



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 4 c): Development of procedures for monitoring and management of OPMET exchange

PROGRESS WITH SIGMET TESTS - WC and WV

(Presented by Japan)

SUMMARY

This paper presents the preliminary results of the ASIA/PAC SIGMET tests conducted in January 2005 and February 2005 for VA and TC, respectively.

1. INTRODUCTION

1.1 The MET Divisional Meeting (2002) formulated Recommendation 1/12, *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 The CNS/MET Sub-group of APANPIRG discussed the issue and tasked the VA/TC Implementation Task Force to develop procedure for conduction of regional SIGMET tests.

1.3 The draft procedures were presented to APANPIRG/15 meeting, August 2004, Bangkok. The meeting recognized that, in order to maintain the IAVW and TC watch systems ready-for-action, regular exercises involving the advisory centres and the MWOs under their areas of responsibility should be performed. The meeting endorsed Conclusion 15/42, *Conducting SIGMET tests in the Asia/Pacific region*, which called for ICAO to invite all States in the Region to ensure the participation of their MWOs in the tests.

2. PREPARATION FOR THE TEST

2.1 ICAO APAC Office sent to a state letter, *Follow-up of the APANPIRG Conclusion 15/42 --- Conducting SIGMET tests in the Asia/Pacific region*, dated 7 December 2004, notifying the schedule and the procedure of the first regional SIGMET tests as follows:

- test for SIGMET for volcanic ash -- 18 January 2005, start time (time of issuance of the triggering volcanic ash advisory by the VAACs concerned) 0200UTC;

- test for SIGMET for tropical cyclones – 18 February 2005, start time (time of issuance of the triggering tropical cyclone advisory by the TCACs concerned) 0200 UTC.

2.2 The test procedure attached with the state letter is shown in Addendum 1.

2.2 The purpose of the tests was to check the awareness of the participation MWOs of the ICAO requirements for the issuance of VA and TC SIGMET, and the adequacy of the existing telecommunication procedures for dissemination of the advisories and SIGMETs. Based on the results of the test, the States would be provided with advice aimed at improving their practices and procedures.

2.3 The test would involve issuance of the test advisories by the VAACs and TCACs in the region, which would be disseminated to the corresponding MWOs and the RODBs. The MWOs were required to issue a test SIGMET on receipt of a test advisory from the responsible VAAC or TCAC, and disseminate it according to the distribution list used for normal (non-test) SIGMETs.

2.4 The RODBs were requested to record the reception of the test SIGMETs and the corresponding time and to provide a summary table to the Rapporteur of the VA/TC Implementation Task Force with a copy to the Regional Office.

3. TEST RESULTS

3.1 Four RODBs in the Region sent the summary of the reception of the tests to Japan, Rapporteur of the VA/TC Implementation Task Force. The combined information of the reception of the bulletins during the test on VA and TC is shown in Appendix A and B, respectively.

4. DISCUSSIONS

4.1 Some of the highlight of the results are as follows:

- The number of the test SIGMET received was significantly lower than expected from ROBEX Handbook.
- There were bulletins with wrong format, e.g. WS instead of WV.
- Not all the issued test SIGMETs reached to all RODBs.

5. ACTION BY THE MEETING

5.1 The meeting is invited to note the results of the results the SIGMET tests presented above and discuss on the future improvement of the SIGMET exchange in the region. The meeting is also invited to discuss, if necessary, revision of the test procedure.

-END-

ASIA/PAC SIGMET TEST

Procedures for conducting SIGMET tests

1. Introduction

- 1.1 The MET Divisional Meeting (2002) formulated Recommendation 1/12, *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 The CNS/MET Sub-group of APANPIRG discussed the issue and tasked the VA/TC Implementation Task Force to develop procedure for conduction of regional SIGMET tests.
- 1.3 The draft procedures were presented to APANPIRG/15 meeting, August 2004, Bangkok. The meeting recognized that, in order to maintain the IAVW and TC watch systems ready-for-action, regular exercises involving the advisory centres and the MWOs under their areas of responsibility should be performed. The meeting endorsed Conclusion 15/42, *Conducting SIGMET tests in the Asia/Pacific region*, which called for ICAO to invite all States in the Region to ensure the participation of their MWOs in the tests.
- 1.4 VA/TC Implementation Task Force, assisted by the ICAO Regional Office, Bangkok, developed the test procedures, described below. The test procedures will become an attachment to the ASIA/PAC Regional SIGMET Guide.

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 VA and TC SIGMET, and the adequacy of the existing telecommunication procedures for dissemination of the advisories and SIGMETs. Based on the results of the tests, the States will be provided with advice aimed at improving their practices and procedures.
- 2.2 The tests will involve issuance of test advisories by the VAACs and TCACs in the region, which will be disseminated to the corresponding MWOs and the RODBs. The MWOs will have to issue a test SIGMET on receipt of a test advisory from the responsible VAAC or TCAC, and disseminate it according to the distribution list used for normal (non-test) SIGMETs.
- 2.3 The RODBs will record the reception of the test SIGMETs and the corresponding time and will provide a summary table to the Rapporteur of the VA/TC Implementation Task Force with a copy to the Regional Office.
- 2.4 A consolidated summary report will be prepared by the Rapporteur and reported to the CNS/MET Sub-group. The report will include recommendations for improvement of the SIGMET exchange and availability.

