International Civil Aviation Organization

FIFTEENTH MEETING OF THE ASIA/PACIFIC METEOROLOGICAL INFORMATION EXCHANGE WORKING GROUP (MET/IE WG/15)

Bangkok, Thailand, 20 – 22 March 2017

Agenda Item 2: SIGMET tests

PROGRESS WITH SIGMET TESTS – WC and WV

(Presented by Japan)

SUMMARY

This paper presents the results of the ASIA/PAC SIGMET tests conducted in November 2016 for TC and VA.

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 At its 14th meeting, the ASIA/PACIFIC Meteorological Information Exchange Working Group (MET/IE WG) reviewed the results of SIGMET tests in the Asia/Pacific Region held in November 2015. At the meeting, it was decided that the WC, WV and WS SIGMET tests would be conducted on 2, 9 and 16 November 2016, respectively.

1.3 The Regional SIGMET tests were conducted on the following dates (month/date).

SIGMET for	2007	2008	2009		2010	2011	2012	2013	2014	2015	2016
WC	1/15	1/15	2/10	11/10	11/10	11/08	11/07	11/12	11/05	11/04	11/02
WV	1/22	1/22	2/17	11/17	11/17	11/15	11/14	11/19	11/12	11/11	11/09

2. DISCUSSION

2.1 In its State letter dated 13 October 2016 on the Schedule for SIGMET tests in the Asia/Pacific Region – November 2016, the ICAO Asia Pacific Regional Office notified the following schedule and the procedure of the regional SIGMET tests:

2 November 2016 – SIGMET test for tropical cyclone (WC SIGMET):

- WC SIGMET test message to be issued by participating MWOs immediately following receipt of the triggering tropical cyclone advisory (TCA) test messages issued by the associated TCACs at **0200 UTC*** or other time as specified below;

***Notes:**

i. TCAC New Delhi will issue a TCA test message at **0200 UTC** for action by the associated MWOs in the APAC Region only, and a TCA test message at **0800 UTC** for action by the associated MWOs in the MID Region only;

ii. TCAC La Réunion will issue a TCA test message at **0500 UTC** for action by the associated MWOs in the APEC Region only;

iii. If no TCA test message is received at a participating MWO from its associated TCAC within 30 mins of the start of the test (i.e., within 30 mins of the time indicated for the associated TCAC to issue the TCA test message), the MWO should still issue a WC SIGMET test message advising no TCA test message received;

9 November 2016 - SIGMET test for volcanic ash (WV SIGMET):

- WV SIGMET test message to be issued by participating MWOs immediately following receipt of the triggering volcanic ash advisory (VAA) test messages issued by the associated VAACs at **0200 UTC**†;

†**Note**: If no VAA test message is received at a participating MWO from its associated VAAC by 0230 UTC, the MWO should still issue a WV SIGMET test message advising no VAA test message received;

16 November 2016 – SIGMET test for weather and phenomena other than tropical cyclone and volcanic ash (WS SIGMET):

- WS SIGMET test message to be issued by participating MWOs during the 10-min period from **0200 to 0210 UTC.**

3. TEST RESULT AND ANALYSIS

3.1 Three RODBs, like Bangkok, Brisbane and Singapore sent the summary of bulletins received during the tests to Tokyo, the rapporteur. The combined information on the reception of the bulletins during the test for each TC and VA is shown in the Appendix 1 and 2, respectively. In this paper, the overall availability is represented by the rate of test bulletins received at least at one RODB(s) over all those expected to be reported.

3.2 Summary of WC SIGMET test

3.2.1 The total number of WC test bulletins expected to be reported during the test from ASIA/PAC States was 48 and that received during the test was 29. The overall availability of WC test bulletins from ASIA/PAC States was 60.4%, which was less than that of 2015 (63.0%). Table 1 and Figure 1 show the availability of WC test bulletins at each RODB and the total since 2009.

	2009	2010	2011	2012	2013	2014	2015	2016
Bangkok	71.0%	53.0%	57.0%	61.0%	58.7%	71.7%	58.7%	58.3%
Brisbane	76.0%	57.0%	57.0%	70.0%	67.4%	76.1%	54.3%	47.9%
Nadi					58.7%			
Singapore	82.0%	63.0%	63.0%	70.0%	63.0%	80.4%	58.7%	60.4%
Tokyo	76.0%	63.0%	52.0%	67.0%	60.9%	67.4%	56.5%	58.3%
Total					71.7%	82.6%	63.0%	60.4%

