

# INTERNATIONAL CIVIL AVIATION ORGANIZATION



## SIGMET GUIDE

### EASTERN AND SOUTHERN AFRICAN REGION

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## TABLE OF CONTENTS

	Page
<b>Part 1: Introduction</b>	
1.1 Background .....	1-1
<b>Part 2: Responsibilities and coordination</b>	
2.1 General.....	2-1
2.2 Meteorological Watch Office .....	2-1
2.3 Responsibilities of ATS Units .....	2-2
2.4 Responsibilities of Pilots .....	2-3
2.5 Coordination between MWOs and the TCACs and VAACs.....	2-3
<b>Part 3: Rules for preparation of SIGMET information</b>	
3.1 General.....	3-1
3.2 Types of SIGMET .....	3-1
3.3 Structure of the SIGMET message.....	3-1
3.4 Format of SIGMET .....	3-2
3.4.1 WMO Header .....	3-2
3.4.2 First line of SIGMET.....	3-3
3.4.3 Format of the meteorological part of SIGMET messages for weather phenomena other than TC and VA .....	3-4
3.4.4 Structure of the meteorological part of VA SIGMET .....	3-7
3.4.5 Structure of the meteorological part of TC SIGMET .....	3-10
3.4.6 Cancellation of SIGMET .....	3-13
3.5 Communications.....	3-13
<b>Appendices</b>	
Appendix A — AFI FASID Table MET 1B – Meteorological Watch Offices .....	A-1
Appendix B — AFI FASID Table MET 3A – Tropical Cyclone Advisory Centres .....	B-1
Appendix C — AFI FASID Table MET 3B – Volcanic Ash Advisory Centres.....	C-1
Appendix D — List of the Abbreviations and code words used in SIGMET .....	D-1
Appendix E — Meteorological phenomena to be reported by SIGMET .....	E-1
Appendix F — Standard for reporting geographical coordinates in SIGMET .....	F-1
Appendix G — Examples.....	G-1
Appendix H — WHO Headings for SIGMENT Bulletins Used by WACAF Meteorological Watch Offices (MWO).....	H-1
Appendix I — WHO Headings for Tropical Cyclone and Volcanic Ash Advisory Bulletins (FK And FV) used by AFI TCAC And VAAC.....	I-1
Appendix J — AFI SIGMET Test Procedures .....	J-1

## **PART 1. INTRODUCTION**

### **1.1 General**

1.1.1 The main purpose of this document is to provide guidance for standardization and harmonization of the procedures and formats related to the aeronautical meteorological warnings for hazardous en-route meteorological phenomena, known as SIGMET information. The guidance is complementary to the Annex 3 standards and recommended practices regarding SIGMET and to the SIGMET related provisions of the AFI Basic ANP and FASID, ICAO Doc 7474.

1.1.2 ICAO regulatory material concerning the provision of SIGMET information is contained in:

- Annex 3 - Meteorological Service for International Air Navigation, Chapter 3, para 3.5 – 3.7, Chapter 7, para 7.1 – 7.2, and Appendix 6.
- AFI Basic ANP, Part VI, para 6, and AFI FASID Table MET 1B, MET 3A and MET3B
- Annex 11 - *Air Traffic Services*, Chapter 4, para 4.2.1 and Chapter 7, para 7.1
- PANS – *Air Traffic Management*, Doc 4444, Chapter 9, para 9.1.3.2
- Regional Supplementary Procedures, Doc 7030, Part 1, para 11.2

Additional guidance on the SIGMET procedures is contained in *Manual of Aeronautical Meteorological Practice, Doc 8896, and Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services, Doc 9377.*

1.1.3 The SIGMET Guide is intended mainly to assist the MWOs in the AFI Region in preparing and disseminating SIGMET messages. It provides detailed information on the format of SIGMET messages as specified by Annex 3. The explanations of the format are accompanied by a number of examples based on region-specific meteorological phenomena. The guide also provides information regarding the necessary coordination between the MWOs, the ATS units and the pilots, and their respective responsibilities.

1.1.4 This document is prepared by the ICAO ESAF Regional Office. It shall be reviewed and updated regularly in order to be kept in line with the relevant ICAO documents and regional procedures. This current version incorporates the changes to SIGMET-related provisions included in Amendment 74 to Annex 3 which was approved by ICAO Council on 21 February 2007.

## **PART 2. RESPONSIBILITIES AND COORDINATION**

### **2.1 General**

2.1.1 SIGMET is a warning information and hence it is of highest priority among other types of meteorological information provided to the aviation users. SIGMET is used mainly for in-flight service, which requires timely transmission of the SIGMET information to pilots by the ATS units and/or through VOLMET and D-VOLMET. One of the most valuable sources of information in preparation of SIGMETs is provided through the special air-reports transmitted by pilots to the ATS units and forwarded to MWOs. As it is seen, the SIGMET service involves MET, ATS and pilots, that is why, close coordination between them, as well as mutual understanding of the needs and responsibilities, is essential for successful implementation of the SIGMET service.

2.1.2 For the special cases of SIGMET for volcanic ash and tropical cyclones, the MWOs are provided with advisories from the volcanic ash advisory centres (VAACs), and tropical cyclone advisory centres (TCACs) designated in the Regional Air Navigation Plan (ANP).

2.1.3 Another use of the SIGMET is for the flight planning. This requires global dissemination of SIGMET through the international OPMET data banks and the satellite broadcasts: ISCS and SADIS. SIGMET should also be distributed to the World Area Forecast Centres (WAFCs), London and Washington for use in the preparation of significant (SIGWX) forecasts.

2.1.4 In the next paragraphs, the main responsibilities and coordination links between MET, ATS and pilots are described.

### **2.2 Meteorological Watch Office - responsibilities and procedures related to SIGMET**

2.2.1 SIGMET information shall be issued by the meteorological watch offices (MWOs) in order to provide timely warning for occurrence or expected occurrence of specified en-route weather phenomena, which may affect the safety of the flight operations in the MWO's area of responsibility. SIGMET provides information concerning the location, extent, intensity and expected evolution of the specified phenomena.

2.2.2 Information about the provision of SIGMET service, including details on the designated MWO(s), should be included in the State's Aeronautical Information Publication (AIP) as specified in Annex 15, Aeronautical Information Service, Appendix 1, GEN 3.5.8.

2.2.3 All designated MWOs in AFI ESAF Region are listed in the FASID Table MET 1B of the AFI FASID, which is reproduced as **Appendix A** to this Guide.

2.2.4 If for some reason a MWO is not able to meet its obligations including the provision of SIGMET, arrangements shall be made between the meteorological authorities concerned, that another MWO takes over these responsibilities for certain period of time. Such delegation of responsibilities shall be notified by a NOTAM and a letter to the ICAO Regional Office.

2.2.5 Since the MWO is normally not a separate administrative unit, but part of the functions of an aerodrome meteorological office or other meteorological office, the meteorological authority concerned shall ensure that the MWO obligations and responsibilities are clearly defined

and assigned to the unit designated to serve as MWO. Corresponding operational procedures should be established and the meteorological staff should be trained accordingly.

2.2.6 In preparing SIGMET information the MWOs shall follow strictly the format determined by Annex 3 (detailed format description is provided in Appendix 6, Table A6-1). SIGMET should be issued only for those weather phenomena listed in Annex 3 and only when specified criteria for intensity and spatial extent are met.

*Note: MWOs should not issue SIGMET for weather phenomena of lower intensity or such of transient nature or smaller scale, which do not affect significantly the flight safety, and their transmission to users may lead to unnecessary precautionary measures.*

2.2.7 The MWOs should be adequately equipped in order to be able to identify, analyze and forecast (to the extent required) those phenomena for which SIGMET is required. The meteorological authority concerned shall determine to what extent the MWO makes use of the WAFS products, as well as other sources of information, such as special air-reports, information from meteorological satellites or weather radars.

2.2.8 On receipt of a special air-report from the associated ACC or FIC, the MWO should

- a) issue corresponding SIGMET information; or
- b) decide that the issuance of SIGMET information is not warranted and to so inform the ACC/FIC (e.g., the phenomenon concerned is of transient nature) and send the special air-report for on-ward transmission.

2.2.9 Appropriate telecommunication means shall be available at the MWO in order to ensure timely dissemination of SIGMETs according to a dissemination scheme, which should include transmission to:

- Local ATS users;
- Aeronautical MET offices within its area of responsibility, where SIGMET is required for briefing and/or flight documentation;
- Other MWOs concerned (it should be ensured that SIGMETs are sent to all MWOs whose areas of responsibilities are, at least partly, within the 1800 km (1000 NM) range from the observed phenomenon);
- Centres designated for transmission of VOLMET or D-VOLMET where SIGMET is required for those transmissions;
- Responsible AMBEX centre and Regional OPMET Data Bank (it should be arranged that through the AMBEX scheme SIGMETs are sent to the designated OPMET data banks in the other ICAO regions, to the WAFCs and to the SADIS and ISCS providers);
- Responsible TCAC or VAAC according to FASID Tables MET 3A and MET

3B

2.2.10 In issuing SIGMETs for tropical cyclones or volcanic ash, the MWOs shall include as appropriate the advisory information received from the responsible TCAC or VAAC. In addition to the information received from the TCAC and VAAC the MWOs may use the available

complementary information from other reliable sources. In such a case the responsibility for this additional information would lie solely on the MWO concerned.

### **2.3 Responsibilities of ATS units**

2.3.1 Close coordination shall be established between the MWO and the corresponding ATS unit (ACC or FIC). Arrangements shall be made in order to ensure:

- receipt without delay and display at the relevant ATS units of SIGMETs issued by the associated MWO;
- receipt and display at the ATS unit of SIGMETs issued by MWOs responsible for the adjacent FIRs/ACCs if these SIGMETs are required according to para. 2.3.4 below, (within 1800 km (1000 NM) range from the observed phenomenon); and
- transmission without delay of special air-reports received through voice communication to the associated MWO.

