



International Civil Aviation Organization

**THE TWELFTH MEETING OF ASIA/PACIFIC ROBEX
WORKING GROUP (ROBEX WG/12)**

ICAO Regional Sub-Office, Beijing China

17 – 19 March 2014

**Agenda Item Conjoint Session 2 a) SIGMET Test
(Activity 3 – ROBEX WG; Activity 1 – MET/H TF)**

REVIEW OF WS SIGMET TEST 9

(Presented by Singapore RODB)

SUMMARY

This paper analyses the data collected during WS SIGMET Test 9 carried out on 26 November 2013.

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 14 November 2013). This document also outlines the procedures for conducting SIGMET tests. The test procedures encompass all the three types of SIGMET, as follows:

- SIGMET for volcanic ash (WV SIGMET)
- SIGMET for tropical cyclones (WC SIGMET)
- SIGMET for other weather phenomena (WS SIGMET)

2. DISCUSSION

2.1 WS SIGMET TEST DATA

2.1.1 All five RODBs in the Region, Bangkok, Brisbane, Tokyo, Singapore and Nadi provided summaries of the reception of the WS SIGMET tests to the focal point for the WS SIGMET Tests in the Asia/Pacific region. An overview of the data reception is shown in Appendix 1.

2.1.2 The Regional OPMET Centre (ROC) Vienna also provided a summary report on the reception of the WS SIGMET test messages in the EUR region. SIGEMT Tests received from the EUR region is shown in Appendix 2.

2.2 DATA ANALYSIS for SIGMET TEST 9

2.2.1 State and MWO Issuance

- A total of 19 of the possible 29 States listed in the Asia/Pacific SIGMET Guide participated in SIGMET Test 9.
- A total of 5 States (Afghanistan, Nauru, Papua New Guinea, Solomon Islands and Sri Lanka) have not participated in any of the SIGMET test conducted. One of the non-participating States, Papua New Guinea, has responsibility for SIGMET issuance on behalf of Nauru and the Solomon Islands.
- A total of 12 of the possible 51 MWOs did not issue a test WS SIGMET for at least one of their FIRs, 5 of these did not participate in any of the nine tests (with bold indicating in the Table 1).

1	Afghanistan, Kabul (OAKB)
2	Australia, Cairns (YBCS) for YBBB FIR
3	Fuji, Nadi (NFFN)
4	Lao PDR, Vientiane (VLVT)
5	Mongolia, Ulaanbaatar (ZMUB)
6	Myanmar, Yangon (VYYY)
7	Nauru, by Port Moresby (AOPY)
8	Papua New Guinea, Port Moresby (AOPY)
9	Solomon Islands, by Port Moresby (AOPY)
10	Sri Lanka, Colombo (VCBI)
11	DPR Korea, Sunan (ZKPY)
12	United States, Kansas City (KKCI)

Table 1: States/MWOs did not participate in WS SIGMET Test 9

2.2.2 RODB Reception

- The summary of Asia Pacific RODB Reception for SIGMET Test 9 is listed below:

SIGMET Test 9	RODB Reception	Bangkok RODB	Brisbane RODB	Singapore RODB	Tokyo RODB	Nadi RODB
Test 9	245	48 of 50	49 of 50	50 of 50	50 of 50	48 of 50
(Nov 2013)	98%	96%	98%	100%	100%	96%

