International Civil Aviation Organization

FOURTH REGIONAL OPMET DATA BANKS (RODB) COORDINATION MEETING

Chiang Mai, Thailand, 11 -12 February 2010

Agenda Item 7: SIGMET Tests – Current Tests and Plans for Future Tests

WS SIGMET TEST 5

(Presented by Australia)

SUMMARY

This paper analyses the data collected during WS SIGMET Test 5 carried out on 24 November 2009 and compares it with previous 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 Information on the requirements for the dissemination and exchange of SIGMET is published in the Asia/Pacific Regional SIGMET Guide (4th edition 2007, amended September 2009). This document also outlines the procedures for conducting SIGMET tests.

1.3 The ROBEX Handbook (12th edition 2004, amended September 2009) provides details on the procedures for OPMET exchange and defines the responsibilities of the ROBEX centres and the content and format of the ROBEX bulletins. It also outlines the procedures for OPMET quality control and procedures.

1.4 This paper presents an analysis of the fifth WS SIGMET test and a comparison with the previous tests that were conducted on 9 February 2006, 9 February 2007, 29 January 2008 and the 24 February 2009.

2. PREPARATION FOR THE FOURTH WS SIGMET TEST

2.1 ICAO APAC Office sent a State letter titled ‘T 4/7.5: AP135/09 (MET) – Schedule for SIGMET tests in the Asia/Pacific Region – November 2009’ dated 30 September 2009 on the subject of conducting regional SIGMET tests. The letter was sent to the Meteorological Authority and the Meteorological Service Provider, where known, to help promote awareness of the test.

2.2 The test date for SIGMET for other weather phenomena (WS SIGMET) was set for 24 November 2009, with a start time of 0200 UTC.

3. WS SIGMET TEST DATA

3.1 Four RODBs in the Region, Bangkok, Brisbane, Tokyo and Singapore, provided summaries of the reception of the WS SIGMET tests to the focal point for the WS SIGMET Tests in the Asia/Pacific region, Mrs Sue O'Rourke. Fiji RODB, again, did not provide information for the analysis. An overview of the data is shown in Appendix A.

4. WS SIGMET TEST ISSUANCE

4.1 Of the 28 States listed in the Asia/Pacific Regional SIGMET Guide, Appendix H, 20 States (71%) participated in the test, by having at least one of their MWOs issue a test SIGMET. This is a significant increase from Test 4 where only 41% of States participated in the test. The States given in Table 1 did not issue a WS SIGMET during the test period. Note that of the 28 States listed in the SIGMET Guide, 7 States have no information, are not confirmed or an MWO has not been established. These are given in italics. States that did not participate in any of the five tests are given in bold.

States who did not participate in the WS SIGMET test		
1. **Bangladesh**	4. ***Nepal***	7. ***Solomon Islands***
2. French Polynesia	5. Pakistan	8. **Sri Lanka**
3. ***Nauru***	6. **Papua New Guinea**	

Table 1: States who did not participate in WS SIGMET Test 5

4.2 Of the 54 MWOs listed in the Asia/Pacific Regional SIGMET Guide, Appendix H, 44 MWOs (81%) issued a test WS SIGMET for at least one of their FIRs. This again is a substantial improvement from Test 4 where only 63% of MWO participated in the test. It should be noted that Townsville MWO has been replaced by Cairns MWO.

4.3 Table 2 lists the FIRs not covered in the WS SIGMET test. Again MWOs with no information in the SIGMET guide are given in italics and FIRs not covered by any of the five WS SIGMET tests are given in bold. Kansas City MWO did not issue a SIGMET for the KZNY, KZMA, KZHU and TJZU FIRs, but as these are not in the ASIA/PAC region they have been disregarded in the analysis.