3. SIGMET test procedures

3.1 Participating units:

3.1.1 Tropical Cyclone Advisory Centre (TCAC):

New Delhi
Darwin
Nadi
Tokyo

3.1.2 Volcanic Ash Advisory Centre (VAAC):

Darwin
Tokyo
Wellington

3.1.3 Regional OPMET Data Bank (RODB):

Bangkok
Brisbane
Nadi
Singapore
Tokyo

3.1.4 Meteorological Watch Office (MWO):

All MWOs listed in FASID Table MET 3A and MET 3B of the ASIA/PAC FASID, under the responsibility of the corresponding VAACs and TCACs.

Note: The participation of MWOs of States, which do not belong to ASIA/PAC region, should be coordinated through the relevant ICAO Regional Office.

3.2 Test date and time

3.2.1 ICAO Regional Office will set a date and time after consultation with the VAACs, TCACs and RODBs. The information about the agreed date and time will be sent to all States concerned by a State letter.

3.3 Test messages

3.3.1 Each VAAC and TCAC prepares a simple TEST message in the form of VA or TC advisory. The format of this TEST message should follow the standard formats given in Annex 3, however, with clear indication that it does not contain information for a real event.

3.3.2 The MWOs, upon receipt of the TEST VA/TC advisory, should prepare a TEST SIGMET for volcanic ash or tropical cyclone, respectively, and send it to the RODBs. 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. The AFTN addresses of the RODBs to which the test SIGMETs should be sent are as follows:

Bangkok	VTBBYPYX
Brisbane	YBBBYPYX
Nadi	NFZZRFXX
Singapore	WSZZYPYM
Tokyo	RJAAYPYX

- 3.3.3 The format of the TEST messages for VA advisory and VA SIGMET, and for TC advisory and TC SIGMET are given in Appendix A.
- 3.3.4 To avoid over-writing of a valid SIGMET, the test SIGMET on VA should not be sent if there is a valid SIGMET on VA for the responsible area of the MWO. In the same manner, the test SIGMET on TC should not be sent if there is a valid SIGMET on TC.
- 3.4 ***Processing of the test messages and results***
- 3.4.1 The RODBs will be requested to file all incoming TEST advisories and SIGMETs and perform an analysis of the availability, timeliness of arrival and the correctness of the headers. A table, as shown in Appendix B, should be prepared by each RODB and sent to the Rapporteur of the VA/TC Implementation TF with copy to the Regional Office.
- 3.4.2 The Rapporteur should prepare the final report of the test and present to the next CNS/MET Sub-group meeting.

Appendices:

- A. Format of the TEST messages
- B. Sample Table to be used by RODBs
- C. List of VAACs/TCACs and the MWOs under their areas of responsibility (excerpt from ASIA/PAC FASID Table MET 3A and MET 3B)

ASIA/PAC SIGMET TEST Summary (Reception time at RODBs)

Name of RODB : Bangkok, Brisbane, Singapore and Tokyo
Date of Test : 2005/1/18
Target (VA or TC) : VA

VAA	Header			Received time(UTC)			
	TTAAii	CCCC	YYGGgg	Bangkok	Brisbane	Singapore	Tokyo
FVAU02	ADRM	180201		-	2:01:00	2:01:08	2:01:41
FVPS01	NZKL	180202		-	-	2:03:15	2:03:32
FVFE01	RJTD	180200		-	-	-	2:00:29