Table 1: Availability of the WC SIGMET test

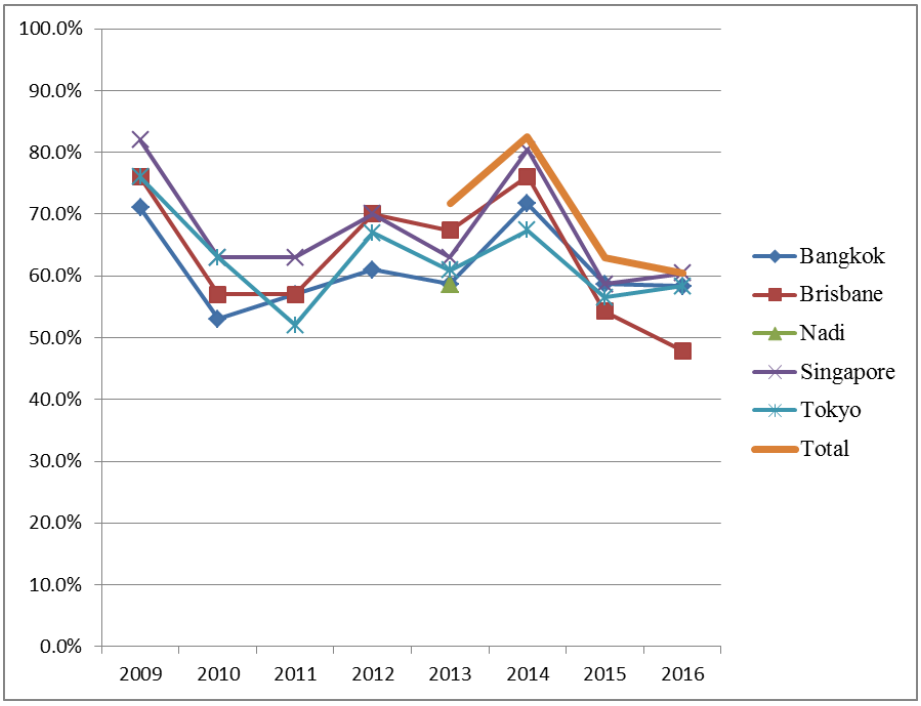

Figure 1: Availability of the WC SIGMET test

3.2.2 TCAC La Réunion could not issue a TCA test message at 0500 UTC. There was no WC test bulletin in Australia because of a system error during the test.

3.2.3 Table 2 shows WC test bulletins which were not issued during the test period.

State	MWO	TTAAii	CCCC	FIR
AUSTRALIA	BRISBANE	WCAU01	ABRF	YBBB, YMMM
	DARWIN	WCAU01	ADRM	YBBB, YMMM

	PERTH	WCAU01	APRF	YBBB, YMMM
CHINA	TAIBEI	WCCI31	RCTP	RCAA
DPR KOREA	SUNAN	WCKR31	ZKPY	ZKKP
FRENCH POLYNESIA	TAHITI	WCPF21	NTAA	NTTT
INDONESIA	MAKASSAR	WCID21	WAAA	WAAZ
NAURU	NAURU	WCNW20	ANYN	ANAU
NEW ZEALAND	WELLINGTON	WCNZ21	NZKL	NZZC
PAKISTAN	KARACHI	WCPK31	OPKC	OPKR
PAPUA NEW GUINEA	PORT MORESBY	WCNG20	AYPY	AYPY
PHILIPPINES	MANILA	WCPH31	RPLL	RPHI
SOLOMON ISLANDS	HONIARA	WCSO20	AGGH	AGGG
UNITED STATES	ANCHORAGE	WCAK01-09	PAWU	PAZA
	KANSAS CITY	WCNT01-13	KKCI	KZNY, KZMA, KZHU, TJZU
		WCPN01-13	KKCI	KZAK

Table 2: WC test bulletins not issued in 2016

3.2.4 Formatting errors in the WC SIGMET test are shown in Table 3.

State (MWO)	**Type of Error**	**Content**
FIJI (NADI)	Incorrect **YYGGgg** (DTG)	FF RJAAYMYX RJTDYPYX **020207** NFFNYMYX WCFJ01 NFFN **020000** NFFF SIGMET Z99 VALID 020210/020215 NFFN- NFFF NADI FIR THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST TC ADVISORY NUMBER 01 RECEIVED FM NADI TCAC AT 020203Z=
MYANMAR (YANGON)	Incorrect **FIR** Incorrect **Sequence NO** (A01 corrected in 020215)	FF RJTDYPYX 020203 VYYYYMYX WCBM31 VYYY 020203 **VYYF** SIGMET **A01** VALID 020200/020800 VYYY- **VYYF** YANGON FIR THIS IS A TEST SIGMET PLEASE DISREGARD. TEST TC ADVISORY NUMBER 1 RECEIVED AT 020200Z=
SRI LANKA (COLOMBO)	Incorrect **FIR**	FF RJTDYPYX 020212 VCBIYMYX WCSB31 VCBI 020200 **VCCF** SIGMET Z99 VALID 020200/020210 VCBI- **VCCF** COLOMBO FIR THIS IS A TEST SIGMET PLEASE DISREGARD TEST TC ADVISORY NUMBER 01 RECIEVED FM NEW DLHI TCAC AT 020200=

