/12226E; Thence along the major arc of a circle of 15 NM radius centred on 2143S 12213E; 2133S/12201E;2026S/12045E; Thence along the minor arc of a circle of 120NM radius centred on 2023S 11837E; 1823S/11825E;1753S/11822E; Thence along the minor arc of a circle of 150NM radius centred on 2023S 11837E; 1934S/11606E;1931S/11331E; 12S/110E.	YBBB	

		Melbourne FIR limited by the coordinates: 06S/75E;02S/78E;02S/92E;12S/107E;12S/110E;1931S/11331E;1934S/11606E; thence along the minor arc of a circle of 120NM radius centred on 2023S 11837E; 1753S/11822E;1823S/11825E; thence along the minor arc of a circle of 120NM radius centred on 2023S 11837E; 2026S/12045E;2133S/12201E; thence along major arc of a circle of 15.0NM radius centred on 2143S 12213E; 2153S/12225E;2250S/12330E;25S/12330E;25S/12815E;2715S/12830E;30S/129E;30S/129E;33S/129E;45S/129E;45S/75E;06S/75E.	YMMM	
SYDNEY/Sydney	YSRF	Brisbane FIR limited by the coordinates: 29S/14632E;29S/150E;2850S/15328E;2830S/155E;2830S/163E;3730S/163E;3730S/15033E 3657S/15045E; then east of the minor arc of a circle of 120NM radius centred on 3457S/15032E; 3519S/15256E;3421S/15140E;3359S/15201E;3351S/15154E;3328S/15148E;3315S/15126E;3312S/15114E;3320S/15042E;3327S/15033E;3206S	YBBB	
		Melbourne FIR limited by the coordinates: 29S/142E;29S/14330E;29S/14632E;3206S/14850E;3327S/15033E;3320S/15042E;3312S/15114E;3315S/15126E;3328S/15148E;3351S/15154E;3359S/15201E;3421S/15140E;3519S/15256E; then east of the minor arc of a circle of 120NM radius centred on 3457S 15032E; 3657S/15045E;3730S/15033E;3730S/150;3510S/14728E;3414S/14205E;29S/142E.	YMMM	

TOWNSVILLE	YBTL	Brisbane FIR limited by the coordinates: 14S/138E;10S/141E;09S/142E; 09S/144E;13S/145E;15S/147E; 1817S/148E;2309S/15252E; 2334S/14811E;1818S/14332E; 18S/138E;14S/138E.	YBBB	
BANGLADESH				
DHAKA/Zia Intl	VGZR	Dhaka FIR and SRR	VGFR	
CAMBODIA				
PHNOM-PENH/Pochentong	VDPP	Phnom-Penh FIR and SRR	VDPP	
CHINA				
BEIJING/Capital	ZBAA	Beijing FIR and SRR	ZBPE	
GUANGZHOU/Baiyun	ZGGG	Guangzhou FIR and SRR	ZGZU	
KUNMING/Wujiaba	ZPPP	Kunming FIR and SRR	ZPKM	
LANZHOU/Chongchuan	ZLLL	Lanzhou FIR and SRR	ZLHW	
SHANGHAI/Hongqiao	ZSSS	Shanghai FIR and SRR	ZSHA	
SHENYANG/Taoxian	ZYTX	Shenyang FIR and SRR	ZYSH	
TAIBEI/Taibei Intl	RCTP	Taibei FIR and SRR	RCTP	
URUMQI/Diwopu	ZWWW	Urumqi FIR and SRR	ZWUQ	
WUHAN/Tianhe	ZHHH	Wuhan FIR and SRR	ZHWH	
HONG KONG/Hong Kong Intl	VHHH	Hong Kong FIR and SRR	VHHK	
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA				
PYONGYANG/Sunan	ZKPY	Pyongyang FIR and SRR	ZKKK	
FIJI				
NADI/Nadi Intl	NFFN	Nadi FIR and SRR	NFFF	
FRENCH POLYNESIA				
TAHITI/Faaa	NTAA	Tahiti FIR and SRR	NTTT	
GUAM				
GUAM I./Agana NAS	PGUM	Oakland Oceanic FIR West of 160E; Guam SRR	KZOA	
INDIA				
CALCUTTA/Calcutta	VECC	Calcutta FIR and SRR	VECF	
CHENNAI/Chennai	VOMM	Chennai FIR and SRR	VOMF	