SIGMET	Header				Received time(UTC)					
	TTAAii	CCCC	YYGGgg	No	MWO	FIR/UIR	Bangkok	Brisbane	Singapore	Tokyo
-	-	-	-	1	WAAA	WAAA	-	-	2:28:52	-
WVAU01	ADRM	180202	1	YPDM	YBBB	-	2:02:00	2:02:07	2:02:16*	
WVC133	ZBAA	180215	1	ZBAA	ZBPE	2:25:07*	2:24:00*	2:24:55	-	
WVC133	ZBAA	180315	2	ZBAA	ZBPE	3:14:44	3:14:00	3:14:37	-	
WVC133	ZBAA	180340	3	ZBAA	ZBPE	3:41:23*	3:41:00*	3:41:13	-	
WVC134	ZSSS	180206	1	ZSSS	ZSHA	2:15:07	2:15:00	2:14:50	-	
WVC135	ZGGG	180230	1	ZGGG	ZGZU	2:55:34	2:55:00	2:55:03	-	
WVC136	ZPPP	180205	1	ZPPP	ZPKM	2:07:45*	2:07:00*	2:07:32	-	
WSCI37	ZLLL	180205	1	ZLLL	ZLHW	-	2:10:00	-	2:10:07	
WSCI39	ZWWW	180258	1	ZWWW	ZWUQ	-	-	-	3:05:21*	
WVC145	ZHHH	180330	2	ZHHH	ZHWH	3:39:40	3:39:00	3:39:36	-	
WVFJ01	NFFN	180000	1	NFFN	NFFF	-	-	2:10:21	2:10:30*	
WVID20	WIII	180240	1	WIII	WIIZ	2:48:11*	2:47:00*	2:47:26	-	
WVID20	WIII	180430	-	WIII	WIIZ	-	-	4:45:39	-	
WVID31	WADD	180300	1	WADD	WRDZ	-	-	3:29:40	-	
WVJP31	RJAA	180205	1	RJAA	RJTG	-	2:05:00	2:05:00	2:05:06	
WVJP31	RJAA	180205	1	RJAA	RORG	-	-	2:06:54	2:07:01	
WVK031	RKSI	180205	1	RKSI	RKRR	2:07:35	2:07:00*	2:07:07	2:07:06	
WSK031	RKSI	180205	1	RKSI	RKRR	-	2:10:00	-	2:10:33	
WVPH31	RPLL	180205	1	RPLL	RPHI	2:08:51*	2:08:00	2:08:18	-	
WVSR20	WSSS	180205	1	WSSS	WSJC	-	-	2:05:02	-	
WVSS01	VHHH	180205	1	VHHH	VHHK	-	-	2:08:04	2:07:47*	
WVVS31	VVGL	180207	1	VVNB	VVVV	2:09:44*	-	-	-	
WVTH31	VTBD	180215	1	VTBD	VTBB	2:25:28	-	-	-	

*indicates two or more bulletins were received,
and the time of the first one is shown.

ASIA/PAC SIGMET TEST Summary (Comparison with ROBEX Handbook)

Name of RODB : Bangkok, Brisbane, Singapore and Tokyo
Date of Test : 2005/1/18
Target (VA or TC) : VA

ROBEX Handbook 12th edition 2004 TABLE E							Reception(2005/1/18 VA test)						
State	MWO location	ICAO	FIR/ ACC	WMO Header	WMO Header TC	WMO Header VA	WMO Header	CCCC	VTBB	YBZZ	WSZZ	RJAA	Remarks
Australia	ADELAIDE/Adelaide	YPRM	YMMM	WSAU31	-	-							MWO in the test bulletin was YPDM
	BRISBANE/Brisbane	YBRF	YBBB	WSAU31	WCAU01	-							
			YMMM										
	DARWIN/Darwin	YDRM	YBBB	WSAU31	WCAU01	WVAU01	WVAU01	ADRM	-	0	0	0	
			YMMM										
	HOBART/Hobart	YMHF	YMMM	WSAU31	-	-							
	MELBOURNE/Melbourne	YMRF	YBBB	WSAU31	-	-							
			YMMM										
	PERTH/Perth	YPRF	YBBB	WSAU31	WCAU01	-							
			YMMM										
	SYDNEY/Sydney	YSRF	YBBB	WSAU31	-	-							
			YMMM										
	TOWNSVILLE	YBTL	YBBB	WSAU31	-	-							
Bangladesh	DHAKA/Zia Intl	VGZR	VGFR	WSBW20	WCBW20	-							
Cambodia	PHNOM-PENH/Pochentong	VDPP	VDPP	MWO not established									
China	BEIJING/Capital	ZBAA	ZBPE	WSCI33	-	-	WVCI33	ZBAA	0	0	0	-	
	CHENGDU/Shuangliu	ZUUU		WSCI36	-	-							
	GUANGZHOU/Baiyun	ZGGG	ZGZU	WSCI35	-	-	WVCI35	ZGGG	0	0	0	-	
	KUNMING/Wujiaba	ZPPP	ZPKM	WSCI36	-	-	WVCI36	ZPPP	0	0	0	-	
	LANZHOU/Chongchuan	ZLLL	ZLHW	WSCI37	-	-	WSCI37	ZLLL	-	0	-	0	
	SHANGHAI/Hongqiao	ZSSS	ZSHA	WSCI34	-	-	WVCI34	ZSSS	0	0	0	-	
	SHENYANG/Taoxian	ZYTX	ZYSH	WSCI38	-	-							
	TAIBEI/Taipei Intl	RCTP	RCTP	WSCI31	WCCI31	WVCI31							
	URUMQI/Diwopu	ZWWW	ZWUQ	WSCI39	-	-	WSCI39	ZWWW	-	-	-	0	
	WUHAN/Tianhe	ZHHH	ZHWH	WSCI35	-	-	WVCI45	ZHHH	0	0	0	-	
	HONG KONG/Hong Kong Intl	VHHH	VHHK	WSSS20	WCSS20	WVSS20	WVSS01	VHHH	-	-	0	0	
Democratic People's Republic of Korea	PYONGYANG/Sunan	ZKPY	ZKKK	No SIGMET issued									