INDONESIA (JAKARTA)	Incorrect **First line**	FF RJTDYPYX 020206 WIIIYMYX WCID20 WIII 020205 WIIZ SIGMET Z99 VALID 020205/020215 WIII **(no hyphen)** WIIZ JAKARTA FIR THIS IS A TEST SIGMET PLEASE DISREGARD. TEST TC ADVISORY NUMBER 2016/01 RECEIVED FM DARWIN TCAC AT 020205Z=
MALAYSIA (KUALA LUMPUR)	Incorrect **First line**	FF RJTDYPYX 020206 WMKKYMYX WCMS31 WMKK 020205 WBFC SIGMET Z99 VALID 020205/020215 WMKK **(no hyphen)** WBFC KOTA KINABALU FIR THIS IS A TEST SIGMET PLEASE DISREGARD. TEST TC ADVISORY NUMBER 01 RECEIVED FM NEW DELHI TCAC AT 020200Z=
REPUBLIC OF KOREA (INCHON)	Incorrect **First line**	FF RJTDYPYX 020205 RKSIYPYX WCKO31 RKSI 020205 **(no First line)** THIS IS A TEST SIGMET, PLEASE DISREGARD TEST TC ADVISORY NUMBER 01 RECEIVED AT 020200Z

Table 3: Formatting errors in the WC SIGMET test

3.3 Summary of WV SIGMET test

3.3.1 The total number of WV test bulletins expected to be reported during the test from ASIA/PAC States was 51. In addition, RODB Tokyo relayed 5 Russian WV SIGMETs (UELL, UIII, UHHH, UHMM and UHPP). Therefore the total number of WV test bulletins expected to be reported during the WV SIGMET test was 56. The total number of WV test bulletins received during the test from ASIA/PAC and from Russia was 41 and 5, respectively. The availability in the ASIA/PAC region was 82.5% which was higher than that of the test in 2015 (77.6%). Table 4 and Figure 2 show the availability of WV test bulletins at each RODB and the total since 2009.

	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Bangkok	70.0%	55.0%	64.0%	56.0%	55.2%	69.0%	55.2%	73.2%
Brisbane	70.0%	59.0%	64.0%	67.0%	56.9%	69.0%	65.5%	71.4%
Nadi					55.2%			
Singapore	86.0%	64.0%	72.0%	72.0%	62.1%	82.8%	74.1%	80.4%
Tokyo	81.0%	64.0%	67.0%	57.0%	58.6%	79.3%	72.4%	73.2%
Total					65.5%	84.5%	77.6%	82.5%

Table 5: Availability of the WV SIGMET test

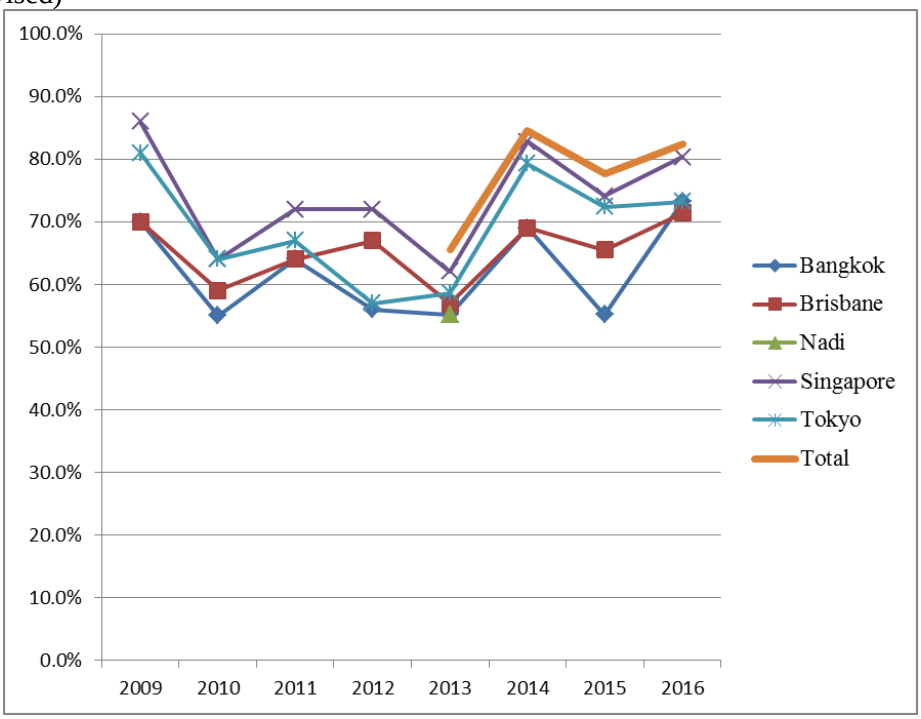

Figure 2: Availability of the WV SIGMET test

3.3.2 Table 5 shows WV test bulletins which were not issued during the test period.

State	MWO	TTAAii	CCCC	FIR
AFGHANISTAN	KABUL	WVAH31	OAKB	OAKX
CHINA	TAIBEI	WVCI31	RCTP	RCAA
DPR KOREA	SUNAN	WVKR31	ZKPY	ZKKP
FRENCH POLYNESIA	TAHITI	WVPF21,22	NTAA	NTTT
MYANMAR	YANGON	WVBM31	VYYY	VYYY
NAURU	NAURU	WVNW20	ANYN	ANAU
NEPAL	KATHMANDU	WVNP31	VNKT	VNSM
PAKISTAN	LAHORE	WVPK31	OPLA	OPLR
PAPUA NEW GUINEA	PORT MORESBY	WVNG20	AYPY	AYPY
UNITED STATES	KANSAS CITY	WVNT01-13	KKCI	KZNY, KZMA, KZHU, TJZU

