**WS SIGMET**

A SIGMET provides concise information issued by a Meteorological Watch Office (MWO) concerning the occurrence or expected occurrence of specific en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. The WS SIGMET provides information on phenomena other than tropical cyclones and volcanic ash.

**SIGMET Structure**

<table>
<thead>
<tr>
<th>WMO Header</th>
<th>Disseminating centre</th>
<th>Transmission time</th>
<th>Correction indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulletin identification</td>
<td>Disseminating centre</td>
<td>Transmission time</td>
<td>Correction indicator</td>
</tr>
<tr>
<td>TT</td>
<td>CCCC</td>
<td>YYGGgg</td>
<td>BBB</td>
</tr>
</tbody>
</table>

**FIRST LINE OF SIGMET**

<table>
<thead>
<tr>
<th>Location indicator</th>
<th>Message identifier</th>
<th>Sequence number</th>
<th>Validity period</th>
<th>Issuing office</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCCC</td>
<td>SIGMET</td>
<td>nn</td>
<td>VALID YYGGgg</td>
<td>CCCC-</td>
</tr>
</tbody>
</table>

**SIGMET MAIN BODY**

<table>
<thead>
<tr>
<th>FIR/CTA Name</th>
<th>Phenomenon</th>
<th>Observed/forecast phenomenon</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>Movement or expected movement</td>
<td>Changes in intensity</td>
<td>Forecast time &amp; forecast position</td>
</tr>
</tbody>
</table>

**WMO Header**

**Bulletin identification**

<table>
<thead>
<tr>
<th>TT</th>
<th>Data type designator</th>
<th>WS – for SIGMET for phenomena other than volcanic ash cloud and tropical cyclone</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>AA</th>
<th>Country or territory designators</th>
<th>Assigned according to Table C1, Part II of Manual on the Global Telecommunication System, Volume I – Global Aspects (WMO Publication No. 386)</th>
</tr>
</thead>
</table>

**Disseminating centre**

**CCC** is the ICAO location indicator of the communication centre disseminating the message (this may be the same as the MWO location indicator).

**Transmission time**

**YYGGgg** is the date/time group; where YY is the day of the month and GGgg is the time of transmission of the SIGMET in hours and minutes UTC (normally this time is assigned by the disseminating (AFTN) centre).
Correction indicator

**BBB** should only be included when issuing a correction to a **SIGMET** which had already been transmitted. The BBB indicator shall take the form **CCx** for corrections to previously relayed bulletins, where x takes the value A for the first correction, B for the second correction, etc., for a specific **SIGMET**.

**First line of SIGMET**

**Location indicator**

**CCCC** is the ICAO location indicator of the ATS unit serving the FIR or CTA to which the **SIGMET** refers.

**Message identifier**

The message identifier is **SIGMET**.

**Sequence number**

The daily sequence number in the form **[n][n][n]**, e.g. 1, 2, 01, 02, A01, A02, restarts every day for **SIGMETs** issued from 0001 UTC.

**Validity period**

The validity period is given in the format **VALID YYGgg/YYGgg** where **YY** is the day of the month and **GGgg** is the time in hours and minutes UTC. The period of validity for a **WS SIGMET** shall be no more than 4 hours.

**Issuing Office**

**CCCC-** is the ICAO location indicator of the MWO originating the message followed by a hyphen.

**SIGMET Main Body**

**FIR/CTA Name**

The ICAO location indicator and full name of the FIR/CTA for which the **SIGMET** is issued in the form **CCCC <name> FIR/[UIR]** or **CCCC <name> CTA**.

**Phenomenon**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBSC TS</td>
<td>Obscured thunderstorms</td>
</tr>
<tr>
<td>EMBDTS</td>
<td>Embedded thunderstorms</td>
</tr>
<tr>
<td>FRQTS</td>
<td>Frequent thunderstorms</td>
</tr>
<tr>
<td>SQLTS</td>
<td>Squall line thunderstorms</td>
</tr>
<tr>
<td>OBSCTSGR</td>
<td>Obscured thunderstorms with hail</td>
</tr>
<tr>
<td>EMBDTSGR</td>
<td>Embedded thunderstorms with hail</td>
</tr>
<tr>
<td>FRQTSGR</td>
<td>Frequent thunderstorms with hail</td>
</tr>
<tr>
<td>SQLTSGR</td>
<td>Squall line thunderstorms with hail</td>
</tr>
<tr>
<td>SEVTURB</td>
<td>Severe turbulence</td>
</tr>
<tr>
<td>SEV ICE</td>
<td>Severe icing</td>
</tr>
<tr>
<td>SEV ICE (FZRA)</td>
<td>Severe icing due to freezing rain</td>
</tr>
<tr>
<td>SEV MTW</td>
<td>Severe mountain wave</td>
</tr>
<tr>
<td>HVY DS</td>
<td>Heavy duststorm</td>
</tr>
<tr>
<td>HVY SS</td>
<td>Heavy sandstorm</td>
</tr>
<tr>
<td>RDOACT CLD</td>
<td>Radioactive cloud</td>
</tr>
</tbody>
</table>

**Observed or forecast phenomenon**

Whether the phenomenon is observed or forecast in the form **OBS [AT GGggZ]** or **FCST [AT GGggZ]** where **GG** is hours and **gg** minutes UTC.
Location
The location of the phenomenon is provided with reference to geographical coordinates in latitude and longitude in degrees and minutes.

The number of coordinates should be kept to a minimum and should not normally exceed seven.