2.3.2 SIGMET information shall be transmitted to aircraft with the least possible delay on the initiative of the responsible ATS unit, by the preferred method of direct transmission followed by acknowledgement or by a general call when the number of aircraft would render the preferred method impracticable.

2.3.3 SIGMET information transmitted to aircraft-in-flight shall cover a portion of the route up to two hours flying time ahead of the aircraft. SIGMETs shall be transmitted only during the time corresponding to their period of validity (para. 3.4.2.3 refers).

2.3.4 Air traffic controllers should ascertain whether any of the currently valid SIGMETs may affect any of the aircraft they are controlling, either within or outside the FIR/CTA boundary, up to a distance of 1000 NM (1800 KM), which corresponds to two hours flying time ahead of the current position of the aircraft. If this is the case, the controllers shall at their own initiative transmit the SIGMET promptly to the aircraft-in-flight likely to be affected. If necessary, the controller should pass to the aircraft available SIGMETs issued for the adjacent FIR/CTA, which the aircraft will be entering, if relevant to the expected flight route.

2.3.5 The ATS units concerned shall also transmit to aircrafts-in-flight the special air reports received, for which SIGMET has not been issued. Once a SIGMET for the weather phenomenon reported in the special air report is made available this obligation of the ATS unit expires.

### **2.4 Responsibilities of pilots**

2.4.1 Timely issuance of SIGMET information is largely dependant on the prompt receipt by MWOs of special air-reports. That is why, it is essential that pilots prepare and transmit such reports to the ATS units whenever any of the specified en-route conditions are encountered or observed.

2.4.2 It should be emphasized that, even when automatic dependent surveillance (ADS) is being used for routine air-reports, pilots should continue to make special air-reports.

### **2.5 Coordination between MWOs and the TCACs and VAACs**



2.5.1 Amongst the phenomena for which SIGMET information is required, the volcanic ash clouds and tropical cyclones are of particular importance for the planning of long-haul flights.

2.5.2 Since the identification, analysis and forecasting of volcanic ash and tropical cyclones requires considerable technical and human resource, normally not available at each MWO, a number of Volcanic Ash Advisory Centres (VAACs) and Tropical Cyclone Advisory Centres (TCACs) have been designated to provide VA and TC advisories to the users and assist MWOs in the preparation of the forecast part of the SIGMETs for those phenomena. In the AFI Region, the VAAC is Toulouse, France and the TCAC is France (La Réunion). Close coordination shall be established between the MWO and its responsible TCAC and/or VAAC.

2.5.3 Information regarding the VAAC and TCAC serving the AFI region with their corresponding areas of responsibility and lists of MWOs to which advisories are to be sent is provided in FASID Tables MET 3A and MET 3B of AFI FASID. These tables are reproduced in **Appendix B** and **Appendix C** to this Guide.

2.5.4 TC and VA advisories are required for global exchange through the satellite distribution systems, SADIS and ISCS. Thus they can be used directly by the operators during the preflight planning. Notwithstanding, it should be emphasized that SIGMET information is still of higher operational status and required especially for in-flight re-planning. SIGMETs should be transmitted to aircraft-in-flight through voice communication or VOLMET or D-VOLMET thus providing vital information for making in-flight decisions regarding large-scale route deviations due to existence of volcanic ash clouds or tropical cyclones.

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## **ART 3. PROCEDURES FOR PREPARATION OF SIGMET INFORMATION**

### **3.1 General**

3.1.1 SIGMET information is prepared in abbreviated plain language using approved ICAO abbreviations, a limited number of non-abbreviated words, geographical names and numerical values of self-explanatory nature. All abbreviations and words to be used in SIGMET are given in **Appendix D**.

3.1.2 In contrast to other MET messages, like aerodrome reports and forecasts, for which WMO codes (METAR and TAF) have been developed, SIGMET looks less formalized and allowing more freedom to the forecaster. The increasing use of automated systems for handling the MET information by the MET offices and the users makes it essential that all types of OPMET information, including SIGMET, are prepared and transmitted in the prescribed standardized formats. Therefore, the structure and format of the SIGMET message, as specified in Annex 3, Part II, Appendix 6, which provides detailed information regarding the content and order of elements in the SIGMET message, should be followed strictly by the MWOs.

3.1.3 SIGMET is intended for transmission to aircraft in flight either by ATC or by VOLMET or D-VOLMET. Therefore, SIGMET messages should be kept short and clear, without additional descriptive material other than that prescribed by Annex 3.

3.1.4 After issuing a SIGMET the MWO shall follow the evolution of the phenomenon for which the SIGMET has been issued and issue a new updated SIGMET when necessary. The TC and VA SIGMETs shall be updated at least every 6 hours.

3.1.5 SIGMETs should be promptly cancelled when the phenomenon is no longer occurring or no longer expected to occur in the MWO's area of responsibility. The SIGMET is understood to cancel itself automatically at the end of its validity period. If the phenomenon persists a new SIGMET message for a further period of validity should be issued.

### **3.2 Types of SIGMET**

3.2.1 Although Annex 3 provides one general SIGMET format, which encompasses all weather phenomena, it is convenient when describing the structure and format of the messages to distinguish between three types of SIGMET, as follows:

- SIGMET for en-route weather phenomena other than VA and TC (this includes TS, CB, TURB, ICE, MTW, DS and SS); this SIGMET will be referred as WS SIGMET;
- SIGMET for volcanic ash, which will be hereafter denoted as VA SIGMET;
- SIGMET for tropical cyclones, which will hereafter be denoted as TC SIGMET.

3.2.2 The three types of SIGMET can be identified by the data type designator included in the WMO abbreviated heading of the SIGMET message, as explained below.

### **3.3 Structure of the SIGMET message**

3.3.1 A SIGMET message consists of:

- *WMO heading* – all SIGMETs are preceded by an appropriate WMO heading;
- *First line*, containing location indicators of the relevant ATS unit and MWO, sequential number and period of validity;

- **SIGMET main body**, containing information concerning the observed or forecast weather phenomenon for which the SIGMET is issued together with its expected evolution within the period of validity;

3.3.2 The first two parts of the SIGMET message are common for all types of SIGMET. The format and content of the third part is different; that is why, in the following paragraphs the meteorological part of the SIGMET message is described separately for the three types of SIGMET.

### 3.4 Format of SIGMET

*Note: In the following text, square brackets - [ ] - are used to indicate an optional or conditional element, and angled brackets - < > - for symbolic representation of a variable element, which in the real SIGMETs accepts concrete numerical values.*

#### 3.4.1 WMO Header

**T<sub>1</sub>T<sub>2</sub>A<sub>1</sub>A<sub>2</sub>ii CCCC YYGGgg [CCx]**

3.4.1.1 The group **T<sub>1</sub>T<sub>2</sub>A<sub>1</sub>A<sub>2</sub>ii** is the bulletin identification for the SIGMET message. It is constructed in the following way:

<b>T<sub>1</sub>T<sub>2</sub></b>	Data type designator	<b>WS</b> – for SIGMET <b>WC</b> – for SIGMET for tropical cyclone <b>WV</b> – for SIGMET for volcanic ash
<b>A<sub>1</sub>A<sub>2</sub></b>	Country or territory designators	Assigned according to Table C1, Part II of Manual on the Global Telecommunication System, Vol I – Global Aspects (WMO - No. 386)
<b>ii</b>	Bulletin number	Assigned on national level according to p 2.3.2.2, Part II of Manual on the Global Telecommunication System, Vol I – Global Aspects (WMO - No. 386)

3.4.1.2 **CCCC** is the ICAO location indicator of the communication centre disseminating the message (could be the same as the MWO).

3.4.1.3 **YYGGgg** is the date/time group, where YY is the date and GGgg is the time in hours and minutes UTC, of the transmission of the SIGMET (normally this is the time assigned by the AFTN center which disseminates the message).

3.4.1.4 The group **CCx** shall be used only when sending a correction of a SIGMET, which has already been transmitted; the third letter “x” takes the value A for the first correction, B for the second correction, etc. In this, the MWOs shall try to minimize the corrections of the SIGMETs, taking into account their importance to the flight planning including in-flight re-planning.

Examples:

**WSBC31 FBSK 121200**  
**WCMZ01 FQMA 010230**  
**WVRW21 HRHR 100600 CCA**

#### 3.4.2 First line of SIGMET

**CCCC SIGMET [nn]n VALID YYGGgg/YYGGgg CCCC-**

3.4.2.1 The meaning of the groups in the first line of the SIGMET is as follows:

<b>CCCC</b>	ICAO location indicator of the ATS unit serving the FIR or CTA to which the SIGMET refers
<b>SIGMET</b>	Message identifier
<b>[nn]n</b>	Daily sequence number (see para 3.4.2.2)
<b>VALID</b>	Period of validity indicator
<b>YYGGgg/YYGGgg</b>	Validity period of the SIGMET given by date/time group of the beginning and date/time group of the end of the period (see para 3.4.2.3)
<b>CCCC</b>	ICAO location indicator of the MWO originating the message
<b>-</b>	<b>hyphen</b> to separate the preamble from the text

3.4.2.2 The numbering of SIGMETs shall start every day at 0001 UTC. The sequence number shall consist of up to three symbols and may be a combination of letters and numbers, like:

- 1, 2, ...
- 01, 02, ...
- A01, A02, ...

Examples:

**FBGR SIGMET 3 VALID 121100/121700 FBSK-  
HAAA SIGMET A04 VALID 202230/210430 HAAB-**

*Note 1: No other combinations shall be used, like “CHARLIE 05” or “NR7”.*

*Note 2: Correct numbering of SIGMET is very important since the number is used for reference in communication between ATC and pilots and in VOLMET and D-VOLMET.*

3.4.2.3 The following considerations should be taken into account when determining the validity period:

- The period of validity of a WS SIGMET should be not more than 4 hours;
- The period of validity of a WC or WV SIGMET should be up to 6 hours;
- In case of a SIGMET for an observed phenomenon, the filing time (date/time group in the WMO header) should be the same or very close to the time in the date/time group indicating the start of the SIGMET validity period;
- When the SIGMET is issued for a forecast phenomenon:
  - o the beginning of validity period should be the time of the expected commencement (occurrence) of the phenomenon in the MWO area of responsibility;
  - o the time of issuance of the SIGMET should be not more than 4 hours before the start of validity period (i.e., expected time of occurrence of the phenomenon); for TC and VA SIGMET the lead time should be up to 12 hours.

