

International Civil Aviation Organization



**THIRTEENTH MEETING OF THE ASIA/PACIFIC REGIONAL OPMET  
BULLETIN EXCHANGE WORKING GROUP (ROBEX WG/13) and  
FIFTH MEETING OF METEOROLOGICAL HAZARDS TASK FORCE  
(MET/H TF/5)**

Seoul, Republic of Korea, 18 March 2015

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**Agenda Item (conjoint Session) 2: SIGMET and Advisory Information  
(Activity 3–ROBEX WG; Activity 1–MET/H TF)**

**REVIEW OF WS SIGMET TEST 10**

(Presented by Singapore RODB)

**SUMMARY**

This paper analyses the data collected during WS SIGMET Test 10 conducted on 19 November 2014.

**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 on the issuance and reception of SIGMET messages, in particular 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 (4<sup>th</sup> 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. SIGMET Results received from the EUR region is shown in Appendix 2.

## 2.2 DATA ANALYSIS for SIGMET TEST 10

### 2.2.1 State and MWO Issuance

- A total of 22 of the possible 29 States listed in the Asia/Pacific SIGMET Guide participated in SIGMET Test 10.
- A total of 2 States (Afghanistan and Papua New Guinea (for Port Moresby FIR)) have not participated in any of the SIGMET test conducted.
- A total of 11 of the possible 52 MWOs did not issue a test WS SIGMET for at least one of their FIRs, 2 of these did not participate in any of the ten tests (with bold as shown in the Table 1).

1	<b>Afghanistan, Kabul (OAKB)</b>
2	Australia, Cairns (YBCS) for YBBB FIR
3	Bangladesh, Dhaka (VGHS)
4	China, Haikou (ZJHK)
5	Fuji, Nadi (NFFN)
6	French Polynesia, Tahiti (NTAA)
7	Indonesia, Ujung Pandang (WAAA)
8	Myanmar, Yangon (VYYY)
9	Pakistan, Lahore (OPLA)
10	Nepal, Kathmandu (VNKT)
11	<b>Papua New Guinea, Port Moresby (AYPY)</b>

Table 1: States/MWOs did not participate in WS SIGMET Test 10

### 2.2.2 RODB Reception

- The summary of Asia Pacific RODB Reception for SIGMET Test 10 is listed below:

SIGMET Test	RODB Reception	Bangkok RODB	Brisbane RODB	Singapore RODB	Tokyo RODB	Nadi RODB
Test 10	239	46 of 52	47 of 52	52 of 52	49 of 52	45 of 52
(Nov 2014)	92%	88%	90%	100%	94%	87%

Table 2: RODB Reception of WS SIGMET Test 10

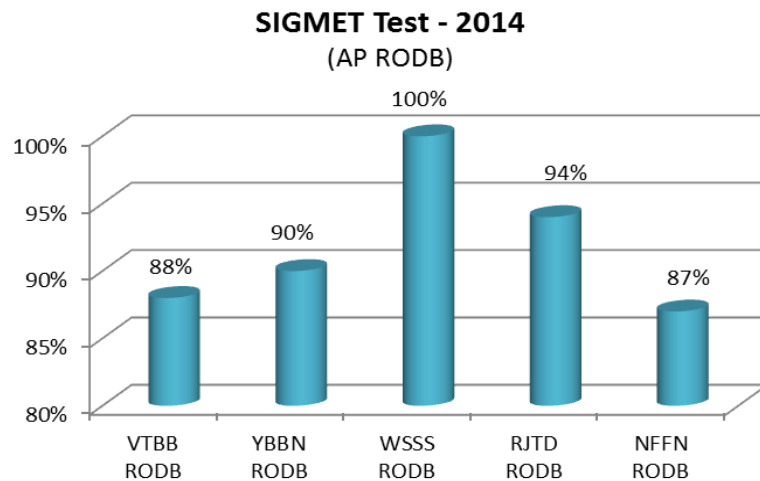


Figure 1: RODB Reception of 2014 SIGMET Test

### 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 10 to the focal point for the WS SIGMET Tests in the Asia/Pacific region.
- The WS SIGMET Test results were collected from ROCs, Vienna, London and Toulouse 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 and SADIS User reception of SIGMET Test 10

SIGMET Test	ROC Reception	LOWM ROC	LFPW ROC	EGGY ROC	EHDB SADIS
Test 10	175	46 of 52	42 of 52	44 of 52	43 of 52
(Nov 2014)	85%	88%	81%	85%	83%