FIRs not covered by the WS SIGMET test		
MWO Location	**FIR Name**	**FIR Ident**
1. **BRISBANE/Brisbane**	**Melbourne FIR**	**YMMM**
2. **DHAKA/Zia Intl**	**Dhaka FIR & SRR**	**VGFR**
3. KOLKATA	Kolkata FIR & SRR	VDPP
4. **UJUNG PANDANG/Hasanuddin**	**UJUNG Pandang FIR/UIR & SRR**	**WAAZ**
5. ***NAURU I./Nauru***	***Nauru FIR & SRR***	***ANAU***
6. ***KATHMANDU/Tribhuvan Intl***	***Kathmandu FIR & SRR***	***VNSM***
7. KARACHI/Quaid_E-Azam	Karachi FIR & SRR	OPKR
8. **LAHORE/Lahore**	**Lahore Fir & SRR**	**OPLR**
9. **PORT MORESBY/Jacksons**	**Port Moresby FIR & SRR**	**AYPY**
10. ***HONIARA/Henderson***	***Honiara FIR & SRR***	***AGGG***
11. **COLOMBO/Katunayake**	**Colombo FIR & SRR**	**VCBI**
12. Gia Lam	Hanoi FIR & SRR	VVNB

Table 2: FIRs not covered by WS SIGMET Test 5

5. RODB RECEPTION OF WS SIGMET

5.1 Of the test SIGMETs issued, not all reached each RODBs. Fiji RODB did not participate in the test. Of the 4 RODBs who took part in the test, 164 test WS SIGMETs messages were received out of a possible 200 (82%). Therefore 17% of the SIGMETs issued were not received by RODBs.

5.2 RAOB Bangkok received 40 (80%) of the 50 test WS SIGMETs issued. RODB Brisbane received 44 (88%) of the 50 test WS SIGMETs issued. RODB Singapore received 48 (96%) of the 50 test WS SIGMETs issued. RODB Tokyo received 32 (64%) of the 50 test WS SIGMETs issued.

5.3 Fukoka FIR / Tokyo SRR had a WS SIGMET valid so did not issue a test message.

6. INCORRECT WS SIGMET HEADERS

6.1 Discrepancies in the WMO SIGMET headings are given in Table 3

MWOs (FIR)	SIGMET guide designator	Received designator
MELBOURNE/World Met. Centre (Melbourne & Brisbane FIR)	-	TTAAii: WSAU21
TOWNSVILLE./Townsville (Brisbane FIR)	CCCC: ABTL	CCCC: ABCS
SUNAN (Pyongyang FIR & SIR)	-	TTAAii: WSKR31
MUMBAI/Chhatrapati Shivaji Intl (Mumbai FIR & SIR)	FIR: VABF	FIR:VAAB
JAKATA/Soekamo-Hatta Intl (Jakata FIR/UIR & SRR)	FIR: WIIZ	FIR: WIII

Table34: Incorrect WS SIGMET headers during Test 5.

7. COMPARISON OF WS SIGMET TESTS

7.1 Comparison of the test results for all five WS SIGMET Tests is given in Table 4

	Test 1	Test 2	Test 3
State participation	13 of 29 (44%)	12 of 28 (42%)	14 of 28 (50%)
MWO participation	34 of 62 (55%)	30 of 57 (53%)	32 of 54 (59%)
RODB reception	120 of 160 (75%)	104 of 124 (84%)	138 of 152 (91%)
Bangkok RODB reception	18 of 40 (45%)	21 of 31 (68%)	29 of 38 (76%)
Brisbane RODB reception	36 of 40 (90%)	28 of 31 (90%)	36 of 38 (95%)
Singapore RODB reception	32 of 40 (80%)	29 of 31 (94%)	38 of 38 (100%)
Tokyo RODB reception	34 of 40 (85%)	26 of 31 (84%)	35 of 38 (92%)

	Test 4	Test 5
State participation	12 of 29 (41%)	20 of 28 (71%)
MWO participation	34 of 54 (63%)	44 of 54 (81%)
RODB reception	156 of 168 (93%)	164 of 200 (82%)
Bangkok RODB reception	36 of 42 (86%)	40 of 50 (80%)
Brisbane RODB reception	39 of 42 (93%)	44 of 50 (88%)
Singapore RODB reception	42 of 42 (100%)	48 of 50 (96%)
Tokyo RODB reception	39 of 42 (93%)	32 of 50 (64%)

Table 4: Comparison of WS SIGMET tests.