DELHI/Indira Ghandi Intl	VIDP	Delhi FIR and SRR	VIDF	
MUMBAI/Jawaharlal Nehru Intl	VABB	Mumbai FIR and SRR	VABF	
INDONESIA				
BIAK/Frans Kaisieppo	WABB	Biak FIR and SRR	WABZ	
DENPASAR/Ngurah Rai (Bali Intl)	WRRR	Bali FIR and SRR	WRRZ	
JAKARTA/Soekarno-Hatta Intl	WIII	Jakarta FIR/UIR and SRR	WIIZ	
UJUNG PANDANG/Hasanuddin	WAAA	Ujung Pandang FIR/UIR and SRR	WAAZ	
JAPAN				
NAHA/Naha	ROAH	Naha FIR	RORG	
TOKYO/New Tokyo Intl	RJAA	Tokyo FIR/SRR	RJTG	
LAO PEOPLE'S DEMOCRATIC REPUBLIC				
VIENTIANE/Wattay	VLVT	Vientiane FIR and SRR	VLVT	
MALAYSIA				
KOTA KINABALU/Kota Kinabalu Intl	WBKK	Kota Kinabalu FIR and SRR	WBFC	
KUALA LUMPUR/Kuala Lumpur Intl	WMKK	Kuala Lumpur FIR and SRR	WMFC	
MALDIVES				
MALE/Hulule	VRMM	Male FIR and SRR	VRMM	
MONGOLIA				
ULAN BATOR/Ulan Bator	ZMUB	Ulan Bator FIR and SRR	ZMUB	
MYANMAR				
YANGON/Yangon Intl	VYYY	Yangon FIR and SRR	VYYY	
NAURU				
NAURU I./Nauru	ANAU	Nauru FIR and SRR	ANAU	
NEPAL				
KATHMANDU/Tribhuvan Intl	VNKT	Kathmandu FIR and SRR	VNSM	
NEW ZEALAND				
NEW ZEALAND/Wellington Intl2	NZWW	Auckland Oceanic FIR and SRR	NZZO	

		New Zealand FIR AND SRR	NZZC	
NORTHERN MARIANA ISLANDS (United States)				
SAIPAN I. (OBYAN)/Saipan I.(Obyan) Intl	PGSN	Guam SRR		
PAKISTAN				
KARACHI/Quaid-E-Azam Intl	OPKC	Karachi FIR and SRR	OPKR	
LAHORE/Lahore	OPLA	Lahore FIR and SRR	OPLR	
PAPUA NEW GUINEA				
PORT MORESBY/Jacksons	AYPY	Port Moresby FIR and SRR	AYPY	
PHILIPPINES				
MANILA/Ninoy Aquino Intl	RPLL	Manila FIR and SRR	RPHI	
REPUBLIC OF KOREA				
INCHEON/Incheon Intl	RKSI	Daegu FIR and SRR	RKRR	
SINGAPORE				
SINGAPORE/Singapore Changi	WSSS	Singapore FIR and SRR	WSJC	
SOLOMON ISLANDS				
HONIARA/Henderson	AGGH	Honiara FIR and SRR	AGGG	
SRI LANKA				
COLOMBO/Katunayake	VCBI	Colombo FIR and SRR	VCBI	
THAILAND				
BANGKOK/Bangkok Intl	VTBD	Bangkok FIR and SRR	VTBB	
UNITED STATES				
ANCHORAGE/Anchorage Intl	PANC	Anchorage Oceanic FIR; portion of Anchorage Continental FIR South of a line between approximately 62N 141W and approximately 6230N 175W and West of a line between approximately 59N 13730W and approximately 5530N 145W; Juneau SRR.	PZAN	

FAIRBANKS/Fairbanks Intl	PAFA	Anchorage Arctic FIR; portion of Anchorage Continental FIR North of a line between approximately 62N 141W and approximately 6530N 175W; Honolulu SRR.	PZAN	
HONOLULU/Honolulu Intl	PHNL	Oakland Oceanic FIR South of 30N, East of 160E and West of 140W; Honolulu SRR.	KZOA	
(JUNEAU, Alaska)	PAJN	Portion of Anchorage Continental FIR East of a line between approximately 59N 13730W and approximately 5530N 145W.	PZAN	
(KANSAS CITY/Missouri) (National Aviation Weather Advisory Unit)	KMKC	Oakland Oceanic FIR North of 30N.	KZOA	
VIET NAM				
Gialam MWO	VVGL	Hanoi FIR and SRR	VVNB	
		Ho-Chi-Minh FIR and SRR	VVTS	