Table 3: EUR ROC and SADIS User Reception of WS SIGMET Test 10

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

**WAFC/AP-RODB/EUR-ROC Reception of WS SIGMET TEST 10**

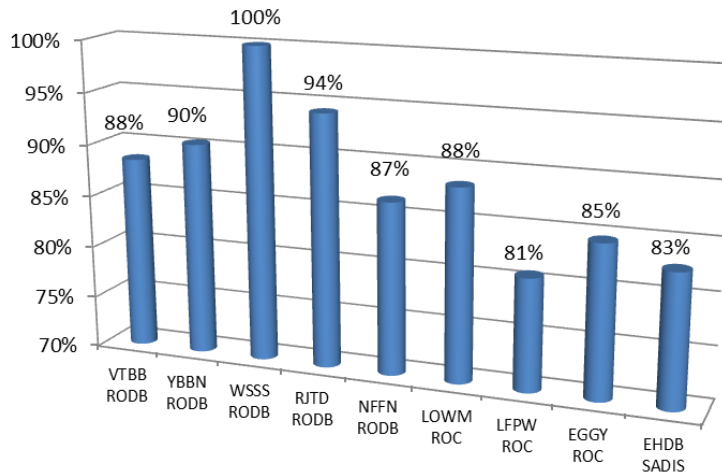


Figure 2: Comparison of WS SIGMET Test Reception

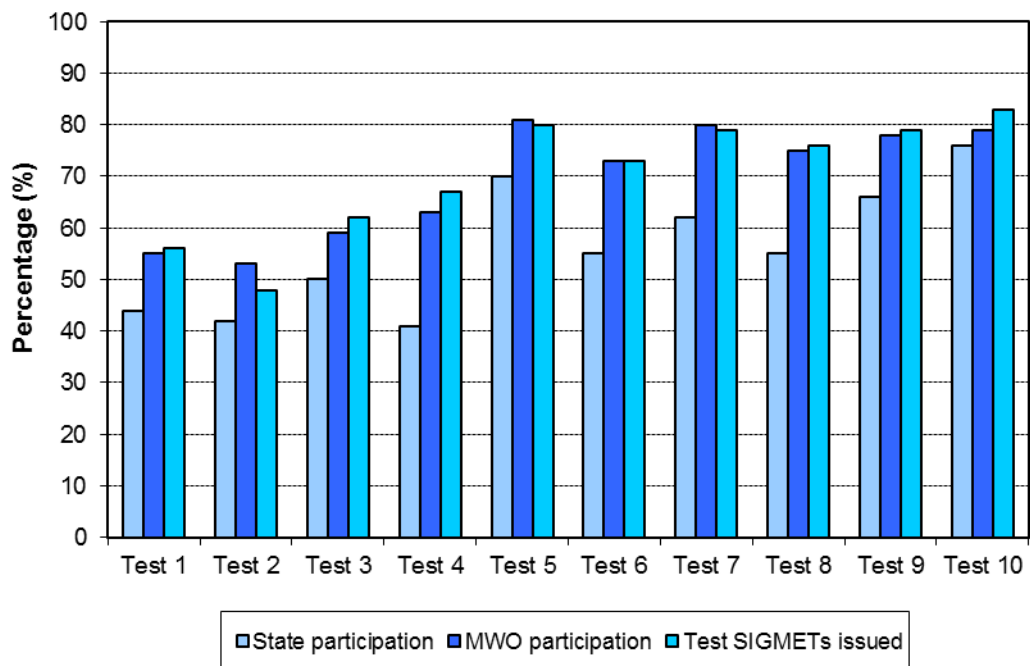
## 2.3 Participation of WS SIGMET Test 1-10

### 2.3.1 States and MWOs

SIGMET Test 1-10		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%
<b>Test 10</b>	<b>(Nov 2014)</b>	<b>76%</b>	<b>79%</b>	<b>83%</b>

Table 4: Participation (States & MWOs) in SIGMET Test 1-10

**WS SIGMET Test - Participation**



Figures 3: States/MWOs Participation in the WS SIGMET Test 10

**2.3.2 Asia Pacific RODB Reception of the WS SIGMET Test 1-10**

SIGMET Test 1-10	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%
Test 10 (Nov 2014)	92%	88%	90%	100%	94%	87%

Table 5: RODB Reception of SIGMET Test 1-10

**WS SIGMET Test - AP/RODB Reception**

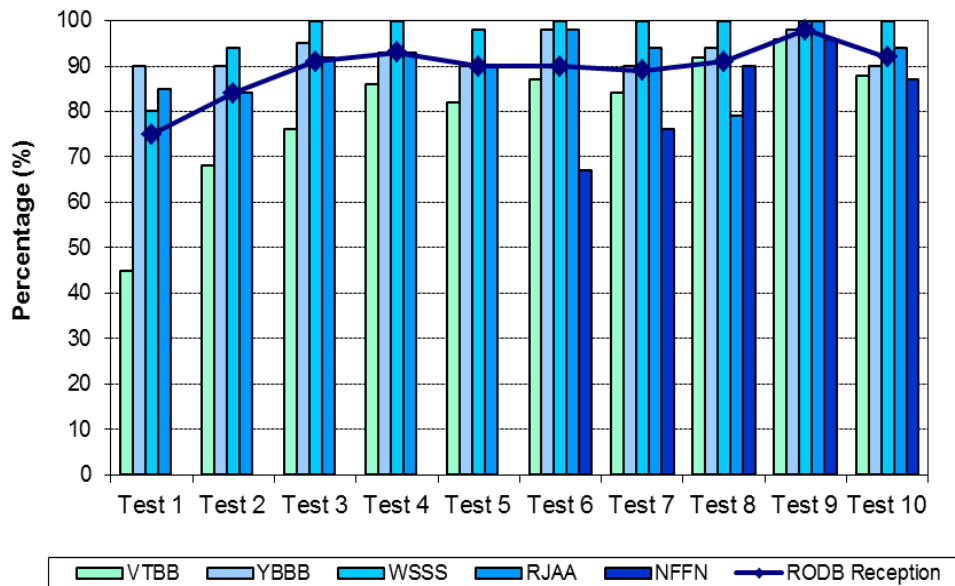


Figure 4: RODB Reception of WS SIGMET TEST 1-10

**2.4 FORMATTING ERRORS in WS SIGMET TEST 10**

**2.4.1 Message Headers - Received SIGMET test message with invalid WMO Heading:**

State, MWOs (FIR)	Invalid group	Message Content
Lao PDR VIENTIANE/Wattay	Location Indicator is missing  Invalid DTG – 120200 (Time received: 19/1110)	DD WSSSYMYX WSSSYPYX 191106 VLVTYMYX WSLA31 <b>120200</b> VLVT SIGMET Z99 VALID 190200/190210 VLVT- THID A TEST SIGMET, PLEASE DISREGARD. <b>TEST TC ADVISORY NUMBER 1 RECEIVE AT 190200Z=</b>
Maldives MALE/Intl	Using WC AHL WCMV31	DD WSSSYMYX WSSSYPYX 190203 VRMMYMYX <b>WCMV31</b> VRMM 190200 VRMF SIGMET Z99 VALID 190200/190210 VRMM THIS IS A TEST SIGMET, PLEASE DISREGARD. <b>TEST WS ADVISORY NUMBER 1 RECEIVED AT 050200Z=</b>
Nauru PORT MORESBY on behalf of NAURU (ANYN)	Incorrect AHL  Double AHLs in one test message	FF WSSSYZYX 190256 AYPMYMYX <b>WSNG21 AYPY 190250</b> ANAU SIGMET WS VALID 190205/190215 AYPY- <b>WSNW20 AYPY 190205Z</b> AYPY SIGMET Z99 VALID 190205/190215 ANAU MORESBY FIR, THIS IS A TSET SIGMET, PLEASE DISREGARD.
Nauru PORT MORESBY on behalf of NAURU (ANYN)	Incorrect AHL  Double AHLs in one test message	FF WSSSYZYX 190253 AYPMYMYX <b>WSNG21 AYPY 190205</b> ANAU SIGMET <b>WC</b> VALID 190205/190215 AYPY- <b>WSS020 AYPY 190205Z</b> AYPY SIGMET Z99 VALID 190205/190215 AGGH MORESBY 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 10 revealed that incorrect message priorities were used by the following MWOs.

