



International Civil Aviation Organization

**SIXTEENTH MEETING OF THE  
COMMUNICATIONS/NAVIGATION/SURVEILLANCE AND  
METEOROLOGY SUB-GROUP (CNS/MET SG/16) OF APANPIRG**

Bangkok, Thailand, 23 – 27 July 2012

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**Agenda Item 11: Meteorological advisories and warnings**

2) review SIGMET tests

**REVIEW OF SIGMET TESTS**

(Presented by the Secretariat)

**SUMMARY**

This paper presents the results of the ASIA/PAC SIGMET tests conducted in November 2011.

This paper relates to –

**Strategic Objectives**

**A: Safety** - *Enhance global civil aviation safety*

**C: Environmental Protection and Sustainable Development of Air Transport** - *Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

**Global Plan Initiatives:**

GPI-19 Meteorological Systems

**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/PAC Regional SIGMET Guide (4th edition 2007, amended July 2011) available at the following website: <http://www.bangkok.icao.int/edocs/index.html>. 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); and
- SIGMET for other weather phenomena (WS SIGMET).

1.3 The 9<sup>th</sup> meeting of the OPMET Management Task Force (OPMET/M TF/9), held in Bangkok in March 2011, agreed that the 2011 WC, WV and WS SIGMET tests take place on 8, 15 and 22 November 2011 at 0200 UTC.

## 2. Discussion

2.1 Summary reports of the 2011 SIGMET tests were prepared by RODB Singapore (WS SIGMET) and RODB Tokyo (WC & WV SIGMET) and were presented at the conjoint session of the 10<sup>th</sup> meeting of the OPMET Management Task Force (OPMET/M TF/10) and 2<sup>nd</sup> meeting of the Meteorological Warnings and Advisories Implementation Task Force (METWARN/I TF/2), held in Bangkok on 19 April 2012 (WP/23 & WP/24). These are available at the following website: [http://www.bangkok.icao.int/cns/meeting.do?method=MeetingDetail&meeting\\_id=145](http://www.bangkok.icao.int/cns/meeting.do?method=MeetingDetail&meeting_id=145).

2.2 There was increased State and Meteorological Watch Office (MWO) participation in the 2011 SIGMET tests, as well as an increase in the number of SIGMETs issued, compared to the previous tests. All five Regional OPMET Databanks (RODBs) in the Region: Bangkok, Brisbane, Tokyo, Singapore and Nadi participated in the tests.

2.3 A total of 7 States (Afghanistan, Bangladesh, Nauru, Nepal, Papua New Guinea, Solomon Islands and Sri Lanka) have not participated in any of the SIGMET tests conducted. One of the non-participating States, Papua New Guinea, has responsibility for SIGMET issuance on behalf of Nauru and the Solomon Islands.

2.4 A total of 24 MWOs did not participate in all of the SIGMET tests for at least one of their Flight Information Regions (FIR), 13 of these didn't participate in any of the tests (see **Table 1**).

State and Meteorological Watch Office	WS	WC	WV
Afghanistan, Kabul (OAKB)	No	n/a	No
Australia, Brisbane (YBRF) for YMMM FIR	No	No	n/a
Australia, Darwin (YDRM) for YMMM FIR	Yes	No	n/a
Bangladesh, Dhaka (VGHS)	No	No	No
French Polynesia, Tahiti (NTAA)	No	No	No
India, Delhi (VIDP)	Yes	Yes	No
India, Kolkata (VACC)	Yes	Yes	No
India, Mumbai (VABB)	Yes	Yes	No
Indonesia, Jakarta (WIII)	Yes	No	Yes
Indonesia, Ujung Pandang (WAAA)	Yes	No	Yes
Japan, Tokyo (RJTD)	Yes	Yes	No
Lao PDR, Vientiane (VLVT)	No	No	No
Mongolia, Ulaanbaatar (ZMUB)	No	n/a	No
Myanmar, Yangon (VYYY)	No	No	No
Nauru, by Port Moresby (AYPY)	No	No	No

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Nepal, Kathmandu (VNKT)	No	n/a	n/a
New Zealand, Wellington (NZKL) for NZZC FIR	Yes	No	Yes
Pakistan, Lahore (OPLA)	No	No	No
Papua New Guinea, Port Moresby (AYPY)	No	No	No
Philippines, Manila (RPLL)	Yes	No	Yes
Solomon Islands, by Port Moresby (AYPY)	No	No	No
Sri Lanka, Colombo (VCBI)	No	No	No
DPR Korea, Sunan (ZKPY)	Yes	No	No
United States, Anchorage (PAWU)	Yes	No	Yes

**Table 1:** Participation in the 2011 SIGMET tests  
(Note: MWO not listed participated in all SIGMET tests)

2.5 Of the 29 test WC, 33 test WV and 50 test WS SIGMETs issued in the ASIA/PAC Region, not all reached each RODBs. The results are given in **Table 2** and **Figure 1**. Note that Tokyo did not issue a test WV SIGMET as they had a WV SIGMET current for their area.