8. CONCLUSION

8.1 Once again the lack of a report from Nadi RODB was disappointing and it is recommended that Nadi be urged to participate in the next test to gauge the SIGMET issuance and reception of messages in the Asia/Pacific Region.

8.2 It was promising to see that both the State and MWO participation in the SIGMET test increased significantly in the 5th test.

8.3 The RODB reception of the WS SIGMETs is still not perfect.

9. ACTION BY THE MEETING

9.1 The meeting is invited to note the results of the WS SIGMET test presented above and discuss future improvement of the WS SIGMET exchange in the region, especially any strategies that could be employed to increase the participation of States.

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APPENDIX 1 – Summary of Results from ASIA/PAC WS SIGMET Test 5

MWO Location	Area Served	SIGMET Guide			Transmitted Header				RODB Reception (24/11/2009)			
	Name	TTAAii	CCCC	FIR	TTAAii	CCCC	FIR	YYGGgg	VTBB	YBBB	WSSS	RJAA
ADELAIDE/Adelaide	Melbourne FIR	WSAU21	APRM	YMMM	WSAU21	APRM	YMMM	240155		0155	0159	
BRISBANE/Brisbane	Brisbane FIR	WSAU21	ABRF	YBBB	WSAU21	ABRF	YBBB	240157	0157	0157	0157	0157
BRISBANE/Brisbane	Melbourne FIR	WSAU21	ABRF	YMMM	WSAU21							
DARWIN/Darwin	Brisbane FIR	WSAU21	ADRM	YBBB	WSAU21	ADRM	YBBB	240200	0200	0200	0200	
DARWIN/Darwin	Melbourne FIR	WSAU21	ADRM	YMMM	WSAU21	ADRM	YMMM	240200	0200	0200	0200	
HOBART/Hobart	Melbourne FIR	WSAU21	AMHF	YMMM	WSAU21	AMHF	YMMM	240200	0200	0201	0200	
MELBOURNE/Melbourne	Brisbane FIR	WSAU21	AMRF	YBBB	WSAU21	AMRF	YBBB	240201	0203	0202	0205	
MELBOURNE/Melbourne	Melbourne FIR	WSAU21	AMRF	YMMM	WSAU21	AMRF	YMMM	240201	0203	0202	0205	
MELBOURNE/World Met. Centre	Brisbane FIR	WSAU21		YBBB	WSAU21	AMMC	YBBB	240200		0200	0200	