Table 5: WV test bulletins not issued in 2016

3.3.3 Formatting errors in the WV SIGMET test are shown in Table 6.

State (MWO)	Type of Error	Content
FIJI (NADI)	Incorrect **YYGGgg** (DTG)	FF RJAAYMYX RJTDYPYX **090202** NFFNYMYX WVFJ01 NFFN **090000** NFFF SIGMET Z99 VALID 090205/090210 NFFN- NFFF NADI FIR THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST VA ADVISORY NUMBER 2016/3 RECEIVED FM WELLINGTON VAAC AT 090200Z=
MALAYSIA (KUALA LUMPUR)	Incorrect **MWO**	FF RJTDYPYX 090205 WMKKYMYX WVMS31 WMKK 090206 WBFC SIGMET Z99 VALID 090207/090217 **WBKK**- WBFC KOTA KINABALU FIR THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST VA ADVISORY NUMBER 2016/2 RECEIVED FM DARWIN VAAC AT 090200Z=
MALDIVES (MALE)	Incorrect **WMO Header**	FF RJTDYPYX 090204 VRMMYMYX **WCMV31** VRMM 090200 VRMF SIGMET Z99 VALID 090200/090210 VRMM- VRMF MALE' FIR THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST VA ADVISORY 1 RECEIVED FM DARWIN VAAC AT 090201Z=
SRI LANKA (COLOMBO)	Incorrect **WMO Header** Incorrect **FIR**	FF RJTDYPYX 090242 VCBIYMYX **WSSB31** VCBI 090235 **VCCF** SIGMET Z99 VALID 090235/090245 VCBI- **VCCF** COLOMBO FIR THIS IS A TEST SIGMET,PLEASE DISREGARD.TEST VA ADVIDORY NOT RECEIVED FM DRAWIN VAAC=

Table 6: Formatting errors in the WV SIGMET test

3.4 Results of the ASIA/PAC SIGMET tests in the EUR region

3.4.1 The Regional OPMET Centre (ROC) Vienna provided the results of the reception in ROC Vienna, Toulouse and RODB Brussels. Reception time of WC and WV test bulletins was taken in Appendix 1 and 2. The overall availability of the WC test bulletins from ASIA/PAC States only received by AFTN/AMHS was 50.0% and that of WV was 60.7%.

3.4.2 It was pointed out that WCAU01 ABRF, WCAU01 APRF, WCMV31 VRMM, WVAU01 ADRM, WVKO31 RKSI and FKIN20 DEMS were not received by AFTN/AMHS.

3.4.3 It was requested to cease non agreed routing distribution of the following bulletins because they are already received by IROG London from IROG Singapore.

- FVAU03 ADRM sent from YMMCYMYX to LOWMYBYX
- FVFE01 RJTD sent from RJTDYMYX to LFPWYMYX
- WVIN31 VAAB sent from VABBYMYX to LOWMYBYX

3.5 Overall summary of the SIGMET tests

3.5.1 The availability of WC test bulletins was slightly lower than in the test in 2015, while that of WV test bulletins was higher than in the test in 2015. The total number of WC test bulletins which were not received in 2016 was 19, increasing from 8 in 2015.

3.5.2 Both in the WC and WV SIGMET test, there were still incorrect use of the priority and the WMO header in those bulletins amongst participating States, but they were fewer than that of 2015.

3.5.3 Some of WC and WV test bulletins in ASIA/PAC region were received from OEJDYMYX, Jeddah in Saudi Arabia with the priority 'GG' converted from the original priority 'FF'. It caused duplicate transmission with an incorrect priority. Tokyo transmitted WV test bulletins from Russia with the priority 'GG' converted from the original priority 'FF'.

3.5.4 Some of WC and WV test bulletins were not received by all RODBs in ASIA/PAC region. Participating States should send the test message to all RODBs and WAFCs.

4. ACTION REQUIRED BY THE MEETING

4.1 The meeting is invited to:

a) note the result of the SIGMET tests presented above;

b) discuss on the future importance of the SIGMET exchange in the region; and

c) discuss, if necessary, revision of the test procedure.