Fiji	NADI/Nadi Intl	NFFN	NFFF	WSFJ01,...WCFJ01,...WVFJ01,...	WVFJ01 NFFN	-	-	0	0	
French Polynesia	TAHITI/Faaa	NTAA	NTTT	WSPF21,2WCPF21 WVPF21						
Guam	GUAM/Aana NAS	PGUM	KZOA	WSPQ31-5WCPN31 -						MW0 responsibility transferred to PHF0 (Sep 29, 2004)
India	CALCUTTA/Calcutta CHENNAI/Chennai DELHI/Indira Ghandi Intl MUMBAI/Jawaharlal Nehru Intl	VECC VOMM VIDP VABB	VECF VOMF VIDF VABF	WSIN31 WCIN31 - WSIN31 WCIN31 - WSIN31 WCIN31 - WSIN31 WCIN31 -						
Indonesia	BIAK/Frans Kaisieppo DENPASAR/Ngurah Rai(Bali Intl) JAKARTA/Soekarno-Hatta Intl UJUNG Pandang/Hasanuddin	WABB WRRR WIII WAAA	WABZ WRRZ WIIZ WAAZ	WSID23 WCID23 WVID23 WSID22 WCID22 WVID22 WSID20 WCID20 WVID20 WSID21 WCID21 WVID21	WVID31 WADD WVID20 WIII	- 0 -	- 0 -	0 0 0	- - -	According to AIP MW0: WRRR-> WADD, FIR: WRRX -> WADZ (But in the test bulletin, FIR was WRDZ) Without header
Japan	TOKYO/Narita	RJAA	RORG RJTG	WSJP31 WCJP31 WVJP31 WSJP31 WCJP31 WVJP31	WVJP31 RJAA WVJP31 RJAA	- -	0 -	0 0	0 0	
Lao People's Democratic Republic	VIENTIANE/Wattay	VLVT	VLVT	WSLA31 - WVLA31 (not confirmed)						
Malaysia	KOTA KINABALU/Kota Kinabalu Intl KUALA LUMPUR/Kuala Lumpur Intl	WBKK WMKK	WBFC WMFC	- - - WSMS31 WCMS31 WVMS31						
Maldives	MALE/Hulule	VRMM	VRMM	WSMV31 - -						No VAA was received.
Mongolia	ULAN BATOR/Ulan Bator	ZMUB	ZMUB	WSM031 - -						
Myanmar	YANGON/Yangon Intl	VYYY	VYYY	WSBM31 WCBM31 - (not confirmed)						
Nauru	NAURU/Nauru	ANAU	ANAU	- - - (No information)						
Nepal	KATHMANDU/Tribhuvan Intl	VNKT	VNSM	WSNP31 - - (not confirmed)						
New Zealand	WELLINGTON/Kelburn Intl	NZKL	NZZO NZZC	WSNZ21 WCNZ21 WVNZ21 WSPS21 WCPS21 WVPS21						
Northern Mariana Islands	SAIPAN I.(OBYAN)/ Saipan I.(Obyan) Intl	PGSN		- - - (No information)						

Pakistan	KARACHI/Quaid-E-Azam Intl LAHORE/Lahore	OPKC OPLA	OPKR OPLR	WSPK31 WCPK31 - WSPK31 - -						
Papua New Guinea	PORT MORESBY/Jacksons	AYPY	AYPY	WSNG20 WCNG20 WVNG20 WVNG01						WVNG01 AYPY issued on real eruption
Philippines	MANILA/Ninoy Aquino Intl	RPLL	RPHI	WSPH31 WCPH31 WVPH31	WVPH31 RPLL	0	0	0	-	
Republic of Korea	INCHEON/Incheon Intl	RKSI	RKRR	WSK031 WCK031 WVK031	WVK031 RKSI	0	0	0	0	WSK031 also received
Singapore	SINGAPORE/Singapore Changi	WSSS	WSJC	WSSR20 WCSR20 WVSR20	WVSR20 WSSS	-	-	0	-	
Solomon Islands	HONIARA/Henderson	AGGH	AGGG	- - - (No information)						
Sri Lanka	COLOMBO/Katunayake	VCBI	VCBI	WSSB31 WCSB31						
Thailand	BANGKOK/Bangkok Intl	VTBD	VTBB	WSTH31 WCTH31 WVTH31	WVTH31 VTBD	0	-	-	0	
United State	ANCHORAGE/Anchorage Intl HONOLULU/Honolulu Intl (JUNEAU, Alaska) (KANSAS CITY/Missouri ???)	PANC PHFO PAJN KKCI PAWU	PZAN KZOA PZAN KZOA	WSPN01 WVAK20-24 WSPA31-5WCPA31-5WVPA31-5 WSPN47-8WCAK31-5WVAK21-25						
Viet Nam	Gialam MWO	VVGL	VVNB VVTS	WSVS31 WCVS31 WVVS31	WVVS31 VVGL	0	-	-	-	