MWO Location	FIR	Priority	Message Content
KARACHI/Jinnah Intl	OPKR	GG	<b>GG</b> WSSSYZYX 190206 OPKCYMYA WSPK31 OPKC 190205 OPKR SIGMET Z99 VALID 190200/190210 OPKC- THIS IS A TEST SIGMENT, PLEASE DISREGARD.
MALE/Intl	VRMF	DD	<b>DD</b> WSSSYZYX 190203 VRMMYMYX WCMV31 VRMM 190200 VRMF SIGMET Z99 VALID 190200/190210 VRMM THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST WS ADVISORY NUMBER 1 RECEIVED AT 050200Z=
SHANGHAI/Hongqiao	ZSHA	GG	<b>GG</b> WSSSYZYX 190205 ZSSSYMYX WSC134 ZSSS 190205 ZSHA SIGMET Z99 VALID 190205/190215 ZSSS- THIS IS A TEST SIGMET, PLEASE DISREGARD=

### 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	WSPA01 PHFO 190200 SIGPAN KZAK SIGMET <b>NOVEMBER 1</b> VALID 190200/190215 PHFO- OAKLAND OCEANIC FIR. THIS IS A TEST SIGMET. PLEASE DISREGARD.
KANSAS CITY	KKCI	ALFA 1	WSPN01 KKCI 190200 SIGP0A KZAK SIGMET <b>ALFA 1</b> VALID 190200/190215 KKCI- OAKLAND OCEANIC FIR. TEST TEST TEST. THIS IS A TEST SIGMET.

**2.5 Other Issues**

**2.5.1 Receive duplicated SIGMET test messages**

<b>Rx time</b>	<b>Originator</b>	<b>Text beginning</b>
19 01:53:40	FF WSSSYZYX 190153 AYPMYMYX	WSNG21 AYPY 190200..ANAU SIGMET WC VALID
19 02:53:30	FF WSSSYZYX 190253 AYPMYMYX	WSNG21 AYPY 190205..ANAU SIGMET WC VALID
19 02:56:42	FF WSSSYZYX 190256 AYPMYMYX	WSNG21 AYPY 190250..ANAU SIGMET WS VALID
19 02:02:33	FF WSSSYPYX 190200 ZBBBYPYX	WSCI33 ZBAA 190205..ZBPE SIGMET Z99 VALID
19 02:02:10	FF WSSSYZYX 190200 ZBBBYPYX	WSCI33 ZBAA 190205..ZBPE SIGMET Z99 VALID
19 02:02:02	FF WSSSYZYX 190200 ZBBBYPYX	WSCI33 ZBAA 190205..ZBPE SIGMET Z99 VALID
19 02:03:55	FF WSSSYZYX 190202 VIDPYMYX	WSIN31 VIDP 190205..VIDF SIGMET Z99 VALID
19 02:03:51	FF WSSSYZYX 190201 VIDPYMYX	WSIN31 VIDP 190205..VIDF SIGMET Z99 VALID
19 02:01:51	FF WSSSYZYX 190200 VIDPYMYX	WSIN31 VIDP 190205..VIDF SIGMET Z99 VALID
19 02:34:27	FF WSSSYMYX 190232 VOMMYMYX	WSIN31 VOMM 190205..VOMF SIGMET Z99 VALID
19 02:34:18	FF WSSSYMYX 190232 VOMMYMYX	WSIN31 VOMM 190205..VOMF SIGMET Z99 VALID
19 02:00:43	FF WSSSYZYX 190159 VOMMYMYX	WSIN31 VOMM 190205..VOMF SIGMET Z99 VALID
19 02:13:32	GG WSSSYMYX 190204 VTBBYPYX	WSTH31 VTBS 190202 CCA..VTBB SIGMET Z99
19 02:03:54	FF WSSSYZYX 190203 VTBSYMYX	WSTH31 VTBS 190202 CCA..VTBB SIGMET Z99
19 02:02:45	GG WSSSYMYX 190159 VTBBYPYX	WSTH31 VTBS 190202..VTBB SIGMET Z99 VALID
19 01:58:45	FF WSSSYZYX 190158 VTBSYMYX	WSTH31 VTBS 190202..VTBB SIGMET Z99 VALID

**2.5.2 Receive test messages after the test schedule (0200-0400UTC)**

According to SIGMET Test procedures, SIGMET tests should be terminated within 2 hours of the test start time (e.g., from 0200 to 0400 UTC)

<b>Rx time</b>	<b>Originator</b>	<b>Text beginning</b>
<b>19 05:14:03</b>	FF WSSSYMYX <b>190513</b> VCBIYMYX	WSSB31 VCBI 190500Z..VCCF SIGMET Z99 VALID
<b>19 11:10:19</b>	DD WSSSYMYX <b>191106</b> VLVTYMYX	WSLA31 120200... VLVY SIGMET Z99 VALID 190200-



**2.5.3 Receive period of validity of the WS TEST SIGMET > 10 minutes**

Refer to the paragraph 3.2.2.1 of the State letter, the MWOs should issue a TEST SIGMET during the 10-minute period between 0200 and 0210 UTC (if not otherwise advised by the Regional Office) on the date agreed for the test.