MELBOURNE/World Met. Centre	Melbourne FIR	WSAU21		YMMM	WSAU21	AMMC	YMMM	240200		0200	0200	
PERTH/Perth	Brisbane FIR	WSAU21	APRF	YBBB	WSAU21	APRF	YBBB	240200	0200	0200	0200	
PERTH/Perth	Melbourne FIR	WSAU21	APRF	YMMM	WSAU21	APRF	YMMM	240200	0200	0200	0200	
SYDNEY/Sydney	Brisbane FIR	WSAU21	ASRF	YBBB	WSAU21	ASRF	YBBB	240202	0203	0201	0205	
SYDNEY/Sydney	Melbourne FIR	WSAU21	ASRF	YMMM	WSAU21	ASRF	YMMM	240204	0200	0203	0205	
TOWNSVILLE/Townsville	Brisbane FIR	WSAU21	ABTL	YBBB	WSAU21	ABCS	YBBB	240204	0204	0204	0204	0204
DHAKA/Zia Intl	Dhaka FIR & SRR	WSBW20	VGZR	VGFR								
KUNMING/Wujiaba for PHNOM-PENH	Phnom-Penh FIR & SRR	WSKP31	ZPPP	VDPP	WSKP31	ZPPP	VDPP	240204	0205	0206	0206	0206
BEIJING/Capital	Beijing FIR & SRR	WSCI33	ZBAA	ZBPE	WSCI33	ZBAA	ZBPE	240200	0201	0202	0202	0202
GUANGZHOU/Baiyan	Guangzhou FIR & SRR	WSCI35	ZGGG	ZGZU	WSCI35	ZGGG	ZGZU	240200	0200	0201	0201	0201
HAIKOU/Meilan	Sanya FIR & SRR	WSCI35	ZJHK	ZJSA	WSCI35	ZJHK	ZJSA	240105	0208		0206	
KUNMIMG/Wujiaba	Kunming FIR & SRR	WSCI36	ZPPP	ZPKM	WSCI36	ZPPP	ZPKM	240202	0203	0203	0203	0203
LANZHOU/Chongchuan	Lanzhou FIR & SRR	WSCI37	ZLLL	ZLHW	WSCI37	ZLLL	ZLHW	240201	0205	0206	0206	0206
SHANGHAI/Hongqiao	Shanghai FIR & SRR	WSCI34	ZSSS	ZSHA	WSCI34	ZSSS	ZSHA	240200	0200	0201	0201	0201
SHENYANG/Taoxian	Shenyang FIR & SRR	WSCI38	ZYTX	ZYSH	WSCI38	ZYTX	ZYSH	240200	0203	0202	0202	0202
TAIBEI/Taibei Intl	Taibei FIR & SRR	WSCI31	RCTP	RCAA	WSCI31	RCTP	RCAA	240200	0200	0200	0200	0200
URUMQI/Diwopu	Urumqi FIR & SRR	WSCI39	ZWWW	ZWUQ	WSCI39	ZWWW	ZWUQ	240200	0201	0202	0202	0202
WUHAN/Tianhe	Wuhan FIR & SRR	WSCI45	ZHHH	ZHWH	WSCI45	ZHHH	ZHWH	240200	0236	0236	0236	0236
HONG KONG/Hong Kong Intl	Hong Kong FIR & SRR	WSSS20	VHHH	VHHK	WSSS20	VHHH	VHHK	240200	0159	0200	0200	0200
SUNAN	Pyongyang FIR & SRR		ZKPY	ZKKK	WSKR31	ZKPY	ZKKK	240200		0201		0201