3.4.2.4 The period of validity is that period during which the SIGMET information is valid for transmission to aircraft in flight.

Examples:

1. SIGMET for an observed phenomenon:  
**WSTH31 VTBD 241120  
VTBD SIGMET 3 VALID 241120/241500 VTBD-**
2. SIGMET for a forecast phenomenon (expected time of occurrence 1530)

**WSSG31 WSSS 311130  
WSSS SIGMET 1 VALID 1530/1930 WSSS-**

**3.4.3 Format of the meteorological part of SIGMET messages for weather phenomena other than TC and VA**

3.4.3.1 The meteorological part of a SIGMET for SIGWX consists of seven elements as shown in the table below.

*Start of the second line of the message*

1	2	3	4	5
Name of the FIR/UIR or CTA	Description of the phenomenon	Observed or forecast	Location	Level
<CCC> FIR  [CTA]	<Phenomenon>	OBS [AT <GGggZ>] FCST OBS [AT <GGggZ>] AND FCST	Geographical location of the phenomenon given by coordinates, or geographical objects, or location indicators	FL<nnn> or FL<nnn/nnn> or [TOP, [ABV or BLW] FL<nnn>

6	7
Movement or expected movement	Changes in intensity
MOV <direction, speed>, KMH [KT] or STNR	INTSF or WKN or NC

3.4.3.1.1 Name of the FIR/UIR or CTA

**CCCC<name> FIR[/UIR]**  
or  
**CCCC<name> CTA**

The ICAO location indicator and the name of the FIR/CTA is given followed by the appropriate abbreviation: FIR, FIR/UIR or CTA.

Example:

**HKNA NAIROBI FIR**

3.4.3.1.2 Phenomenon

The phenomenon description consists of a qualifier and a phenomenon abbreviation. SIGMET shall be issued only for the following phenomena at cruising levels(irrespective of altitude):

- thunderstorms – if they are OBSC, EMBD, FRQ or SQL with or without hail;
- turbulence – only SEV

- icing – only SEV with or without FZRA
- mountain waves – only SEV
- dust storm – only HVY
- sand storm – only HVY
- radioactive cloud – RDACT CLD

The appropriate abbreviations and combinations, and their meaning are given in **Appendix E**.

#### 3.4.3.1.3 Indication whether the phenomenon is observed or forecast

**OBS [AT <GGggZ>]  
or FCST  
{or OBS [AT <GGggZ>] AND FCST}**

The indication whether the information is observed or forecast is given by the abbreviations OBS and FCST. OBS is optional followed by a time group in the form AT GGggZ, where GGgg is the time of the observation in hours and minutes UTC. If the exact time of the observation is not known the time is not included. When FCST is used, it is assumed that the time of occurrence or commencement of the phenomenon coincides with the beginning of the period of validity included in the first line of the SIGMET.

Examples:

**OBS AT 0140Z  
FCST**

#### 3.4.3.1.4 Location of the phenomenon

The location of the phenomenon is given with reference to geographical coordinates or with reference to geographical features well known internationally. The MWOs shall try to be as specific as possible in reporting the location of the phenomenon and, at the same time, to avoid overwhelming geographical information, which may be difficult to process or perceive.

The following are the most common ways to describe the location of the phenomenon:

- Indication of a part of the FIR with reference to latitude:  
**N OF or S OF <Nnn[nn]> or <Snn[nn]>**
- Indication of a part of the FIR with reference to longitude:  
**E OF or W OF <Ennn[nn]> or <Wnnn[nn]>**
- Indication of a part of the FIR with reference to latitude and longitude:  
**any combination of the above two cases;**
- with reference to a location with ICAO location abbreviation CCCC (normally, this should be the case of SIGMET based on special air-report in which the reported phenomenon is given with reference to an airport or another object with ICAO location indicator CCCC);
- with reference to geographical features well known internationally.

More details on reporting the location of the phenomenon are given in Appendix 6 to Annex 3 and in **Appendix F** to this Guide.

#### 3.4.3.1.5 Vertical extent or level

**FL<nnn>  
or FL<nnn/nnn>**

or **TOP FL<nnn>**  
 or **[TOP] ABV FL<nnn>**  
 or **[TOP] BLW FL<nnn>**

The location or extent of the phenomenon in the vertical is given by one or more of the above abbreviations, as follows:

- reporting of single level – **FL<nnn>**
- reporting a layer – **FL<nnn/nnn>**, where the lower level is reported first; this is used particularly in reporting turbulence and icing;
- reporting a level or layer with reference to one FL using ABV or BLW
- reporting the level of the tops of the TS clouds using the abbreviation TOP.

Examples:

**EMBD TS ... TOP ABV FL340**  
**SEV TURB ... FL180/210**  
**SEV ICE ... BLW FL150**  
**SEV MTW ... FL090**

#### 3.4.3.1.6 Movement

**MOV <direction> <speed>KMH [KT]**  
 or  
**STNR**

Direction of movement is given with reference to one of the eight points of compass. Speed is given in KMH or KT. The abbreviation STNR is used if no significant movement is expected.

Examples:

**MOV NW 30KMH**  
**MOV E 25KT**

#### 3.4.3.1.7 Expected changes in intensity

The expected evolution of the phenomenon's intensity is indicated by one of the following abbreviations:

**INTSF** – intensifying  
**WKN** – weakening  
**NC** – no change

### 3.4.4 Structure of the meteorological part of VA SIGMET

3.4.4.1 The general structure of the meteorological part of the SIGMET message is given in the table below:

*Start of the second line of the message*

1	2		3	
FIR/UIR or CTA	Phenomenon	Volcano		Volcanic ash cloud observed
		Name	Location	
<CCC> <name> FIR [IVIR]	VA	[ERUPTION] [MT <name>]	[LOC <lat, long>]	VA CLD OBS AT <GGggZ> VA CLD FCST

4			5
Extent of the cloud			Expected movement
Vertical	Horizontal	Position	
FL <nnn/nnn>	APRX <nnn> KM [NM]BY <nnn> KM [NM]	<lat,lon> - <lat,lon> - ...	MOV <direction> <speed>

6	
Volcanic ash cloud forecast at the end of the period of validity	
FCST time	Position
FCST <GGggZ>	VA CLD APRX <lat,lon> - <lat,lon> - ...

#### 3.4.4.2 Name and location of the volcano and/or indicator for VA cloud

**VA [ERUPTION] [MT <name>] [LOC <lat,lon>] VA CLD**  
**or**  
**VA CLD**

##### 3.4.4.2.1 The description of the volcano injecting volcanic ash consists of the following elements:

- starts with the abbreviation **VA** – volcanic ash;
- the word **ERUPTION** is used when the SIGMET is issued for a known volcanic eruption;
- geographical/location information:
  - i. if the name of the volcano is known, it is given by the abbreviation **MT** – mountain, followed by the name;  
e.g., **MT RABAU**
  - ii. location of the volcano is given by the abbreviation **LOC** – location, followed by the latitude and longitude in degrees and minutes;  
e.g., **LOC N3520 E09040**
- this section of the message ends with the abbreviation **VA CLD** – volcanic ash cloud.

##### 3.4.4.2.2 If the FIR is affected by a VA cloud with no information about the volcanic eruption which generated the cloud, only the abbreviation **VA CLD** shall be included in the SIGMET.



## 3.4.4.3 Time of observation or expected commencement of the VA CLD

**VA CLD OBS AT <GGgg>Z**  
or  
**VA CLD FCST**

The time of observation is taken from the source of the observation – satellite image, special air-report, report from a ground volcanological station, etc. If the VA cloud is not yet observed over the FIR but the volcanic ash advisory received from the responsible VAAC indicates that the cloud is affecting the FIR after certain time, SIGMET shall be issued, according to paragraph 2.4 above, and the abbreviation VA CLD FCST shall be used.

Examples:

**VA CLD OBS AT 0100Z**  
**VA CLD FCST**

3.4.4.4 Level and extent of the volcanic ash cloud

**FL<nnn/nnn> [APRX <nnn>KM BY <nnn>KM] <P1(lat,lon) - P2(lat,lon) - ... >**  
or  
**FL<nnn/nnn> [APRX <nnn>NM BY <nnn>NM] <P1(lat,lon) - P2(lat,lon) - ... >**

<b>FL&lt;nnn/nnn&gt;</b>	The layer of the atmosphere where the VA cloud is situated, given by two flight levels from the lower to the upper boundary of the cloud
<b>[APRX &lt;nnn&gt;KM BY &lt;nnn&gt;KM] or [APRX &lt;nnn&gt;NM BY &lt;nnn&gt;NM] or [nnKM WID LINE BTN]</b>	Approximate horizontal extent of the VA cloud in KM or NM; or along line with defined width (WID)
<b>&lt;P1(lat,lon) - P2(lat,lon) - ... &gt;</b>	Approximate description of the VA cloud by a number of points given with their geographical coordinates <sup>1</sup> ; the points shall be separated by hyphen

If the VA cloud spreads over more than one FIR, separate SIGMETs shall be issued by all MWOs whose FIRs are affected. In such a case, the description of the volcanic ash cloud by each MWO should encompass the part of the cloud, which lies over the MWO's area of responsibility. The MWOs shall try and keep the description of the volcanic ash clouds consistent by checking the SIGMET messages received from the neighboring MWOs.