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Appendix 1: Summary of WC SIGMET test

MWO details in APAC Regional SIGMET TEST Procedures 2016 / SIGMET Guide						Test Result											
State	MWO name	MWO	TTAAii	CCCC	FIR	PI	TTAAii	CCCC	YYGGgg	MWO	FIR	Received Time(UTC)					Remarks
												VTBB	WSSS	YBBB	RJTD	EUR	
AUSTRALIA	BRISBANE	YBRF	WCAU01	ABRF	YBBB,YMMM												
	DARWIN	YPDM	WCAU01	ADRM	YBBB,YMMM												
	PERTH	YPRF	WCAU01	APRF	YBBB,YMMM												
BANGLADESH	DHAKA	VGHS	WCBW20	VGHS	VGFR	FF	WCBW20	VGHS	020230	VGHS	VGFR	2:30	2:30	2:31	2:30	2:30	
CAMBODIA	PHNOM PENH	ZUUU	WCKP31	ZUUU	VDPP	FF	WCKP31	ZUUU	020205	ZUUU	VDPP	2:09	2:09	2:11	2:09	2:09	
CHINA	BEIJING	ZBAA	WCCI33	ZBAA	ZBPE	FF	WCCI33	ZBAA	020205	ZBAA	ZBPE	2:05	2:05	2:06	2:05	2:05	
	CHENGDU	ZUUU	WCCI36	ZUUU	ZPKM	FF	WCCI36	ZUUU	020202	ZUUU	ZPKM	2:05	2:05		2:05	2:05	
	GUANGZHOU	ZGGG	WCCI35	ZGGG	ZGZU	FF	WCCI35	ZGGG	020201	ZGGG	ZGZU	2:04	2:04	2:06	2:04	2:04	
	HAIKOU	ZJHK	WCCI35	ZJHK	ZJSA	FF	WCCI35	ZJHK	020201	ZJHK	ZJSA	**2:47**	**2:47**		**2:47**		Delay
	HONG KONG	VHHH	WCSS20	VHHH	VHHK	FF	WCSS20	VHHH	020201	VHHH	VHHK	2:01	2:01	2:03	2:01	2:01	
	SHANGHAI	ZSSS	WCCI34	ZSSS	ZSHA	FF	WCCI34	ZSSS	020205	ZSSS	ZSHA	2:03	2:03	2:04	2:03	2:03	
	TAIBEI	RCTP	WCCI31	RCTP	RCAA												
DPR KOREA	SUNAN	ZKPY	WCKR31	ZKPY	ZKKP												
FIJI	NADI	NFFN	WCFJ01, 02	NFFN	NFFF	FF	WCFJ01	NFFN	**020000**	NFFN	NFFF	2:08	2:07		2:08	2:07	Incorrect **YYGGgg**
FRENCH POLYNESIA	TAHITI	NTAA	WCPF21	NTAA	NTTT												
INDIA	CHENNAI	VOMM	WCIN31	VOMM	VOMF	FF	WCIN31	VOMM	020201	VOMM	VOMF	2:04	2:04	2:07	2:04	2:04	
	KOLKATA	VECC	WCIN31	VECC	VECF	FF	WCIN31	VECC	020205	VECC	VECF	2:08	2:08	2:16	2:08	2:08	
	MUMBAI	VABB	WCIN31	VABB	VABF	FF	WCIN31	VABB	020205	VABB	VABF	2:03	2:03	2:05	2:03	2:07	
	NEW DELHI	VIDP	WCIN31	VIDP	VIDF	FF	WCIN31	VIDP	020200	VIDP	VIDF	2:04	2:04	2:06	2:04	2:04	
						FF	WCIN31	VIDP	020800	VIDP	VIDF	8:03	8:03		8:03	8:03	
INDONESIA	JAKARTA	WIII	WCID20	WIII	WIIZ	FF	WCID20	WIII	020205	WIII	WIIZ	2:16	2:14	2:18	2:16		No **hyphen** in the First line
	MAKASSAR	WAAA	WCID21	WAAA	WAAZ												
JAPAN	TOKYO	RJTD	WCJP31	RJTD	RJJJ	FF	WCJP31	RJTD	020205	RJTD	RJJJ	2:05	2:05	2:05	2:05	2:05	
LAO PDR	VIENTIANE	VLVT	WCLA31	VLVT	VLVT	FF	WCLA31	VLVT	020200	VLVT	VLVT	2:09	2:09	2:16	2:09	2:09	