Table 2: RODB Reception of WS SIGMET Test 9

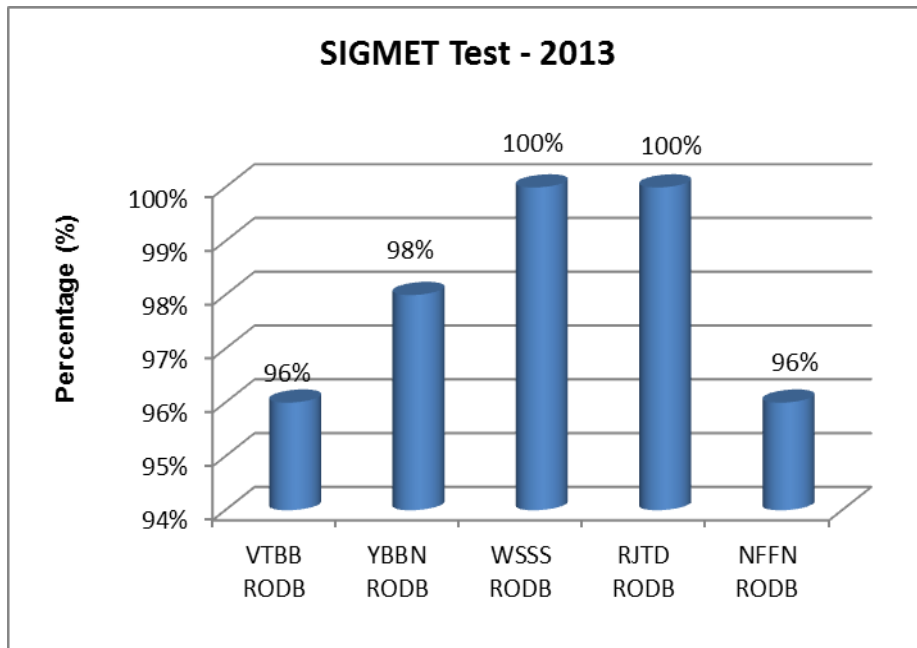


Figure 1: WAFC and RODB Reception of 2013 SIGMET Test

2.2.3 EUR ROCs, RODB and SADIS User Reception

- The Regional OPMET Centre (ROC) Vienna provided a summary report on the reception of the WS SIGMET Test 9 to the focal point for the WS SIGMET Tests in the Asia/Pacific region.
- The WS SIGMET Test result was collected from ROCs, Vienna, London and Toulouse, RODB Brussels and De Bilt (EHDB), The Netherlands as a SADIS User. An overview of the data reception is shown in Appendix 2.
- Summary of the WS SIGMET Test results in the EUR region:

ROC, RODB and SADIS User reception of SIGMET Test 9

SIGMET Test 9	ROC Reception	LOWM ROC	LFPW ROC	EGGY ROC	EHDB SADIS	EBBR RODB
Test 9	220	45 of 50	44 of 50	47 of 50	40 of 50	44 of 50
(Nov 2013)	91%	90%	88%	94%	80%	88%