Examples:

**FL100/180 APRX 10KM BY 50KM N0100 E09530 – N1215 E11045**  
**FL 150/210 S0530 E09300 – N0100 E09530 – N1215 E11045**

3.4.4.5 Movement or expected movement of the VA cloud

**MOV <direction> <speed> KMH [KT]**  
or  
**STNR**

The direction of movement is given by the abbreviation **MOV** – moving, followed by one of the eight points of compass: N, NE, E, SE, S, SW, W, NW. The speed of movement is given in KMH or KT.

<sup>1</sup> The format of geographical coordinates reporting in SIGMET is given in Appendix F.

Examples:

**MOV E 35 KMH**  
**MOV SW 20 KT**  
**STNR**

3.4.4.6 Forecast position of the VA cloud at the end of the validity period of the SIGMET message

**FCST <GGggZ> VA CLD <P1(lat,lon) - P2(lat,lon) - ... >**

The **GGggZ** group shall indicate the end of validity period given in the first line of the SIGMET message. The description of the expected position of the volcanic ash cloud is given by a number of points forming a simplified geometrical approximation of the cloud.

3.4.4. In describing the VA cloud up to four different layers can be used, indicated by flight levels in the form FL<nnn/nnn>. The use of more than one level is necessary when the wind direction distribution with height determines that the cloud is spread horizontally into different directions at different height layers.

**3.4.5 Structure of the meteorological part of TC SIGMET**

3.4.5.1 The general structure of the meteorological part of the TC SIGMET is given in the table below:

*Start of the second line of the message*

1	2	3		4
FIR/UIR or CTA	TC name	Observed or forecast		Extent
		Time	Location of TC centre	
<CCCC> <name> FIR [/UIR][CTA]	TC <name>	OBS AT <GGgg>Z [FCST]	<lat,lon>	CB TOP [ABV or BLW] FL<nnn> WI <nnn>KM[NM] OF CENTRE

5	6	7
Expected movement	Intensity change	Forecast of the centre position at the end of the validity period
MOV <direction> <speed>KMH[KT] or STNR	INTSF or WKN or NC	FCST <GGgg>Z TC CENTRE <lat,lon>

3.4.5.2 Name of the tropical cyclone

**TC <name>**

The description of the tropical cyclone consists of the abbreviation TC followed by the international name of the tropical cyclone given by the corresponding WMO RSMC.

Examples:

**TC GLORIA**  
**TC 04B**

#### 3.4.5.3 Time of observation or indication of forecast

**OBS AT <GGggZ>**  
**or FCST**

The time in UTC is given in hours and minutes, followed by the indicator Z. Normally, time is taken from own observations or from a TC advisory received from the responsible TCAC. If the TC is not yet observed in the FIR but the tropical cyclone advisory received from the responsible TCAC, or any other TC forecast used by the MWO, indicates that the TC is going to affect the FIR within the next 12 hrs, SIGMET should be issued, according to paragraph 2.4 above, and the abbreviation FCST.

Example:

**OBS AT 2330**

#### 3.4.5.4 Location of the TC centre

**TC CENTRE <location>**

The location of the TC centre is given by its lat,lon coordinates in degrees and minutes.

Example:

**TC CENTRE N1535 E14230**

#### 3.4.5.5 Vertical and horizontal extent of the CB cloud formation around TC centre

**CB TOP [ABV or BLW] <FLnnn> WI <nnnKM or nnnNM> OF CENTRE**

Examples:

**CB TOP ABV FL450 WI 200NM OF CENTRE**  
**CB TOP FL500 WI 250KM OF CENTRE**

#### 3.4.5.6 Movement or expected movement

**MOV <direction> <speed> KMH [KT]**  
**or**  
**STNR**

Direction of movement is given with reference to one of the eight points of compass. Speed is given in KMH or KT. The abbreviation STNR is used if no significant movement is expected.

Examples:

**MOV NW 30KMH  
MOV E 25KT**

#### 3.4.5.7 Intensity change

The expected change of the intensity of the tropical cyclone is indicated by one of the following abbreviations:

**INTSF** – intensifying  
**WKN** – weakening  
**NC** – no change

#### 3.4.5.8 Forecast location of the TC centre at the end of the validity period of the SIGMET message

**FCST <GGggZ> TC CENTRE <location>**

Normally, the time given by GGggZ should be the same as the end of validity period indicated in the first line of the SIGMET message. Since the period of validity is up to 6 hours (normally, 6 hours), this is a 6-hour forecast of the position of the TC centre.

The location of the TC centre is given by its lat, lon coordinates following the general rules of reporting lat, lon information provided in **Appendix F** to this Guide.

Examples:

**FCST 1200Z TC CENTRE N1430 E12800**

### 3.4.6 Cancellation of SIGMET

3.4.6.1 If during the validity period of a SIGMET the phenomenon for which the SIGMET had been issued is no longer occurring or no longer expected, this SIGMET should be cancelled by the issuing MWO. The cancellation is done by issuing same type of SIGMET with the following structure:

- **WMO heading** with the same data type designator
- First line
- **Second line**, which contains the name of the FIR or CTA, the combination CNL SIGMET, followed by the sequential number of the original SIGMET and its validity period.

Examples:

1. Cancellation of a WS or WC SIGMET:

**WSXY31 YUSO 101200  
YUDD SIGMET 5 VALID 101200/101600 YUSO-  
YUDD SHANLON FIR ...**

Cancellation SIGMET:

**WSXY31 YUSO 101430  
YUDD SIGMET 6 VALID 101430/101600 YUSO-  
YUDD SHANLON FIR CNL SIGMET 5 101200/101600=**

## 2. Cancellation of a VA SIGMET

**WVXY31 YUSO 131518  
YUDD SIGMET 03 VALID 131515/132115 YUSO-  
YUDD SHANLON FIR ...**

Cancellation SIGMET:

**WVXY31 YUSO 132000  
YUDD SIGMET 04 VALID 132000/132115 YUSO-  
YUDD SHANLON FIR CNL SIGMET 03 13151500/132115=**

or, in case that the volcanic ash cloud moves to an adjacent FIR:

**WVXY31 YUSO 132000  
YUDD SIGMET 04 VALID 132000/132115 YUSO-  
YUDD SHANLON FIR CNL SIGMET 03 13151500/132115 VA MOV TO  
YUDO FIR=**

### 3.5 Dissemination

3.5.1 SIGMETs are part of the operational meteorological (OPMET) information. According to Annex 3 the telecommunication facilities used for the exchange of the operational meteorological information should be the aeronautical fixed service (AFS).

3.5.2 The AFS consists of two segments – a ground-to-ground links segment, AFTN or ATN (AMHS) and a satellite distribution segment which is composed by the SADIS and ISCS services provided by UK and USA respectively.

3.5.3 Currently, AFTN links shall be used by the MWOs to send their SIGMETs, in the following way:

- to the adjacent MWOs and ACCs\*using direct AFTN addressing;
- When required for VOLMET or D-VOLMET SIGMETs shall be sent to the relevant communication centre;
- SIGMETs shall be sent to the responsible AMBEX centre and forwarded without delay to the responsible regional OPMET Data Banks (RODBs);
- It shall be arranged that through the AMBEX scheme SIGMETs are relayed to the SADIS providers for satellite dissemination.

3.5.4 Through SADIS, SIGMETs are disseminated to all users authorised and equipped to receive OPMET information via the satellite distribution. In this way, SIGMETs are available on global basis, meeting the aeronautical requirement.

3.5.5 The requirements for SIGMET exchange, as specified by the States, are given in FASID Table MET 2A – Exchange of SIGMET Messages.

\*Note *For this dissemination it is required that SIGMET is available at the ACCs for transmission to aircraft in flight for the route ahead up to a distance corresponding to two hours flying time.*



**APPENDIX A****TABLE MET 1B - METEOROLOGICAL WATCH OFFICES****TABLE MET 1B — METEOROLOGICAL WATCH OFFICES****Explanation of table**

Column	
1	Location of the meteorological watch office (MWO)
2	ICAO location indicator assigned to the MWO
3	Name of the FIR, UIR and/or search and rescue region (SRR) served by the MWO
4	ICAO location indicator assigned to the ATS unit serving the FIR, UIR and/or SRR
5	VA SIGMET Indication of requirement for MWO to issue SIGMET for volcanic ash..
6	TC SIGMET
7	Remarks

*Note.— Unless otherwise stated in Column 7, the MWO listed in Column 1 is the designated collecting centre for the air-reports received within the corresponding FIR/UIR listed in Column 3.*

**TABLEAU MET 1B — CENTRES DE VEILLE MÉTÉOROLOGIQUE****Explication du tableau**

Colonne	
1	Emplacement du centre de veille météorologique (MWO)
2	Indicateur d'emplacement OACI assigné au MWO
3	Nom de la FIR, UIR et/ou SRR (région de recherches et de sauvetage) desservie par le MWO
4	Indicateur d'emplacement OACI assigné au centre ATS qui dessert la FIR, UIR et/ou SRR
5	Observations

*Note.— Sauf indication contraire à la colonne 5, le MWO de la colonne 1 est le centre de collecte désigné pour les comptes rendus en vol reçus dans la FIR/UIR correspondante figurant dans la colonne 3.*