The period of the validity issued by MWO, Honiara (AGGH) was more than 5 hours.

FF WSSSYZYX  
190202 AGGHYOYX  
WSSO20 AGGH 190200  
AGGG SIGMET Z99 VALID 190156/190700 AGGH-  
TEST TS ADVISORY NUMBER 2014/1 FM HONIARA  
AREA: HONIARA FIR  
PHENOMENON: TS TEST.....

**2.6 CONCLUSION**

2.5.1 The participation for States in WS SIGMET Test 10 increased by 10 percent compared with the previous test No 9 (States: 76% vs 66%). It is pleased to note that State Nauru (PORT MORESBY on behalf of NAURU) and Solomon Islands participated in the SIGMET Test 10.

2.5.2 The participation for MWOs increased by 1 percent compared with last year's test. (MWOs: 79% vs 78%)

2.5.2 The average reception for five RODB is lower by 6 percent compared with 2013 result. (2013: 98%; 2014: 92%)

2.5.3 Three EUR ROCs scored average 85% reception in SIGMET Test 10. (2013: 91%; 2014: 85%)

**3. ACTION BY THE MEETING**

3.1 The meeting is invited discuss the following:

- a) the results of the WS SIGMET test presented above;
- b) the issues identified in paragraph 2.5.1, 2.5.2 and 2.5.3 and review the existing test procedures if needed ; and
- c) the necessary follow-up issues arose from SIGMET TEST 10.

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APPENDX 1 – Summary of WS SIGMET Test Results received from AP/RODBs