MALAYSIA	KUALA LUMPUR	WMKK	WCMS31	WMKK	WMFC	FF	WCMS31	WMKK	020202	WMKK	WMFC	2:04	2:07	2:08	2:05	2:05	
					WBFC	FF	WCMS31	WMKK	020205	WMKK	WBFC	2:07	2:06	2:09	2:07	2:07	No **hyphen** in the First line
MALDIVES	MALE	VRMM	WCMV31	VRMM	VRMF	FF	WCMV31	VRMM	020200	VRMM	VRMF	2:21	2:21	2:29	2:21		
MYANMAR	YANGON	VYYY	WCBM31	VYYY	VYYY	FF	WCBM31	VYYY	020203	VYYY	**VYYF**	2:02	2:02	2:03	2:02	2:02	Incorrect **FIR**
NAURU	NAURU	ANYN	WCNW20	ANYN	ANAU												
NEW ZEALAND	WELLINGTON	NZKL	WCNZ21	NZKL	NZZC												
		NZKL	WCPS21	NZKL	NZZO	FF	WCPS21	NZKL	020202	NZKL	NZZO	2:03	2:03	2:05	2:03	2:03	
PAKISTAN	KARACHI	OPKC	WCPK31	OPKC	OPKR												
PAPUA NEW GUINEA	PORT MORESBY	AYPY	WCNG20	AYPY	AYPY												
PHILIPPINES	MANILA	RPLL	WCPH31	RPLL	RPHI												
REPUBLIC OF KOREA	INCHEON	RKSI	WCKO31	RKSI	RKRR	FF	WCKO31	RKSI	020205			2:08	2:08	2:09	2:08		No **First line**, no **MWO/FIR**
SINGAPORE	SHINGAPORE	WSSS	WCSR20	WSSS	WSJC	FF	WCSR20	WSSS	020205	WSSS	WSJC	2:05	2:05	2:06	2:05	2:05	
SOLOMON ISLANDS	HONIARA	AGGH	WCSO20	AGGH	AGGG												
SRI LANKA	COLOMBO	VCBI	WCSB31	VCBI	VCBI	FF	WCSB31	VCBI	020200	VCBI	**VCCF**	2:12	2:15	2:17	2:12	2:12	Incorrect **FIR**
THAILAND	BANGKOK	VTBS	WCTH31	VTBS	VTBB	FF	WCTH31	VTBS	020208	VTBS	VTBB	2:08	2:08	2:16	2:08	2:08	
VIET NUM	GIA LAM	VVGL	WCVS31	VVGL	VVNB	**GG**	WCVS31	VVGL	020219	VVGL	VVNB	2:18	2:18	2:22	2:18	2:19	Incorrect **Priority**
					VVTS	**GG**	WCVS31	VVGL	020220	VVGL	VVTS	2:19	2:19		2:19		Incorrect **Priority**
UNITED STATES	HONOLULU	PHFO	WCPA01-13	PHFO	KZAK	FF	WCPA01	PHFO	020200	PHFO	KZAK		2:06			2:01	
	ANCHORAGE	PAWU	WCAK01-09	PAWU	PAZA												
	KANSAS CITY	KKCI	WCNT01-13	KKCI	KZNY,KZMA,KZHU,TJZU												
		KKCI	WCPN01-13	KKCI	KZAK												
BAHRAIN	BAHRAIN	OBBI	WCBN31	OBBI	OBBB												
IRAN	TEHRAN	OIII	WCIR31	OIII	OIIX	**GG**	WCIR31	OIII	020805	OIII	OIIX	8:14	8:17		8:14		Incorrect **Priority**
KUWAIT	KUWAIT	OKBK	WCKW10	OKBK	OKAC	**GG**	**WSKW10**	OKBK	020800	OKBK	OKAC		8:01			8:01	Using **WS**, Incorrect **Priority**
OMAN	MUSCAT	OOMS	WCOM31	OOMS	OOMM												
SAUDI ARABIA	JEDDAH	OEJN	WCSD20	OEJD	OEJD												
UNITED ARAB EMIRATES	ABU DHABI	OMAA	WCAE20	OMAA	OMAE	FF	WCAE20	OMAA	020805	OMAA	OMAE	8:06	8:05		8:05	8:05	
YEMEN	SANNA	OYSN	WCYE31	OYSN	OYSC												