NADI/Nadi Intl	Nadi FIR & SRR	WSFJ01,02..	NFFN	NFFF	WSFJ01	NFFN	NFFF	010205	0205		0206	0206
TAHITI/Faaa	Tahiti FIR & SRR	WSPF21,22	NTAA	NTTT	WSPF21	NTAA	NTTT	240202	0203	0203	0203	0203
KOLKATA	Kolkata FIR & SRR	WSIN31	VECC	VECF								
CHENNAI/Chennai	Chennai FIR & SRR	WSIN31	VOMM	VOMF	WSIN31	VOMM	VOMF	240200	0200	0200	0200	0200
DELHI/Indira Ghandi Intl	Delhi FIR & SRR	WSIN31	VIDP	VIDF	WSIN31	VIDP	VIDF	240200	0216	0217	0217	0217
MUMBAI/Chhatrapati Shivaji Intl.	Mumbai FIR & SRR	WSIN31	VABB	VABF	WSIN31	VABB	VAAB	240200	0135	0136	0136	0136

APPENDIX 1 (continued) – Summary of Results from ASIA/PAC WS SIGMET Test 5

MWO Location	Area Served	SIGMET Guide			Transmitted Header				RODB Reception (24/02/2009)			
	Name	TTAAii	CCCC	FIR	TTAAii	CCCC	FIR	YYGGgg	VTBB	YBBB	WSSS	RJAA
JAKARTA/Soekamo-Hatta	Jakarta FIR/UIR & SRR	WSID20	WIII	WIIZ	WSID20	WIII	WIII	240255		0309	0314	
UJUNG PANDANG/Hasanuddin	Ujung Pandang FIR/UIR & SRR	WSID21	WAAA	WAAZ								
TOKYO (CITY)	Fukuoka FIR & Tokyo SRR	WSJP31	RJTD	RJJJ	WSJP31	RJTD	RJJJ	240140				0140
VIENTIANE/Wattay	Vientiane FIR & SRR	WSLA31	VLVT	VLVT	WSLA31	VLVT	VLVT	240200	0206	0206	0206	0206
KOTA KINABALU/Kota Kinabalu Intl	Kota Kimabalu FIR & SRR	WSMS31	WBKK	WBFC	WSMS31	WBKK	WBFC	240200	0201	0201	0201	0201
SEPANG/KL International Airport	Kuala Lumpur FIR & SRR	WSMS31	WMKK	WMFC	WSMS31	WMKK	WMFC	240200	0200	0200	0200	0201
MALE/Intl	Male FIR & SRR	WSMV31	VRMM	VRMM	WSMV31	VRMM	VRMM	240200	0158	0158	0158	0158
ULAN BAATAR	Ulaanbaatar FIR & SRR	WSMO31	ZMUB	ZMUB	WSMO31	ZMUB	ZMUB	240200			0147	0144
YANGON/Yangon International	Yangon FIR & SRR	WSBM31	VYYY	VYYY	WSBM31	VYYY	VYYY	240200	0203		0203	
NAURU I.	Nauru FIR & SRR		ANAU	ANAU								
KATHMANDU	Kathmandu FIR & SRR	WSNP31	VNKT	VNSM								
WELLINGTON (Aviation Weather Centre)	New Zealand FIR & SRR	WSNZ21	NZKL	NZZC	WSNZ21	NZKL	NZZC	240200	0200	0201	0201	0201
WELLINGTON (Aviation Weather Centre)	Auckland Oceanic FIR & SRR	WSPS21	NZKL	NZZO	WSPS21	NZKL	NZZO	240200	0201	0201	0201	0201
KARACHI/Jinnah Intl	Karachi FIR & SRR	WSPK31	OPKC	OPKR								
LAHORE/Allama Iqbal Intl	Lahore Fir & SRR	WSPK31	OPLA	OPLR								
PORT MORESBY/Intl	Port Moresby FIR & SRR	WSNG20	AYPY	AYPY								
MANILA/Ninoy Aquino, Pasay, Manila	Manila FIR & SRR	WSPH31	RPLL	RPHI	WSPH31	RPLL	RPHI	240200	0200	0200	0200	0200
INCHEON	Incheon FIR & SRR	WSKO31	RKSI	RKRR	WSKO31	RKSI	RKRR	240200	0205	0206	0205	0205
SINGAPORE/Changi	Singapore FIR & SRR	WSSR20	WSSS	WSJC	WSSR20	WSSS	WSJC	240200	0200	0200	0200	0201
HONIARA (Henderson)	Honiara FIR & SRR		AGGH	AGGG								
COLOMBO/Bandaranaike Intl	Colombo FIR & SRR	WSSB31	VCBI	VCBI								
BANGKOK/Suvamabhumi Intl Airport	Bangkok FIR & SRR	WSTH31	VTBS	VTBB	WSTH31	VTBS	VTBB	240200	0225	0225	0225	0225
ANCHORAGE/Anchorage Intl	Anchorage FIR	WSAK01-09	PAWU	PAZA	WSAK03	PAWU	PAZA	240203			0207	
HONOLULU/Honolulu Intl	Oakland Oceanic & Honolulu SRR	WSPA01-13	PHFO	KZOA	WSPA01	PHFO	KZOA	240223		0215	0225	
KANSAS CITY	Oakland Oceanic FIR	WSPN01-13	KKCI	KZOA	WSPN05	KKCI	KZOA	240210		0202	0213	
Gia Lam	Hanoi FIR & SRR	WSVS31	VVGL	VVNB								
Gia Lam	Ho-Chi-Minh FIR & SRR	WSVS31	VVGL	VVTS	WSVS31	VVGL	VVTS	240200	0208	0208	0208	0209