State	Meteorological Watch Office (MWO)		Area Served	SIGMET Guide			Transmitted Header					RODB Reception					
	Location	MWO	Name	TTAAii	CCCC	FIR	Priority	TTAAii	CCCC	YGGggg	MWO	FIR / UIR	VTBB	YBBN	WSSS	RJTD	NFFN
Afghanistan	KABUL AD	OAKB	Kabul FIR and SSR	WSAH31	OAKB	OAKX											
Australia	ADELAIDE/Adelaide	YPRM	Melbourne FIR	WSAU21	APRM	YMMM	FF	WSAU21	APRM	190200	APRM	YMMM	02:05	02:01	02:05	02:05	02:01
	BRISBANE/Brisbane	YBRF	Brisbane FIR	WSAU21	ABRF	YBBB	FF	WSAU21	ABRF	190200	ABRF	YBBB	02:04	02:00	02:04	02:04	02:02
	BRISBANE/Brisbane	YBRF	Melbourne FIR	WSAU21	ABRF	YMMM	FF	WSAU21	ABRF	190205	ABRF	YMMM	02:08	02:05	02:07	02:07	02:05
	CAIRNS/Cairns Intl	YBCS	Brisbane FIR	WSAU21	ABCS	YBBB											
	DARWIN/Darwin	YPDM	Brisbane FIR	WSAU21	ADRM	YBBB	FF	WSAU21	ADRM	190200	ADRM	YBBB	02:04	02:00	02:05	02:05	02:00
	DARWIN/Darwin	YPDM	Melbourne FIR	WSAU21	ADRM	YMMM	FF	WSAU21	ADRM	190200	ADRM	YMMM	02:05	02:00	02:05	02:05	02:00
	HOBART/Hobart	YMHF	Melbourne FIR	WSAU21	AMHF	YMMM	FF	WSAU21	AMHF	190202	AMHF	YMMM	02:06	02:02	02:05	02:05	02:02
	MELBOURNE/Melbourne	YMRF	Brisbane FIR	WSAU21	AMRF	YBBB	FF	WSAU21	AMRF	190204	AMRF	YBBB	02:07	02:04	02:07	02:07	02:04
	MELBOURNE/Melbourne	YMRF	Melbourne FIR	WSAU21	AMRF	YMMM	FF	WSAU21	AMRF	190202	AMRF	YMMM	02:07	02:02	02:06	02:06	02:02
	MELBOURNE/World Met. Centre	YMMC	Brisbane FIR	WSAU21	AMMC	YBBB	FF	WSAU21	AMMC	190207	AMMC	YBBB	02:09	02:08	02:09	02:09	02:08
	MELBOURNE/World Met. Centre	YMMC	Melbourne FIR	WSAU21	AMMC	YMMM	FF	WSAU21	AMMC	190208	AMMC	YMMM	02:09	02:09	02:09	02:10	02:09
	PERTH/Perth	YPRF	Brisbane FIR	WSAU21	APRF	YBBB	FF	WSAU21	APRF	190202	APRF	YBBB	02:07	02:02	02:06	02:06	02:02
	PERTH/Perth	YPRF	Melbourne FIR	WSAU21	APRF	YMMM	FF	WSAU21	APRF	190202	APRF	YMMM	02:06	02:02	02:06	02:06	02:02
	SYDNEY/Sydney	YSRF	Brisbane FIR	WSAU21	ASRF	YBBB	FF	WSAU21	ASRF	190203	ASRF	YBBB	02:07	02:03	02:06	02:07	02:03
	SYDNEY/Sydney	YSRF	Melbourne FIR	WSAU21	ASRF	YMMM	FF	WSAU21	ASRF	190203	ASRF	YMMM	02:07	02:03	02:07	02:07	02:03
Bangladesh	DHAKA/Zia Intl	VGHS	Dhaka FIR & SRR	WSBW20	VGHS	VGFR											
Cambodia	CHENGDU/Shuangliu for PHNOM-PENH (VDPP)	ZUUU	Phnom-Penh FIR & SRR	WSKP31	ZUUU	VDPP	FF	WSKP31	ZUUU	190202	ZUUU	VDPP	02:04	02:04	02:05	02:04	02:04
China	BEIJING/Capital	ZBAA	Beijing FIR & SRR	WSCI33	ZBAA	ZBPE	FF	WSCI33	ZBAA	190205	ZBAA	ZBPE	02:01	02:00	02:02	02:01	02:00
	GUANGZHOU/Baiyan	ZGGG	Guangzhou FIR & SRR	WSCI35	ZGGG	ZGZU	FF	WSCI35	ZGGG	190205	ZGGG	ZGZU	02:00	02:00	02:01	02:00	02:00
	CHENGDU/Shuangliu	ZUUU	Kunming FIR & SRR	WSCI36	ZUUU	ZPKM	FF	WSCI36	ZUUU	190200	ZUUU	ZPKM	02:00	02:00	02:00	02:03	02:01
	XI'AN/Xiayang	ZLXY	Lanzhou FIR and SRR	WSCI37	ZLXY	ZLHW	FF	WSCI37	ZLXY	190201	ZLXY	ZLHW	02:03	02:02	02:03	02:03	02:02
	HAIKOU/Meilan	ZJHK	Sanya FIR & SRR	WSCI35	ZJHK	ZJSA											
	SHANGHAI/Hongqiao	ZSSS	Shanghai FIR & SRR	WSCI34	ZSSS	ZSHA	GG	WSCI34	ZSSS	190205	ZSSS	ZSHA	02:03	02:05	02:03	02:01	02:05
	SHENYANG/Taoxian	ZYTX	Shenyang FIR & SRR	WSCI38	ZYTX	ZYSH	FF	WSCI38	ZYTX	190201	ZYTX	ZYSH	02:04	01:13	02:02	02:04	01:13
	TAIBEI/Taibei Intl	RCTP	Taibei FIR & SRR	WSCI31	RCTP	RCAA	FF	WSCI31	RCTP	190201	RCTP	RCAA	02:01	02:01	02:01	02:01	02:01
	URUMQI/Diwopu	ZWWW	Urumqi FIR & SRR	WSCI39	ZWWW	ZWUQ	FF	WSCI39	ZWWW	190201	ZWWW	ZWUQ	02:02	02:00	02:02	02:01	02:00
	WUHAN/Tianhe	ZHHH	Wuhan FIR & SRR	WSCI45	ZHHH	ZHWH	FF	WSCI45	ZHHH	190202	ZHHH	ZHWH	02:02	02:01	02:02	02:02	02:01
	HONG KONG/Hong Kong Intl	VHHH	Hong Kong FIR & SRR	WSSS20	VHHH	VHHK	FF	WSSS20	VHHH	190200	VHHH	VHHF	02:00	02:00	02:00	02:00	02:00
DPR Korea	SUNAN	ZKPY	Pyeongyang FIR & SRR	WSKR31	ZKPY	ZKKP	FF	WSKR31	ZKPY	190205	ZKPY	ZKKP	02:04	02:05	02:03	02:03	02:05
Fiji	NADI/Nadi Intl	NFFN	Nadi FIR & SRR	WSFJ01.02..	NFFN	NFFF											
French Polynesia	TAHITI/Faaa	NTAA	Tahiti FIR & SRR	WSPF21,22	NTAA	NTTT											