Table 3: EUR ROC, RODB and SADIS User Reception of WS SIGMET Test 9

- Comparison of the WS SIGMET TEST reception between AP RODB and EUR ROC

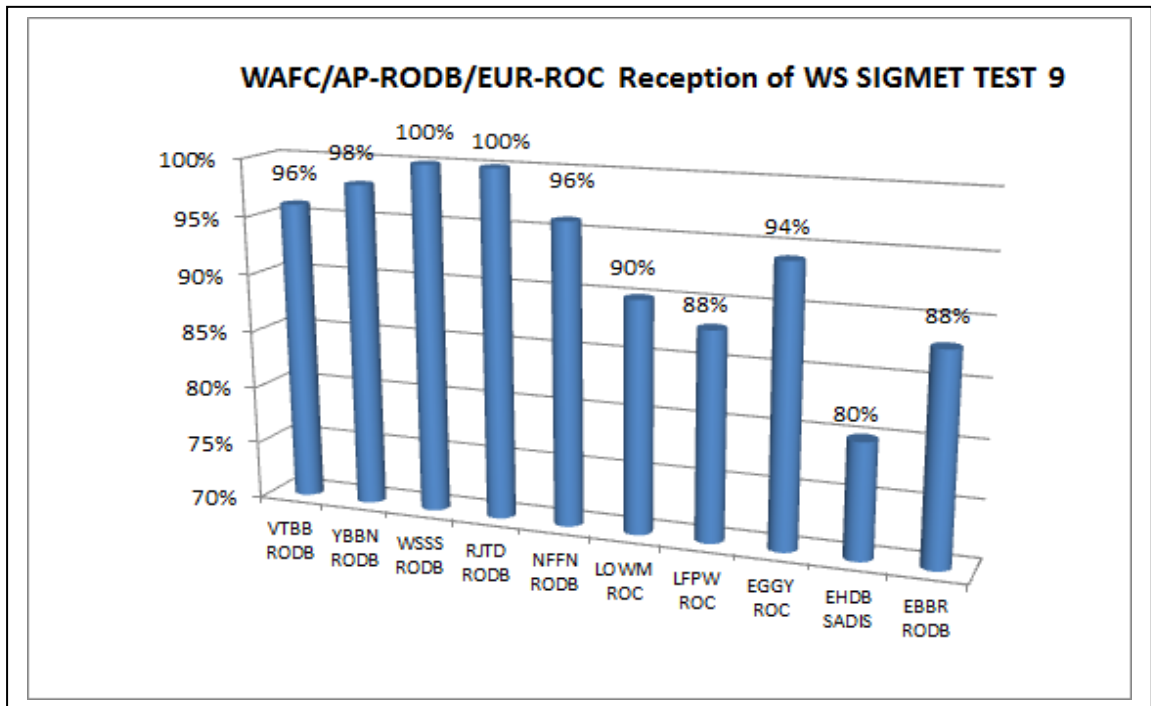


Figure 2: Comparison of WS SIGMET Test Reception

2.2.4 Additional WS SIGMET Test Messages received from AFI MWOs

The following test messages were received between 0845 and 1035 UTC, 26 Nov 13:

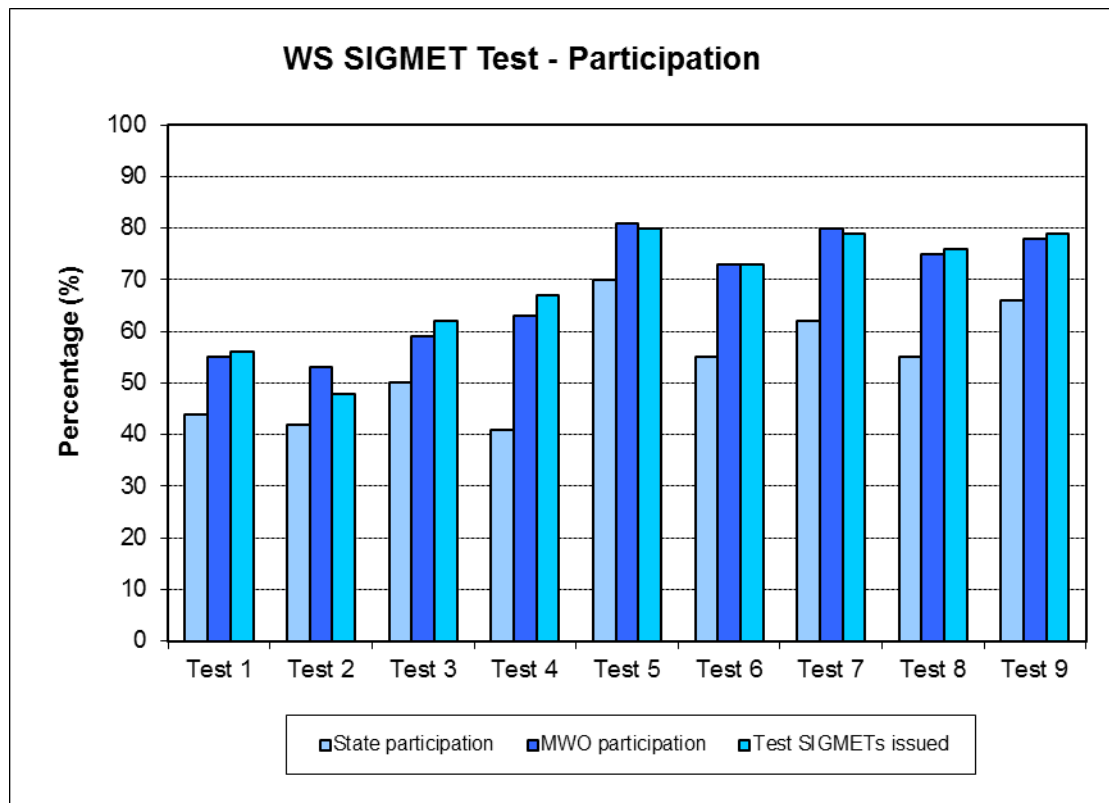
TTAAii	CCCC	YYGGgg	MWO	FIR / UIR
WSZA31	FAOR	260853	FAJA	FAOR
WSMG31	FMMI	260854	FMMI	FMMM
WSMA31	FIMP	261025	FIMM	FIMP
WSMA31	FIMP	261030	FIMM	FIMP
WSZB31	FLKK	260905	FLFI	FLKK
WSZB31	FLKK	261200	FWLL	FLKK
WSZB31	FLKK	261240	FWLL	FLKK
WSZB31	FLKK	261320	FWLL	FLKK