MWO Location/ Emplacement MWO	ICAO loc. ind./ ind.d'empl. OACI	AREA SERVED/ ZONES DESSERVIE		SIGMET	
		NAME/NOM	ICAO loc. ind./ Ind.d'empl. OACI	VA	TC
1	2	3	4	5	6
<b>ANGOLA</b> LUANDA/4 de Fevereiro	FNLU	Luanda FIR/SRR	FNAN		
<b>BOTSWANA</b> GABORONE/Sir Seretse Khama Intl	FBSK	Gaborone FIR/SRR	FBGR		
<b>ERITREA</b> ASMARA/Asmara	HHAS	Asmara FIR/SRR	HHAA		
<b>ETHIOPIA</b> ADDIS ABABA/Bole Intl	HAAB	Addis Ababa FIR/SRR	HAAA		
<b>KENYA</b> NAIROBI/Jomo Kenyatta Intl	HKJK	Nairobi FIR/SRR	HKNA		
<b>MADAGASCAR</b> ANTANANARIVO/Ivato	FMMI	Antananarivo FIR/SRR	FMMM		
<b>MALAWI</b> LILONGWE/Lilongwe Intl	FWLI	Lilongwe FIR/SRR	FWLL		
<b>MAURITIUS</b> MAURITIUS/Sir Seewoosagur Ramgoolam Intl	FIMP	Mauritius FIR/SRR	FIMM		
<b>MOZAMBIQUE</b> MAPUTO/Maputo Intl	FQMA	Beira FIR/SRR	FQBE		
<b>NAMIBIA</b> WINDHOEK/Windhoek	FYWH	Windhoek FIR/SRR	FYWH		
<b>RWANDA</b> KIGALI/Gregoire Kayibanda	HRYR	Kigali FIR/SRR	HRYR		



MWO Location/ Emplacement MWO	ICAO loc. ind./ ind.d'empl. OACI	AREA SERVED/ ZONES DESSERVIE		SIGMET	
		NAME/NOM	ICAO loc. ind./ Ind.d'empl. OACI	VA	TC
1	2	3	4	5	6
<b>SEYCHELLES</b> MAHE/Seychelles Intl	FSIA	Seychelles FIR/SRR	FSSS		
<b>SOMALIA</b> MOGADISHU/Mogadishu	HCMM	Mogadishu FIR/SRR	HCSM		
<b>SOUTH AFRICA</b> CAPE TOWN/Cape Town	FACT	Cape Town FIR	FACA		
DURBAN/Durban	FADN	Durban FIR	FADN		
JOHANNESBURG/Johannesb urg	FAJS	Johannesburg FIR/ARCC Cape Town MRCC and Johannesburg SRR Johannesburg Oceanic FIR/ARCC	FAJA      FAJO		
<b>UGANDA</b> ENTEBBE/Entebbe Intl.	HUEN	Entebbe FIR	HUEC		
<b>UNITED REPUBLIC OF TANZANIA</b> DAR-ES-SALAAM/Dar-es- Salaam	HTDA	Dar-es-Salaam FIR	HTDC		
<b>ZAMBIA</b> LUSAKA/Lusaka Intl	FLLS	Lusaka FIR/SRR	FLFI		
<b>ZIMBABWE</b> HARARE/Harare	FVHA	Harare FIR/SRR	FVHA		

**APPENDIX B****FASID TABLE MET 3A - TROPICAL CYCLONE ADVISORY CENTRE***EXPLANATION OF THE TABLE**Column*

- 1 Location of the tropical cyclone advisory centre (TCAC).
- 2 ICAO location indicator of TCAC (for use in the WMO heading of advisory bulletin).
- 3 Area of responsibility for the preparation of advisory information on tropical cyclones by the TCAC in Column I.
- 4 Period of operation of the TCAC.
- 5 MWO to which the advisory information on tropical cyclones should be sent.
- 6 ICAO location indicator of the MWOs in column 4.

*Note.* - ICAO location indicators for MWOs are shown in FASID Table MET 1B.

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**TABLEAU FASID MET 3A — CENTRE D'AVIS DE CYCLONES TROPICAUX***EXPLICATION DU TABLEAU**Colonne*

- 1 Emplacement du centre d'avis de cyclones tropicaux (TCAC).
- 2 Zone de responsabilité pour la préparation d'avis de cyclones tropicaux par le TCAC en colonne 1.
- 3 Période d'activité du TCAC
- 4 MWO auxquels les avis consultatifs doivent être envoyées.

*Note.* Les indicateurs d'emplacement OACI des MWO sont donnés au Tableau FASID MET 1B

TROPICAL CYCLONE ADVISORY CENTRE/CENTRE D'AVIS DE CYCLONES TROPICAUX	AREA OF RESPONSIBILITY/ ZONE DE RESPONSABILITE	PERIOD OF OPERATION/ PERIODE D'ACTIVITE	MWOS TO WHICH ADVISORY INFORMATION IS TO BE SENT/MWO AUXQUELS LES AVIS CONSULTATIFS DOIVENT ÊTRE ENVOYÉS
1	2	3	4
France (Réunion)	Southwest Indian Ocean/ Sud-ouest de l'océan Indien  N: 0E S      S: 40ES W: 30EE      E: 90EE	1 November - 30 April/ 1 <sup>er</sup> novembre au 30 avril	Antananarivo Bloemfontein Bombay Dar es Salaam Durban Gaborone Harare Johannesburg Lilongwe Mahé Male Maputo Mauritius Nairobi Perth

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**APPENDIX C**
**FASID TABLE MET 3B - VOLCANIC ASH ADVISORY CENTRE***EXPLANATION OF THE TABLE**Column*

- 1 Location of the tropical cyclone advisory centre (VAAC).
- 2 ICAO location indicator of VAAC (for use in the WMO heading of advisor, bulletin).
- 3 Area of responsibility for the preparation of advisory information on volcanic ash by the VAAC in Column 1.
- 4 MWOs to which the advisory information on volcanic ash should be sent.
- 5 ICAO location indicator for the MWO.
- 6 ACC to which the advisory information on volcanic ash should be sent.
- 7 ICAO location indicator assigned to the ACC in Column 4.

*Note. - ICAO location indicators for MWOs are shown in FASID Table MET 1B.*

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**TABLEAU FASID MET 3B - CENTRES D'AVIS DE CENDRES VOLCANIQUES**
*EXPLICATION DU TABLEAU**Column*

- 1 Emplacement du centre d'avis de cendres volcaniques (VAAC).
- 2 Zone de responsabilité pour la préparation des renseignements consultatifs sur les cendres volcaniques fournis par le VAAC en colonne 1.
- 3 MWO auquel les renseignements consultatifs sur les cendres volcaniques doivent être envoyés.
- 4 ACC auquel les renseignements consultatifs sur les cendres volcaniques doivent être envoyés.
- 5 Indicateur d'emplacement OACI assigné à l'ACC en colonne 4.

*Note. - Les indicateurs d'emplacement OACI pour les MWO sont indiqués au Tableau FASID MET 1B.*

**FASID TABLE MET 3B**  
**VOLCANIC ASH ADVISORY CENTRE**  
**TABLEAU MET 3B**  
**CENTRE D'AVIS DE CENDRES VOLCANIQUES**

VOLCANIC ASH ADVISORY CENTRE/CENTRE D'AVIS DE CENDRES VOLCANIQUES	AREA OF RESPONSIBILITY/ZONE DE RESPONSABILITE	MWO TO WHICH ADVISORY INFORMATION IS TO BE SENT/MWO AUQUEL LES RENSEIGNEMENTS CONSULTATIFS DOIVENT ÊTRE ENVOYÉS	ACC TO WHICH ADVISORY INFORMATION IS TO BE SENT/ACC AUQUEL LES RENSEIGNEMENTS CONSULTATIFS DOIVENT ÊTRE ENVOYÉS	
1	2	3	4	5
*Toulouse (France)	AFI Region  Santa Maria Oceanic Besoin indiqué dans les plans de navigation aérienne EUR, MID et NAT. EUR* (except for London, Scottish and Shannon FIRs) and MID* Regions: south of 71E N west of 60E E	Accra Addis Ababa Amilcar Cabral Antananarivo Brazzaville Bujumbura Dakar Gran Canaria Kano Kigali Kinshasa Nairobi Niamey N'Djamena Sal I.	Accra Addis Ababa Antananarivo Brazzaville Bujumbura Dakar Gran Canaria Kano Kigali Kinshasa Nairobi Niamey N'Djamena Robertsfield (Conakry) Sal I.	DGAA HAAB FMMI FCBB HBBA GOOY GCLP DNKN HRYR FZAA HKNA DRRN FTTJ GUCY GVAC

\* Requirement shown in EUR, MID and NAT Regional Air Navigation Plans/

## APPENDIX D

## LIST OF THE ABBREVIATIONS AND CODE WORDS USED IN SIGMET

<b>ABV</b>	Above
<b>AND*</b>	And
<b>APRX</b>	Approximate or approximately
<b>AT</b>	At <i>(followed by time)</i>
<b>BLW</b>	Below
<b>BY*</b>	By
<b>CB</b>	Cumulonimbus
<b>CENTRE*</b>	Centre <i>(used to indicate tropical cyclone center)</i>
<b>CLD</b>	Cloud
<b>CNL</b>	Cancel or cancelled
<b>CTA</b>	Control area
<b>DS</b>	Duststorm
<b>E</b>	East or eastern longitude
<b>ERUPTION*</b>	Eruption <i>(used to indicate volcanic eruption)</i>
<b>EMBD</b>	Embedded in layer <i>(to indicate CB embedded in layer of other clouds)</i>
<b>FCST</b>	Forecast
<b>FIR</b>	Flight information region
<b>FL</b>	Flight level
<b>FRQ</b>	Frequent
<b>FZRA</b>	Freezing rain
<b>GR</b>	Hail
<b>HVY</b>	Heavy <i>(used to indicate intensity of weather phenomena)</i>
<b>ICE</b>	Icing
<b>INTSF</b>	Intensify or intensifying
<b>ISOL</b>	Isolated
<b>KM</b>	Kilometers
<b>KMH</b>	Kilometers per hour
<b>KT</b>	Knots
<b>MOD</b>	Moderate <i>(used to indicate intensity of weather phenomena)</i>
<b>MOV</b>	Move or moving or movement
<b>MT</b>	Mountain
<b>MTW</b>	Mountain waves
<b>N</b>	North or northern latitude
<b>NC</b>	No change
<b>NE</b>	North-east
<b>NM</b>	Nautical miles
<b>NW</b>	North-west
<b>OBS</b>	Observed
<b>OBSC</b>	Obscured
<b>OCNL</b>	Occasional
<b>OF*</b>	Of ... <i>(place)</i>
<b>OTLK</b>	Outlook <i>(used in SIGMET messages for volcanic ash and tropical cyclones)</i>
<b>RA</b>	Rain
<b>S</b>	South or southern latitude
<b>SE</b>	South-east
<b>SEV</b>	Severe <i>(used e.g. to qualify icing and turbulence reports)</i>
<b>SIGMET</b>	SIGMET <i>(used to indicate SIGMET information)</i>