Appendix 2: Summary of WV SIGMET test

MWO details in APAC Regional SIGMET TEST Procedures 2016 / SIGMET Guide						Test Result											
State	MWO name	MWO	TTAAii	CCCC	FIR	PI	TTAAii	CCCC	YYGGgg	MWO	FIR	Received Time(UTC)					Remarks
												VTBB	WSSS	YBBB	RJTD	EUR	
AFGHANISTAN	KABUL	OAKB	WVAH31	OAKB	OAKX												
AUSTRALIA	DARWIN	YPDM	WVAU01	ADRM	YMMM	FF	WVAU01	ADRM	090220	YMMC	YMMM	2:20	2:19	2:21	2:19		
					YBBB	FF	WVAU01	ADRM	090220	YMMC	YBBB	2:21	2:21	2:23	2:21		
BANGLADESH	DHAKA	VGHS	WVBW20	VGHS	VGFR	FF	WVBW20	VGHS	090205/0230	VGHS	VGFR	2:05/2:30	2:05	2:07/2:31	2:05/2:30	2:05/2:30	Tokyo VAAC/New Delhi VAAC
CAMBODIA	PHNOM PENH	ZUUU	WVKP31	ZUUU	VDPP	FF	WVKP31	ZUUU	090205	ZUUU	VDPP	2:06	2:06	2:07	2:06	2:06	
CHINA	BEIJING	ZBAA	WVCI33	ZBAA	ZBPE	FF	WVCI33	ZBAA	090205	ZBAA	ZBPE	2:05	2:05	2:06	2:05	2:05	
	CHENGDU	ZUUU	WVCI36	ZUUU	ZPKM	FF	WVCI36	ZUUU	090202	ZUUU	ZPKM	2:05	2:05	2:06	2:05	2:05	
	GUANGZHOU	ZGGG	WVCI35	ZGGG	ZGZU	FF	WVCI35	ZGGG	090205	ZGGG	ZGZU	2:02	2:02	2:04	2:02	2:02	
	HAIKOU	ZJHK	WVCI35	ZJHK	ZJSA	FF	WVCI35	ZJHK	090210/0220	ZJHK	ZJSA	2:11/2:22	2:11/2:22	2:13/2:24	2:11/2:22	2:11/2:22	Tokyo VAAC/Anchorage VAAC
	HONG KONG	VHHH	WVSS20	VHHH	VHHK	FF	WVSS20	VHHH	090202	VHHH	VHHK	2:02	2:02	2:03	2:02	2:02	
	SHANGHAI	ZSSS	WVCI34	ZSSS	ZSHA	FF	WVCI34	ZSSS	090205	ZSSS	ZSHA	2:06	2:06	2:07	2:06	2:06	
	SHENYANG	ZYTX	WVCI38	ZYTX	ZYSH	FF	WVCI38	ZYTX	090156	ZYTX	ZYSH	2:08	2:07	2:09	2:07	2:07	
	TAIBEI	RCTP	WVCI31	RCTP	RCAA												
	URUMQI	ZWWW	WVCI39	ZWWW	ZWUQ	FF	WVCI39	ZWWW	090205/0230	ZWWW	ZWUQ	2:10/2:33	2:10/2:33	2:11/2:34	2:10/2:33	2:10/2:33	Tokyo VAAC/Toulouse VAAC
	WUHAN	ZHHH	WVCI45	ZHHH	ZHWH	FF	WVCI45	ZHHH	090203	ZHHH	ZHWH	2:05	2:05	2:06		2:05	
	XI'AN	ZLXY	WVCI37	ZLXY	ZLHW	FF	WVCI37	ZLXY	090210	ZLXY	ZLHW	2:12	2:12	2:13	2:12		
DPR KOREA	SUNAN	ZKPY	WVKR31	ZKPY	ZKKP												
FIJI	NADI	NFFN	WVFJ01,02	NFFN	NFFF	FF	WVFJ01	NFFN	**090000**	NFFN	NFFF	2:02	2:02		2:02	2:02	Incorrect **YYGGgg**
FRENCH POLYNESIA	TAHITI	NTAA	WVPF21,22	NTAA	NTTT												
INDIA	CHENNAI	VOMM	WVIN31	VOMM	VOMF	FF	WVIN31	VOMM	090202	VOMM	VOMF	2:06	2:06	2:08	2:06	2:07	
	KOLKATA	VECC	WVIN31	VECC	VECF	FF	WVIN31	VECC	090235	VECC	VECF		2:29	2:31	2:29	2:30	
	MUMBAI	VABB	WVIN31	VABB	VABF	FF	WVIN31	VABB	090233	VABB	VABF	2:35	2:35	2:37	2:35	2:35	
	NEW DELHI	VIDP	WVIN31	VIDP	VIDF	FF	WVIN31	VIDP	090200	VIDP	VIDF	2:18	2:18	2:20	2:18		
INDONESIA	JAKARTA	WIII	WVID20	WIII	WIIZ	FF	WVID20	WIII	090200	WIII	WIIZ	2:07	2:07	2:08	2:07	2:07	
	MAKASSAR	WAAA	WVID21	WAAA	WAAZ	FF	WVID21	WAAA	090205	WAAA	WAAZ		2:04			2:05	
JAPAN	TOKYO	RJTD	WVJP31	RJTD	RJJJ	FF	WVJP31	RJTD	090205	RJTD	RJJJ	2:05	2:05	2:06	2:05	2:05	
LAO PDR	VIENTIANE	VLVT	WVLA31	VLVT	VLVT	FF	WVLA31	VLVT	090205	VLVT	VLVT	2:08	2:07	2:09	2:07	2:08	
MALAYSIA	KUALA LUMPUR	WMKK	WVMS31	WMKK	WMFC	FF	WVMS31	WMKK	090202	WMKK	WMFC	2:04	2:05	2:06	2:05	2:05	
					WBFC	FF	WVMS31	WMKK	090206	**WBKK**	WBFC	2:07	2:07	2:08	2:07	2:07	Incorrect **MWO**