ASIA/PAC SIGMET TEST

Formats of the TEST messages

1. Format of TEST Volcanic Ash Advisory

VOLCANIC ASH ADVISORY

ISSUED: 20051001/0200Z
VAAC: (name of VAAC)
VOLCANO: TEST
LOCATION: UNKNOWN
AREA: (name of VAAC) VAAC AREA
SUMMIT ELEVATION: UNKNOWN
ADVISORY NUMBER: 2005/nn (actual number)
INFORMATION SOURCE: NIL
AVIATION COLOUR CODE: NIL
ERUPTION DETAILS: NIL
OBS ASH DATE/TIME: 01/0150Z
OBS ASH CLD: ASH NOT IDENTIFIABLE FROM SATELLITE DATA
FCST ASH CLD +6 HR: 01/0800Z SFC/FL600 NO ASH EXP
FCST ASH CLD +12 HR: 01/1400Z SFC/FL600 NO ASH EXP
FCST ASH CLD +18 HR: 01/2000Z SFC/FL600 NO ASH EXP
NEXT ADVISORY: NO FURTHER ADVISORIES
REMARKS: THIS IS A TEST VA ADVISORY. MWO SHOULD NOW ISSUE A TEST
SIGMET ON VA, UNLESS THERE IS A VAILD SIGMET ON VA.
PLEASE REFER TO THE LETTER FROM ICAO APAC OFFICE DATED xxxxxx.=

2. Format of TEST Tropical Cyclone Advisory

TC ADVISORY

DTG: 20051001/0200Z
TCAC: (name of TCAC)
TC: TEST
NR: nn (actual number)
PSN: NIL
MOV: NIL
C: NIL
MAX WIND: NIL
FCST PSN +12HR: NIL
FCST MAX WIND +12HR: NIL
FCST PSN +18HR: NIL
FCST MAX WIND +18HR: NIL
FCST PSN +24HR: NIL
FCST MAX WIND +24HR: NIL
NXT MSG: NIL
REMARKS: THIS IS A TEST TC ADVISORY. MWO SHOULD NOW ISSUE A TEST
SIGMET ON TC, UNLESS THERE IS A VAILD SIGMET ON TC.
PLEASE REFER TO THE LETTER FROM ICAO APAC OFFICE DATED xxxxx.=

OPMET/M TF/3-WP/13
Addendum 1

3. Format of TEST SIGMET for Volcanic Ash

WVJP31 RJAA 010210
RJTG SIGMET 1 VALID 010210/010310 RJAA-
THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST advisory no. xx
received at YYGGggZ=

4. Format of TEST SIGMET for Tropical Cyclone

WCJP31 RJAA 010210
RJTG SIGMET 5 VALID 010210/010310 RJAA-
THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST advisory no. xx
received at YYGGggZ=

Note: Actual SIGMET number to be used

ASIA/PAC SIGMET TEST Summary (Reception time at RODBs)

Name of RODB : Bangkok, Brisbane, Singapore and Tokyo
 Date of Test : 2005/2/18
 Target (VA or TC) : TC

TCA	Header			Received time(UTC)			
	TTAAii	CCCC	YYGGgg	Bangkok	Brisbane	Singapore	Tokyo
	FKIN20	VIDP	180200	2:00:40	-	2:00:09	2:00:02
	FKIN21	VIDP	180200	2:11:09	-	2:10:14	2:00:11
	FKIN20	DEMS	180200	3:03:28	-	3:02:56	-
	FKPQ30	RJTD	180200	2:12:03	-	2:00:13	2:00:02
	FKAU01	ADRM	180200	2:01:19	2:02:00	2:04:27	2:00:05
	FKAU03	ADRM	180200	2:00:17	-	-	-
	FKAU05	ADRM	180200Z	2:01:51	-	2:04:33	-