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<b>SQL</b>	Squall line
<b>SS</b>	Sandstorm
<b>SST</b>	Supersonic transport ( <i>used to indicate a SIGMET for supersonic levels</i> )
<b>STNR</b>	Stationary
<b>SW</b>	South-west
<b>TC</b>	Tropical cyclone
<b>TO</b>	To ... ( <i>place</i> )
<b>TOP</b>	Cloud top
<b>TS</b>	Thunderstorm
<b>TURB</b>	Turbulence
<b>UIR</b>	Upper flight information region
<b>VA</b>	Volcanic ash
<b>VALID*</b>	Valid
<b>W</b>	West or western longitude
<b>WI</b>	Within
<b>Z</b>	Coordinated Universal Time ( <i>used in meteorological messages</i> )

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\* not in the ICAO Doc 8400, ICAO Abbreviations and Codes

## APPENDIX E

## METEOROLOGICAL PHENOMENA TO BE REPORTED BY SIGMET

Phenomenon	Description	Meaning
TS	OBSC <sup>2</sup> TS EMBD <sup>3</sup> TS FRQ <sup>4</sup> TS SQL <sup>5</sup> TS OBSC TSGR EMBD TSGR FRQ TSGR SQL TSGR	Obscured thunderstorm(s) Embedded thunderstorm(s) Frequent thunderstorm(s) Squall line thunderstorm(s) Obscured thunderstorm(s) with hail Embedded thunderstorm(s) with hail Frequent thunderstorm(s) with hail Squall line thunderstorm(s) with hail
TC	TC (+ TC name)	Tropical cyclone (+ TC name)
TURB	SEV TURB <sup>6</sup>	Severe turbulence
ICE	SEV ICE SEV ICE FZRA	Severe icing Severe icing due to freezing rain
MTW	SEV MTW <sup>7</sup>	Severe mountain wave
DS	HVY DS	Heavy duststorm
SS	HVY SS	Heavy sandstorm
VA	VA (+ volcano name, if known)	Volcanic ash (+ volcano name)

**Notes:**

1. Only one of the weather phenomena listed should be selected and included in each SIGMET
2. Obscured (**OBSC**) indicates that the thunderstorm (including, if necessary, CB-cloud which is not accompanied by a thunderstorm) is obscured by haze or smoke or cannot be readily seen due to darkness
3. Embedded (**EMBD**) – indicates that the thunderstorm (including, if necessary, CB-cloud which is not accompanied by a thunderstorm) is embedded within cloud layers and cannot be readily recognized
4. Frequent (**FRQ**) indicates an area of thunderstorms within which there is little or no separation between adjacent thunderstorms with a maximum spatial coverage greater than 75% of the area affected, or forecasts to be affected, by the phenomenon (at a fixed time or during the period of validity)
5. Squall line (**SQL**) indicates thunderstorms along a line with little or no space between individual clouds
6. Severe (**SEV**) turbulence (**TURB**) refers only to:
  - low-level turbulence associated with strong surface winds;
  - rotor streaming;
  - turbulence whether in cloud or not in cloud (CAT) near to jet streams.

*Turbulence is considered severe whenever the peak value of the cube root of EDR exceeds 0.7.*

7. A mountain wave (**MTW**) is considered severe – whenever an accompanying downdraft of 3.0 m/s (600 ft/min) or more and/or severe turbulence is observed or forecast.



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**APPENDIX F****STANDARD FOR REPORTING GEOGRAPHICAL COORDINATES IN SIGMETS**

When reporting geographical coordinates of points in SIGMET the following should apply:

1. Each point is represented by a latitude/longitude coordinates in whole degrees or degrees and minutes in the form:

**N(S)nn[nn] W(E)nnn[nn]**

*Note: There is a space between the latitude and longitude value.*

Examples:     **N3623 W04515**  
                  **S1530 E12500**  
                  **N42 E023**

2. In describing lines or polygons, the lat,lon values of the respective points are separated by the combination space-hyphen-space, as in the following examples:

**S0530 E09300 – N0100 E09530 – N1215 E11045 – S0820 E10330**

**S05 E093 – N01 E095 – N12 E110 – S08 E103**

*Note: It is not necessary to repeat the first point when describing a polygon.*

3. When describing a volcanic ash cloud approximate form and position, a limited number of points, which form a simplified geometric figure (a line, or a triangle, or quadrangle, etc.) should be used in order to allow for a straightforward interpretation by the user.

4. Reporting a phenomenon occupying two different geographical areas within the FIR. This is frequently the case with two (or more) separate TS formations occurring in different parts of the FIR at the same time. The question is whether a separate SIGMET should be issued for each formation, or, one SIGMET could include location description for two (or more) geographical areas. The current SIGMET format does not allow for reporting of more than one phenomenon or two different TS areas. Therefore, in cases like this, two separate SIGMETs should be issued. The main concern with issuing separate SIGMETs is that, in general, a new SIGMET for the same FIR would replace the previous one; this may lead to rejecting valid information in case as described above. It should be noted in this regard, that the current SIGMET format allows for using different sequence numbers and thus, for keeping more than one SIGMET at a time valid for the FIR concerned; for instance, a series A1, A2,... could be used for “phenomenon A” and B1, B2, ... , for “phenomenon B”.

**APPENDIX G****EXAMPLES****1. SIGMET****SIGMETs for thunderstorms**

WSSR20 WSSS 091131  
WSJC SIGMET 3 VALID 091140/091540 WSSS-  
SINGAPORE FIR EMBD TS OBS AT 1130Z N OF N01 E OF E106 W OF E114 STNR NC=

WSNT03 KPCI 032340  
KZNY SIGMET C17 VALID 032345/040345 KPCI-  
NEW YORK OCEANIC FIR FRQ TS OBS WI AREA N2400 W05500 - N2300 W04930 - N1845  
W05645 - N2100 W05800 - N2400 W05500 TOP FL450 MOV E 15KT INTSF=

WSVS31 VVGL 122305  
VVTS SIGMET 9 VALID 122330/130230 VVVV-  
HOCHIMINH FIR EMBD TS OBS S OF LINE N1420 E10930 - N1000 E10400 TOP FL280  
MOV W 10KMH WKN=

WSUK31 EGGY 121120  
EGTT SIGMET 01 VALID 121125/121525 EGRR-  
LONDON FIR EMBD TS GR OBS AT 1115Z SE OF LINE N5130 E00200 - N5000 W00400  
TOPS FL220 MOV NE 30KT NC=

**1.2 SIGMET for severe turbulence**

WSAU21 AMMC 280546  
YBBB SIGMET BS02 VALID 280600/281200 YMMC-  
BRISBANE FIR SEV TURB FCST WI S3900 E15100 - S4300 E15100 - S4300 E16000 -  
S4100 E16300 - S3700 E16300 - S3900 E16000 FL260/370 MOV E 20 KT NC=

WSNZ21 NZKL 280003  
NZZC SIGMET 01 VALID 280002/280402 NZKL-  
NEW ZEALAND FIR SEV TURB OBS AND FCST NE OF THE SOUTH ISLAND BLW FL100  
STNR NC=

**1.3 SIGMET for severe icing**

WSFR31 LFPW 280400  
LFMM SIGMET 2 VALID 280500/280900 LFMM-  
FIR MARSEILLE SEV ICE OBS AT 0400Z OVER LION GULF FL040/100 STNR NC=

WSIY31 LIIB 032152  
LIMM SIGMET 07 VALID 032200/040200 LIMM-  
MILANO FIR SEV ICE FCST OVER ALPS AND N PART APPENNINIAN AREA FL030/120 MOV  
E NC=

**1.4 SIGMET for heavy duststorm**

WSAW31 LOWM 160530  
OEJD SIGMET 4 VALID 160600/161000 OEJN-

JEDDAH FIR HVY DS OBS AND FCST N OF N2200 S OF N3100 E OF E04440 W OF  
E04800 MOV E 10KMH NC=

### 1.5 SIGMET for severe mountain wave

WSUK31 EGGY 150550  
EGTT SIGMET 03 VALID 150600/151000 EGRR-  
LONDON FIR SEV MTW FCST N OF N5100 FL090/140 STNR WKN=

## 2. VA SIGMET

### 2.1 VA SIGMET - full

WVPH01 RPLL 211110  
RPHI SIGMET 2 VALID 211100/211700 RPLL-  
MANILA FIR VA ERUPTION MT PINATUBO LOC S1500 E07348  
VA CLD OBS AT 1100Z FL310/450 APRX 220KM BY 35KM S1500 E07348 - S1530  
E07642 MOV SE 65KMH FCST 1700Z VA CLD APRX S1506 E07500 - S1518 E08112 -  
S1712 E08330 - S1824 E07836

*1. The coordinates used in describing the VA cloud are fictitious.*

### 2.2 “Short” first SIGMET (no OUTLOOK)

YUDD SIGMET 2 VALID 211100/211700 YUSO-  
SHANLON FIR/UIR VA ERUPTION MT ASHVAL LOC S1500 E07348  
VA CLD OBS AT 1100Z FL310/450 APRX 220KM BY 35KM S1500 E07348 - S1530  
E07642 MOV SE 65KMH FCST 1700Z VA CLD APRX S1506 E07500 - S1518 E08112 -  
S1712 E08330 - S1824 E07836=

or

YUDD SIGMET 2 VALID 211100/211700 YUSO-  
SHANLON FIR/UIR VA ERUPTION MT ASHVAL LOC S1500 E07348  
VA CLD OBS AT 1100Z FL100/180 APRX 220KM BY 35KM S1500 E07348 - S1530  
E07642=