Level
The level and vertical extent of the phenomenon:
FLnnn or nnnnM or nnnnFT or SFC/FLnnn or SFC/nnnnM or SFC/nnnnFT or FLnnn/nnn or nnnn/nnnnFT or TOP FLnnn or ABV FLnnn or TOP ABV FLnnn.

Movement or Expected Movement (not included if ‘forecast time’ and ‘forecast position’ are given)
Direction and rate of movement of the phenomenon where the direction is given with reference to one of the sixteen points of the compass (using the appropriate abbreviation) and the rate is given in KT (or KMH) in the form MOV <direction> <speed>KT or KMH. The abbreviation STNR (Stationary) is used if no significant movement is expected.

Changes in Intensity
The expected evolution of the phenomenon's intensity as indicated by:
INTSF or WKN or NC

Forecast time and forecast position (not included if movement given)
The forecast position of the hazardous phenomena at the end of the validity period of the SIGMET message in the form FCST AT <GGgg>Z <location>.

Renewing a SIGMET
A SIGMET is renewed with a new sequence number when the validity period is due to expire but the phenomenon is expected to persist.

Cancelling a SIGMET
If, during the validity period of a SIGMET, the phenomenon for which the SIGMET was issued is no longer occurring or is no longer expected, the SIGMET shall be cancelled by issuing a SIGMET with the abbreviation CNL.

CNL SIGMET [n][n]n YYGGgg/YYGGgg

Source of Information

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>Phenomena</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface and upper-air observations</td>
<td>Thunderstorms, dust/sandstorms, turbulence, mountain waves, icing</td>
</tr>
<tr>
<td>Special AIREP</td>
<td></td>
</tr>
<tr>
<td>Satellite pictures</td>
<td></td>
</tr>
<tr>
<td>NWP forecasts</td>
<td></td>
</tr>
<tr>
<td>RADAR</td>
<td>Thunderstorms</td>
</tr>
<tr>
<td>Lightning information</td>
<td></td>
</tr>
<tr>
<td>WMO RSMC (Atmospheric transport</td>
<td>Radioactive cloud</td>
</tr>
<tr>
<td>modelling for environmental emergency)</td>
<td></td>
</tr>
</tbody>
</table>

SIGMET Dissemination
SIGMET is part of operational meteorological (OPMET) information and should be exchanged via aeronautical fixed service (AFS). The SIGMET priority indicator used shall be FF.
WS SIGMET Examples

**Thunderstorms**

WSAII2 CCCYYGGgg [BBB]
CCC SIGMET [n][n]n VALID YYGGgg/YYGGgg CCC-
CCC <FIR/CTA Name> FIR <Phenomenon> OBS/FCST
[AT GgggZ] <Location> <Level> <Movement> <Intensity
changes> <Forecast time and forecast position>

WSSS20 VHHH 090900
VHHK SIGMET 3 VALID 090900/091300 VHHH-
VHHK HONG KONG FIR EMBD TS OBS AT 0900Z N OF
N2000 AND E OF E11330 TOP FL400 INTSF FCST AT
1300Z N OF N2000 AND E OF E11300=

**Duststorms**

WSAU21 ADRM 240330
YMMM SIGMET D01 VALID 240330/240430 YPDM-
YMMM MELBOURNE FIR HVY DS OBS WI S2300
E13415 – S2240 E13800 – S2520 E13800 – S2525
E13520 – S2300 E13415 SFC/7000FT MOV N 25KT NC=

**Sandstorms**

WSJI33 ZBAA 301110
ZBPE SIGMET 2 VALID 301110/301510 ZBAA-
ZBPE BEIJING FIR HVY SS OBS AT 1100Z N OF N40
SFC/2000M MOV E 30KMH NC=

**Turbulence**

WSNZ21 NZKL 232134
NZZZ SIGMET 18 VALID 232134/240134 NZKL-
NZZZ NEW ZEALAND FIR SEV TURB FCST WI S3929
E17602 – S4305 E17136 – S4522 E17000 – S4538
E17159 – S4112 E17624 – S3929 E17602 FL180/260 MOV
E 25KT INTSF=

**Mountain waves**

WSAU12 AMRF 061700
YMMM SIGMET M07 VALID 061700/062100 YMRF-
YMMM MELBOURNE FIR SEV MTW OBS WI S3704 E14244
– S3611 E14753 – S3736 E14943 – S4006 E14800 – S3952
E14353 – S3704 E14244 FL080/140 STNR NC=

**Icing**

WSCI45 ZHHH 021100
ZHHW SIGMET 3 VALID 021100/021500 ZHHH-
ZHHW WUHAN FIR SEV ICE FCST N OF N28 SFC/FL200
STNR NC=

**Radioactive cloud**

WSSS20 VHHH 180830
VHHK SIGMET 1 VALID 180830/181230 VHHH-
VHHK HONG KONG FIR RDOACT CLD FCST E OF E114
SFC/FL100 MOV E 20KT WKN=

**Cancellation**

WSSS20 VHHH 181100
VHHK SIGMET 2 VALID 181100/181230 VHHH-
VHHK HONG KONG FIR CNL SIGMET 1 180830/181230=

Graphical SIGMET display.

Refer to the following for more information

ICAO Annex 3 – Meteorological Service for International Air Navigation
(Amd 77)

ICAO Regional SIGMET Guide

ICAO Doc.8896 – Manual of Aeronautical Meteorological Practice

WMO No.49 Technical Regulations Volume II – Meteorological Service for
International Air Navigation (2013 ed)

WMO No.732 Guide to Practices for Meteorological Offices Serving
Aviation

4 November 2016