SIGMET	Header						Received time(UTC)			
	TTAAii	CCCC	YYGGgg	No	MWO	FIR/UIR	Bangkok	Brisbane	Singapore	Tokyo
	WCAU01	ABRF	180201	BN01	ABRF	YBBB	-	2:02:00	2:02:27	-
	WCAU01	APRF	180202	PH01	YPRF	YBBB	-	2:03:00	2:03:14	-
	WCAU01	APRF	180202	PH02	YPRF	YMMM	-	2:03:00	2:03:45	-
	WCAU01	ADRM	180206	DN1	YPDM	YBBB	-	2:06:00	2:06:48	-
	WSCI31	RCTP	180117	2	RCTP	RCTP	2:21:29	2:21:00	2:21:21	2:21:18
	WSCI31	RCTP	180645	6	RCTP	RCTP	6:48:18	-	6:48:40	6:48:20
	WCCI34	ZSSS	180210	1	ZSSS	ZSHA	2:15:54	2:15:00	2:15:32	-
	WCCI35	ZGGG	180220	1	ZGGG	ZGZU	2:25:57*	2:25:00*	2:25:31	2:25:40*
	WCID	WABD	180210	1	WADD	WADD	-	-	2:11:17	-
	WCID20	WIII	180210	1	WIII	WIIZ	2:19:13*	2:18:00	2:18:19	-
	WCID20	WIII	180230	2	WIII	WIIZ	2:46:04	2:46:00	2:45:34	-
	WCID22	WADD	180635	1	WADD	WADD	-	-	6:36:48	-
	WCIN90	VOMM	180200	02	VOMM	VOMM	2:07:38	2:01:00	2:01:26	-
	WSIN90	VECC	180557	01	VECC	VECC	-	4:02:00	6:13:03	-
	WSIN90	VABB	180344	01	VABB	VABB	3:59:52*	4:02:00	3:58:20	-
	WCJP31	RJAA	180205	1	RJAA	RJTG	2:06:01	2:06:00	2:05:09	2:05:26
	WCJP31	RJAA	180205	1	RJAA	RORG	2:06:15	-	2:05:33	2:05:51
	WCJP31	RJAA	180200	5	RJAA	RJTS	2:31:26	2:31:00	2:31:02	-
	WSK031	RKSI	180205	1	RKSI	RKRR	2:12:21	2:12:00	2:11:55	2:12:05
	WCPH31	RPLL	180204	1	RPLL	RPHI	2:06:31*	2:06:00	2:06:11	2:05:06*
	WCSR20	WSSS	180215	1	WSSS	WSJC	2:20:00	2:19:00	2:19:15	-
	WCSS20	VHHH	180215	1	VHHH	VHHK	2:22:11	2:22:00	2:22:53	2:21:52*
	WCVS31	VVGL	180200	01	VVVV	VVNB	2:02:56*	-	-	-
	WCVS31	VVGL	180645	01	VVVV	VVNB	6:49:14*	-	-	-
	WVTH31	VTBD	180215	1	VTBD	VTBB	2:39:09	-	-	-

*indicates two or more bulletins were received,
 and the time of the first one is shown.

ASIA/PAC SIGMET TEST Summary (Comparison with ROBEX Handbook)

Name of RODB : Bangkok, Brisbane, Singapore and Tokyo
Date of Test : 2005/2/18
Target (VA or TC) : TC

ROBEX Handbook 12th edition 2004 TABLE E							Reception(2005/2/18 TC test)						
State	MWO location	ICAO	FIR/ ACC	WMO Header	WMO Header TC	WMO Header VA	WMO Header	CCCC	VTBB	YBZZ	WSZZ	RJAA	Remarks
Australia	ADELAIDE/Adelaide	YPRM	YMMM	WSAU31	-	-							MWO in the test bulletin was YPDM
	BRISBANE/Brisbane	YBRF	YBBB YMMM	WSAU31	WCAU01	-	WCAU01	ABRF	-	0	0	-	
	DARWIN/Darwin	YDRM	YBBB YMMM	WSAU31	WCAU01	WVAU01	WCAU01	ADRM	-	0	0	-	
	HOBART/Hobart	YMHF	YMMM	WSAU31	-	-							
	MELBOURNE/Melbourne	YMRF	YBBB YMMM	WSAU31	-	-							
	PERTH/Perth	YPRF	YBBB YMMM	WSAU31	WCAU01	-	WCAU01	APRF	-	0	0	-	
	SYDNEY/Sydney	YSRF	YBBB YMMM	WSAU31	-	-	WCAU01	APRF	-	0	0	-	
	TOWNSVILLE	YBTL	YBBB	WSAU31	-	-							
Bangladesh	DHAKA/Zia Intl	VGZR	VGFR	WSBW20	WCBW20	-							
Cambodia	PHNOM-PENH/Pochentong	VDPP	VDPP	MWO not established									
China	BEIJING/Capital	ZBAA	ZBPE	WSCI33	-	-							mistyping in YYGGgg
	CHENGDU/Shuangliu	ZUUU		WSCI36	-	-							
	GUANGZHOU/Baiyun	ZGGG	ZGZU	WSCI35	-	-	WCCI35	ZGGG	0	0	0	0	
	KUNMING/Wujiaba	ZPPP	ZPKM	WSCI36	-	-							
	LANZHOU/Chongchuan	ZLLL	ZLHW	WSCI37	-	-	WSCI37	ZLLL	-	0	-	0	
	SHANGHAI/Hongqiao	ZSSS	ZSHA	WSCI34	-	-	WCCI34	ZSSS	0	0	0	-	
	SHENYANG/Taoxian	ZYTX	ZYSH	WSCI38	-	-							
	TAIBEI/Taibei Intl	RCTP	RCTP	WSCI31	WCCI31	WVCI31	WSCI31	RCTP	0	0	0	0	
	URUMQI/Diwopu	ZWWW	ZWUQ	WSCI39	-	-	WSCI39	ZWWW	-	-	-	0	
	WUHAN/Tianhe	ZHHH	ZHWH	WSCI35	-	-							
	HONG KONG/Hong Kong Intl	VHHH	VHHK	WSSS20	WCSS20	WVSS20	WCSS20	VHHH	0	0	0	0	
Democratic People's Republic of Korea	PYONGYANG/Sunan	ZKPY	ZKKK	No SIGMET issued									