India	CHENNAI/Chennai	VOMM	Chennai FIR & SRR	WSIN31	VOMM	VOMF	FF	WSIN31	VOMM	190205	VOMM	VOMF	02:17	01:59	02:00	02:00	01:59
	DELHI/Indira Ghandi Intl	VIDP	Delhi FIR & SRR	WSIN31	VIDP	VIDF	FF	WSIN31	VIDP	190205	VIDP	VIDF	02:01	02:01	02:01	02:01	02:02
	KOLKATA	VECC	Kolkata FIR & SRR	WSIN31	VECC	VECF	FF	WSIN31	VECC	190205	VECC	VECF	02:05	02:05	02:05	02:05	02:05
	MUMBAI/Chhatrapati Shivaji Intl.	VABB	Mumbai FIR & SRR	WSIN31	VABB	VABF	FF	WSIN31	VABB	190200	VABB	VABF	02:05	02:01	02:05	02:05	02:01
Indonesia	JAKARTA/Soekamo-Hatta	WIII	Jakarta FIR/UIR & SRR	WSID20	WIII	WIIF	FF	WSID20	WIII	190218	WIII	WIIF		02:18	02:21	02:11	02:18
	UJUNG PANDANG/Hasanuddin	WAAA	Ujung Pandang FIR/UIR & SRR	WSID21	WAAA	WAAF											
Japan	TOKYO (CITY)	RJTD	Fukuoka FIR & Tokyo SRR	WSJP31	RJTD	RJJJ	FF	WSJP31	RJTD	190205	RJTD	RJJJ	02:05	02:05	02:05	02:05	02:05
Lao PDR	VIENTIANE/Wattay	VLVT	Vientiane FIR & SRR	WSLA31	VLVT	VLVT	DD	WSLA31	XXXX	120200	VLVT	VLVT	11:10	11:06	11:10		
Malaysia	SEPANG/KL International Airport	WMKK	Kota Kinabalu FIR & SRR	WSMS31	WMKK	WBFC	FF	WSMS31	WMKK	190200	WMKK	WBFC	02:00	02:00	02:00	02:00	02:00
	SEPANG/KL International Airport	WMKK	Kuala Lumpur FIR & SRR	WSMS31	WMKK	WMFC	FF	WSMS31	WMKK	190205	WMKK	WMFC	02:03	02:03	02:03	02:04	02:03
Maldives	MALE/Intl	VRMM	Male FIR & SRR	WSMV31	VRMM	VRMF	DD	WCMV31	VRMM	190200	VRMM	VRMF	02:08		02:07		
Mongolia	ULAANBAATAR	ZMUB	Ulaanbaatar FIR & SRR	WSMO31	ZMUB	ZMUB	FF	WSMO31	ZMUB	190200	ZMUB	ZMUB			02:06	02:02	
Myanmar	YANGON/Yangon International	VYYY	Yangon FIR & SRR	WSBM31	VYYY	VYYY											
Nauru	PORT MORESBY on behalf of NAURU (ANYN)	AYPY	Nauru FIR & SRR	WSNW20	AYPY	ANAU	FF	WSNG21	AYPY	190250	AYPY	ANAU	02:56	02:53	02:56	01:53	02:56
Nepal	KATHMANDU	VNKT	Kathmandu FIR & SRR	WSNP31	VNKT	VNSM											
New Zealand	WELLINGTON (Aviation Weather Centre)	NZKL	New Zealand FIR & SRR	WSNZ21	NZKL	NZZC	FF	WSNZ21	NZKL	190200	NZKL	NZZC	02:00	02:00	02:00	02:00	02:00
	WELLINGTON (Aviation Weather Centre)	NZKL	Auckland Oceanic FIR & SRR	WSPS21	NZKL	NZZO	FF	WSPS21	NZKL	190200	NZKL	NZZO	02:01	02:00	02:01	02:01	02:00
Pakistan	KARACHI/Jinnah Intl	OPKC	Karachi FIR & SRR	WSPK31	OPKC	OPKR	GG	WSPK31	OPKC	190205	OPKC	OPKR	02:08	02:06	02:07	02:06	02:06
	LAHORE/Allama Iqbal Intl	OPLA	Lahore FIR & SRR	WSPK31	OPLA	OPLR											
Papua New Guinea	PORT MORESBY/Intl	AYPY	Port Moresby FIR & SRR	WSNG20	AYPY	AYPY											
Philippines	MANILA/Ninoy Aquino Intl, Pasay City, Metro Manila	RPLL	Manila FIR & SRR	WSPH31	RPLL	RPHI	FF	WSPH31	RPLL	190200	RPLL	RPHI	02:01	02:01	02:01	02:01	02:01
Republic of Korea	INCHEON	RKSI	Incheon FIR & SRR	WSKO31	RKSI	RKRR	FF	WSKO31	RKSS	190200	RKSS	RKSI	02:00	02:00	02:00	02:00	02:04
Singapore	SINGAPORE/Changi	WSSS	Singapore FIR & SRR	WSSR20	WSSS	WSJC	FF	WSSR20	WSSS	190205	WSSS	WSJC	02:05	02:05	02:05	02:05	02:05
Solomon Islands	PORT MORESBY on behalf of HONIARA (Henderson - AGGH)	AGGH	Honiara FIR & SRR	WSSO20	AGGH	AGGG	FF	WSSO20	AGGH	190200	AGGH	AGGG	02:02	02:02	02:02	02:02	02:02
Sri Lanka	COLOMBO/Bandaranaikie Intl Airport Colombo	VCBI	Colombo FIR & SRR	WSSB31	VCBI	VCBI	FF	WSSB31	VCBI	190500	VCBI	VCCF		05:13	05:14		
Thailand	BANGKOK/Suvarnabhumi Intl Airport	VTBS	Bangkok FIR & SRR	WSTH31	VTBS	VTBB	FF	WSTH31	VTBS	190202	VTBS	VTBB	01:58	02:03	02:02	01:58	02:03
United States	ANCHORAGE/Anchorage Intl	PAWU	Anchorage FIR	WSAK01-09	PAWU	PAZA	FF	WSAK05	PAWU	190200	PAWU	PAZA			02:06	02:07	
	HONOLULU/Honolulu Intl	PHFO	Oakland Oceanic & Honolulu SRR	WSPA01-13	PHFO	KZAK	FF	WSPA01	PHFO	190200	PHFO	KZAK			02:06	02:00	
	KANSAS CITY	KKCI	Oakland Oceanic FIR	WSPN01-13	KKCI	KZAK	FF	WSPN01	KKCI	190200	KKCI	KZAK			02:00	01:58	
Vietnam	Gia Lam	VVGL	Hanoi FIR & SRR	WSVS31	VVGL	VVNB	FF	WSVS31	VVGL	190211	VVGL	VVNB	02:13	02:11	02:13	02:13	02:11
	Gia Lam	VVGL	Ho-Chi-Minh FIR & SRR	WSVS31	VVGL	VVTS	FF	WSVS31	VVGL	190210	VVGL	VVTS	02:12	02:10	02:12	02:12	02:10