Participation of WS SIGMET Test 1-9

2.3.1 States and MWOs

SIGMET Test 1-9		State participation	MWO participation	Test SIGMETs issued
Test 1	(Feb 2006)	44%	55%	56%
Test 2	(Feb 2007)	42%	53%	48%
Test 3	(Jan 2008)	50%	59%	62%
Test 4	(Feb 2009)	41%	63%	67%
Test 5	(Nov 2009)	70%	81%	80%
Test 6	(Nov 2010)	55%	73%	73%
Test 7	(Nov 2011)	62%	80%	79%
Test 8	(Nov 2012)	55%	75%	76%
Test 9	(Nov 2013)	66%	78%	79%

Table 4: Participation (States & MWOs) in SIGMET Test 1-9



Figures 3: States/MWOs Participation in the WS SIGMET Test 9

2.3.2 Asia Pacific RODB Reception of the WS SIGMET Test 1-9

SIGMET Test 1-9	RODB Reception	Bangkok RODB	Brisbane RODB	Singapore RODB	Tokyo RODB	Nadi RODB
Test 1 (Feb 2006)	75%	45%	90%	80%	85%	
Test 2 (Feb 2007)	84%	68%	90%	94%	84%	
Test 3 (Jan 2008)	91%	76%	95%	100%	92%	
Test 4 (Feb 2009)	93%	86%	93%	100%	93%	
Test 5 (Nov 2009)	90%	82%	90%	98%	90%	
Test 6 (Nov 2010)	90%	87%	98%	100%	98%	67%
Test 7 (Nov 2011)	89%	84%	90%	100%	94%	76%
Test 8 (Nov 2012)	91%	92%	94%	100%	79%	90%
Test 9 (Nov 2013)	98%	96%	98%	100%	100%	96%