	WC	WV	WS
<b>State participation</b>	15 of 26 (58%)	17 of 29 (59%)	18 of 29 (62%)
<b>MWO participation</b>	26 of 38 (68%)	41 of 45 (91%)	41 of 51 (80%)
<b>Test SIGMETs issued</b>	29 of 46 (63%)	33 of 50 (66%)	50 of 63 (79%)
<b>RODB reception</b>	128 of 145 (88%)	140 of 165 (85%)	223 of 250 (89%)
<b>Bangkok RODB reception</b>	26 of 29 (90%)	29 of 33 (88%)	42 of 50 (84%)
<b>Brisbane RODB reception</b>	26 of 29 (90%)	29 of 33 (88%)	45 of 50 (90%)
<b>Singapore RODB reception</b>	29 of 29 (100%)	33 of 33 (100%)	50 of 50 (100%)
<b>Tokyo RODB reception</b>	24 of 29 (83%)	30 of 33 (91%)	47 of 50 (94%)
<b>Nadi RODB reception</b>	23 of 29 (79%)	19 of 33 (58%)	38 of 50 (76%)

**Table 2:** Results of the 2011 SIGMET Tests

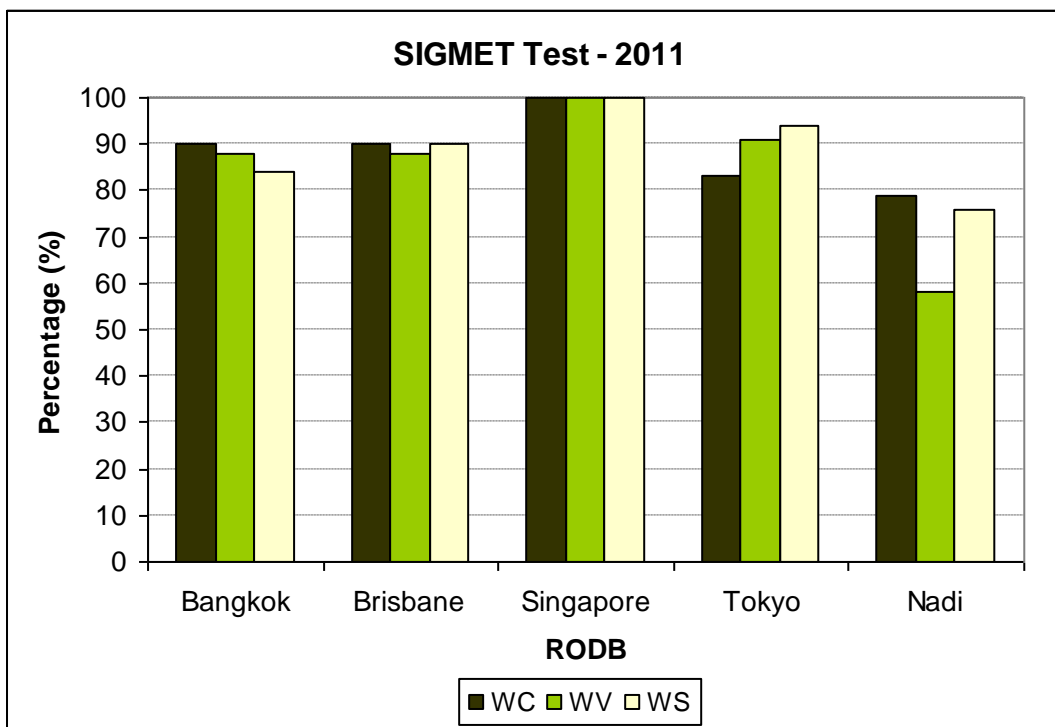


Figure 1: RODB Reception of 2011 SIGMET Tests

2.6 A significant proportion of the formatting errors recorded in the tests were attributed to Australia and all SIGMETs issued by Australia contained errors, which were due to either (a) incorrect priorities (e.g., DD should be FF), (b) incorrect sequence numbers (e.g., sequence number should be Z99) or (c) incorrect endings (e.g., did not end with an equals '=' sign). Australia informed the meeting that work is underway to implement remedies for the test errors.

2.7 States are advised of SIGMET test errors and identified SIGMET deficiencies via ICAO State Letter. A summary of the errors reported in all SIGMET tests (WS, WC and WV) is provided in the **Attachment**.

2.8 Jakarta Meteorological Watch Office (WIII) and Ujung Pandang Meteorological Watch Office (WAAA) did not receive any tropical cyclone or volcanic ash advisory test messages from Darwin through AFTN.

### 3. Action by the Meeting

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss future improvement of SIGMET exchange in the region.