MALDIVES	MALE	VRMM	WVMV31	VRMM	VRMF	FF	**WCMV31**	VRMM	090200	VRMM	VRMF	2:11	2:11	2:27	2:11		Using **WC**
MONGOLIA	ULAANBAATAR	ZMUB	WVMO31	ZMUB	ZMUB	FF	WVMO31	ZMUB	090200	ZMUB	ZMUB		2:10		2:00		
MYANMAR	YANGON	VYYY	WVBM31	VYYY	VYYY												
NAURU	NAURU	ANYN	WVNW20	ANYN	ANAU												
NEPAL	KATHMANDU	VNKT	WVNP31	VNKT	VNSM												
NEW ZEALAND	WELLINGTON	NZKL	WVNZ21	NZKL	NZZC	FF	WVNZ21	NZKL	090200	NZKL	NZZC	2:01	2:01	2:02	2:01	2:01	
		NZKL	WVPS21	NZKL	NZZO	FF	WVPS21	NZKL	090201	NZKL	NZZO	2:02	2:02	2:03	2:02	2:02	
PAKISTAN	KARACHI	OPKC	WVPK31	OPKC	OPKR	**GG**	WVPK31	OPKC	090205	OPKC	OPKR	2:15	2:15	2:17	2:15		Incorrect **Priority**
	LAHORE	OPLA	WVPK31	OPLA	OPLR												
PAPUA NEW GUINEA	PORT MORESBY	AYPY	WVNG20	AYPY	AYPY												
PHILIPPINES	MANILA	RPLL	WVPH31	RPLL	RPHI	FF	WVPH31	RPLL	090202/0203	RPLL	RPHI	2:29/2:29	2:09/2:09	2:26/2:26	2:02/2:03	2:03/2:03	Tokyo VAAC/Darwin VAAC
REPUBLIC OF KOREA	INCHEON	RKSI	WVKO31	RKSI	RKRR	FF	WVKO31	RKSI	090205	RKSI	RKRR	2:23	2:23	2:25	2:23		
SINGAPORE	SHINGAPORE	WSSS	WVSR20	WSSS	WSJC	FF	WVSR20	WSSS	090205	WSSS	WSJC	2:05	2:05	2:06	2:05	2:05	
SOLOMON ISLANDS	HONIARA	AGGH	WVSO20	AGGH	AGGG	FF	WVSO20	AGGH	090205	AGGH	AGGG	2:30	2:30	2:34	2:30		
SRI LANKA	COLOMBO	VCBI	WVSB31	VCBI	VCBI	FF	**WSSB31**	VCBI	090235	VCBI	**VCCF**	2:42	2:42	2:44	2:42	2:42	Using **WS,** Incorrect **FIR**
THAILAND	BANGKOK	VTBS	WVTH31	VTBS	VTBB	FF	WVTH31	VTBS	090205/0210	VTBS	VTBB	2:08/2:10	2:07/2:10	2:09/2:12	2:07/2:10	2:07/2:10	Tokyo VAAC/Darwin VAAC
VIET NUM	GIA LAM	VVGL	WVVS31	VVGL	VVNB	FF	WVVS31	VVGL	090204/0208	VVGL	VVNB	2:04/2:09	2:04/2:09	2:06/2:10	2:04/2:09	2:05/2:08	Tokyo VAAC/Darwin VAAC
					VVTS	FF	WVVS31	VVGL	090205/0208	VVGL	VVTS	2:05/2:08	2:05/2:08	2:06/2:10	2:05/2:08	2:05/2:08	Tokyo VAAC/Darwin VAAC
UNITED STATES	HONOLULU	PHFO	WVPA01-13	PHFO	KZAK	FF	WVPA01	PHFO	090200	PHFO	KZAK		2:03				
	ANCHORAGE	PAWU	WVAK01-09	PAWU	PAZA	FF	WVAK05	PAWU	090204	PAWU	PAZA		2:09				
	KANSAS CITY	KKCI	WVNT01-13	KKCI	KZNY,KZMA,KZHU,TJZU												
		KKCI	WVPN01-13	KKCI	KZAK	FF	WVPN01	KKCI	090200	KKCI	KZAK	2:12					
RUSSIAN FEDERATION	CHULMAN	UELL	WVRA32	RUYK	UELL	**GG**	WVRA32	RUYK	090205	UELL	UELL	2:03	2:02	2:04	2:25	2:03	Incorrect **Priority**
	IRKUTSK	UIII	WVRA31	RUIR	UIII	**GG**	WVRA31	RUIR	090200	UIII	UIII	2:02	2:02	2:03	2:25	2:03	Incorrect **Priority**
	KHABAROVSK/NOVY	UHHH	WVRA31	RUHB	UHHH	FF	WVRA31	RUHB	090202	UHHH	UHHH	2:03	2:03	2:05	2:03	2:04	
	MAGADAN/SOKOL	UHMM	WVRA31	RUMG	UHMM	**GG**	WVRA31	RUMG	090203	UHMM	UHMM	2:04	2:04	2:06	2:25	2:05	Incorrect **Priority**
	PETROPAVLOVSK-KAMCHATSKY	UHPP	WVRA31	RUPK	UHPP	FF	WVRA31	RUPK	090203	UHPP	UHPP	2:04	2:03	2:05	2:04	2:04	
UNITED ARAB EMIRATES	ABU DHABI	OMAA	WVAE20	OMAA	OMAE	FF	WVAE20	OMAA	090230	OMAA	OMAE	2:30	2:30	2:32	2:30	2:30	
OMAN	MUSCAT	OOMS	WVOM20	OOMS	OOMM	**GG**	WVOM20	OOMS	090230	OOMS	OOMM	3:24	3:20	3:22	3:20		Incorrect **Priority**
KUWAIT	KUWAIT	OKBK	WVKW10	OKBK	OKAC	**GG**	WVKW10	OKBK	090350	OKBK	**OKBK**		4:02		4:02	4:02	Incorrect **Priority,** Incorrect **FIR**