Fiji	NADI/Nadi Intl	NFFN	NFFF	WSFJ01, ...WCFJ01, ...WVFJ01, ...						
French Polynesia	TAHITI/Faaa	NTAA	NTTT	WSPF21, 2WCPF21 WVPF21						
Guam	GUAM/Aana NAS	PGUM	KZ0A	WSPQ31-5WCPN31 -						MW0 responsibility transferred to PHFO (Sep 29, 2004)
India	CALCUTTA/Calcutta CHENNAI/Chennai DELHI/Indira Ghandi Intl MUMBAI/Jawaharlal Nehru Intl	VECC VOMM VIDP VABB	VECF VOMF VIDF VABF	WSIN31 WCIN31 - WSIN31 WCIN31 - WSIN31 WCIN31 - WSIN31 WCIN31 -	WSIN90 VECC WCIN90 VOMM WSIN90 VABB	- 0 0 0	0 0 0 0	0 0 0 0	- - - -	
Indonesia	BIAK/Frans Kaisieppo DENPASAR/Ngurah Rai(Bali Intl) JAKARTA/Soekarno-Hatta Intl UJUNG Pandang/Hasanuddin	WABB WRRR WIII WAAA	WABZ WRRZ WIIZ WAAZ	WSID23 WCID23 WVID23 WSID22 WCID22 WVID22 WSID20 WCID20 WVID20 WSID21 WCID21 WVID21	 WCID22 WADD WCID20 WIII	 - 0	 - 0	 0 0	 - -	According to AIP MW0: WRRR-> WADD, FIR: WRRX -> WADZ (But in the test bulletin, FIR was WADD)
Japan	TOKYO/Narita	RJAA	RORG RJTG	WSJP31 WCJP31 WVJP31 WSJP31 WCJP31 WVJP31	WCJP31 RJAA WCJP31 RJAA	0 0	0 -	0 0	0 0	
Lao People's Democratic Republic	VIENTIANE/Wattay	VLVT	VLVT	WSLA31 - WVLA31 (not confirmed)						
Malaysia	KOTA KINABALU/Kota Kinabalu Intl KUALA LUMPUR/Kuala Lumpur Intl	WBKK WMKK	WBFC WMFC	- - - WSMS31 WCMS31 WVMS31						
Maldives	MALE/Hulule	VRMM	VRMM	WSMV31 - -						
Mongolia	ULAN BATOR/Ulan Bator	ZMUB	ZMUB	WSM031 - -						
Myanmar	YANGON/Yangon Intl	VYYY	VYYY	WSBM31 WCBM31 - (not confirmed)						
Nauru	NAURU/Nauru	ANAU	ANAU	- - - (No information)						
Nepal	KATHMANDU/Tribhuvan Intl	VNKT	VNSM	WSNP31 - - (not confirmed)						
New Zealand	WELLINGTON/Kelburn Intl	NZKL	NZZO NZZC	WSNZ21 WCNZ21 WVNZ21 WSPS21 WCPS21 WVPS21						
Northern Mariana Islands	SAIPAN I.(OBYAN)/ Saipan I.(Obyan) Intl	PGSN		- - - (No information)						
Pakistan	KARACHI/Quaid-E-Azam Intl	OPKC	OPKR	WSPK31 WCPK31 -	WCJP31 RJAA	0		0		Possible misunderstanding of format

	LAHORE/Lahore	OPLA	OPLR	WSPK31	-	-						
Papua New Guinea	PORT MORESBY/Jacksons	AYPY	AYPY	WSNG20	WCNG20	WVNG20 WVNG01						
Philippines	MANILA/Ninoy Aquino Intl	RPLL	RPHI	WSPH31	WCPH31	WVPH31	WCPH31 RPLL	0	0	0	0	
Republic of Korea	INCHEON/Incheon Intl	RKSI	RKRR	WSK031	WCK031	WVK031	WSK031 RKSI	0	0	0	0	
Singapore	SINGAPORE/Singapore Changi	WSSS	WSJC	WSSR20	WCSR20	WVSR20	WCSR20 WSSS	0	0	0	-	
Solomon Islands	HONIARA/Henderson	AGGH	AGGG	-	-	- (No information)						
Sri Lanka	COLOMBO/Katunayake	VCBI	VCBI	WSSB31	WCSB31							
Thailand	BANGKOK/Bangkok Intl	VTBD	VTBB	WSTH31	WCTH31	WVTH31	WCTH31 VTBD	0	-	-	-	
United States	ANCHORAGE/Anchorage Intl HONOLULU/Honolulu Intl (JUNEAU, Alaska) (KANSAS CITY/Missouri ???)	PANC PHFO PAJN KKCI PAWU	PZAN KZOA PZAN KZOA	WSPN01 WSPA31-5WCPA31-5WVPA31-5	WVAK20-24	WSPN47-8WCAK31-5WVAK21-25						
Viet Nam	Gialam MWO	VVGL	VVNB VVTS	WSVS31	WCVS31	WVVS31	WCVS31 VVGL	0	-	-	-	

Appendix B : Sample Table to be used by RODBs

Name of RODB : Tokyo
Date of Test : 2005/1/18
Target(VA or TC) : VA

VAA	Header			
TTAAii	CCCC	YYGGgg		Received time(UTC)
FVJP01	RJTT	180200		2:00:10
FVAU01	ADRM	180200		2:00:20
FVPS01	NZKL	180200		2:00:25

SIGMET	Header				
TTAAii	CCCC	YYGGgg	MWO	FIR/UIR	Received time(UTC)
WVJP31	RJAA	180205	RJAA	RORG	2:05:15
WVJP31	RJAA	180205	RJAA	RJTG	2:05:15
WVAU31	ADRM	180207	YDRM	YBBB	2:07:32
WVCI31	RCTP	180210	RCTP	RCTP	2:10:35
...					