WVFJ01 NFFN 090900  
NFFF SIGMET 03 VALID 090915/091515 NFFN-  
NADI FIR VA ERUPTION MT LOPEVI LOC S1630 E16820 VA CLD OBS AT 0330Z FL090  
APRX 10NM BY 10NM MOV SE 25KT FCST 1515Z VA CLD APPRX S1630 E16820 - S1900  
E17600 - S1930 E17030=

**2.3 SIGMET for VA CLD in the FIR but the volcano information is unknown**

YUDD SIGMET 2 VALID 211100/211700 YUSO-  
SHANLON FIR/UIR VA CLD OBS AT 1100Z FL310/450 APRX 220KM BY 35KM S1500  
E07348 - S1530 E07642 MOV SE 65KMH FCST 1700Z VA CLD APRX S1506 E07500 -  
S1518 E08112 - S1712 E08330 - S1824 E07836  
OTLK 212300 VA CLD APRX S1600 E07806 - S1642 E08412 - S1824 E08900 - S1906 E08100 220500 VA  
CLD APRX S1700 E08100 - S1812 E08636 - S2000 E09224 - S2130 E08418=

**2.4 SIGMET for VA CLD forecast to affect the FIR**

We assume that the responsible VAAC has issued an advisory at 0200Z with forecast positions of the VA CLD for 0800Z, 1400Z and 2000Z. From this forecast it is seen that the VA CLD will enter the YUDD FIR before 0800Z. The responsible MWO, YUSO receiving this advisory prepares a SIGMET for the expected penetration of the VA cloud in its FIR and this SIGMET is send at 0230Z.

WVXY01 YUSO 210230  
YUDD SIGMET 2 VALID 210800/211400 YUSO-  
SHANLON FIR/UIR VA CLD FCST FL310/450 APRX 220KM BY 35KM S1500 E07348 -  
S1530 E07642 MOV SE 65KMH FCST 1400Z VA CLD APRX S1506 E07500 - S1518  
E08112 - S1712 E08330 - S1824 E07836

*Notes:*

1. *The forecast position at 0800Z and 1400Z is taken from the VA advisory*

**3. TC SIGMET****TC Graham – SIGMET issued by MWO Perth - Australia**

WCOC31 APRF 280453  
YBBB SIGMET PH01 VALID 280500/281100 YPRF-  
BRISBANE FIR TC GRAHAM OBS AT 0400Z S1806 E12145 CB TOP FL450 WI 120NM OF  
CENTRE MOV SE 7KT INTSF FCST 1100Z TC CENTRE S1808 E12150.

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**WMO HEADINGS FOR SIGMET BULLETINS USED BY AFI  
METEOROLOGICAL WATCH OFFICES (MWOs)**

## EXPLANATION OF THE TABLE

Col 1:	State and name of the MWO
Col 2:	ICAO location indicator of the MWO
Col 3:	T <sub>1</sub> T <sub>2</sub> A <sub>1</sub> A <sub>2</sub> ii group of the WMO heading for the WS SIGMET bulletin
Col 4:	T <sub>1</sub> T <sub>2</sub> A <sub>1</sub> A <sub>2</sub> ii group of the WMO heading for the WC SIGMET bulletin (tropical cyclone)
Col 5:	T <sub>1</sub> T <sub>2</sub> A <sub>1</sub> A <sub>2</sub> ii group of the WMO heading for the WV SIGMET bulletin (volcanic ash)
Col 6:	ICAO location indicator of the FIR/CTA served by the MWO
Col 7:	Remarks

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**WMO Headings for SIGMET Bulletins used by AFI Meteorological Watch Offices**

MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
<b>ALGERIA</b> ALGER/Baraki	DAAL	WSAL31		WVAL31	DAAA	
<b>ANGOLA</b> LUANDA/4 de Fevereiro	FNLU	WSAN31		WVAN31	FNAN	
<b>BOTSWANA</b> GABORONE/Sir Seretse Khama	FBSK	WSBC31	WCBC31	WVBC31	FBGR	
<b>BURUNDI</b> BUJUMBURA/Bujumbura	HBBA	WSBI31		WVB131	HBBA	
CANARY ISLANDS (Spain) GRAN CANARIA/Gran Canary, Canary I	GCLP	WSCR31		WVCR31	GCCC	
<b>CAPE VERDE</b> SAL I/Amilcar Cabral	GVAC	WSCV31		WVCV31	GVSC	
<b>CHAD</b> N'DJAMENA/N'djamena	FTTJ	WSCD31		WVCD31	FTTT	
<b>CONGO</b> BRAZZAVILLE/Maya-Maya	FCBB	WSCG31	WCGG31	WVCG31	FCCC	
<b>D.R. CONGO</b> KINSHASA/N'Djili	FZAA	WSZR31	WCZR31	WVZR31	FZAA	
<b>EGYPT</b> CAIRO/Cairo International	HECA	WSEG31	WCEG31	WVEG31	HECC	
<b>ETHIOPIA</b> ADDIS ABABA/Bole Intl	HAAB	WSET31		WVET20	HAAA	
<b>ERITREA</b> ASMARA	HHAS	WSEI31		WVEI31	HHAA	

MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
<b>GHANA</b> ACCRA/Kotoka Int'l	DGAA	WSGH31		WVGH31	DGAC	
<b>KENYA</b> KENYA/Jomo Kenyatta Int'l	HKJK	WSKN31	WCKN31	WVKN31	HKNA	
<b>LIBERIA</b> MONROVIA/Roberts Int'l	GLRB	WSLI31		WVSL31	GLRB	
LIBYAN ARAB JAMAHIRIYA TRIPOLI/Tripoli Int'l	HLLT	WSLY31		WVLY31	HLLL	

MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
<b>MADAGASCAR</b> ANTANANARIVO/Ivato	FMMI	WSMG31	WCMG20	WVMG20	FMMM	
<b>MALAWI</b> LILONGWE/Lilongwe Int'l	FWLI	WSMW31	WCMG31	WVLI31	FWLL	
<b>MAURITIUS</b> MAURITIUS/Sir Seewoosagur Ramgoolam Int'l	FIMP	WSMA31	WCMG20	WVMA31	FIMM	
<b>MOROCCO</b> CASABLANCA/Anfa	GMMC	WSMC31		WVMC31	GMMM	
<b>MOZAMBIQUE</b> MAPUTO/Maputo Int'l	FQMA	WSMZ31	WCMZ20	WVMZ31	FQBE	
<b>NAMIBIA</b> WINDHOEK/Hosea Kutako	FYWH	WSNM31		WVNM31	FYWH	
<b>NIGER</b> NIAMEY/Diori Hmani Int'l	DRRN	WSNR31		WVNR31	DRRR	
<b>NIGERIA</b> KANO/Mallam Aminu Kano Int'l	KNKN	WSNI31			DNKK	
<b>RWANDA</b> KIGALI/Gregoire Kayibanda	HRYR	WSRW31		WVRW31	HRYR	
<b>SENEGAL</b> Leopold Sedar Senghor	GOOY	WSSG31		WVSG31	GOOO	
<b>SEYCHELLES</b> MAYE/Seychelles Int'l	FSIA	WSSC31	WCSC20	WVSC31	FSSS	
<b>SOMALIA</b> MOGADISHU/Mogadishu	HCMM	WSSI31		WVSI31	HCSM	
<b>SOUTH AFRICA</b> JOHANNESBURG/Johannesburg	FAJS	WSZA31	WCZA31	WVZA31	FACA FAJA FAJO	



MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
<b>SUDAN</b> KHARTOUM/Khartoum	HSSS	WSSU31		WVSU31	HSSS	
<b>TUNISIA</b> TUNIS/Carthage	DTTA	WSTS31		WVTS31	DTTC	
<b>UGANDA</b> ENTEebbe/Entebbe Int'l	HUEN	WSUG31		WVUG31	HUEC	
UNITED REPUBLIC OF TANZANIA DAR-ES-SALAAM/Dar-es-Salaam	HTDA	WSTN31	WCTN31	WVTN31	HTDC	
<b>ZAMBIA</b> LUSAKA/Lusaka Int'l	FLLS	WSZB31		WVZB31	FLFI	
<b>ZIMBABWE</b> HARARE/Harare	FVHA	WSZW31	WCZW31	WVZW31	FVHA	

<b>TCAC/VAAC (State)</b>	<b>ICAO location indicator</b>	<b>WMO Heading TTAAii CCCC</b>	<b>Remarks</b>
1	2	3	4
<b>TC Advisories (FK)</b>			
<b>Réunion (France)</b>	FMEE	FKIO20 FMEE	
<b>VA Advisories (FV)</b>			
<b>Toulouse (France)</b>	LFPW	FVXX01 LFPW 1st volcano in activity FVXX02 LFPW 2nd volcano in activity, FVXX03 LFPW 3rd volcano in activity FVXX04 LFPW 4th volcano in activity FVXX05 LFPW used for VAAC TOULOUSE back up by LONDON	

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## APPENDIX J : WACAF SIGMET Test Procedures

### 1. Introduction

1.1 The MET Divisional Meeting (2002) formulated recommendation 1/12 b), *Implementation of SIGMET requirements*, which call, *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 Concerns by the users for the timely reception of SIGMET information has prompted the need to improve awareness on the critical and important nature of SIGMETs. In order to maintain the International Airways Volcano Watch (IAVW) and TC watch systems ready-for-action, regular exercises involving the advisory centres and the MWOs under their areas of responsibility should be performed.

1.3 The requirements for dissemination of SIGMET are specified in Annex 3, Appendix 6, 1.2. Regional guidance on the preparation and dissemination of SIGMET is provided in this *Regional SIGMET Guide*.