APPENDIX 2 – Summary of WS SIGMET Results received from EUR ROC and SADIS User

tate	Meteorological Watch Office (MWO)		Area Served	SIGMET Guide			Transmitted Header					EUR ROC & SADIS Reception					
	Location	MWO		Name	TTAAii	CCCC	FIR	Priority	TTAAii	CCCC	YGGgg	MWO	FIR / UIR	LOWM	LFPW	EGGY	EHDB
Afghanistan	KABUL AD	OAKB	Kabul FIR and SSR	WSAH31	OAKB	OAKX											
Australia	ADELAIDE/Adelaide	YPRM	Melbourne FIR	WSAU21	APRM	YMMM	FF	WSAU21	APRM	190200	APRM	YMMM	02:05	02:05	02:09	02:05	
	BRISBANE/Brisbane	YBRF	Brisbane FIR	WSAU21	ABRF	YBBB	FF	WSAU21	ABRF	190200	ABRF	YBBB	02:04	02:04	02:04	02:04	
	BRISBANE/Brisbane	YBRF	Melbourne FIR	WSAU21	ABRF	YMMM	FF	WSAU21	ABRF	190205	ABRF	YMMM	02:07	02:07	02:07	02:07	
	CAIRNS/Cairns Intl	YBCS	Brisbane FIR	WSAU21	ABCS	YBBB											
	DARWIN/Darwin	YPDM	Brisbane FIR	WSAU21	ADRM	YBBB	FF	WSAU21	ADRM	190200	ADRM	YBBB	02:05	02:05	02:05	02:05	
	DARWIN/Darwin	YPDM	Melbourne FIR	WSAU21	ADRM	YMMM	FF	WSAU21	ADRM	190200	ADRM	YMMM	02:05	02:05	02:05	02:05	
	HOBART/Hobart	YMHF	Melbourne FIR	WSAU21	AMHF	YMMM	FF	WSAU21	AMHF	190202	AMHF	YMMM	02:09	02:06	02:05	02:06	
	MELBOURNE/Melbourne	YMRF	Brisbane FIR	WSAU21	AMRF	YBBB	FF	WSAU21	AMRF	190204	AMRF	YBBB	02:00	02:07	02:00	02:06	
	MELBOURNE/Melbourne	YMRF	Melbourne FIR	WSAU21	AMRF	YMMM	FF	WSAU21	AMRF	190202	AMRF	YMMM	02:07	02:09	02:09	02:07	
	MELBOURNE/World Met. Centre	YMMC	Brisbane FIR	WSAU21	AMMC	YBBB	FF	WSAU21	AMMC	190207	AMMC	YBBB	02:09	02:09	02:09	02:09	
	MELBOURNE/World Met. Centre	YMMC	Melbourne FIR	WSAU21	AMMC	YMMM	FF	WSAU21	AMMC	190208	AMMC	YMMM	02:09	02:09	02:09	02:10	
	PERTH/Perth	YPRF	Brisbane FIR	WSAU21	APRF	YBBB	FF	WSAU21	APRF	190202	APRF	YBBB	02:06	02:06	02:06	02:06	
	PERTH/Perth	YPRF	Melbourne FIR	WSAU21	APRF	YMMM	FF	WSAU21	APRF	190202	APRF	YMMM	02:06	02:06	02:06	02:06	
	SYDNEY/Sydney	YSRF	Brisbane FIR	WSAU21	ASRF	YBBB	FF	WSAU21	ASRF	190203	ASRF	YBBB	02:07	02:07	02:07	02:07	
	SYDNEY/Sydney	YSRF	Melbourne FIR	WSAU21	ASRF	YMMM	FF	WSAU21	ASRF	190203	ASRF	YMMM	02:07		02:07	02:07	
Bangladesh	DHAKA/Zia Intl	VGHS	Dhaka FIR & SRR	WSBW20	VGHS	VGFR											
Cambodia	CHENGDU/Shuangliu for PHNOM-PENH (VDPP)	ZUUU	Phnom-Penh FIR & SRR	WSKP31	ZUUU	VDPP	FF	WSKP31	ZUUU	190202	ZUUU	VDPP	02:04		02:04		
China	BEIJING/Capital	ZBAA	Beijing FIR & SRR	WSCI33	ZBAA	ZBPE	FF	WSCI33	ZBAA	190205	ZBAA	ZBPE	02:01	02:01	02:02	02:02	
	GUANGZHOU/Baiyan	ZGGG	Guangzhou FIR & SRR	WSCI35	ZGGG	ZGZU	FF	WSCI35	ZGGG	190205	ZGGG	ZGZU	02:00	02:00	02:01	02:00	
	CHENGDU/Shuangliu	ZUUU	Kunming FIR & SRR	WSCI36	ZUUU	ZPKM	FF	WSCI36	ZUUU	190200	ZUUU	ZPKM	02:02	02:00	02:00	02:02	
	XI'AN/Xianyang	ZLXY	Lanzhou FIR and SRR	WSCI37	ZLXY	ZLHW	FF	WSCI37	ZLXY	190201	ZLXY	ZLHW	02:03	02:03	02:03	02:03	
	HAIKOU/Meilan	ZJHK	Sanya FIR & SRR	WSCI35	ZJHK	ZJSA											
	SHANGHAI/Hongqiao	ZSSS	Shanghai FIR & SRR	WSCI34	ZSSS	ZSHA	GG	WSCI34	ZSSS	190205	ZSSS	ZSHA	02:01	02:02	02:03	02:02	
	SHENYANG/Taoxian	ZYTX	Shenyang FIR & SRR	WSCI38	ZYTX	ZYSH	FF	WSCI38	ZYTX	190201	ZYTX	ZYSH	02:04	02:04	02:05	02:04	
	TAIBEI/Taipei Intl	RCTP	Taipei FIR & SRR	WSCI31	RCTP	RCAA	FF	WSCI31	RCTP	190201	RCTP	RCAA	02:01	02:01	02:01	02:01	
	URUMQI/Diwopu	ZWWW	Urumqi FIR & SRR	WSCI39	ZWWW	ZWUQ	FF	WSCI39	ZWWW	190201	ZWWW	ZWUQ	02:01	02:01	02:02	02:02	
	WUHAN/Tianhe	ZHHH	Wuhan FIR & SRR	WSCI45	ZHHH	ZHWH	FF	WSCI45	ZHHH	190202	ZHHH	ZHWH	02:02	02:02	02:02	02:02	
	HONG KONG/Hong Kong Intl	VHHH	Hong Kong FIR & SRR	WSSS20	VHHH	VHKK	FF	WSSS20	VHHH	190200	VHHH	VHKK	02:00	02:00	02:00	02:00	
DPR Korea	SUNAN	ZKPY	Pyongyang FIR & SRR	WSKR31	ZKPY	ZKPP	FF	WSKR31	ZKPY	190205	ZKPY	ZKPP	02:03	02:03	02:04	02:04	
Fiji	NADI/Nadi Intl	NFFN	Nadi FIR & SRR	WSFJ01,02..	NFFN	NFFF											
French Polynesia	TAHITI/Faaa	NTAA	Tahiti FIR & SRR	WSPF21,22	NTAA	NTTT											