Table 5: RODB Reception of SIGMET Test 1-9

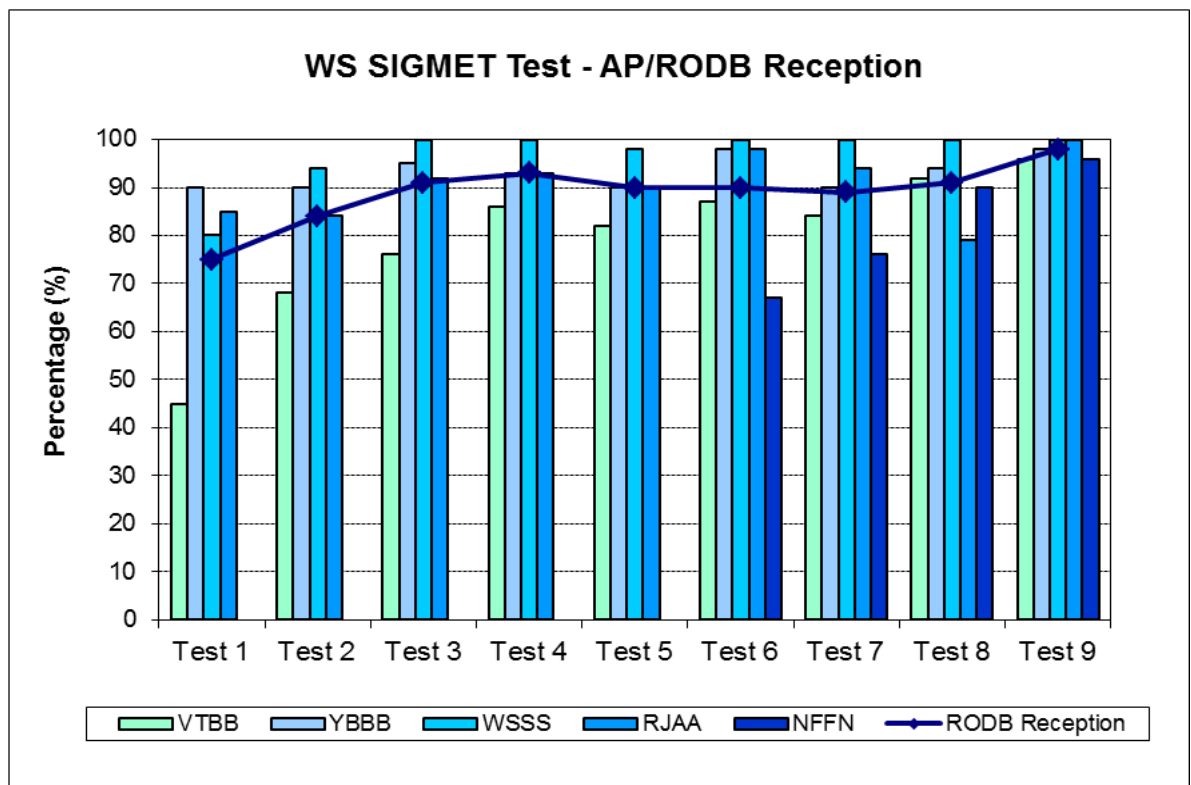


Figure 4: RODB Reception of WS SIGMET TEST 1-9

2.4 FORMATTING ERRORS in WS SIGMET TEST 9

2.4.1 Headers - Received one SIGMET test message with invalid DTG in the WMO Heading:

State, MWOs (FIR)	DTG (YYGGgg)	Received DTG
French Polynesia, TAHITI/Faaa	260200	Invalid DTG : 260128 (Time received: 26/0200) Message content: GG WSSSYMYX 260200 NTAAYMYX WSPF21 NTAA 260128 NTTT SIGMET Z99 VALID 260200/260210 NTAA- NTTT TAHITI FIR THIS IS A TEST SIGMET, PLEASE DISREGARD =

2.4.2 Priorities

- The priorities of aviation weather messages are indicated by the use of DD, FF and GG, where the priority for SIGMET should be FF.
- The results for WS SIGMET Test 9 revealed that incorrect message priorities were used by the following MWOs.

MWO Location	FIR	Priority	Message Content
TAHITI/Faaa	NTTT	GG	GG WSSSYMYX 260200 NTAAYMYX WSPF21 NTAA 260128 NTTT SIGMET Z99 VALID 260200/260210 NTAA- NTTT TAHITI FIR THIS IS A TEST SIGMET, PLEASE DISREGARD
LAHORE/Allama Iqbal Intl	OPLR	GG	GG WSSSYMYX 260205 OPLAYFYX WSPK31 OPLA 260205 OPLR SIGMET Z99 VALID 260205/260215 OPLA- THIS IS A TEST SIGMET. PLEASE DIREGARD (.) TEST WS ADVISORY NUMBER 01 RECEIVED AT 260200Z=
KARACHI/Jinnah Intl	OPKR	GG	GG WSSSYMYX 260158 OPKCYMYA WSPK31 OPKC 260200 OPKC SIGMET Z99 VALID 260200/260210 OPKC- THIS IS A TEST SIGMET, PLEASE DISREGARD=
MALE/Intl	VRMF	DD	DD WSSSYMYX 260200 VRMMYMYX WSMV31 VRMM 260200 VRMF SIGMET Z99 VALID 260200/260210 VRMM- THIS IS A TEST SIGMET,PLEASE DISREGARD=
ADELAIDE/Adelaide BRISBANE/Brisbane DARWIN/Darwin HOBART/Hobart MELBOURNE/Melbourne MELBOURNE/World Met. Centre PERTH/Perth	YMMM YBBB	DD GG	GG WSSSYMYX 260159 YPRFMYX WSAU21 APRF 260159 YBBB SIGMET Z99 VALID 260200/260210 YPRF - YBBB BRISBANE FIR THIS IS A TEST SIGMET PLEASE DISREGARD= GG WSSSYMYX 260200 YSRFMYX