### 2. Purpose and Scope of SIGMET tests

2.1 The purpose of the tests is to check the awareness of the participating MWOs of the ICAO requirements for the issuance of SIGMET, and the adequacy of the existing telecommunication procedures for dissemination of the advisories and SIGMETs. Based on the results of the tests, the States will be provided with advice aimed at improving their practices and procedures.

2.2 In the case of SIGMET for tropical cyclones and volcanic ash clouds (referred hereafter as WC SIGMET and WV SIGMET respectively) the scope of the tests will involve issuance of test advisories by the VAACs and TCACs in the region, which will be disseminated to the corresponding MWOs and the Regional OPMET Data Banks (RODBs). The MWOs will have to issue a test SIGMET on receipt of a test advisory from the responsible VAAC or TCAC, and disseminate it according to the distribution list used for normal (non-test) SIGMETs.

2.3 The RODBs will record the reception of the test SIGMETs and the corresponding time and will provide a summary table to the VAAC or TCAC with a copy to the Regional Office.

2.4 A consolidated summary report will be prepared by the ICAO Secretariat and reported to the MET/SG and APIRG. The report will include recommendations for improvement of the SIGMET exchange and availability.

### 3. SIGMET test procedures

#### 3.1 *Participating units:*

##### 3.1.1 Tropical Cyclone Advisory Centre (TCAC)

###### **La Réunion**

##### 3.1.2 Volcanic Ash Advisory Centre (VAAC)

###### **Toulouse**

##### 3.1.3 Regional OPMET Data Bank (RODB)

**Dakar**  
**Pretoria**

3.1.4 Meteorological Watch Office (MWO)

All MWOs listed in FASID Table MET 3A and MET 3B of the AFI FASID, under the responsibility of Toulouse, VAAC and La Réunion, TCAC.

*Note: The participation of MWOs of States, which do not belong to AFI region, should be coordinated through the relevant ICAO Regional Office.*

3.2 **Test date and time**

3.2.1 ICAO Regional Office will set a date and time after consultation with the VAAC, TCAC and RODB. The information about the agreed date and time will be sent to all States concerned.

3.3 **Test messages**

3.3.1 Each VAAC and TCAC prepares a simple TEST message in the form of VA or TC advisory. The format of the TEST message should follow the standard formats given in Annex 3, however, with clear indication that it does not contain information for a real event.

3.3.2 The MWOs, upon receipt of the TEST VA/TC advisory, should prepare a TEST SIGMET for volcanic ash or tropical cyclone, respectively, and send it to the RODBs, VAAC and TCAC as appropriate. The WMO heading and the first line of the SIGMET should be valid ones, while the body of the message should contain an explanatory text on the tests. The AFTN addresses of the RODBs and the Inter-regional OPMET Gateway (IROG) to which the test SIGMETs should be sent are as follows:

Dakar	:	GOOZYX
Pretoria	:	FAPRYMYX
Toulouse	:	LFZZMAFI

3.3.3 The format of Test messages for VA advisory and VA SIGMET, and for TC advisory and TC SIGMET are at the **Attachment A**.

3.3.4 To avoid over-writing of a valid SIGMET, the test SIGMET on VA may not be sent if there is a valid SIGMET on VA for responsible area of the WMO. In the same manner, the test SIGMET on TC should not be sent if there is a valid SIGMET on TC. Such MWOs are strongly encouraged to notify the Regional Office via e-mail of their non-participation in the test due to the said reasons.

3.3.5 Special procedure to avoid overwriting of a valid SIGMET

3.3.5.1 It is vital to ensure that TEST SIGMET is not confused with operational SIGMET and avoid overwriting a valid operational SIGMET in an automated system. In order to prevent this it is suggested that:

- a) If at the time of the SIGMET test NO SIGMET is current for the FIR, the number of the Test SIGMET should follow the normal numbering sequence; e.g. if the last “normal” SIGMET before the test was number “03”, the TEST SIGMET should be number “04”, and the first “normal” SIGMET after the test should be number “05”.
- b) If a SIGMET is VALID at the time of the test then the TEST SIGMET should be issued and the valid SIGMET should be repeated immediately after the TEST SIGMET. E.g., if the following SIGMET is issued at 0100 on the date of the test:

WSCG31 FCBB 250100  
 FCCC SIGMET 1 VALID 250100/250500 FCBB-  
 BRAZZAVILLE FIR SEV TURB FCST WI ....=

A SIGMET test is scheduled for 0200 UTC on the 25<sup>th</sup>. The TEST SIGMET is issued with the next consecutive sequence number as follows:

WSCG31 FCBB 250200  
 FCCC SIGMET 2 VALID 250200/250210 FCBB-  
 THIS IS A TEST SIGMET PLEASE DISREGARD=

The original SIGMET is then retransmitted immediately after this with the next consecutive sequence number and the validity period is amended accordingly:

WSCG31 FCBB 250200  
 FCCC SIGMET 3 VALID 250200/250500 FCBB-  
 BRAZZAVILLE FIR SEV TURB FCST WI ... =

### 3.4 Processing of the test messages and results

3.4.1 The RODBs will be requested to file all incoming TEST advisories and SIGMETs and perform an analysis of the availability, timeliness of arrival and the correctness of the headers. A table, as shown in **Attachment B**, should be prepared by each RODB and sent to the VAAC or TCAC with a copy to the Regional Office.

3.4.2 ICAO Secretariat should prepare the final report of the test and present it to the next MET/SG meeting.

#### **Attachment:**

- A. Format of the Test messages
- B. Sample Table to be used by RODBs

Attachment to Appendix J

## SIGMET TEST PROCEDURES

### - Format of TEST advisories and SIGMETs -

#### 1. Format of TEST SIGMET for Volcanic Ash

WVXXii CCCC YYGGgg  
CCCC SIGMET n(nn) VALID YYGGgg/YYGGgg CCCC-  
THIS IS A TEST SIGMET PLEASE DISREGARD. TEST VA ADVISORY NUMBER XX  
RECEIVED AT YYGGggZ=

*Example:*

WVSG31 GOOY 180205  
GOOO SIGMET 01 VALID 180205/180215 GOOY-  
THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST VA ADVISORY NUMBER 01  
RECEIVED AT 180200Z=

#### 2. Format of TEST SIGMET for Tropical Cyclone

WCXXii CCCC YYGGgg  
CCCC SIGMET n(nn) VALID YYGGgg/YYGGgg CCCC-  
THIS IS A TEST SIGMET PLEASE DISREGARD. TEST TC ADVISORY NUMBER XX  
RECEIVED AT YYGGggZ=

*Example:*

WCHK31 VHHH 180205  
VHHK SIGMET 01 VALID 180205/180215 VHHH-  
THIS IS A TEST SIGMET PLEASE DISREGARD. TEST TC ADVISORY NUMBER 01  
RECEIVED AT 180200Z=

#### 3. Format of TEST SIGMET for other weather phenomena

WSXXii CCCC YYGGgg  
CCCC SIGMET n(nn) VALID YYGGgg/YYGGgg CCCC-  
THIS IS A TEST SIGMET PLEASE DISREGARD=

*Example:*

WSCG31 FCBB 180200  
FCCC SIGMET 04 VALID 180200/180210 FCBB-  
THIS IS A TEST SIGMET PLEASE DISREGARD=

*Notes:*

- 1) "XX" in the WMO heading to be replaced by the respective WMO geographical designator
- 2) Actual SIGMET number to be used in all TEST SIGMETs

Attachment to Appendix J

#### 4. AFI Volcanic ash test procedure

##### Format of the test VAA

- a) The format for the TEST VAA that will be provided by the Toulouse VAAC can be seen below. *DD* is the day of the month, *HH* the hour of issuance.

FVAF01 LFPW **DDHH00**  
VOLCANIC ASH ADVISORY  
ISSUED: 200506**DD/HH**00Z  
VAAC: TOULOUSE  
VOLCANO: FICTITIOUS  
LOCATION: NIL  
AREA : NIL  
SUMMIT ELEVATION : NIL  
ADVISORY NUMBER : 2005/01  
INFORMATION SOURCE: NIL  
AVIATION COLOUR CODE: NIL  
ERUPTION DETAILS : NIL  
OBS ASH DATE/TIME : NIL  
OBS ASH CL: NIL  
FCST ASH CL+6H:NIL  
FCST ASH CL+12H:NIL  
FCST ASH CL+18H:NIL  
NEXT ADVISORY: NO FURTHER ADVISORIES

##### REMARKS:

THIS IS A VAA TEST MESSAGE APPLICABLE TO THE WHOLE OF ICAO AFI REGION. EACH METEOROLOGICAL WATCH OFFICE, AREA CONTROL CENTRE AND FLIGHT INFORMATION CENTRE SERVING FLIGHT INFORMATION REGIONS WITHIN THE AFI REGION RECEIVING THIS MESSAGE SHOULD ISSUE AN ADMINISTRATIVE MESSAGE USING THE WMO HEADER NOAF33 LFPW AND SEND IT TO THE AFTN ADDRESS LFZZMAFI TO ACKNOWLEDGE THE RECEPTION OF THIS VAA MESSAGE.

- b) Format of the administrative message to acknowledge the reception
- i) The meteorological watch offices, area control centres and flight information centres serving flight information regions that will receive the VAA will issue an administrative message to acknowledge the reception of the VAA. The format of this message is provided below. **DD** is the day of the month.
  - ii) The message described below has to be sent by AFTN to the IROG Toulouse Address by using its AFTN address LFZZMAFI.

Attachment to Appendix J

- iii) *aftn\_address*, in the first line after the WMO heading, should be replaced by the AFTN address of the recipient.
- iv) *description*, in the first line after the WMO heading, should be replaced by the name of the organization which has received the VAA.
- v) *HHMMmm* is the reception hour of the VAA bulletin, if the VAA has been received.

NOAF33 LFPW DD1300

From: *aftn\_address, description*

To: LFZZMAFI

**ACK RECEPTION TEST VAA FROM VAAC TOULOUSE AT *HHMMmm*=**

-END-