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## Attachment

(From METWARN/I TF/2 report; Appendix C)

### SIGMET test errors from November 2011 for States' awareness

State	MWO	Event	Error Type	Remedy
Australia	Adelaide - YPRM	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'AD01'	Change sequence number from 'AD01' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)
	Brisbane - YBRF	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'BN01'	Change sequence number from 'BN01' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)
	Cairns - YBCS	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'CS01'	Change sequence number from 'CS01' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)
	Darwin – YDRM	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'DN01'	Change sequence number from 'DN01' to 'Z99'
			<u>Invalid</u> end of message	Remove status line (STS) and

			indicator 'STS: TEST'	add equals sign (=)
	Hobart - YMHF	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'HB02'	Change sequence number from 'HB02' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)
	Melbourne – YMRF	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'ML01'	Change sequence number from 'ML01' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)
	Melbourne - YMMC	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'MM02'	Change sequence number from 'MM02' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)
	Perth – YPRF	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'PH01'	Change sequence number from 'PH01' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)

	Sydney - YSRF	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'SY01'	Change sequence number from 'SY01' to 'Z99'
			<u>Invalid</u> end of message indicator 'STS: TEST'	Remove status line (STS) and add equals sign (=)
China	Beijing - ZBAA	WS SIGMET test	<u>Incorrect</u> priority indicator 'GG'	Change priority indicator from 'GG' to 'FF'
			<u>Duplicate</u> messages	Do not transmit more than one (1) message with the same text and the same origin
	Guangzhou - ZGGG	WS SIGMET test	<u>Duplicate</u> messages	Do not transmit more than one (1) message with the same text and the same origin
	Shanghai - ZSSS	WS SIGMET test	<u>Incorrect</u> priority indicator 'GG'	Change priority indicator from 'GG' to 'FF'
	Shenyang - ZYTX	WS SIGMET test	<u>Duplicate</u> messages	Do not transmit more than one (1) message with the same text and the same origin
Urumqi - ZWWW	WS SIGMET test	<u>Duplicate</u> messages	Do not transmit more than one (1) message with the same text and the same origin	
DPR Korea	Sunan - ZKPY	WS SIGMET test	<u>Missing</u> WMO heading	Use 'WSKR31 ZKPY' (for 'TTAAii CCCC') as per SIGMET Guide

Fiji	Nadi - NFFN	WS SIGMET test	<u>Incorrect</u> time '0000' in date/time group in WMO heading	Time in date/time group (YYGGgg) should be the time of transmission, which was 0207 UTC on 22 November (i.e., 220207)
		WC SIGMET test	<u>Incorrect</u> time '0000' in date/time group in WMO heading	Time in date/time group (YYGGgg) should be the time of transmission, which was 0205 UTC on 08 November (i.e., 080205)
		WS SIGMET test	<u>Incorrect</u> time '0000' in date/time group in WMO heading	Time in date/time group (YYGGgg) should be the time of transmission, which was 0203 UTC on 15 November (i.e., 150203)
India	Kolkata - VECC	WC SIGMET test	<u>Incorrect</u> data type designator 'WS' in WMO heading	Change data type designator from 'WS' to 'WC' (as per SIGMET Guide)
	Mumbai - VABB	WS SIGMET test	<u>Duplicate</u> messages	Do not transmit more than one (1) message with the same text and the same origin



Indonesia	Jakarta - WIII	WS SIGMET test	<u>Incorrect</u> priority indicator 'GG'	Change priority indicator from 'GG' to 'FF'
			<u>Missing</u> end of message indicator	Add equals sign (=) at end of message
Japan	Tokyo (CITY) - RJTD	WS SIGMET test	<u>Incorrect</u> priority indicator 'GG'	Change priority indicator from 'GG' to 'FF'
Malaysia	Sepang - WMKK	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
Maldives	Male - VRMM	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
		WV SIGMET test	<u>Incorrect</u> data type designator 'WS', Country designator 'XX' and Bulletin number '99' in WMO heading	Change data type designator from 'WS' to 'WV', Country designator from 'XX' to 'MV' and Bulletin number from '99' to '31' (as per SIGMET Guide)
Pakistan	KARACHI/Jinnah Intl - OPKC	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
		WC SIGMET test	<u>Incorrect</u> bulletin number '30' in WMO heading	Change bulletin number from '30' to '31' (as per SIGMET Guide)
			<u>Incorrect</u> FIR indicator 'OPKC'	Change FIR indicator from 'OPKC' to 'OPKR'

Philippines	MANILA/Ninoy Aquino Intl, Pasay City, Metro Manila - RPLL	WS SIGMET test	<u>Incorrect</u> priority indicator 'GG'	Change priority indicator from 'GG' to 'FF'
		WV SIGMET test	<u>Incorrect</u> data type designator 'WC' in WMO heading	Change data type designator from 'WC' to 'WV' (as per SIGMET Guide)
Republic of Korea	INCHEON - RKSI	WS SIGMET test	<u>Duplicate</u> messages	Do not transmit more than one (1) message with the same text and the same origin
		WC SIGMET test	<u>Incorrect</u> data type designator 'WS' in WMO heading	Change data type designator from 'WS' to 'WC' (as per SIGMET Guide)
United States	Anchorage - PAWU	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'MIKE 1'	Change sequence number from 'MIKE 1' to 'Z99'
	Honolulu - PHFO	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'NOVEMBER 1'	Change sequence number from 'NOVEMBER 1' to 'Z99'
	Kansas City - KKCI	WS SIGMET test	<u>Incorrect</u> priority indicator 'DD'	Change priority indicator from 'DD' to 'FF'
			<u>Invalid</u> sequence number 'ALFA 1'	Change sequence number from 'ALFA 1' to 'Z99'