SYDNEY/Sydney			<p>WSAU21 ASRF 260159 YBBB SIGMET Z99 VALID 260200/260210 YSRF -</p> <p>GG WSSSYMYX 260200 YMMCYMYX WSAU21 AMMC 260201 YBBB SIGMET Z99 VALID 260220/260230 YMMC- THIS IS A TEST SIGMET PLEASE DISREGARD=</p> <p>DD WSSSYMYX 260204 YMRFYMYX WSAU21 AMRF 260204 YBBB SIGMET Z99 VALID 260205/260215 YMRF - YBBB BRISBANE FIR THIS IS A TEST SIGMET PLEASE DISREGARD=</p> <p>DD WSSSYMYX 260217 YPRMYMYX WSAU21 APRM 260217 YMMM SIGMET C01 VALID 260215/260225 YPRM - YMMM MELBOURNE FIR THIS IS A TEST SIGMET PLEASE DISREGARD=</p>
SHANGHAI/Hongqiao	ZSHA	DD	<p>GG WSSSYMYX 260159 ZSSSYMYX WSCI34 ZSSS 260205 ZSHA SIGMET Z99 VALID 260205/260215 ZSSS- THIS IS A TEST SIGMET, PLEASE DISREGARD=</p>
URUMQI/Diwopu	ZWUQ	GG	<p>GG WSSSYMYX 260202 ZWWWYZYX WSCI39 ZWWW 260201 ZWUQ SIGMET Z99 VALID 260205/260215 ZWWW- THIS IS A TEST SIGMET,PLEASE DISREGARD=</p>
WUHAN/Tianhe	ZHWH	GG	<p>GG WSSSYMYX 260200 ZHHHYMYX WSCI45 ZHHH 260205 ZHWH SIGMET Z99 VALID 260205/260210 ZHHH- THIS IS A TEST SIGMET,PLEASE DISREGARD=</p>

2.4.3 Sequence Numbers

- A maximum of 3 characters is allowed for the SIGMET sequence numbers. Most of MWOs used the Z99 as sequence number for their WS test messages.
- WS SIGMETs issued by MWO Honolulu Intl had incorrect sequence number.

MWO Location	MWO	Incorrect Sequence No.	Message Content
HONOLULU/Honolulu Intl	PHFO	NOVEMBER 1	<p>WSPA01 PHFO 260200 SIGPAN KZAK SIGMET <u>NOVEMBER 1</u> VALID 260200/260215 PHFO- OAKLAND OCEANIC FIR. THIS IS A TEST SIGMET. PLEASE DISREGARD.</p>

2.4.4 Other formatting errors

Invalid FIR Identifier	Karachi FIR & SRR	GG WSSSYMYX 260158 OPKCYMYA WSPK31 OPKC 260200 OPKC SIGMET Z99 VALID 260200/260210 OPKC- THIS IS A TEST SIGMET, PLEASE DISREGARD=
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2.5 CONCLUSION

2.5.1 The participation for State and MWO in WS SIGMET Test 9 increased 3 to 9 percent compared to the previous test (States: 66% vs 55% ; MWOs: 78% vs 75%). This is due to State Bangladesh and Nepal participated in the SIGMET Test 9.

2.5.2 The average reception for five RODB also increased by 7 percent compared to 2012 result. (2012: 91% ; 2013: 98%).

2.5.3 It is very pleasing to see three EUR ROCs scored high rate of reception in Test 9 (ROC average 2012: 88% ; 2013: 91%).

3. ACTION BY THE MEETING

3.1 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 deployed to increase the participation of States.