Appendix C

ASIA/PAC SIGMET TEST

List of the VAACs, TCACs and MWOs

1. VAAC and associated MWOs

Volcanic ash advisory centre	MWO to which advisory information is to be sent	
1	2	3
		ICAO Location indicator
Darwin (Australia)	Adelaide Bangkok Biak Brisbane Chennai Darwin Denpasar Gia Lam Guam Hobart Honiara Jakarta Kota Kinabalu Kuala Lumpur Manila Melbourne Perth Port Moresby Singapore Sydney Townsville Ujung Pandang Yangon	YPRM VTBB WABB YBBB VOMM YDRM WRRR VVGL PGUM YMHF AGGH WIII WBKK WMKK RPLL YMRF YPRF YAPY WSSS YSRF YBTL WAAA VYYY

Volcanic ash advisory centre	MWO to which advisory information is to be sent	
1	2	3
		ICAO Location indicator
Tokyo (Japan)	Bangkok Beijing Blagoveschensk* Bratsk* Chita* Gia Lam Guangzhou Hong Kong Incheon Irkutsk* Khabarovsk* Kirensk* Kunming Lanzhou Magadan* Magdagachi* Manila Naha Nikolayevsk-na-Amure* Okha* Okhotsk* Petropavlovsk-Kamchatsky* Phnom-Penh Pyongyang Shanghai Shenyang Taipei Tokyo Ulan-Bator Urumqi Vientiane Vladivostok* Wuhan Yuzno-Sakhalinsk*	VTBD ZBBB UHBB UIBB UIAA VVGL ZGGG VHHH RKSI UIII UHHH UIKK ZPPP ZLLL UHMM UHBI RPLL ROAH UHNN UHSH UHOO UHPP VDPP ZKPY ZSSS ZYTXX RCTP RJAA ZMUB ZWWW VLVT UHWW ZHHH UHSS
Wellington (New Zealand)	Darwin Fiji Honiara Honolulu Nauru Tahiti Tokyo Wellington	YDRM NFFN AGGH PHNL ANAU NTAA RJAA NZKL

* MWOs included in the EUR ANP; participation in the SIGMET tests is subject to coordination with ICAO Office, Paris

2. TCAC and associated MWOs

TROPICAL CYCLONE ADVISORY CENTRE	MWOs TO WHICH ADVISORY INFORMATION IS TO BE SENT	
1	2	3
	Name	ICAO loc. Ind.
New Delhi (India)	Chennai Colombo Dhaka Delhi Jakarta Karachi Kolkata Kuala Lumpur Male Mumbai Tehran Yangon	VOMM VCBI VGZR VIDP WIII OPKC VECC WMKK VRMM VABB OIII VYYY
Darwin (Australia)	Adelaide Biak Brisbane Colombo Darwin Denpasar Hobart Honiara Jakarta Melbourne Perth Port Moresby Sydney Townsville Ujung Pandang	YPRM WABB YBRF VCBI YDRM WRRR YMHF AGGH WIII YMRF YPRF AYPY YSRF YBTL WAAA
Nadi (Fiji)	Brisbane Hobart Honiara Honolulu Melbourne Nadi Nauru Sydney Tahiti Townsville Wellington	YBRF YMHF AGGH PHNL YMRF NFFN ANAU YSRF NTAA YBTL NZKL

TROPICAL CYCLONE ADVISORY CENTRE	MWOs TO WHICH ADVISORY INFORMATION IS TO BE SENT	
1	2	3
	Name	ICAO loc. Ind.
Tokyo (Japan)	Bangkok	VTBD
	Biak	WABB
	Denpasar	WRRR
	Guam	PGUM
	Guangzhou	ZGGG
	Gia Lam	VVGL
	Hong Kong	VHHH
	Honolulu	PHNL
	Incheon	RKSI
	Jakarta	WIII
	Kansas City	KMKC
	Kota Kinabalu	WBKK
	Kuala Lumpur	WMKK
	Manila	RPLL
	Nadi	NFFN
	Naha	ROAH
	Nauru	ANAU
	Phnom-Penh	VDPP
	Pyongyang	ZKPY
	Shanghai	ZSSS
	Singapore	WSSS
	Taibei	RCTP
	Tokyo	RJAA
	Ujung Pandang	WAAA

— E N D —