India	CHENNAI/Chennai	VOMM	Chennai FIR & SRR	WSIN31	VOMM	VOMF	FF	WSIN31	VOMM	190205	VOMM	VOMF	02:34	02:34	02:18		
	DELHI/Indira Gandhi Intl	VIDP	Delhi FIR & SRR	WSIN31	VIDP	VIDF	FF	WSIN31	VIDP	190205	VIDP	VIDF	02:02	02:02	02:02	02:02	
	KOLKATA	VECC	Kolkata FIR & SRR	WSIN31	VECC	VECF	FF	WSIN31	VECC	190205	VECC	VECF	02:06	02:05	02:06	02:02	
	MUMBAI/Chhatrapati Shivaji Intl.	VABB	Mumbai FIR & SRR	WSIN31	VABB	VABF	FF	WSIN31	VABB	190200	VABB	VABF	02:05	02:05	02:05	02:05	
Indonesia	JAKARTA/Soekamo-Hatta	WIII	Jakarta FIR/UIR & SRR	WSID20	WIII	WIIF	FF	WSID20	WIII	190218	WIII	WIIF	02:11	02:11	02:11	02:11	
	UJUNG PANDANG/Hasanuddin	WAAA	Ujung Pandang FIR/UIR & SRR	WSID21	WAAA	WAAF											
Japan	TOKYO (CITY)	RJTD	Fukuoka FIR & Tokyo SRR	WSJP31	RJTD	RJJJ	FF	WSJP31	RJTD	190205	RJTD	RJJJ	02:05	02:05	02:05	02:05	
Lao PDR	VIENTIANE/Wattay	VLVT	Vientiane FIR & SRR	WSLA31	VLVT	VLVT	DD	WSLA31	XXXX	120200	VLVT	VLVT					
Malaysia	SEPANG/KL International Airport	WMKK	Kota Kimabalu FIR & SRR	WSMS31	WMKK	WBFC	FF	WSMS31	WMKK	190200	WMKK	WBFC	02:00	02:00	02:00	02:00	
	SEPANG/KL International Airport	WMKK	Kuala Lumpur FIR & SRR	WSMS31	WMKK	WMFC	FF	WSMS31	WMKK	190205	WMKK	WMFC	02:03	02:03	02:03	02:03	
Maldives	MALE/Intl	VRMM	Male FIR & SRR	WSMV31	VRMM	VRMF	DD	WCMV31	VRMM	190200	VRMM	VRMF					
Mongolia	ULAANBAATAR	ZMUB	Ulaanbaatar FIR & SRR	WSMO31	ZMUB	ZMUB	FF	WSMO31	ZMUB	190200	ZMUB	ZMUB	02:06			02:06	
Myanmar	YANGON/Yangon International	VYYY	Yangon FIR & SRR	WSBM31	VYYY	VYYY											
Nauru	PORT MORESBY on behalf of NAURU (ANYN)	AYPY	Nauru FIR & SRR	WSNW20	AYPY	ANAU	FF	WSNG21	AYPY	190250	AYPY	ANAU	02:56				
Nepal	KATHMANDU	VNKT	Kathmandu FIR & SRR	WSNP31	VNKT	VNSM											
New Zealand	WELLINGTON (Aviation Weather Centre)	NZKL	New Zealand FIR & SRR	WSNZ21	NZKL	NZZC	FF	WSNZ21	NZKL	190200	NZKL	NZZC	02:00	02:00	02:00	02:00	
	WELLINGTON (Aviation Weather Centre)	NZKL	Auckland Oceanic FIR & SRR	WSPS21	NZKL	NZZO	FF	WSPS21	NZKL	190200	NZKL	NZZO	02:01	02:01	02:01	02:01	
Pakistan	KARACHI/Jinnah Intl	OPKC	Karachi FIR & SRR	WSPK31	OPKC	OPKR	GG	WSPK31	OPKC	190205	OPKC	OPKR	02:00	02:00	02:06	02:06	
	LAHORE/Allama Iqbal Intl	OPLA	Lahore Fir & SRR	WSPK31	OPLA	OPLR											
Papua New Guinea	PORT MORESBY/Intl	AYPY	Port Moresby FIR & SRR	WSNG20	AYPY	AYPY											
Philippines	MANILA/Ninoy Aquino Intl, Pasay City, Metro Manila	RPLL	Manila FIR & SRR	WSPH31	RPLL	RPHI	FF	WSPH31	RPLL	190200	RPLL	RPHI	02:00	02:00	02:00	02:00	
Republic of Korea	INCHEON	RKSI	Incheon FIR & SRR	WSKO31	RKSI	RKRR	FF	WSKO31	RKSS	190200	RKSS	RKSI	02:00	02:00	02:00	02:00	
Singapore	SINGAPORE/Changi	WSSS	Singapore FIR & SRR	WSSR20	WSSS	WSJC	FF	WSSR20	WSSS	190205	WSSS	WSJC	02:05	02:05	02:05	02:05	
Solomon Islands	PORT MORESBY on behalf of HONIARA (Henderson - AGGH)	AYPY	Honiara FIR & SRR	WSSO20	AYPY	AGGG	FF	WSSO20	AGGH	190200	AGGH	AGGG					
Sri Lanka	COLOMBO/Bandaranaike Intl Airport Colombo	VCBI	Colombo FIR & SRR	WSSB31	VCBI	VCBI	FF	WSSB31	VCBI	190500	VCBI	VCCF					
Thailand	BANGKOK/Suvamabhumhi Intl Airport	VTBS	Bangkok FIR & SRR	WSTH31	VTBS	VTBB	FF	WSTH31	VTBS	190202	VTBS	VTBB	01:58	01:58	01:58	01:58	
United States	ANCHORAGE/Anchorage Intl	PAWU	Anchorage FIR	WSAK01-09	PAWU	PAZA	FF	WSAK05	PAWU	190200	PAWU	PAZA	02:03	02:01	02:01	02:01	
	HONOLULU/Honolulu Intl	PHFO	Oakland Oceanic & Honolulu SRR	WSPA01-13	PHFO	KZAK	FF	WSPA01	PHFO	190200	PHFO	KZAK	02:11	02:19	02:11	02:11	
	KANSAS CITY	KKCI	Oakland Oceanic FIR	WSPN01-13	KKCI	KZAK	FF	WSPN01	KKCI	190200	KKCI	KZAK	01:58	01:58	01:58	01:58	
Vietnam	Gia Lam	VVGL	Hanoi FIR & SRR	WSVS31	VVGL	VVNB	FF	WSVS31	VVGL	190211	VVGL	VVNB					
	Gia Lam	VVGL	Ho-Chi-Minh FIR & SRR	WSVS31	VVGL	VVTS	FF	WSVS31	VVGL	190210	VVGL	VVTS					